Submission 10

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Transport, Housing and Local Government Committee - Inquiry into rail freight use by the agriculture and livestock industries

Submission by Port of Brisbane Pty Ltd

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Inquiry into rail freight use by the agriculture and livestock industries

The Port of Brisbane is one of Australia's fastest growing container ports, and Queensland's largest multi cargo port. The Port of Brisbane is located at the mouth of the Brisbane River, and is managed and developed by the Port of Brisbane Pty Ltd (PBPL), under a 99-year lease from the Queensland Government. PBPL is owned by the Q Port Holdings (QPH) consortium, comprising four of the world's largest and most experienced infrastructure investors. The members are: Caisse de dépôt et placement du Québec; IFM Investors; QIC Global Infrastructure on behalf of its managed funds; and Tawreed Investments Ltd, a wholly-owned subsidiary of the Abu Dhabi Investment Authority.

Trade through the Port of Brisbane is responsible for injecting $50 billion into the state economy annually. The Port of Brisbane handles on average 50% of Queensland's international trade including, approximately 50% of the state's agricultural exports, 100% of meat exports and more than 95% of containers and motor vehicles.

PBPL welcomes the "*Inquiry into rail freight use by the agriculture and livestock industries"* and overall the increased focus by the Queensland Government on holistic supply chain focused freight and transport management.

PBPL is a strong advocate for increasing rail modal share especially to support our critical exporting industries, such as agriculture, which is, a major commodity focus area for PBPL.

In the past ten years the Port of Brisbane has seen the movement of agricultural commodities through the port shift from 85% on rail to 15% and declining while container modal shift has declined from 15% to less than 5%. This trend has led to negative liveability impacts in Toowoomba caused by significantly increased truck volumes and will lead to serious congestion through South East Queensland if not reversed. The Port Motorway is forecast to reach capacity by 2026.

It is for this reason PBPL has been investigating ways to increase rail modal share across our diverse commodity base for the past two years, including the investment of $4 million to examine the feasibility of a dedicated freight rail corridor connecting the Port of Brisbane to its key hinterland areas in the West.

From these investigations the following key issues are apparent:

- The lack of investment in rail infrastructure over many years has resulted in antiquated and expensive below rail systems. Without investment in below rail infrastructure freight rail volumes will continue to decline and road will remain the dominant mode of choice.
- Competition in above-rail operators is a critical factor to making rail attractive to users. To enable and encourage more operators there needs to be capacity in the rail systems and an access and regulatory environment that facilitates productivity and innovation.
- The shift towards 'take or pay' based models by the above rail operators in a non-competitive environment can be detrimental to agricultural users. Agricultural commodities are seasonal and volumes variable making commitments to long term transport contracts high risk. The methodology of take or pay can be applied in a commercial manner that suits all parties in the agricultural industry however it cannot be modelled on the standard coal or minerals 'take or pay' arrangements.
- Increased coordination and transparency is required between freight owners, operators (freight forwarders) and the above and below rail operators especially in regards to how pricing is calculated and the relationship between above and below charges and pricing. There are multiple supply chains across the agricultural industry, complex in nature with various participants. There are few mechanisms for the cargo owners to make the rail operators accountable to performance measures.
- Agricultural commodities cannot 'fund' the investment needed to increase rail capacity alone; a diverse commodity approach is required. For example, coal export volumes can help fund the rail infrastructure without competing with agricultural commodities if the policy settings are correct.
- Infrastructure upgrades are necessary however without the appropriate supply chain operations and government policy settings modal shift back to rail will not occur and inefficiencies that drive up costs will remain.
- The storage and logistics strategies of the dominant grain and meat players will need to be integrated with rail investment strategies – the focus needs to be both on the physical assets and assessing all the components of the supply chain.

