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Rail Tram & Bus Union
(Old Branch)

to:



on:

**Brisbane Cairns
Corridor Strategy**

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Glossary

ACTU	Australian Council of Trade Unions
ALP	Australian Labor Party
ATC	Australian Transport Council
CO ₂	carbon dioxide
COAG	Council of Australian Governments
ITF	International Transport Workers Federation
NCL	North Coast (Rail) Line
NO _x	nitrous oxides
ntkm	net tonne kilometres
PM	particulate matter
RTBU	Rail, Tram and Bus Union
UTIP	International Union of Public Transport

Executive Summary

The Rail, Tram and Bus Union (RTBU) has a special interest in transport and rail transport in particular, and on behalf of its members is seeking the right policy approach to the long term development of the Brisbane to Cairns corridor, in particular the North Coast Rail Line (NCL).

Strategic priorities need to be considered from the perspective of the viability of road and rail transport, in the broader context of desirable community and social outcomes for current and future generations. It is important to note that rail freight is between 13 and 23 times safer than road freight and that overall road freight results in up to 6 times more externality costs than rail freight.

Infrastructure funding by the Federal Government for the Brisbane to Cairns corridor has been grossly imbalanced towards the Bruce Highway. For 2004-2009 only 9% of AusLink funding is being provided for rail projects of the \$6.0 billion total contribution to road, rail and inter-modal construction projects in the States and Territories. There is a need to rectify these imbalances.

The RTBU considers that the draft Brisbane to Cairns Corridor Strategy is seriously deficient in the strategic priorities outlined for the North Coast Rail Line.

The RTBU supports the development of the Brisbane Cairns Corridor Strategy with the shared objectives and strategic priorities of the Australian and Queensland Governments for the long term, aiming to support national economic growth, through freight and passenger transport, which increases efficiency, improves safety and security, improves productivity of freight corridor, improves reliability of travel and is consistent with viable, long term economic and social outcomes.

To achieve these objectives requires a balanced, approach to development of road and rail transport infrastructure.

The RTBU is very concerned at the assertion that the “current NCL infrastructure may not enable rail freight to grow at the same rate (3% per year), thereby resulting in the freight growth over 3% per annum ‘spilling over’ to road transport.”(p26) **This implies that there is no intention to adequately invest in rail infrastructure by the Federal Government.**

The RTBU strongly recommends the following key principles in finalising the corridor strategy:

- **Transport corridors on optimum alignments** – a longer term view is needed, considering the land use and transport planning nexus, including preservation of strategic transport corridors and inter-modal hubs, with funds provided for advanced planning including environmental impact assessment and land acquisition to protect nationally important strategic routes and freight links.
- **Capital investment** – invest in priority transport infrastructure in key corridors to provide for future economic growth. Rail networks need to be planned and developed strategically, with national trunk routes and regional links, and appropriate infrastructure service levels, such as speed, gradients and alignment, particularly on the NCL to serve future needs and to allow best practice rail operations.
- **Evaluation methodology** – a key strategy to ensuring a balanced transport system is to use a consistent evaluation methodology for investment across all transport modes, with explicit consideration of externalities and projects selected on the basis of their net economic benefit.
- **Targeted investment** to increase the competitiveness of the NCL north to Cairns to ensure a balanced multi-modal transport corridor, considering economic and externality costs and benefits, including improving curve and grade easing, improving clearances; and additions and extensions to passing loops.
- **Enhance rail freight capacity through Brisbane** – dedicated rail freight infrastructure needs to be provided, particularly interstate connections, including the proposed inland standard gauge line, access to the Port of Brisbane, access through or around Brisbane metro area.
- **Investigate feasibility of a strategically located inter-modal freight terminal** north of Brisbane, to provide a road-rail interface outside of congested areas and enhance NCL rail freight competitiveness.

The RTBU would appreciate an opportunity to be involved in a formal dialogue mechanism to be able to provide ongoing advice on the development of Brisbane to Cairns Corridor Strategy.

1. Rail, Tram and Bus Union

The Rail, Tram and Bus Union (RTBU) was formed on 1 March 1993, through a historic amalgamation of three railway unions and one tram and bus union.

The RTBU has 35,000 members in the rail, tram and public sector bus areas across Australia. The Brisbane-Cairns Corridor Strategy will impact on the quality of life for RTBU members and their families.

The RTBU is affiliated to the Australian Council of Trade Unions (ACTU), International Transport Workers Federation (ITF) and the Australian Labor Party (ALP). The RTBU is the principal union in public transport and the rail industry generally.

The RTBU is also an Associate Member of the Australasian Railways Association, and a member of the international Union of Public Transport (UTIP).

The RTBU works to promote sustainable transport as an essential element in a fair and environmentally sustainable Australian society, and to promote the interests of rail and bus transport workers as a key element in achieving that goal.

As such, the RTBU is a key industry stakeholder in the rail freight transport industry.

The RTBU is clearly aligned with the environmental movement on the issues of planning, passenger transit, freight transport, energy use, reducing Greenhouse Gas Emissions and social justice.

