

Sea Freight Action Plan

Coastal Shipping

Addendum

May 2014

Department of Transport and Main Roads

*“We connect people to opportunity;
That’s how we deliver transport for prosperity throughout our great state.”*

Sea Freight Action Plan *Coastal Shipping*

Addendum

Roads, Rail & Ports System Management May 2014

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Section 1: Industrial Land adjacent to Ports

Land Use

Table 1: Strategic Land Use

Plans Location	Industrial Land development profile ¹	Land use plan	Possible land for coastal shipping	Strategic Plan	Commentary
Cairns	72 ha land supply with further 225 ha investigation areas – annual consumption of industrial land 5.2 ha	Yes – sea Port and City port local area plans	Yes – small package within town precinct	Not specifically although a range of issues are covered in the land use plans – Sea and City Port documents	Wharfs 7 and 8 – Cook street area to provide industrial activities
Townsville	1,348 ha land supply – annual consumption of industrial land 17.4 ha	Yes – 5 zones identified	Zone 2 has greatest focus on activities which could support coastal shipping	Townsville City-Port Strategic Plan available and guidance on strategic views are given in the land use plans	Future plans for road and rail connectivity are well covered
Mackay	328 ha land supply with further 702 ha investigation areas – annual consumption of industrial land 16.7 ha	Yes - 7 precinct's identified and activities nominated for these areas	Port support precinct and port related commercial precinct both refer to logistics activities	Not specifically developed although some issues are raised in the land use plans around intermodal, warehousing and connectivity to road and rail	Intent for intermodal terminal including light industry, warehousing, goods distribution & associated transport infrastructure (rail spur etc.) located with good access to the wharves can be accommodated on Strategic Port Land
Gladstone	305 ha land supply with further 4,600 ha investigation areas – annual consumption of industrial land 33.8 ha	Yes – report also encompasses Port Alma – 11 localities and 9 precincts identified	Yes – Central Port and Hanson road precincts	Gladstone has a 50 yr. plan	Strong focus on GLNG and Coal
Brisbane (SEQ)	8,852 ha land supply with further 5,594 ha investigation areas – annual consumption of industrial land 41 ha	Yes – extensive plan outlining current and future plans for the port	Absolutely ready and already undertaking such activities	Not available	Port West (formerly known as Clunies Flats) is a large area of vacant along the riverfront at Lytton approximately 6km from Port of Brisbane.

¹ <http://www.dsdp.qld.gov.au/resources/map/cg/sda-map.pdf>

Section 2: Current State activity

Movements

Table 2.1: All ports TEU movements – 5 years

Port	Activity	2007-08	2008-09	2009-10	2010-11	2011-12
Brisbane	Export					
	Full	255,711	270,619	258,373	283,339	323,423
	Empty	207,833	173,036	197,740	199,452	185,881
	Import					
	Full	413,391	377,775	405,215	433,774	458,896
	Empty	65,808	74,537	57,914	62,249	56,870
	Total TEUs	942,743	895,967	919,243	978,814	1,025,070
Bundaberg	NIL TEU					
Gladstone	Export					
	Full	995	552	198	542	1,908
	Empty			3	37	29
	Import					
	Full	1	43		64	99
	Empty	719	312		725	1,918
	Total TEUs	1,715	907	201	1,368	3,954
Port Alma	Export					
	Full	45	82	90	969	451
	Empty	74	47	4	20	
	Import					
	Full	721	739	449	288	694
	Empty	40	14	9		
	Total TEUs	880	882	552	1,277	1,145
Mackay	NIL TEU					
Townsville	Export					
	Full	12,240	12,203	15,756	16,625	4,606
	Empty	1,900	3,472	2,692	4,706	19,294
	Import					
	Full	5,846	7,405	7,690	10,815	12,674
	Empty	7,032	8,281	9,317	10,293	12,988
	Total TEUs	27,017	31,361	35,455	42,439	49,562
Mourilyan	NIL TEU					
Cairns	Export					
	Full	8,761	9,152	7,511	7,881	6,737
	Empty	149	102	20	251	36
	Import					
	Full	1,132	1,544	1,151	2,492	1,306
	Empty	7,473	8,136	6,502	7,316	5,377
	Total TEUs	17,515	18,934	15,184	17,940	13,456