- The deregulation of the grain market has seen a shift towards containerised products to provide more market flexibility. The rail system with 15.75 tonne axle weight cannot accommodate this resulting in higher truck volumes.
- Regional intermodal hubs 'inland ports' in the right locations will be vital, to provide consolidation opportunities, these need to be integrated with the entire supply chain.
- The role of freight forwarders / logistics handlers to broker consolidated train loads for a number of smaller operators and the market conditions needed to support this should be more closely examined.
- Access to the port by road is far superior to access by rail. Rail is limited to very low tonnage and short trains. It is also, restricted in times due to the passenger priority legislation, which locks freight out in peak periods and reduces reliability when an empty passenger train being repositioned receives priority over fully loaded freight trains and an antiquated alignment with steep gradients and tight curvature creates liveability impacts for residents in regards to noise. Separating freight from passenger provides benefits to both systems.
- Without affordable, sustainable and long term competitive access to export markets the agriculture industry will not be able to reach its full growth potential or compete with other countries - this requires a multi-modal approach.

PBPL has prepared a *Current Status Summary Table* (Appendix 1) to provide a statistical snapshot of the key agricultural commodities using road and rail to the port and the impediments faced. PBPL undertook an Import Export Logistics Chain (IMEX) Study in 2012/13; a summary report can be found on the Port of Brisbane website. The supporting data sets could be made available to the Committee by PBPL on a commercial-in-confidence basis (as they contain commercially sensitive information).

Queensland's continued economic development relies on the constant flow of new investment that expands the productive capacity of the economy. The opportunity and challenge for the Queensland economy is to create and foster a commercial environment where infrastructure investment decisions are implemented in a timely and efficient manner.

The broader infrastructure challenge will be to develop transport infrastructure that supports the growing freight task, reduces congestion and bottlenecks and provides exporters with competitive and efficient routes to market.

It is globally recognised that freight movements strongly influence the shape of cities and regions and can have a negative impact on liveability. This does not mean the freight task is a 'problem' to be solved or even worse to be restricted, but in fact a key economic driver.

While recognising the need for incremental 'fixes' in the short term, often these can be counterproductive to an effective long term structural reform. It is recognised long term reforms are harder to instigate and sometimes politically difficult to justify, but Australia's productivity and global competitive position is seriously at risk if transport planning and supply chain policy settings are not integrated and addressed.

PBPL has finalised the prefeasibility into a 480km standard gauge network that could be established as the first phase of Inland Rail (Brisbane to Melbourne) and submitted the findings to Infrastructure Australia. The $5 billion project would create 5,000 jobs, remove 4,000 trucks per day from SEQ roads and 148 million truck kilometres per annum, reduce carbon emissions by 460 tonnes annually and contribute $2 billion to GSP.

The proposed network includes the sequential delivery of the Southern Freight Rail Bypass, a new Toowoomba Range Rail Crossing, upgrading the Western Line and bringing forward the delivery of the missing link from Toowoomba to Northern New South Wales.

Critically, for any of these corridors to be commercially viable or attract freight onto rail, a dedicated 24/7 freight rail corridor into the Port of Brisbane is an absolute necessity. Without the same access to the port that trucks receive substantial modal shift cannot be achieved. It is critical to note that the delivery can be on a corridor by corridor basis as volumes build however no one corridor is a standalone project able to deliver enough increased capacity.

PBPL does not have any specific comments regarding the livestock transport sector, as this is essentially a domestic supply chain matter. However, infrastructure investment and upgrades equally provide much needed supply chain capability and greatly improve rail mode options to the domestic freight task.

PBPL congratulates the current Queensland Government on recognising the need for reform and taking affirmative action to address the freight issues impacting our export and import industries and the communities they operate in and appreciates the opportunity to provide input. Should you require any further information please contact **Priscilla Radice,** Manager Rail Strategy 07 3258 4912 priscilla.radice@portbris.com.au

Appendix One: Port of Brisbane Agricultural Commodities Road & Rail Status Summary February 2014

