

# MAKING THE RIGHT CONNECTION

Connecting the Port of Gladstone to the Inland Rail

(Toowoomba to Gladstone via Wandoan)

## T2G Rail

**Submission to the Senate Standing Committee on  
Rural and Regional Affairs and Transport  
on**

***Management of the Inland Rail project by the  
ARTC and the Commonwealth Government***

**29 November 2020**

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## WHO IS MAKING THIS SUBMISSION?

This submission is being made by Mr John Abbott as the Project Manager for an Inland Rail Advocacy Project for extension of Inland Rail to Gladstone. The Project is an initiative of the CQROC and RDA, that is actively sponsored and funded by the Banana Regional Council, Gladstone Ports Corporation and Gladstone Regional Council.

- The Central Queensland Region Organisation of Councils (CQROC)**  
 Member Councils are Gladstone Regional Council, Banana Regional Council, Livingstone Regional Council, Central Highlands Regional Council, and Woorabinda Shire Council
- Regional Development Australia – Central and Western Queensland (RDACWQ)**  
 The RDACWQ covers 453,000 km<sup>2</sup>, encompassing 12 local government areas, 7 State Electorates, and 3 Federal Electorates
- Gladstone Ports Corporation**  
 The Port of Gladstone is a world class port, with a total throughput of over 122 million tonnes per annum, with over 1,900 ships using the port every year. It has the ability to handle the largest of ships and has the approved ability to expand to 300 Million tonnes per annum. At this capacity, it would be in the top 15 ports by tonnage in the world.

## BACKGROUND TO THIS SUBMISSION

RDACWQ undertook a study of all 30+ strategic plans of organisations in their region. It established the top 11 priorities for the region.

PROJECT	PROPOSED INVESTMENT (\$ million)	PATHWAY TO IMPACT <sup>1</sup>
EAST WEST FLIGHTS	\$20	<ul style="list-style-type: none"> <li>Flight access to western towns to develop tourism</li> <li>Improvements in service delivery / connectiveness</li> </ul>
EAST WEST ROAD LINKS	\$500	<ul style="list-style-type: none"> <li>Enhanced road linkages to western towns for connecting agriculture and mining supply chains</li> <li>Connecting organic beef producing areas in west.</li> </ul>
NORTH SOUTH ROAD LINKS	\$500	<ul style="list-style-type: none"> <li>Linking the CWQ region with southern Queensland (Toowoomba)</li> </ul>
GLADSTONE PORT ACCESS ROADS	\$2,000	<ul style="list-style-type: none"> <li>Connecting regional areas into the port and rail terminals in Gladstone</li> </ul>
GLADSTONE - TOOWOOMBA RAIL CONNECTION <sup>2</sup>	\$1,500	<ul style="list-style-type: none"> <li>Making Gladstone port a key gateway to connect to southern Australia</li> </ul>
EMERALD - ALPHA RAIL CONNECTION	\$500	<ul style="list-style-type: none"> <li>Transportation of regional mining resources into network to Gladstone Port</li> </ul>
THREE WATER DAMS	\$3,000	<ul style="list-style-type: none"> <li>Improve the supply and security of regional water resources.</li> <li>Increase agriculture production and mining industry.</li> </ul>
HIGH SPEED INTERNET & MOBILE NETWORKS	\$250	<ul style="list-style-type: none"> <li>Usage of technology in primary sectors, increase value adding across the economy</li> </ul>
EMERALD TAFE & QAC AND RRR HE POLICY	\$60	<ul style="list-style-type: none"> <li>Academic training to build a skilled workforce.</li> </ul>
GLADSTONE PORT CONTAINER CRANE	\$100	<ul style="list-style-type: none"> <li>Increase the frequency of loading and unloading at Gladstone port allowing more high value products to be transported</li> </ul>
GLADSTONE PORT CHANNEL DUPLICATION	\$2,000	<ul style="list-style-type: none"> <li>Increase the capacity of Gladstone port to service increases in LNG exports, coal exports from Galilee and Surat basins, and commodities from Inland Rail</li> </ul>
<b>TOTAL (\$ million)</b>	<b>\$10,430</b>	

The Inland rail connection from Toowoomba to Gladstone (referred to as T2G rail) was identified as a priority to facilitate decentralisation and regional growth in the region. If secured there is potential to upgrade the Gladstone port to become the 4<sup>th</sup> major container port on the East Coast of Australia.