The RTBU promotes the development of transport to achieve the desired transport outcomes of effective and efficient transport; viable transport services; safe transport; and sustainable transport. These outcomes need to be carefully considered in the development of the corridor strategy.

As the development of Brisbane to Cairns Corridor Strategy progresses, the RTBU would appreciate an opportunity to be involved in a formal dialogue mechanism to be able to provide ongoing advice and input.

2. Desired Transport Outcomes

There are two broad perspectives to consider in developing strategic priorities for the Brisbane-Cairns Corridor:

- Community and social outcomes for the longer term
- Commercial and financial outcomes for the short to medium term.

Strategic priorities need to be considered from the perspective of the viability of road and rail transport, in the broader context of desirable community and social outcomes for current and future generations

2.1 Community and Social Outcomes

The RTBU promotes the development of sustainable transport to achieve the following desired community and social outcomes, now and in the longer term:

- Effective and efficient transport;
- Safe and secure transport; and
- Sustainable transport.

Investments by governments are justified on the basis of a 'community or social' benefit-cost assessment - ie they pass a strict test: value of total social benefits exceeds total social costs of the investment.

Effective and Efficient Transport

Undue congestion and inefficient travel will result from the inability to provide the necessary transport infrastructure to meet demands. Where prices do not fully reflect costs (including externalities), that is distorted pricing signals, the pattern of usage between road and rail will reflect that distortion. In the absence of efficient prices, it is critically important that investment decisions reflect true economic costs.

Inappropriate transport infrastructure, either too much or too little, may exacerbate imbalances between transport supply and demand and increase congestion that degrades the mobility of people and goods and impose additional costs on the community.

The use of transport infrastructure, particularly through pricing signals inherent in heavy vehicle pricing, should aim to achieve effective and efficient community and social outcomes. Until full road cost recovery from heavy vehicles is achieved, which is not likely in the short to medium term, there needs to be additional funds provided by government, as opposed to the private sector, to upgrade rail track.

To be able to address the transport task being faced, the most cost-effective and efficient balance of transport services (in terms of economic and sustainability criteria) should be pursued. This will ultimately be a balance of passenger and freight transport by road and rail.

The growth in travel, in line with the growth in population, is expected to result in a situation where road traffic becomes increasingly congested, the volume of heavy vehicle transport causes considerable road damage and safety, noise, energy and emission problems increase to alarming levels.

The RTBU is concerned that failure to balance the transport task across modes, will result in a greater proportion of the task by road, requiring additional government investment in road infrastructure and inefficient and unsustainable use of community resources. The cost of an increased modal shift of freight to road, through policy decisions or non-decisions, which increases road's attractiveness, will adversely impact all levels of government.

The RTBU considers that access to an efficient national inter-modal freight system is essential to the long term health of the freight industry and the sustainability of regional communities.

Safe and Secure Transport

A safe and secure transport system is characterised by reduced crashes, personal injuries, property damage and fatalities; reduced risks from hazardous goods transport; reduced air pollution from transport emissions; infrastructure adequately protected against terrorism, with

adequate redundancy; and quick response systems for natural disaster and other emergency events.

Promoting a balanced use of transport infrastructure should aim to ensure the safety and security of operators, users and the community.

The ACIL (2001) study indicated that rail is far superior to road in terms of safety, in relation to human trauma. The Queensland Rail Network Strategy states “*rail urban transport is seven times safer than road per passenger kilometre*” (QT 2001) and Laird (2003a) estimated rail to be 29 times safer than road per net tonne kilometre (ntk) and the Australasian Railway Association report (PJPL 2005) stated rail freight is between 13 and 23 times safer than road freight (in terms of \$ per '000 ntk) (see Figures 1 and 2 below).

Movement of bulk dangerous goods or hazardous material commodities by rail enables a much better overall risk management environment. This is particularly important, for example in relation to the transport of Class 5 fertilisers, which need to be carefully controlled for safety and national security reasons.

Rail has the advantage over road transport by having specific, defined routes and a limited number of accredited operators, who operate under strict safety procedures. Transport of dangerous goods is much more difficult to control and enforce for road transport, with multiple operators, and potentially diverse routes, increasing the risk potential.

The RTBU considers that safety and security must be key considerations in any long-term transport strategy development and rail infrastructure and services should necessarily have a prominent role.

.. rail freight is between 13 and 23 times safer than road freight ...

Sustainable Transport

The RTBU is concerned that investment in transport infrastructure and services should aim to be sustainable, that is minimising impacts on the environment and providing equitably for future generations. This requires reducing dependence on imported oil, energy, greenhouse gas and other emissions and impacts on the physical, built and social environment.

We suggest that the major externalities associated with road and rail freight infrastructure use (generated by infrastructure users that are borne by others) are:

- Environmental costs, including noise, local air pollution and greenhouse gas emissions from transport operations and upstream and downstream environmental costs implicit to the provision and eventual disposal of infrastructure
- Safety related costs of transport crashes or incidents
- Congestion costs for both road and rail
- Research and development costs for the development of alternative sources of energy in recognition of the depletion of non-renewable energy resulting from its current use for transport

These major externalities are directly affected by modal usage and indirectly influence use of the modes.