Commodity	How each Supply Chain works	Specific Impediments/Issues
Bulk Grain	• Bulk grain is transported to the port (Graincorp and QBT terminals) by road and rail, with road transport accounting for 80% of the task. Bulk grain is also delivered by road to the QBT terminal in Colmslie. • Grain is hauled by rail from the Roma, Thallon and Goondiwindi regions in Southern Queensland, with grain being delivered to 17 rail loading points in SW Qld by road. Some grain originates in northern NSW. • Grain transported by road originates mainly on farm, from the same regions as rail. • Bulk grain is transported to the Port by tippers, about 85% of which are B doubles. • Bulk grain transported from origins west and south of Toowoomba and from Northern NSW is often transported in AB triple road trains to either Toowoomba or Warwick. Here the road train is broken down into a B double and semi trailer for onward movement to the port (road trains are not allowed east of Toowoomba or Warwick). 90% of grain trucks use the Warrego Highway. • The first A double tipper configured for bulk grain has recently commenced operating to the Port (to Graincorp and QBT).	Major impediments are: • Rail capacity and infrastructure issues, which restrict train paths and payloads • Poor utilisation of the 10 available paths per week • Above rail inefficiencies which result in trains being cancelled • Bottlenecks at the Graincorp terminal • Road delivery inefficiencies, including VBS and parking • Grain traders' issues
Containerised Grain	• Grain which is exported in containers is either packed in Brisbane or up country (the split is about 25% Brisbane/75% country). Virtually all grain containers packed up country are delivered to the port by road, mainly using specially-permitted A doubles. • There are a number of up country packing facilities in Toowoomba and south, south west, west and north of Toowoomba, including Goondiwindi and Moree in northern NSW. There is only one packing facility east of Toowoomba on the Warrego Highway. • All containerised grain transported by A doubles (90%) uses the Warrego Highway because A doubles are not yet permitted to use the Cunningham Highway. • Grain packed by Graincorp at the port arrives in bulk by both road and rail. All grain packed at QBT arrives by road. After packing the containers are transported to the stevedore terminals by road. • Non Graincorp-packed export containers are transported in bulk to Brisbane by road. After packing the containers are transported to the stevedore terminals by road.	The limited rail axle weights, which requires 2 rail slots to be used instead of one, has priced rail out of transporting containerised grain. All containerised grain packed in the country is now transported on road by A doubles.

Commodity	How each Supply Chain works	Specific Impediments/Issues
Cotton	• All cotton (lint) is exported in 40 ft containers. It is the Port's second largest containerised export commodity (after meat). • Containers are packed both in Brisbane and in the country(70%) Brisbane (30%). • Containers are packed at various locations in Brisbane including at the Port, Hemmant and Rocklea. • Cotton packed in Brisbane is transported by truck (taut liners or flat top trailers) – about 75% are B doubles due to larger payload- from cotton gins in south and west Queensland and northern NSW. Once packed the containers are transported to the stevedore terminals by road. • Cotton packed into containers up country is transported to the Port by both road and rail (the split is about 14% rail and 86% road). All cotton containers transported by rail are packed and loaded onto rail at Goondiwindi. • Much of the cotton transported in bales from west of Toowoomba and northern NSW is transported in road trains (2 and 3 trailers) to Toowoomba and Warwick. Here they are broken down into B doubles and semi trailers for onward movement to Brisbane. Likewise containerised cotton from the same regions is transported to Toowoomba and Warwick by road trains (not AB triples) for on forwarding to Brisbane on semi trailers (Although they have the container capacity, A doubles are not yet able to transport two 40 ft cotton containers to Brisbane because of axle mass restrictions). • It is estimated that about 75% of the trucks carting baled cotton and 80% of the trucks carting containerised cotton use the Warrego Highway. • The planned upgrade to the Lockyer Creek bridge at Gatton on the Warrego Highway will allow A doubles to increase their gross mass from 79 to 85 tonnes. This will allow them to carry two 40 ft cotton and meat containers with a gross weight 30 tonnes for each container. Currently the maximum that can be carried on any truck is one 40 ft container.	The lack of rail capacity has resulted in a reduction in cotton transported by rail. The only cotton transported by rail now is loaded at Goondiwindi (three trains per week). Rail was formerly used to transport cotton from Dalby and Oakey. The 40 ft 8' 6" containers are gradually being replaced by 'high cube'(9' 6") containers. It will gradually get harder to source 8' 6" containers for cotton, and high cube containers cannot fit through the heritage listed tunnels on the western line. If this issue is not resolved, all cotton will eventually revert to road transport.
Cotton Seed	• Cotton seed is exported in both bulk and containers. All bulk cotton seed is by road. • Cotton seed exported in containers is packed near origin and Brisbane (the split is about 86% country and 14% Brisbane). 5% delivered by rail and 95% by truck, with the split between B doubles and semi trailers the same as it is for bulk grain. • The split between the Cunningham and Warrego Highways is the same as bulk grain ie, 90% Warrego Highway and the types of trucks used, including the use of road trains, is the same as bulk grain.	The major impediment is the same as it is for grain ie, the restriction on the payload of the A double caused by the lack of HML