Table 2.2: All ports vessel movements profile

Port	Gross registered tonnage	By length (metres)	2010-11	2011-12
Brisbane	< 10,000		553	601
	10,001 – 20,000		294	292
	20,001 – 30,000		433	411
	> 30,000		1 267	1 404
		<185	1 248	1 229
		185-190	87	99
		190.1-230	505	543
		>230	707	837
Bundaberg	< 10,000		9	3
	10,001 – 20,000		10	7
	20,001 – 30,000		2	4
	> 30,000			
		<185	21	14
		185-190		
		190.1-230		
		>230		
Gladstone	< 10,000		82	546
	10,001 – 20,000		153	134
	20,001 – 30,000		233	247
	> 30,000		848	920
		<185	381	840
		185-230	592	609
		>230	343	398
Port Alma	< 10,000		64	91
	10,001 – 20,000		11	21
	20,001 – 30,000		3	6
	> 30,000			
		<185	78	115
		185-190		3
		190.1-230		
		>230		
Mackay	< 10,000			216 (all)
	10,001 – 20,000			
	20,001 – 30,000			
	> 30,000			
		<185		
		185-190		
		190.1-230		
		>230		

Port	Gross registered tonnage	By length (metres)	2010-11	2011-12
Townsville	< 10,000		244	269
	10,001 – 20,000		178	180
	20,001 – 30,000		133	159
	> 30,000		177	197
		<185	551	600
		185-230	181	205
		>230		
Mourilyan	< 10,000			25 (all)
	10,001 – 20,000			
	20,001 – 30,000			
	> 30,000			
		<185		
		185-190		
		190.1-230		
	>230			
Cairns	< 10,000		630	630
	10,001 – 20,000		6	10
	20,001 – 30,000		51	47
	> 30,000		25	33
		<185	686	693
		185-230	18	21
		>230	8	6

Table 2.3: Port Shipping by Vessel size

Port	2010/11	2011/12
Brisbane	2,547	2,708
Bundaberg	21	14
Gladstone	1,316	1,847
Port Alma	78	118
Mackay		216
Townsville	732	805
Mourilyan		25
Cairns	712	720

Container Trends

Table 2.4: Port Container (TEU) Activity and Trends

Port	Activity	2007-08	2008-09	2009-10	2010-11	2011-12
Brisbane	Total TEUs	942,743	895,967	919,243	978,814	1,025,070
Bundaberg	NIL TEU					
Gladstone	Total TEUs	1,715	907	201	1,368	3,954
Port Alma	Total TEUs	880	882	552	1,277	1,145
Mackay	NIL TEU					
Townsville	Total TEUs	27,017	31,361	35,455	42,439	49,562
Mourilyan	NIL TEU					
Cairns	Total TEUs	17,515	18,934	15,184	17,940	13,456

Note: Port of Gladstone also shows an additional 37 905 TEU movements in the 2011-12 year, which are treated as domestic cargoes.

Coastal Freight Flows

Table 2.5: Queensland Coastal Freight Flows 2010/11 (000's t)

	Brisbane	Bundaberg	Gladstone	Port Alma	Mackay	Townsville	Mourilyan	Cairns
Brisbane			594		336	108		258
Bundaberg					16			
Gladstone	509				23	461		
Port Alma			11					
Mackay	22							
Townsville	17	11	12					1
Mourilyan								
Cairns								

Section 3: Future State Activity

Mining

Table 3.1: Bowen Basin Mines forecast freight activity

	QTY/MTPA Coal	UOM	Factored by MTPA	UOM	Conversion	UOM	Assumption
Bulk Fuel							
Construction	1,610	tonnes	339,308	tonnes	408,804,217	litres/annum	0.83 SG
Operation	1,000	tonnes	210,750	tonnes	253,915,663	litres/annum	0.83 SG
Hazardous Consumables							
Construction	805	tonnes	169,654	tonnes	12,118	TEU/annum	14t/TEU
Operation	500	tonnes	105,375	tonnes	7,527	TEU/annum	14t/TEU
Containerised							
Construction	145	tonnes	30,559	tonnes	2,183	TEU/annum	14t/TEU
Operation	90	tonnes	18,968	tonnes	1,355	TEU/annum	14t/TEU
OSOM							
Construction	0.05	Movements	10.5	Daily			
Operation	0.03	Movements	6.3	Daily			

Source: Central Queensland Transport Supply Chain Study: Working Paper D - Future Situation and Scenario Analysis