The extent of externality impact varies with exposed population, a notion of an environmental footprint of each mode. A transport emission of one kilogram of CO₂ (carbon dioxide) will have the same greenhouse gas effect wherever it is emitted. However, one kilogram of NO_x (nitrous oxides) or PM (particulate matter) will have much higher (health) costs if it is likely to affect large populations (eg urban areas). Hence externalities cannot be treated the same way irrespective of population exposed.

Aspects of sustainability of interest include:

- Efficient use of energy – more fuel-efficient vehicles, efficient use of fossil fuel by transport, greater use of rail and increased use of renewable energy
- Cleaner air – reductions in emissions from mobile sources and global emissions (greenhouse gas) and more efficient transport.

Rail is certainly more efficient than road in terms of energy or fuel use for both mass passenger transport and long distance freight transport. The ACIL (2001) study indicated that articulated trucks used between three and seven times the energy compared to rail freight and rail used 30% less energy for non-urban passenger transport.

The RTBU promotes viable transport services in an economic and financial sense, to ensure sustainability into the future, for the benefit of transport users, industry, and the community as a whole.

Global emissions, particularly greenhouse gas, are a function of fuel and energy use. Rail freight produces significantly lower levels of greenhouse gas emissions than road freight (large trucks produce proportionally nearly three times as much as trains on average; small trucks are worse: ACIL 2001). For non-urban passenger transport, rail produces considerably lower emissions than cars.

Any long-term transport strategy must take into account the fact that fossil fuel is a non-renewable resource and there are real concerns about diminishing oil reserves and the volatility of oil prices. Unless given adequate consideration we will impose grave restrictions on future choices and impose costs and risks on future generations.

This is identified in the recent discussions on future global oil production and demand as described by Association for the Study of Peak Oil and Gas (ASPO) and the Hubbert Curves. (for more information see: www.aspo-australia.org.au; <http://hubbertypeak.com> and www.lifeaftertheoilcrash.net). See also the recent Griffith University study on *Oil Vulnerability in the Australian City* (available from: <http://www.griffith.edu.au/centre/urp>).

Externality costs

Externalities are “.. costs imposed outside market transactions and they fall on a number of individuals and groups – .. users other than those who give rise to the costs, .. or society as a whole.” (BTE 1999)

All modes of transport generate externalities, however rail generates fewer negative externality costs compared to road transport.

Externalities have received considerable attention from Governments and stakeholders in evaluating transport infrastructure investments. For example the Australian Transport Council’s *Guidelines for Transport System Management in Australia* (ATC 2004), Austroads *Project Evaluation guidelines* (Austroads 2004), the Track Audit conducted by the

Australian Rail Track Corporation (ARTC 2001) and the Australasian Railway Association report *The Future for Freight 2005* (PJPL 2005). Revised estimates of the ARTC Track Audit external costs (crashes, air pollution, noise pollution, greenhouse gas emissions, congestion, and incremental road damage) were prepared for Queensland Transport (Laird 2003) and more recently updated by Laird (2005).

A summary from the Australasian Railway Association report (PJPL 2005) of externality costs for road is given in Figure 1 and for rail in Figure 2. Figure 3 compares road and rail in rural areas using factoring these values to 2006 using CPI. Safety costs comprise the most significant source of externality costs.

The difference in externality costs between road and rail freight transport ranges from \$4.52 (low case) and \$10.02 (high case) per thousand net tonne kilometres, or road freight results in 5.5 to 6 times more externality costs than rail freight.

Figure 1: Road Externality Costs (\$ per '000 ntk)

Externality Measure		BAH*	NRTC	Bureau Transp. Econ (1999)	Qld Transport	Bus Industry Confederation	Range used		
							Low	Medium	High
Noise Pollution	Rural	0.03			0.03		0.03	0.25	0.50
	Metro	0.06		1.32 0.34	0.06	2.10	0.06	1.00	1.32
Air Pollution	Rural	0.00					0.00	0.00	0.00
	Metro	1.10		1.20 0.10	1.10	2.10	1.10	1.15	1.2
Greenhouse Gases**		1.60		not calculated	1.70	3.20	1.40	1.55	1.70
Congestion/ Enforcement cost	Rural	0.00				not calculated	0.00	0.40	0.80
	Metro	0.90		0.80	0.90	not calculated	0.80	0.85	0.90
Accident costs	Rural	3.20			7.00		3.20	5.10	7.00
	Metro	3.20		3.20	7.00		3.20	5.10	7.00
Totals	Rural	4.8			8.7	3.2	4.6	7.3	10.0
	Metro	6.9			10.8	7.4	6.8	9.3	12.1
	Total		12.8	5.8					

* Booz Allen & Hamilton — figures from the Interstate Rail Network Audit, 2001

**Qld Transport assume \$25/t of CO₂, Bus Industry Confederation assume \$40/t of CO₂

Source: Laird P., Land freight external costs in Queensland, 2002; Bureau of Transport and Regional Economics, Working Paper 40: Competitive neutrality between road and rail, 1999