Commodity	How each Supply Chain works	Specific Impediments/Issues
Meat	• Meat is exported in containers, mostly reefer (refrigerated) containers, and is the Port's largest containerised export commodity. Meat by-products, such as hides and meals, are exported in dry or 'general' containers. • Meat is packed into containers at abattoirs at Oakey, Toowoomba, Dinmore, Warwick, Beenleigh, Rockhampton, Ipswich, Biloela, Beenleigh, Mackay, and Casino (in northern NSW). Meat packed at Oakey and Toowoomba is transported by road along the Warrego Highway. Meat packed at Warwick is transported by road along the Cunningham Highway. • About 70% of the meat which originates in Oakey and Toowoomba is carried in 40 ft containers. • The only meat transported to the Port by rail originates in Central and North Queensland (Rockhampton, Biloela, Mackay). • Meat from Townsville is transported by road to cold stores at Hemmant for packing into containers for export. • Cattle for abattoirs at Dinmore and Beenleigh are transported by road on special cattle trailers, with a small percentage transported to Dinmore by rail (one train per week). • Meat for domestic consumption is transported by refrigerated truck from Oakey and Toowoomba to cold stores in Brisbane along the Warrego Highway. Domestic meat from Warwick is transported by truck along the Cunningham Highway. • Of the containers transported to the Port from west and south of Toowoomba and from Warwick, 23% is transported from Warwick using the Cunningham Highway. The remaining 77% (from Oakey and Toowoomba) use the Warrego highway. • Trucks carrying domestic meat from Oakey and Toowoomba also use the Warrego Highway. It is estimated that the number of trucks carrying meat to Brisbane for domestic consumption is: o Oakey – 4 fridge vans per day (Warrego Highway) o Warwick – 2 fridge vans per day (Cunningham Highway) o Toowoomba ▪ Tallow – 2.5 b doubles per day ▪ Meat – 8 fridgevans per day ▪ Hides – 2 tippers per day (to Dinmore).	All meat transported to the Port from the west and metropolitan areas eg , Dinmore, is transported by truck. Some meat from the north (Rockhampton, Mackay) is transported by rail. The major impediment to improved efficiency is the inability to carry 2 x 40 ft meat containers on an A double from west of Gatton, because of the restriction on HML (this is further discussed below).