CQROC, RDACWQ and GPC commenced an advocacy project to build support for the T2G rail link. This submission summarises the assertion that this project provides a very positive economic outcome for Australia, supports regional development and decentralisation, and presents the opportunity to develop a new resource and agricultural region of Queensland.

## THE BASIS OF THE SUBMISSION

The proposed route for the Toowoomba to Gladstone rail link via Wandoan and the Surat basin is shown below.



The T2G rail route consists of 4 sections:-

1. **Gladstone to Banana** – This is an existing narrow gauge heavy haul rail link, primarily for export coal.
2. **Banana to Wandoan – 210 km** new line, narrow gauge, dual gauge capable. The “Missing Southern Link”. **Designed, EIS approved, State Development area declared, Development Act in place.**
3. **Wandoan to Miles - 70 km** new line, narrow gauge, dual gauge capable. Existing corridor currently decommissioned, track removed. Design complete, including a bypass of the town of Miles
4. **Miles to Oakey (Toowoomba) - 220km** Existing operating Aurezon line. Can take 45 wagon coal wagons with speed restrictions. Upgrade designs complete.

The detailed design and cost estimates for this route are the intellectual property of ATEC Rail Group Pty Ltd., who have spent over \$70 million over the past 10 years to have a “shovel ready” project ready to be completed.

In summary however, the economic analysis we have undertaken is based on the following capital cost estimates:

- Initial Narrow gauge option (new sections dual gauge ready) - \$1.4 billion
- Final Dual gauge option (both Standard and narrow gauge) - \$3.0 Billion

The “missing southern link” Banana to Wandoan section is the subject of the Approved Surat Basin ***Surat Basis Rail (Infrastructure Development and Management) Act 2012***. There is also an approved Environmental Impact Assessment for this portion of the project (although may need to be reviewed due to the time since approval),

In addition to the rail component of the project, staged upgrades of the Port of Gladstone will be enable by T2G, which are considered within the Port’s Strategic Planning. For example:-

- The reconfiguration of the “Port Central” area to be able to handle up to 1.5 Million TEU per annum
- The approved main channel duplication project to increase port capacity to 300 million tonnes per annum
- The development of the “Fisherman’s landing” Port precinct to increase port container capacity to over 5 million TEU

## THE CASE TO SUPPORT THE T2G RAIL LINK

There are 4 compelling reasons for the Inland Rail (Melbourne to Brisbane) design configuration and operational model of the to be re-evaluated:-

1. **Australia needs a 4<sup>th</sup> major container port on the East Coast, and that should be the Port of Gladstone**
2. **The financial case for the Inland Rail to the Port of Brisbane is based on growth of Coal exports growing to 19.5 Million tpa. Both existing and future export growth of coal can be exported from Gladstone.**
3. **The financial case for the Toowoomba to Gladstone rail are superior to that of Toowoomba to Brisbane.**

Each of these will now be covered in detail.

### 1. **Australia needs a 4<sup>th</sup> major container port on the East Coast.**

The existing major container ports of Brisbane, Sydney and Melbourne are land-locked, with expansion options both limited and expensive. Future, these ports have limited transport corridors to accommodate the predicted growth of containerised freight over the next 30 years. The impact of this is shown in the table below.