Source: PJPL 2005:86 (2000 values)

Figure 2: Rail Externality Costs (\$ per '000 ntk)

Externality Measure		BAH*	NRTC	Bureau Transp. Econ (1999)	Qld Transport	Bus Industry Confederation	Range used		
							Low	Medium	High
Noise Pollution	Rural	0.00					0.00	0.10	0.20
	Metro	0.40			0.04	0.70	0.04	0.10	0.20
				0.18					
Air Pollution	Rural	0.00					0.00	0.00	0.00
	Metro	0.30			0.30	0.70	0.30	0.15	0.30
				0.04					
Greenhouse Gases**		1.10	not calculated		0.64	1.10	0.60	0.90	1.10
Congestion/ Enforcement cost	Rural	0.00				not calculated	0.00	0.00	0.00
	Metro	0.00				not calculated	0.00	0.00	0.00
Accident costs	Rural	0.30			0.24		0.24	0.27	0.30
	Metro	0.30			0.24		0.24	0.27	0.30
				0.30					
Totals	Rural	0.40			0.88	1.10	0.84	1.27	1.60
	Metro	0.74			1.22	2.50	0.90	1.40	1.90
	Total		1.90	0.52					

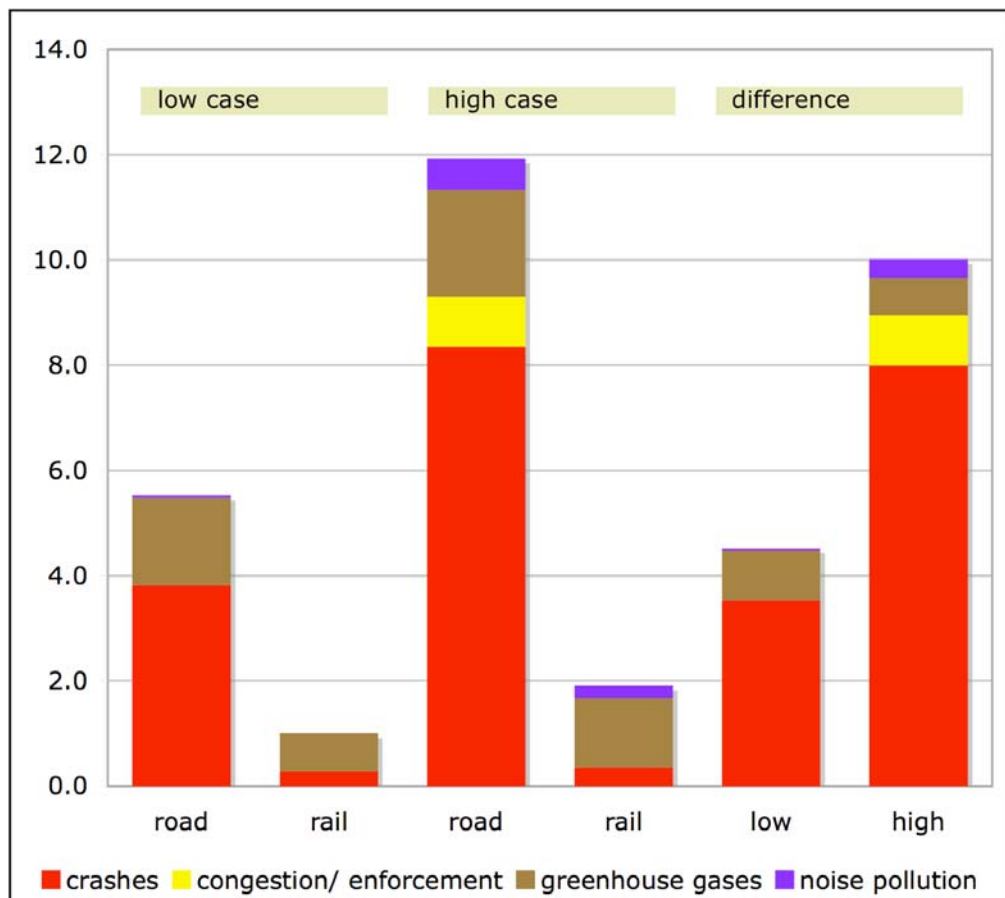
* Booz Allen & Hamilton — figures from the Interstate Rail Network Audit, 2001

**Old Transport assume \$25/t of CO₂, Bus Industry Confederation assume \$40/t of CO₂

Source: Laird P., Land freight external costs in Queensland, 2002; Bureau of Transport and Regional Economics, Working Paper 40: Competitive neutrality between road and rail, 1999

Source: PJPL 2005:86 (2000 values)

Figure 3: Cost of Road and Rail Externalities – Rural (\$ per '000 ntk)



Source: based on Figs 1 & 2, factored to 2006 values

2.2 Commercial and Financial Outcomes

Investments by transport agencies and operators are justified on the basis of a '*commercial or financial*' benefit-cost assessment – ie they pass a strict test: total commercial benefits exceed total cost of the investment. This includes only those that financial transactions that directly impact the agency or operator – a much narrower range of benefits and costs than the community or social evaluation described above.