Table 3.2: Galilee Basin Mines forecast freight activity

	QTY/MTPA Coal	UOM	Factored by MTPA	UOM	Conversion	UOM	Assumption
Bulk Fuel							
Construction	1,610	tonnes	450,800	tonnes	543,132,530	litres/annum	0.83 SG
Operation	1,000	tonnes	280,000	tonnes	337,349,398	litres/annum	0.83 SG
Hazardous Consumables							
Construction	805	tonnes	225,400	tonnes	16,100	TEU/annum	14t/TEU
Operation	500	tonnes	140,000	tonnes	10,000	TEU/annum	14t/TEU
Containerised							
Construction	145	tonnes	40,600	tonnes	2,900	TEU/annum	14t/TEU
Operation	90	tonnes	25,200	tonnes	1,800	TEU/annum	14t/TEU
OSOM							
Construction	0.05	Movements	14	Daily			
Operation	0.03	Movements	8.4	Daily			

Source: Central Queensland Transport Supply Chain Study: Working Paper D - Future Situation and Scenario Analysis

Oversize/Overmass

Table 3.3: OSOM by Category

Category	ID	Number of Movements	Volume of Movement (m3)
Agriculture	A	92	25,123
Construction Equip	CE	7,918	1,654,838
Defence	D	263	40,612
Gas	G	355	60,279
Infrastructure	I	1,762	300,678
Mine Fixed Asset	MFA	1,210	294,307
Mine Mobile Asset	MMA	30,372	9,706,285
Mobile Unit under Own Power	MUOP	8,222	13,771
Other	O	11	1,511
Rail	QR	304	56,612
Relocatable Buildings	RB	975	300,638
Utilities	U	1,001	222,134
Vessel or Marine	VM	376	107,788
Undefined	#N/A	7,624	3,098,302
TOTAL		60,485	15,882,878

Table 3.4: OSOM by Origin

Overall	Movements	Volume (m3)	MMA Only	Movements	Volume (m3)
BRISBANE CENTRAL	6,676	1,627,872	BRISBANE CENTRAL	3,613	923,366
GOLD COAST	644	185,874	GOLD COAST	168	34,585
HEATHWOOD DF	9,676	2,828,452	HEATHWOOD DF	7,529	2,429,709
MORETON	2,401	814,669	MORETON	83	20,455
NORTH QLD	3,382	755,641	NORTH QLD	1,267	332,676
NORTHGATE	4,165	564,758	NORTHGATE	195	52,527
ROCKHAMPTON MC	16,824	4,470,072	ROCKHAMPTON MC	10,053	3,730,481
SOUTH SUBS	1,896	562,635	SOUTH SUBS	717	195,376
SUNSHINE COAST	975	340,631	SUNSHINE COAST	202	60,426
TOOWOOMBA REGION	8,213	1,990,670	TOOWOOMBA REGION	3,693	908,781
WEST SUBS	4,390	1,434,893	WEST SUBS	2,241	856,976
#N/A	1,243	306,712	#N/A	611	160,927
Total	60,485	15,882,878	Total	30,372	9,706,285

Table 3.5: OSOM by Destination

Overall	Movements	Volume (m3)	MMA Only	Movements	Volume (m3)
Brisbane Central	1,837	431,888	Brisbane Central	623	209,524
Gold Coast	1,848	265,610	Gold Coast	101	23,093
Heathwood	1,761	469,049	Heathwood	838	234,698
Moreton	2,076	702,611	Moreton	122	32,643
North QLD	8,028	1,834,685	North QLD	4,341	1,262,561
Northgate	1,173	239,850	Northgate	76	20,712
Rockhampton MC	27,712	7,727,365	Rockhampton MC	18,522	6,253,987
South SUBS	963	301,177	South SUBS	220	63,251
Sunshine Coast	2,187	493,040	Sunshine Coast	186	48,209
Toowoomba Region	9,724	2,438,505	Toowoomba Region	4,384	1,217,810
West SUBS	2,172	665,902	West SUBS	218	64,942
#N/A	1,004	313,197	#N/A	741	274,855
Total	60,485	15,882,878	Total	30,372	9,706,285