*Ports of Brisbane, Sydney and Melbourne, Container freight task growth from 15.1 M TEU in 2032 to 18.4 M by 2050*

Port	Million TEU		
	2018/19	2032	2050
Brisbane	1.4	3.6	5
Sydney	2.4	5.2	5.2 *
Melbourne	2.6	6.4	8.2
	<b>6.4</b>	<b>15.2</b>	<b>18.4</b>
	(1)	(2)	(3)

(1) Port Annual reports (2) BITRE #138 (3) Port's strategic plans  
\* Presumes growth to 1 M TEU at Newcastle, and additional growth in Port Kembla

If the T2G rail link is constructed connecting the Port of Gladstone to the Inland rail, a very different outcome is achievable:-

*Ports of Gladstone, Brisbane, Sydney and Melbourne, Container freight task growth from 15.1 M TEU in 2032 to 18.4 M by 2050*

Million TEU			
Port	2018/19	2032	2050
Brisbane	1.4	3.1	3.5
Sydney	2.4	4.8	4.8
Melbourne	2.6	6.3	7.1
Gladstone	0	1.0	5.0
From other port's growth			-2
	6.4	15.2	18.4

These are defendable targets given the advantages Port of Gladstone offers:-

- 1 Million TEU represents 12,5% of the growth, and 6.5% of the total east coast freight task of 2032; and
- 5 Million TEU represents 42% of the growth, and 27% of the total east coast freight task by 2050

There are 5 distinct advantages to the Port of Gladstone that will make it attractive to shipping and logistics companies:-

- The Port of Gladstone is closer to major transshipping ports such as Singapore. (Brisbane 300nm/20knots = 15 hours, Sydney 750NM/20 = 37.5 hours, Melbourne 1400NM/20 = 70 hours);
- The port of Gladstone already accommodates ships with the draft depths larger than the largest container ships and has significant capacity for growth;
- The Gladstone State Development Area is immediately adjacent to the Port of Gladstone. This 27,000 Ha is available for port related activities. A significant proportion of the GSDA could be allocated to intermodal and logistic services for the import / export freight task; and
- A single port with access to the inland rail can allow the unloading of containers to all points south.
- Gladstone is relatively unconstrained by the urban sprawl offering lower capital intensive solutions to logistics facilities than in capital cities.

By adopting this as a national strategic goal, there is a requirement to re-evaluate the design configuration and operational model of the inland rail to Brisbane, and build the inland rail to Gladstone.

## 2. The economics of the Inland Rail to Brisbane is based on growth of Coal exports growing to 19.5 Million tpa.

The Port of Gladstone currently exports over 75 Million tpa of coal. It has built capacity to handle an additional 20 Million tpa. Coal transport by rail to the Port of Gladstone does not pass through urban or residential areas. Coal trains are generally 103 wagon consists that travel at 80kph.

The Port of Brisbane is limited to 10 Million tpa. Considerable new capital would be required to enable expansion to 19.5 Million tpa, including an additional ship loader. This will result in between 6 and 7 extra coal trains per day through the urban areas of Brisbane. This issue has

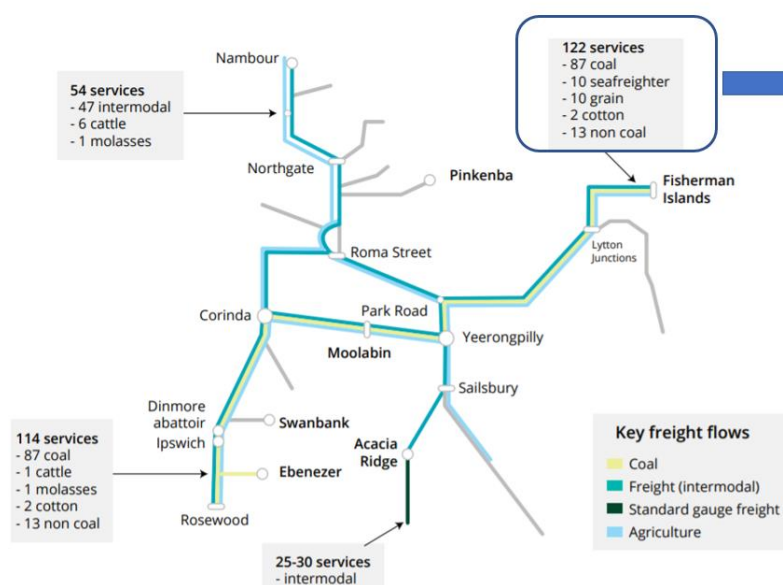


already resulted in significant community angst in the Logan City region.