Transport is a major component of the cost of doing business, such as manufacturing and exporting and importing goods.

Viable transport services also promote economic development by reducing the cost of linking services and goods to customers and markets and between seaports, airports, terminals and the regional and national transport system.

Where transport services provide positive economic benefits for transport users, industry, and the community as a whole, then there is a strong case for Government financial support. Consideration must also be given to infrastructure whole-of-life considerations, as rail corridors and infrastructure generally have a much longer life than road corridors.

A 'level playing field' between rail and road transport is needed for investment, to ensure efficient and balanced choices are made between the transport modes and to enable the investments to be made with certainty.

This requires agreed processes to allow consistent road and rail funding decisions to be made, recognising the substitutable nature of road and rail freight.

There is also a need to rectify imbalances on the part of the Australian Government, in providing extensive funding to the Bruce Highway as part of the fully funded National Highway System since 1974, and very limited funds to the Brisbane to Cairns railway.

From 1974 to 2004 the Australian Government allocated an estimated \$24.6 billion to the National Highway System and only \$2.2 billion to rail capital works (in 2004 values, Laird 2006). The imbalance in Federal funds between road and rail on the North Coast Line is far greater. AusLink funding for 2004-2009 includes only \$544 million or 9% being provided for rail and intermodal projects, of the \$6.0 billion total contribution to road, rail and intermodal construction projects in the States and Territories. (www.auslink.gov.au accessed July 2006)

2.3 Evaluation of Transport Investment

The *National Guidelines for Transport System Management in Australia*, (ATC 2004) including the Appraisal of Transport Initiatives, have been developed to support transport decision-making and the AusLink process in particular. They are intended to serve as a national standard for planning and development of transport systems and be applicable to road, rail and multi-modal transport initiatives (policies, programs and projects).

The traditional approach to appraising transport initiatives has tended to concentrate on individual modes, physical infrastructure solutions, and assessment via conventional project appraisal techniques such as benefit-cost analysis and multi-criteria analysis. In line with the current worldwide paradigm shift in transport planning and appraisal, these Guidelines aim to move towards a more holistic, multi-modal approach to transport planning, appraisal and evaluation that genuinely compares all feasible solutions, and takes full account of all relevant social, environmental and economic factors (ie a triple bottom line perspective). (ATC 2004 Vol 1 p2)

The Guidelines, developed to support decision-making and developed to use in developing corridor strategies, have several overriding principles:

- project-level decision-making should reflect broad government and community objectives
- the future assessment of transport initiatives (policy, strategy, programs and projects) needs to be based on a holistic multi-modal perspective that accounts for key interactions within the transport system and with closely related systems (eg land use, environment)
- transport decisions should be supported by the best available information, be it quantitative and qualitative, objective and subjective
- information about the impacts and merits of an investment needs to be presented to decision-makers in a way that recognises the full range of impacts of that intervention.

Consistent investment criteria on a full benefit-cost analysis basis, including externality costs, is required for road and rail projects.

The Council of Australian Governments' (COAG) meeting on 10 February 2006 *agreed to improve the efficiency, adequacy and safety of Australia 's transport infrastructure by committing to high priority national transport market reforms including to:*

- *strengthen and coordinate transport planning and project appraisal processes to ensure the best use of public investment by adopting Australian Transport Council-endorsed national guidelines for evaluating new public road and rail infrastructure projects by December 2006.*

The Brisbane Cairns Corridor Strategy is considered to be deficient in many aspects, especially a *'more holistic, multi-modal approach to transport planning, appraisal and evaluation that genuinely compares all feasible solutions, and takes full account of all relevant social, environmental and economic factors.'* (ATC 2004 Vol 1 p2)

The RTBU strongly supports the application of the *National Guidelines for Transport System Management* ensuring consistent investment criteria for road and rail investment.

The RTBU promotes viable transport services in an economic and financial sense, to ensure sustainability into the future, for the benefit of transport users, industry, and the community as a whole.

Transport infrastructure investment evaluation should explicitly include externality costs and projects selected on the basis of their net economic benefit.

3. The Freight Challenge

The projected increase in the land transport freight task over the next 15-20 years is a significant challenge facing government, transport agencies and industry. The NTC study into means of managing the transport task, *Twice the Task* (SKM/Meyrick 2005) provided some guidance on how to manage the freight task.

Significant growth in the freight task in major corridors to 2020 and beyond is indicated in a number of forecasts (SKM/Meyrick 2005, PJPL 2005, Maunsell 2006).

It is therefore anticipated that after 2010 the key national road networks will become increasingly congested, to a greater extent than transport planners and decision makers have hitherto thought possible.

The community is becoming less tolerant of the social impacts of noise, pollution, greenhouse gas emissions, safety and negative impacts of congestion. Community attitude surveys indicate that there is ongoing concern about the social impacts of transport activity, in particular freight transport, and activism and negative sentiments can be expected to grow.