Commodity	How each Supply Chain works	Specific Impediments/Issues
Meat cont.	The split between the Warrego and Cunningham Highways for trucks carrying export commodities, (containerised and non containerised), is estimated as 87% Warrego Highway and 13% Cunningham Highway. The main reasons for the dominance of the Warrego Highway are: • Much of the transport task is carried out in two and three trailer road trains, b doubles and semi trailers. Road trains do not have access east of Warwick and Toowoomba, so they are split up at Toowoomba or Warwick and the product continues to Brisbane in a B double or semi trailer. Toowoomba is 30 kms closer to Brisbane than Warwick and has more and better facilities for splitting road trains than Warwick. • The Warrego highway between Toowoomba and Brisbane is a four lane highway, whereas the Cunningham Highway between Warwick and Brisbane is a two lane highway. • The condition of the road, especially the pavement, on the Warrego Highway is superior to the Cunningham Highway. • The A doubles which carry most of the containerised grain do not have access yet to the Cunningham Highway. Therefore virtually all trucks carrying containerised grain use the Warrego Highway. • Higher Mass Limits (HML) is not available on the Cunningham Highway between Warwick and Goondiwindi, but it is available on the Warrego Highway and on the Gore Highway, which provides direct access to the Warrego Highway from Goondiwindi. This is a particular problem for trucks carrying 40 ft cotton containers, because HML is required to achieve the required gross weight for cotton containers. Therefore trucks carrying cotton containers invariably use the Warrego Highway. • Unless the trip origin is actually Warwick or somewhere close to Warwick, the Warrego Highway is likely to be used. For example trucks with trip origins at Goondiwindi, Millmerran, Narrabri, Moree, Dalby, Cecil Plains, Pittsworth will use the Warrego Highway via Toowoomba. An exception to the split between the two highways is over dimensional cargo being transported from Brisbane to the Surat Basin eg, Miles and Roma. Because of restrictions and curfews imposed in Toowoomba, most of this cargo now uses the Cunningham Highway instead of the Warrego Highway, despite the longer distances involved.	

Road Transport Impediments/issues

The impediments in relation to road transport of agricultural commodities apply to a number of commodity supply chains so the table below is aggregated.

Issue/Impediment	Commodities and/or Supply Chains Affected	Possible Solution
A double Higher Mass Limits (HML) restriction The newly introduced 3 and 4 TEU A double is restricted to a GCM of 79 tonnes (HML is 85 tonnes) because the Lockyer Creek bridge on the Warrego highway near Gatton has not yet been upgraded to allow A doubles to travel across it at 85t gross. The Commonwealth has approved funding for the upgrade. The A double was introduced mainly to transport 2 heavy 20 ft grain containers (gross container weights of 28/29 t) to the Port. Previously only one 20 ft container could be carried on a truck (semi trailer or b double). The advent of the A double has resulted in a 50% increase in productivity for the transport of grain containers and a wholesale shift of containerised grain from rail to road	Bulk grain (by road) Most bulk grain is transported in b doubles with most able to take advantage of HML with a gross of 68t. A couple of A doubles for bulk grain have been introduced, but the payload increase of the A double is not sufficient without the extra 6 tonnes provided by HML. ie, 79t to 85t. Meat About 75% of the meat transported from Toowoomba and Oakey is packed in 40 ft containers with a gross weight of about 30t. Currently only 1 x 40 ft container can be carried on a truck. The 4 TEU A double has the capacity to carry 2 x 40 ft containers but without HML it cannot carry 2 heavy 40 ft meat containers. Cotton Similar to meat. All cotton is transported in 40 ft containers, each container weighing 30 t gross. Containers packed in the country can only be transported on the basis of one per truck. HML will allow 2 x 40 ft containers to be transported on an A double, a 50% increase in productivity. It will also improve the economics of packing containers in the country rather than at the port or elsewhere in Brisbane.	Upgrade the Lockyer Creek bridge as soon as possible, and ensure there is no other infrastructure on the approved A double routes which might otherwise restrict HML approval for the whole route.