The 6 to 8 million tonnes per annum transferred to the Port of Gladstone provides the initial revenue for the T2G rail link. With the rail infrastructure in place, there is the potential for significant growth in both thermal and coking coal exports from both the Southern and Northern Surat Basin. The growth in the Northern Surat basin would not occur without the construction of the Wandoan to Banana portion of the inland rail.

The decision of the Queensland State Government to not approve the New Acland mine seriously impacts the economics of the Toowoomba to the Port of Brisbane component of inland rail by reducing current export volumes and limiting the potential of future growth

By making a strategic decision for all coal to be exported through the Port of Gladstone, up to 87 train slots per week will be liberated from the Brisbane rail network enabling growth of container transfer from the Port of Brisbane to other intermodal terminals including Acacia ridge. This equates to approximately 500,000 TEU per year. This action defers the requirement to spend \$2.9 billion to link the Port of Brisbane with Acacia Ridge.



By adopting the policy that all coal exports should be exported through the Port of Gladstone, there is a requirement to re-evaluate the design configuration and operational model of the inland rail to Brisbane, and build the inland rail to Gladstone.

### 3. The financial case for the Toowoomba to Gladstone rail are superior to that of Toowoomba to Brisbane

We have completed an economic analysis of the Toowoomba to Gladstone rail link. This analysis is being completed by Australian Economic Consultants Limited. Full details of this economic analysis will be released soon.

A summary of results included in this submission are preliminary and are subject to amendment.

Discount Rate	Inland Rail to Gladstone Port	Inland Rail to the Port of Brisbane	Difference
<b>NPV (\$M)</b>			
4%	\$4,487	\$1,617	\$2,870
7%	-\$410	-\$2,472	\$2,063
10%	-\$1,830	-\$3,515	\$1,685
<b>BCR</b>			
4%	1.57	1.20	0.37
7%	0.93	0.63	0.30
10%	0.63	0.41	0.22

Note: Totals may not sum due to rounding.  
Source: AEC.

The method adopted in the economic analysis was to compare the 2 “book end” cases of Toowoomba to Gladstone only without the connections to Acacia ridge and the Port of Brisbane, and the as proposed Toowoomba to Acacia Ridge with the connection to the Port of Brisbane. The analysis was done to the extent possible using data made available by ARTC, including the AECOM report of 2017 and the Deloitte Access Economic report 2016

As stated above, these are the 2 extremes of the analysis. This raises questions about the decision to not extend the Inland rail to Gladstone.

The AECOM report *Inland Rail Gladstone Link Prefeasibility Study*, released to Government in 2017 was based on several flawed assumptions which in turn make the conclusions flawed:-

- It assumed that the link to Gladstone was an incremental add on only. In doing so, it did not consider the attraction that having the link to Gladstone would impact the import/export freight task to Brisbane, Sydney or Melbourne. Without any coal freight, container freight of 1 million TEU alone would be sufficient to provide the economic justification for the T2G rail link.
- It did not acknowledge that any current agricultural freight that goes to Port of Brisbane would transfer to Gladstone. It should be noted that for freight west of Miles on the Western line, it would be a quicker route to market through the Port of Gladstone.
- It did not allow additional agricultural freight would be generated from growth in the Surat Basin that would occur.
- It assumptions on coal freight options for existing southern Surat Basin mines, and potential for growth in the entire Surat Basin are flawed.