Heavy truck haulage causes safety, noise, energy and emission problems and considerable road damage. Rail transport is much safer than road transport, and more efficient than road in terms of energy or fuel use for both passenger and freight transport. However, current alignments and gradients of rail corridors, particularly north of Caboolture, are substandard in many locations due to historic alignments and a legacy of under-investment, particularly by the Federal Government on the NCL.

Freight strategies need to be part of an integrated, strategic approach and dealing with road freight issues in isolation will result in sub-optimal outcomes.

Forecasts clearly indicate that adverse impacts will be greatest in urban areas, where congestion from cars compounds the impact from freight task growth. (SKM/Meyrick 2005:2)

Urban traffic congestion will become a major issue for efficient freight transport.

The Brisbane to Cairns NCL was subject to two major assessments during the early 1990s. The first was an evaluation of NCL major investment requirements undertaken by Maunsells in 1992. The second was a review by the Bureau of Transport Economics published in 1994 on the adequacy of infrastructure proposed in the National Transport Planning Taskforce report. The RBTU recommends that both these studies be reviewed in revising the Brisbane Cairns Corridor Strategy.

The draft Corridor Strategy does not refer to either the prospect of connecting the growing Sunshine Coast region to rail or the major north-south dedicated corridor (CAMCOS) to be preserved between Beerwah and Maroochydore to provide access to the NCL (Queensland Transport 2001b).

4. Corridor Strategy: detailed comments

This section provides detailed comments on the draft Brisbane-Cairns Corridor Strategy.

4.1 Strategic Context (p8)

The Corridor Strategy provides a means of agreeing objectives and strategic priorities for the development of the corridor for the long term (20-25 year with short term priorities to 2015) by the Australian and Queensland Governments, aiming to support national economic growth, through freight and passenger transport which:

- increases efficiency
- improves safety and security
- improves productivity of freight corridor
- improves reliability of travel
- is consistent with viable, long term economic and social outcomes.

To achieve these objectives requires a balanced, approach to development of road and rail transport infrastructure.

The RTBU strongly supports these objectives being the basis for the development of the strategic response.

4.2 The Current Situation (p10)

The North Coast Rail Line (or NCL) is predominantly a single line, 1670 km narrow gauge track from Brisbane to Cairns. The NCL system is segmented into four geographic line sections separating the major regional centres of Gladstone, Rockhampton, Townsville and Cairns.

Only about 10% of the NCL beyond Nambour is double-track railway and the NCL is thereby impacted significantly by the single-track capacity constraint. Loop lengths are short by interstate standards at around 650m. Rail performance is impacted by congestion, especially in the Brisbane metro area and the single track between Caboolture and Nambour and rail capacity constraints in Brisbane with limited commercially attractive train paths available due to passenger train conflicts.

Traffic on the line is primarily line-haul (general containerised freight) with some bulk traffic and long distance passenger services (TravelTrain).

A number of other systems intersect at various points along the NCL – outside of the ‘conflicts’ and pressures associated with the intersection with the Brisbane metropolitan region, it is at these points that congestion on the line is at its worst.

Roles

The north-south corridor provides the following key transport roles:

- passenger and freight backbone to support regional communities and industry along the corridor
- critical linkages between significant west-east freight movements to regional ports and to the major port at Brisbane for international trade
- tourism movements up and down the Queensland coast
- linkage to interstate trade corridors south from Brisbane

Rail provides a major transport role along the corridor for both freight and passengers.

Consideration also needs to be given to the concept of ‘options’ value – this refers to the value placed by the community on rail modal options, irrespective of whether they use the system or not. There is a benefit derived by the community from the fact that the option is available if needed. Such a benefit is associated with the unexpected use of a rail system and reduce risk, and it has been measured through willingness to pay to have the option of having the new system available. (TAG 2004 and 2004a).

Demand

Brisbane to Cairns is not a strong end-to-end market, having significant inter-regional and intra-regional freight movements.

Freight transport along the corridor is contestable, with rail currently having about a 50% share of freight, but only 25-30% of the more competitive inter-modal/containerised freight market (p14). However the availability and quality of freight data, particularly for road freight

is a serious issue and improving data on freight flows must be a priority.

The current rail freight share reflects a historic legacy of under-investment in rail infrastructure, with sub-standard alignments, grades and track provision making it difficult to be able to provide efficient modern rail freight operations.

“Future shares of the freight market will depend not only on infrastructure investment but also the interplay of the road and rail competitiveness as well as a range of other factors such as the efficiency and relative neutrality of the regulatory environment.” (Brisbane Cairns Corridor Strategy p14)

PriceWaterhouseCoopers (2005) identified four service parameters that influence freight market share:

- price
- transit time
- reliability and
- availability.

In the case of rail, existing below rail infrastructure, such as alignment, grades, number and length of passing loops and routes through urban areas has a major impact on these four service parameters.

Extensive upgrading of the Bruce Highway, with federal funding over a 20 year period, in combination with the historic under-investment in rail infrastructure by the Federal Government, has benefited road freight and negatively impacted on the competitiveness of rail freight.