Issue/Impediment	Commodities and/or Supply Chains Affected	Possible Solution
A double reversing Because the A double has an additional articulation point, it is difficult to reverse. This has effectively stopped these vehicles from accessing the Patrick Autostrad teminal, which required trucks to reverse into the truck grids. The result is that most A doubles, especially those based in the country, are forced to 'stage' their grain containers through facilities close to the wharves, where they can be delivered to the terminal on different vehicles, usually super b doubles. This 'staging' (double handling) adds costs to the transport chain, which is borne by the exporter. The problem will be made worse when DPW introduces Automatic Stacking Cranes (ASC) later in 2013, because it will also require A doubles to reverse in their truck grids.	Containerised grain, but potentially cotton and meat, once A doubles from the west are approved to operate at HML.	A modification to the A double is being trialled which will make the vehicle easier to reverse. One operator has successfully trialled the modification, and he is now regularly accessing Patrick. Access to the new DPW ASC terminal will not be resolved until it starts operation later in 2013.
Toowoomba restrictions/curfews About 87% of trucks transporting export freight from the Darling Downs and northern NSW access the Port using the Warrego highway, which requires them to travel through Toowoomba. Apart from the fact that this is major irritant to Toowoomba residents on safety and amenity grounds, it requires trucks to traverse 12 sets of lights and negotiate a 10% gradient to climb and descend the range. In addition curfews apply in Toowoomba. This increases the cost of transport considerably, because trip times are longer than they could be and equipment and people are not utilised to their capacity. These costs are borne by exporter**s.**	All commodities and supply chains are affected, because all rely on road transport to a greater or lesser degree eg: • Bulk grain transported by truck (about 80% of grain). • 100% of containerised grain packed in the country. • Cotton transported by truck for packing into containers in Brisbane. • Cotton packed in the country and transported by truck. • Cotton seed transported in bulk by truck. • Meat packed at the various abattoirs and transported by truck (the only meat not affected is that originating in Warwick, as trucks carrying this meat uses the Cunningham Highway)	Accelerate the construction of the Toowoomba bypass or provide a more cost effective rail solution via Inland Rail.

Rail Transport Impediments/issues

Issue/Impediment	Details of issue/ impediment	Commodities and/or Supply Chains Affected	Possible Incremental Solutions on Existing
Rail infrastructure and Capacity Of the 3.751 mt of agricultural product exported from the port in 2011/12, only 528,869 mt (14%) were transported by rail. The equivalent percentage for containerised product was 12%. The small percentage carried by rail is due to a number of factors, the most important of which are: • Rail infrastructure – axle limits, passing loops, height restrictions, which combined all restrict capacity. • Rail capacity – seasonal agricultural products compete with	Rail capacity to the port outside the metropolitan area is constrained by inadequate infrastructure: • The Toowoomba range: it takes 1.5 hrs to traverse and has only 2 passing loops, which restricts rail capacity and efficiency • The lack of passing loops at other points on either side of the range. • Train lengths being limited to 650 m by constricted sidings/passing loops and level crossing designs. • Axles restricted to 15.75 t/axle (TAL) by 2 bridges at Grantham and Sadliers Crossing. This limits the payload of all trains, and means that available paths can never be optimised. • Height restrictions in the tunnels, which restrict the use of 9' 6" high containers and some non- containerised break bulk cargo eg, railway lines, material for the CSG industry. The result is that grain wagons are restricted to 46t payload or a payload of 1,767 tonnes per train. Grain containers are restricted to 22t payload (heavy grain containers (27/28t gross) require 2 x 20' wagon slots instead of 1). Existing grain wagons are effectively full at 46 t, so new wagons with increased capacity would be required to take advantage of higher TAL. This contrasts with coal, which at 15.75 TAL limits coal wagons to 63t capacity, 17 tonne less that their nominal capacity of 80t, which would be available if the track could accommodate 20t axle limits.	<u>Bulk Grain</u> Poor rail infrastructure plus inadequate above and below rail capacity results in poor utilisation of the available capacity for bulk grain. The result is increased costs for exporters because rail is cheaper than road. This is compounded by the fact that the Graincorp terminal in Brisbane was designed for rail receival and the mode shift from rail to road has introduced inefficiencies at the port (these are further outlined below). <u>Containerised grain.</u> The inability to get an adequate payload on rail and the advent of the A double has resulted in all containerised grain moving to road. <u>Cotton</u> Cotton is still transported by rail from Goondiwindi, however cotton from Dalby and Oakey has moved to road because of reductions in the number of container trains and increased train prices. However the 8' 6" height restriction will gradually force cotton off rail as the current 8' 6" containers are gradually replaced by high cube (9' 6") containers. The HML A double, which will be able to carry 2 x 40 ft cotton containers, will likely hasten the demise of rail. <u>Meat</u> Most meat (84%) is transported by road to the Port, the exception being some meat from Biloela, Mackay and Rockhampton. Rail is not competitive, except from north and Central Qld, despite the location of abattoirs at Oakey and Toowoomba. The advent of the HML A double will render rail even less competitive.	<u>Tunnel Heights</u> Modify the tunnels by lowering them QR is investigation undertaking this work. <u>Axle Limits.</u> Upgrade the line to 20 TAL. It is understood that this would require 2 bridges and some culverts to be upgraded at a cost about $660m. Given a positive business case, this potentially could be funded by the private sector, if the State government does not have the funds. Although this would only have a marginal effect on the payload of grain trains. A dedicated rail freight corridor at least 26.5 TAL is the only long term solution to ensure rail can compete with road. <u>Train lengths</u> Increased train lengths would allow more wagons per train and therefore more payload. <u>Passing Loops</u> The two new additional passing loops on the Toowoomba range that QR are undertaking is understood to increase capacity by 25 paths per day however at 15.75 tal the grain industry will be unable to benefit from this but it may assist cotton if the tunnels are deepened as well.