Table 3.6: OSOM by Central Qld

Rockhampton Area Summary	Movements	Volume (m3)
Blackwater	1,259	342,573
Burton	662	218,190
Clermont	674	112,199
Coppabella	525	198,616
Curragh	681	238,705
Dysart	1,812	372,476
Emerald	458	127,542
Gladstone	2,675	485,718
Goonyella	1,011	337,440
Hail Creek	787	308,409
Lake Lindsay	801	272,709
Mackay	2,632	772,582
Moranbah	1,099	316,455
Paget	1,121	360,004
Rockhampton	540	129,247
Rolleston	421	111,242
Saraji	732	264,705
Mine Access	1,906	594,132
Other	7,916	2,164,420
Total	27,712	7,727,365

Cargo Statistics

Table 3.7: Cargo Statistics – Dampier 2012-13

Month	General Out	General In	Exclusions:
July	13,038	15,590	Salt
August	358,681	19,571	Condensate
September	8,743	31,819	LNG
October	15,124	4,769	LPG
November	23,498	22,009	Ammonia
December	102,795	18,007	Petroleum
January	267,631	13,977	Iron Ore
February	81,801	15,524	
March	100,734	6,450	Note:
April	45,140	23,601	Dampier significant for LNG projects
May	40,212	23,823	Dampier significant for LNG projects
June	291,412	17,608	Dampier significant for LNG projects
TOTAL	1,348,809	212,748	

Section 4: Infrastructure Assessment

Port side infrastructure

Port side infrastructure (port depth, berths, berth equipment) is outlined in the following, supported by detail included in a series of Tables.

The ports of Brisbane and Gladstone have the channel and port side depths to support typical container ships of 12.3m drafts and 212m lengths and are able to handle Ro/Ro vessels.

Townsville has portside infrastructure and depths to handle similar vessels although; it does require that shipper's check with the pilot for ships draft exceeding 10.3m.

Cairns is capable of servicing smaller container ships, self-geared and RO/RO ships. Larger container ships could only be serviced if the channel and portside depths were increased.

Mackay has less flexibility than other ports. One ship per tide can be handled. Mackay is investigating the possibility of handling two ships per tide.

Mackay's lowest astronomical tide (LAT) is similar to Cairns, however; Mackay cannot handle RO/RO ships.

The table below shows the variation of port depths.

Table 4.1: Port Depths

Ports – Depths (LAT)	
Brisbane	14.0m to 15.0m, through the swing basin 14.0m
Gladstone	11.3m, swing basin of 11.5m
Mackay	9.44m at berth 1 – one ship movement per tide
Townsville	Channel depth of 11.7m. Depths vary from 12.9m at Berth 2 to 9.5m at Berth 10
Cairns	9.5m

Ship rotations and cycle times are dependent on berth availability. Extra time is added to the rotation when berths are unavailable.

Brisbane, Gladstone and Townsville offer a greater number of options to support shipping rotations, with multiple berths able to handle cargo.

At ports with fewer berths, the application of local rules and/or tide windows also impacts on shipping cycle times. The Table below indicates the range and number of berths for each port.

Berth utilisation is in the range of 30% to 84% at applicable berths across all ports. Cairns and Mackay berths are in the lower range of utilisation, while Townsville and Gladstone had the higher berth utilisation.

Townsville has recently opened a new berth 10, which has achieved utilisation of 45%, reducing utilisation on other berths to similar levels. Gladstone's peak utilisation on berth 4 was 84% during the peak LNG construction phase, with this utilisation expected to reduce in line with construction activity.

Table 4.2: Port Berths

Berths	
Brisbane	29 operating wharves - 4 container handling
Gladstone	15 wharves – 4 assigned to grain, other bulk and container traffics
Mackay	3 wharves – berth 1 handles OSOM and containers
Townsville	8 berths – 4 to handle coastal shipping needs – and 2 other berths to be decommissioned
Cairns	9 berths in use – berths 7 and 8 handling general cargo

Each port has lifting equipment and transportation linkages, excluding Mackay.

Brisbane, Gladstone and Townsville currently have an array of mid to high productivity TEU handling equipment. Other ports hire equipment to service existing shipping needs.

The current level of portside infrastructure; in terms of accessible appropriate hard stand needs review at each port to support sustainable coastal shipping.

The following Table details the berth equipment at each port.