Performance

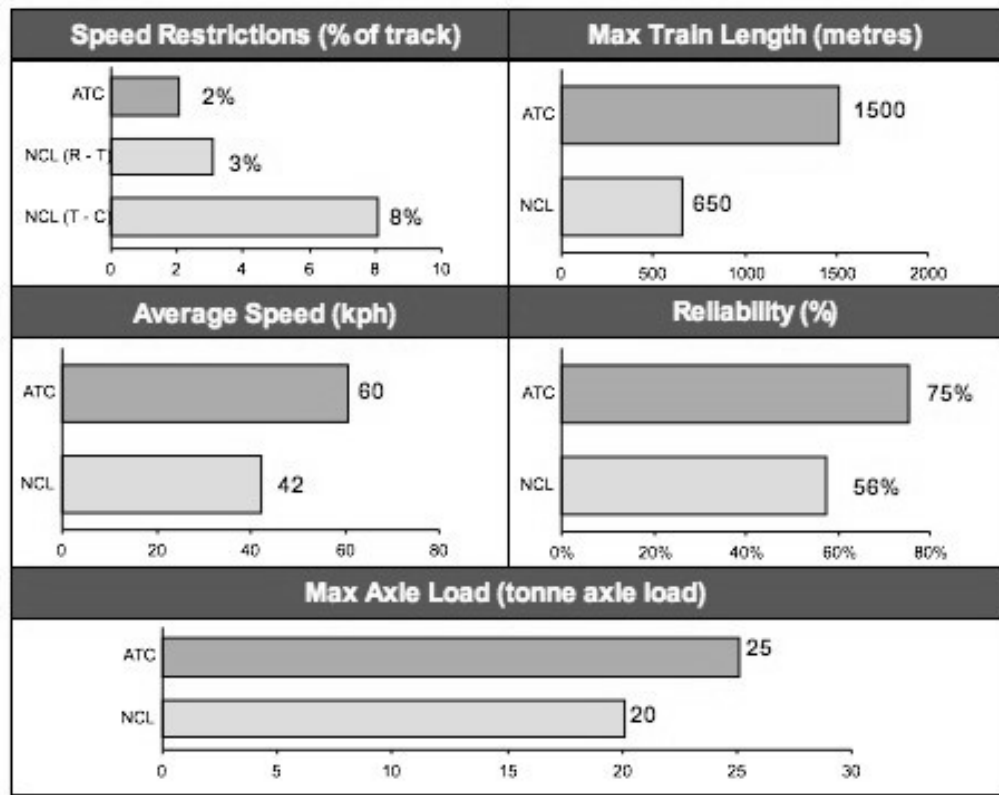
By way of broad comparison only, current NCL track performance is below the Australian Transport Council interstate network targets (see Figure 3).

The implications of this level of service:

- Limitations on average speed will impact rail’s ability to effectively compete with road’s delivery speeds.
- Shorter train lengths and lighter axle loads may have implications for train operating costs and profitability
- A higher number of train trips may be required to move the same volume and hence at greater annual cost

- Below average reliability leads to a loss of market share, particularly, for time sensitive freight.

Figure 3: NCL Track Performance compared to ATC Interstate Targets



Source: Booz Allen Hamilton (2006)

Current major challenges in corridor performance include:

- road safety – high crash rates relative to other national routes, with run-off road, head-on and fatigue crashes being predominant in fatal and serious injury crashes
- relatively low speeds on rail – transit times typically 50% longer than road due to poor alignment and grades, ageing timber bridges and level crossings
- rail congestion especially in the Brisbane metro area and the single track between Caboolture and Nambour
- rail capacity constraints in Brisbane with limited commercially attractive train paths available due to passenger train conflicts
- insufficient number and length of rail passing loops – limits length of trains to about 650 metres, compared to 1300-1500 metre trains on other major rail freight routes

- poor rail freight service reliability (on-time arrivals) – 40-50% worse than road
- lower rail freight service availability (train or slot on train) – only about 40% that of road.

“Improved rail capacity will be dependent on above-rail investment as well as rail track improvements.” (Brisbane Cairns Corridor Strategy p19)

4.3 Foreseeable Changes to 2030 (p21)

The most likely future scenario is high population and industry growth along the corridor, resulting in an increased freight transport task – estimated at 3.4% per annum growth..

This results in future challenges for the road corridor of capacity constraints and congestion and increasing crash risks. The expansion of regional ports, such as Gladstone, will also highlight rail capacity constraints and congestion

The RTBU is very concerned at the assertion that the “current NCL infrastructure may not enable rail freight to grow at the same rate (3% per year), thereby resulting in the freight growth over 3% per annum ‘spilling over’ to road transport.”(p26) **This implies that there is no intention to adequately invest in rail infrastructure by the Federal Government.**

The corridor development needs to enhance safety, efficiency and reliability, as well as protecting nationally important strategic routes and freight links. Rail transport must therefore be a major component of such corridor development.