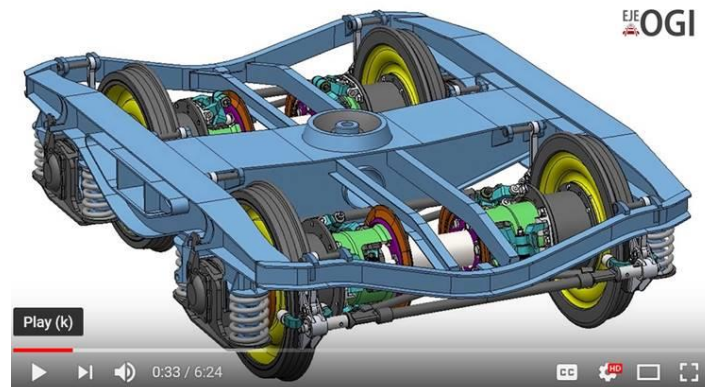
Further details of this analysis will be available when our report is released.

It should be noted that there is a narrow gauge option for the T2G rail link which has been discounted in all evaluations to date. This option uses the existing heavy haul rail links from Banana to Gladstone, and the existing port rail infrastructure. The cost of this option is \$1.4 billion, and construction could be complete within 2 years.

Given that the import/export freight task will grow over time, the use of variable gauge rolling stock is used initially until the expenditure of the additional \$1.6 billion is justified. It is a primary rule of major capital projects, that if capital can be deferred and/or revenue brought forward, then the NPV will be substantially improved.



This option is facilitated by the use of variable gauge rolling stock. This is a proven technology used widely in Europe where there are up to 5 different rail gauges!



**4. The economic impacts for regional Queensland are huge and support the regional development and decentralisation objectives of the Commonwealth Government.**

The initial proposal for inland rail in the late 1990's and early 2000's was for it to be Gladstone to Melbourne, and to be focused on the future import/export freight task. It was subsequently modified to Brisbane to Melbourne on what are now outdated assumptions. This change was apparently made because of the flawed economic analysis required the capital to capital freight task (not the import / export freight task). As a result of this decision, all the benefits of regional development and decentralisation have been lost unless the T2G rail link is built.

It is instructional to quote from the ARTC report Appendix J, section 2.4

*"2.4 Toowoomba Termination*

*This would involve construction of the railway from Melbourne to Toowoomba, completing the remaining Toowoomba to Brisbane section at a later date. This would defer a significant proportion of the initial capital cost because of the high cost of crossing the Toowoomba range. This option would involve a longer pick up and delivery by road ( approximately 125km or 2-3 hours) from Toowoomba to Brisbane*

*The route results in a negative impact on estimated coal freight demand, and half of the expected inter-capital tonnage, resulting in a 60% reduction in below rail revenue....."*

The assumption on delivery by road from Toowoomba was made prior to the construction of the second range crossing to Toowoomba, and the upgrade of the motor way network in South East Queensland. This assumption that was used to assess the termination in Toowoomba should be reviewed. Road freight companies are already questioning this assumption:-

Route	Destination	Travel Time ex-Toowoomba
Direct ex Toowoomba	Eagle Farm	1hr 50min
via rail to Acacia Ridge	Eagle Farm	2hr 30min
Direct ex Toowoomba	Brendale	2hr 10min
Via rail to Acacia Ridge rail	Brendale	2hr 55min
Direct ex Toowoomba	Helensvale	2hr 10min
Via rail to Acacia Ridge rail	Helensvale	2hr 55min

(excludes train unloading time – assumed common for both)

As a result of this current analysis, the assumption on the reduction of the non-import/export (ie capital to capital) freight task is now questionable.

The original 2010 analysis did not consider the option of the import/export freight task to and from Gladstone, and that this freight would remain on inland rail. As a result would not result in the loss of that component of revenue as indicated.

Finally, the growth of coal freight from the whole Surat Basin through Gladstone would be more likely to be significantly higher than the original ARTC business case envisaged.