Table 4.3: Port Infrastructure capacities

Berth Equipment	
Brisbane	Portainers, lifting equipment, transportation, jigs and plant is available throughout the port. RO/RO operation available
Gladstone	Lifting equipment, transportation, jigs and plant is available throughout the port including 420 model Liebherr mobile cargo handling cranes.
Mackay	Operators need to hire in mobile cranes to lift OSOM or containers to service non geared ships.
Townsville	55t portainer on hook 20 TEU/hr, 50t mobile crane, 45t reach stacker, Various 5t – 40t forklifts, Barge ramp for RO/RO, Bunkering available and 500 model Liebherr mobile crane
Cairns	Fixed wharf crane with a capacity of 25.4t is located on Wharf 6. Mobile handling equipment is available from local stevedores or hire contractors.

4.2 Land Infrastructure and Capacity

The movement of products to and from the port is conducted by road and rail. Hardstand land is needed to store containers, OSOM and bulk grains for either cargo assembly or distribution.

Section 1 shows the supply of industrial land around each port. Several ports have identified aligned plans for adjacent estates are required to support coastal shipping. Industrial land consumption is an indicator of activity, which is linked directly to supply chain activity. Each port is located near larger packages of undeveloped industrial land. Ports must provide support to developers to ensure integrated supply chains are planned and optimised.

Hardstand

Each port has land packages available to be developed or converted. Brisbane, Gladstone, Townsville and Cairns have areas of hardstand ranging from 43ha to 700ha. This hardstand allows stevedores and commercial users to value-add at the port and to handle volumes of TEU's per year, plus large quantities of OSOM.

Brisbane, Gladstone, Townsville and Cairns have powered reefer outlets for refrigerated containers, OSOM laydown areas and shed storage available. Space is also available for storage of project cargo, to be transported to mine and or construction sites when needed.

Mackay has 6ha hardstand available to support coastal shipping flows. Limited OSOM can be stowed on existing hardstand within the port boundaries. While this is less than the other ports, it will be sufficient to service weekly container traffic up to 155 TEU's plus OSOM. The Table below shows the hardstand per port.

Table 4.4: Hardstand

Hardstand	
Brisbane	700 ha is available both at Fishermen's Islands and Port West
Gladstone	80 ha available Central port up to 250,000 to 300,000 TEU capacity
Mackay	6 ha contiguous land is available within the port a further 100ha is available
Townsville	Storage of 19,000 TEU's across five locations (reconfigured 250,000 TEU per year)
Cairns	43ha available and can accommodate 550 TEU

Interfaces between the port and the respective road and rail networks are vital in managing the costs of transportation, both to and from the port.

Road

High productivity freight vehicles, including B Doubles and road trains define the strategic road freight network in Queensland, in terms of access and approved routes². Townsville is the only port that can accept Type 1 and 2 road trains to the quayside. Townsville is awaiting approval to increase the Type 2 access to berths 4 and 10. Townsville therefore has a competitive advantage over other ports with respect to high productivity vehicle access.

All ports are capable of handling B Double vehicles. All internal port roads, culverts and bridges are rated to take B Double vehicles. Mackay port access is limited to one B Double route, which has a reduced speed bridge on its route, restricting vehicle movements. The table below shows road access for each port.

Table 4.5: Road Access

Road	
Brisbane	B double (25m) & High productivity vehicles by permit
Gladstone	B double (25m)
Mackay	B double (25m) only with single access to port via Vines Creek Bridge which is load and speed restricted
Townsville	Type 1 road trains permitted to berths 4 and 10, while Type 2 access to berth 3 is permitted for live cattle export
Cairns	B double (25m)

²

<http://www.tmr.qld.gov.au/Travel-and-transport/Maps-and-guides/Queensland-state-controlled-roads-and-region-maps.aspx>

Rail

The rail network³ is connected to all ports except Cairns. All other ports have 15.75 tonnes per axle load (tal) rail for their loops and intermodal terminal lines, excluding Townsville which has 20 tal. The north coastline is capable of 20 tal. Container, bulk and general trains can operate on 15.75 tal tracks to service coastal shipping needs.

Cairns, while not currently connected, can be easily accessed without additional capital. Cairns port is located 3.5 kilometres from the Portsmith rail terminal. The port may not need to invest in a rail terminal as Portsmith terminal is logistically close enough to be serviced by road. Also Cairns has surplus rail spurs of approximately 200m in length, which can be removed.