4.4 Strategic Response (p31)

Queensland Rail recently undertook a benefit-cost study of investment in the North Coast Line (using a 20 year evaluation period) and found that for an investment of approximately \$300 million in a number of below-rail projects could result in:

- transfer of 800,000 tonnes of general freight/containerised freight from road to rail
- road crash savings of PV \$43 million (present value)
- environmental gains of PV \$23 million

- road pavement, maintenance savings of PV \$94 million from reduced heavy truck movements
- benefits associated with better transit times, improved service reliability and improved service availability valued at PV \$127 million
- benefits to rail operators and customers valued at PV \$143 million
- potential reductions in rail freight costs in the range 2-6%
- an increase in gross tonne kilometres associated with containerised traffic of 34% over and above underlying growth.

Source QR (2006:94)

The RTBU supports the strategic priorities, in particular:

- need to increase the competitiveness of the North Coast Line and its capacity to handle long-term growth in freight – increase capacity through the Brisbane metropolitan network, access to the Port of Brisbane, access to interstate corridors, improve curve and grade easing, improve clearances and crossing loop additions and extensions
- preservation of export corridors – protecting nationally important strategic routes and freight link with alignments and grades to support 120km/h services, with adequate number and length of passing loop

The long planning timeframe involved in identifying and determining strategic alignments means that land use changes can close-off options so there needs to be a mechanism to protect planning alignments with an alerting process for potential development.

The concept of opportunity value is worth adopting – that is the community is prepared to invest in alternative transport modes in case of loss of one mode and to ensure competition prevails.

One of the major constraints on rail's performance on the North Coast Line is the current **restriction on rail freight** transport, with limited train paths available through Brisbane metropolitan network for four hours per day, due to legal requirement to give priority passenger rail – the expected growth of the passenger and freight task will exacerbate these capacity constraints.

In addition, **rail freight logistics** are currently focussed on Acacia Ridge on the south side of Brisbane. So for the whole North Coast Line, train schedules, rail freight availability, reliability and transit times are all impacted by constraints in the Brisbane metropolitan area. This issue must be addressed is rail freight is to remain viable, and requires:

- In the short to medium term, consideration of a **logistics inter-modal terminal to the north of Brisbane**, to provide a road-rail interface outside of congested areas
- In the medium to longer term provide **dedicated rail freight connections** north-south around or through Brisbane

The Corridor Strategy must be more balanced across road and rail and needs to identify priority, cost-effective rail infrastructure investment to address the critical deficiencies and capacity constraints - addressing poor horizontal and vertical alignments, and additional/extended passing loops.

Apart from the Brisbane metropolitan network, the highest priority sections for consideration are the Caboolture to West Maryborough, Bundaberg to Parana and Mackay to Proserpine sections. There is also a need for a new rail bridge over the Burnett River at Bundaberg, which is currently subject to a severe speed restriction of 15 km/h.

To reduce the current bias towards road infrastructure, more specific reference to rail infrastructure priorities are needed.

5. Conclusions

The RTBU considers the draft Brisbane to Cairns Corridor Strategy is seriously deficient in the strategic priorities outlined for the North Coast Rail Line.

The RTBU supports the development of the Brisbane Cairns Corridor Strategy with the shared objectives and strategic priorities of the Australian and Queensland Governments for the long term, aiming to support national economic growth, through freight and passenger transport, which increases efficiency, improves safety and security, improves productivity of freight corridor, improves reliability of travel and is consistent with viable, long term economic and social outcomes.

To achieve these objectives requires a balanced, approach to development of road and rail transport infrastructure.

The RTBU strongly recommends the following key principles in finalising the corridor strategy:

- **Transport corridors on optimum alignments** – a longer term view is needed, considering the land use and transport planning nexus, including preservation of strategic transport corridors and inter-modal hubs, with funds provided for advanced planning including environmental impact assessment and land acquisition to protect nationally important strategic routes and freight links.
- **Capital investment** – invest in priority transport infrastructure in key corridors to provide for future economic growth. Rail networks need to be planned and developed strategically, with national trunk routes and regional links, and appropriate infrastructure service levels, such as speed, gradients and alignment, particularly on the NCL to serve future needs and to allow best practice rail operations.
- **Evaluation methodology** – a key strategy to ensuring a balanced transport system is to use a consistent evaluation methodology for investment across all transport modes, with explicit consideration of externalities and projects selected on the basis of their net economic benefit.
- **Targeted investment** to increase the competitiveness of the NCL north to Cairns to ensure a balanced multi-modal transport corridor, considering economic and externality costs and benefits,

including improving curve and grade easing, improving clearances; and additions and extensions to passing loops.

- **Enhance rail freight capacity through Brisbane** – dedicated rail freight infrastructure needs to be provided, particularly interstate connections, including the proposed inland standard gauge line, access to the Port of Brisbane, access through or around Brisbane metro area.
 - **Investigate feasibility of a strategically located inter-modal freight terminal** north of Brisbane, to provide a road-rail interface outside of congested areas and enhance NCL rail freight competitiveness.
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“The significant problems we have cannot be solved at the same level of thinking with which we created them”

Albert Einstein

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