non seasonal coal for limited capacity.

- Passenger priority legislation – peak hour exclusions and other waiting times impacting rail reliability
- Lack of above rail competition – Aurizon is the only operator on the western line for all products

Rail Paths

There are 112 one way rail paths over the Toowoomba range. These are broken down as follows:

- 77 for coal
- 10 for grain
- 17 for other freight
- 2 for passengers
- 6 spare

The full 10 grain paths per week are rarely used. There are 3 cotton trains to the Port each week from Goondiwindi. Coal plans on using about 87 paths per week: 77 are contracted and 10 'spare' are utilised for coal.

According to Aurizon, one grain consist is capable of carrying about 250,000 tonnes of grain, based on 7 trips per fortnight (the exact practical capacity is somewhat speculative, as another calculation – 3 trips every 2 days – provides a different capacity figure). Given three consists, that amounts to an annual capacity 750,000 tonnes of grain. In 2011/12, grain transported 308,560 tonnes, less than 50% of rail's grain capacity.

Optimisation of existing paths

The performance of the western and south western lines ie, whether available capacity is being maximised, is known only by QR and the Government, and for particular commodities, by Aurizon's customers. The limited existing capacity is not being maximised and for improvements to occur rail corridor performance must be measured and made transparent.

Cotton seed

About 86% of cotton seed is packed in the country, and there is no particular impediment to using rail (cotton seed is lighter than grain and therefore rail does not impose a payload restriction).

Bulk Grain

The deregulation of the grain market has changed the grain supply chain considerably. In particular traders/owners now have access to the Graincorp terminals and ships, there are more parties involved and trying to control the supply chain (or parts of it), more grain is being delivered direct from farm (not through Graincorp storage locations by road), more Port grain facilities are being developed to compete with Graincorp (eg, QBT in Brisbane) and the majority of grain (between 60% and 80%) is now transported to the Port by road. The Graincorp terminal at the Port was set up to receive grain by rail, and the dominance of road transport, plus the other changes to the supply chain, have introduced some inefficiencies to the handling of grain at the port. The ship side capacity of the Graincorp terminal is much greater than the landside delivery capacity.

There are a number of impediments in relation to the Graincorp Port/ship/terminal at the Port of Brisbane for the export of bulk and containerised grain which are outlined below.