As a result, the economic benefit to regional Queensland from changing the focus of Inland rail to Brisbane to Inland rail to Gladstone would be as follows: -

Item	Order of Magnitude value
<b>Reduction in capital expenditure</b> <ul style="list-style-type: none"> <li>○ Toowoomba to Brisbane \$3.5 billion</li> <li>○ Acacia Ridge to Port of Brisbane</li> <li>○ Toowoomba to Port of Gladstone</li> <li>○ Additional ship loader Brisbane</li> <li>○ Lower cost expansion to manage import/export growth</li> </ul>	\$3.5 Billion saving \$2.9 Billion saving \$3.0 Billion expenditure \$0.3 Billion saving TBA
<b>Economic Growth in the central and Western Queensland that would not otherwise occur</b> <ul style="list-style-type: none"> <li>○ Rail construction               <ul style="list-style-type: none"> <li>▪ 600 construction jobs</li> <li>▪ 200 operational jobs</li> </ul> </li> </ul>	\$3.0 Billion expenditure

<ul style="list-style-type: none"> <li>○ Potential Mine construction <ul style="list-style-type: none"> <li>▪ 3,000 construction jobs</li> <li>▪ 1,200 operational jobs</li> </ul> </li> <li>○ Nathan Dam to support mine development <ul style="list-style-type: none"> <li>▪ 350 construction jobs</li> </ul> </li> <li>○ Port of Gladstone Development <ul style="list-style-type: none"> <li>▪ 400 Construction jobs</li> </ul> </li> <li>○ Growth of intermodal hubs in Toowoomba &amp; Gladstone</li> <li>○ Indirect jobs and development as a result</li> <li>○ Additional Coal royalty income</li> </ul>	<p>Up to \$8 Billion expenditure</p> <p>\$1.2 Billion Expenditure</p> <p>\$0.8 Billion Expenditure</p> <p>TBA</p> <p>TBA</p> <p>Up to \$300 million /year</p>
<p>Social and Political benefits</p> <ul style="list-style-type: none"> <li>○ Removal of coal trains from the urban areas of Brisbane to a dedicated purpose-built coal terminal which is not impacted by urban encroachment</li> <li>○ Reduction by up to 5 million TEU transiting through the urban areas of Brisbane</li> <li>○ Growth of major intermodal hubs in Toowoomba and Gladstone, with related business opportunities.</li> <li>○ Access to efficient logistics services underpinning growth for Central Queensland Agriculture.</li> </ul>	

## CONCLUSION

The parties making this submission contend that the Queensland end of the Inland rail needs to be reconfigured to include the link to Gladstone (known as T2G).

The reasons for this are:-

- Based on the BITRE estimates on the growth of the import/export freight task, the East Coast of Australia needs a 4<sup>th</sup> container terminal. Gladstone is the most suitable with unconstrained expansion potential, the ability to accommodate the largest container ships, and more than 27,000 ha of the Gladstone State Development Area adjacent to the port precinct. The Port of Gladstone is also up to 4 days sailing closer to Asia than the Port of Melbourne.
- The Ports of Brisbane, Sydney and Melbourne are land locked, subject to urban encroachment and do not have dedicated and secure transport corridors, which will severely limit their growth potential, and increase the cost of any expansion;
- The current route option to Acacia Ridge and the Port of Brisbane has significant community and political challenges to overcome. All economic evaluations undertaken have assumed Brisbane as the terminus of the inland rail without considering the true impact of an alternative such as Gladstone. The failure to truly distinguish between capital to capital freight, and import/export freight, and how different options exist to manage this freight task is a flawed methodology that must be challenged.
- Failure to build the link to Gladstone via the Surat Basin for a lower cost than the link to the Port of Brisbane ignores the economic potential of this region, including increased national income.

The benefit of saving the \$1.6 billion to initially use the narrow gauge option to Gladstone should also be considered. Because of the considerable shorter construction time for this option, the advantage of deferred capital, together with earlier revenue streams should be given serious consideration

Please note that the Australian Economic Consultant's report detailing the economic assumptions used in this submission will be available in the next few weeks.