Issue/Impediment	Details of impediment	Possible Solutions
Conflict between Cruise and Grain Ships	Cruise ships which cannot fit under the Gateway bridge are handled Fisherman Islands as per Queensland Government conditions. The cruise ships then use the grain berth with priority. Consequently cruise ships sometimes delay the loading of grain ships, which can result in demurrage charges, for which customers are billed. Grain ships are also sometimes stopped mid-way through discharging cargo to anchor in the bay while a cruise ship is docked for the day.	Develop a cruise ship terminal on the northern side of the river. PBPL is working with the cruise industry and the State Government to achieve this.
The shift from rail to road has reduced the capacity of the terminal to accumulate grain to load ships ie, the inwards delivery capacity is now much less than the load out capacity. The Graincorp terminal was set up for rail delivery, and it has limited capacity to handle road deliveries.	Trains can be unloaded at a rate of 2,200 t/hr, but road is restricted to about 350 t/hr. This induces inefficiencies: • Double handling. Bins often have to be unloaded and transferred by truck to grain pads at an adjacent storage area - at a cost – to allow the bin capacity to be released to handle product from a train. In addition grain at the grain pads needs to be loaded in to the bins before being loaded onto a ship ie, further double handling. • Trucks must be weighed in and out, and the product sampled, and there is only one weighbridge at the Graincorp terminal (and insufficient room to erect another one). Cotton seed is now weighed using the BMT weighbridge to free up the weighbridge for grain, but arguably this is a stop gap measure. • The need to reduce truck queues has led to the construction of a truck park adjacent to the terminal (for 16 trucks) and the introduction of a vehicle booking system (VBS) to control truck inflow. This has solved the queuing problem, but anecdotal evidence suggests it has also resulted in	• Increase rail capacity (above and below rail) for bulk grain and increase rail tonnages. • Revamp the Graincorp terminal, including developing additional storage capacity for road-delivered grain, and erect another weighbridge. • Examine the road supply chain in detail with all participants and develop a plan to improve it.

	inefficiencies further upstream. In addition, variable truck turn times at the terminal add risk and cost to transport operators businesses. • Some smaller grain traders are setting up their own 'accumulation' locations to better control the marketing and transport of grain to the Port and to overcome the road delivery issues at Graincorp. • There are often not enough trucks available to transport the volumes of grain in the time available (set by Graincorp based on ship arrival times and terminal capacity).	
The need to break up road trains in Toowoomba or Warwick to access the Port	The majority of bulk grain transported by truck is loaded on to road trains (ie, AB triples, three trailer Type 1 road trains (a trailer + dolly + B double), or conventional two trailer road trains) which provide a payloads of 64/65 tonnes or 54/55 tonnes (HML). These vehicles are not permitted east of Toowoomba or Warwick, so they must be broken down into two combinations to access the Port, which requires two trips to the Port. This is inefficient and costly and also complicates the transaction ie, the product is loaded into three trailers as one parcel, but unloaded at the port in two loads as two parcels. The impact is: • It requires double the number of trucks, and takes double the time required to deliver grain to the Port than would be the case if AB triples could be used, the costs of which are borne by the exporter. • It exacerbates truck inefficiencies at the terminal.	• Allow road trains (AB triples and/or two trailer road trains) to access the Port. • Accelerate the upgrading of the Lockyer bridge to enable A doubles to increase its payload to 58 t (this is likely to result in more A doubles being used for transporting bulk grain, in preference to AB triples, because A doubles can access the Port without needing to be broken up). The use of A doubles at HML depends not only on upgrading the Lockyer creek bridge, but also of getting access to Graincorp storage sites at HML. It is estimated that only about 30% of Graincorp sites adjacent to the Warrego and Gore highways have HML access. • If approval cannot be given for A B triples to access the Port, allow AB triples to at least access a point somewhere between Toowoomba and Ipswich (perhaps Gatton, Hattonvale or Marburg – there is already a grain terminal and grain packing facility at Hattonvale). This would reduce the cost, time and double handling of splitting road trains. This would need to be accompanied by the development of a truck park/breakdown facility, and could possibly lead to the development of a 'sub terminal' to store grain. This concept would be considerably enhanced when the Toowoomba bypass is constructed.