The primary access point for rail into the Townsville port is through urban areas which connect the port area to Aurizon/Queensland Rail. There are no infrastructure impediments to or from the port. Beyond the port limits the rail lines connect into the Queensland Rail system. Rail is designed for 20 tonne axle loads on 47kg/m rail. A number of rail loops and sidings exist within the Port precinct. Hardstand and rail can be configured to accommodate an intermodal facility within the port confines.

Rail connections exist between the Mackay port and Queensland Rail. The rail line near the port junction is rated at 20 tonne axle load and within the port is 15.75tal. The Paget rail terminal is a distance of 13.5 kilometres from the portside using the established B Double route.

Rail within the port area essentially services the bulk commodities of grain and sugar. Space is available for developing containerised intermodal options, by improving a straight-line segment of the sugar-unloading rail infrastructure on the Eastern side of this loop. This may require remodelling to account for seasonal product movements. To enable container handling on the sugar loop an investment in hardstand, removal of wire fences and the development of operating procedures would be required.

Prime sugar loop frontage on the Western side has been lost to bulk fuel facilities in the last 12 months. A small spur exists near the sugar loop, which has been considered in the past to support rail infrastructure movements. It is likely that this spur will be used in the next five years.

Track structure is a mix of nominal 50, 53 and 60-kg/m rail on concrete sleepers. A strong business case would be needed to justify any investment in intermodal rail facilities capable of handling NCL container trains at Mackay port, although it is acknowledged that Pacific National and Aurizon facilities at Paget are land locked with limited opportunities to expand container handling capacity, or warehousing and distribution facilities.

Gladstone has rail connections into the port area from Aurizon / Queensland Rail. An intermodal area operates within the port. It is not of sufficient length to handle a full container train. Numerous shunts would need to be undertaken to load or unload a full-length container train. Gladstone port has sites within the port area, which are being considered for rejuvenation as an intermodal terminal. Currently Gladstone bulk fuel can be handled through the port facilities of Auckland point. Fuel tanks, road and rail infrastructure exist to support the product. The task of fuel distribution and supply is set to increase.

³ <http://www.queenslandrail.com.au/NetworkServices/DownloadsandRailSystemMaps/Freight/Pages/freight.aspx>

Community

The port activities at Brisbane, Gladstone and Townsville are continuous 24 hours per day 7 days a week. Noise, visual amenity and public safety can be managed as the ports grow as it is currently.

Activities associated with Mackay cargo handling occur away from the Central business district and the adjacent marina and urban development. Expansion to the north will minimise noise, visual amenity and public safety as functions grow. Apartment complexes and restaurants are adjacent to the port area.

Cairns activities associated with cargo handling occur away from the Central business district. Noise, visual amenity and public safety can be managed as the port grows as it is currently.

The interrelationship between ports, shippers, road and rail needs to be reflected in all of the port plans. The trade-offs and balance between each of the modes of transportation needs to be understood and accounted for by either policy and operational changes and funding to support any future required infrastructure, in the context of the impact on community amenity.

A broader coastal shipping plan, cognisant of the amenity impacts, can then be aggregated from each detailed Port Master Plan.



Photo: Port of Townsville

Section 5: Legislative and Governance Structures

Table 5.1: Legislative and Governance Structures

Element	International	Federal	State	Corporate
General			Queensland Transport Security (Counter-Terrorism) Act 2008	Guide to Container Weight Declarations
People		Work Health & Safety Act 2011 Occupational Health and Safety (Maritime Industry) Act 1993 and Regulations 1995 Fair Work Act	Work Health & Safety Act 2011 Maritime Safety Queensland Act 2002	Work Health & Safety Act 2011
Vessel	International Maritime Organisation (IMO) International Safety Management Code (SOLAS)	Shipping Registration Act 1981 Marine Safety (Domestic Commercial Vessels) National Law Act 2012 Coastal Trading Act 2012 (Revitalising Australian Shipping) Customs Act 1901 The Migration Act 1958	Transport Operations (Marine Safety) Act 1995 - Pilotage MSQ Transport Operations (Marine Safety) Regulation 2004 - Bookings Transport Operations (Marine Pollution) Act 1995 Transport Operations (Marine Safety) Act 1994	
Sea		AMSA Navigation Act 2012		
Harbour	UNESCO	Transport Infrastructure Act 1994	MSQ Marine Parks (Declaration) Regulation 2006	Port Handbook Ports (depth) Harbour Master
Port		Maritime Transport Security Act 2003 AQIS Australian Customs Service	QLD Fire & Rescue Service (Response, Fire) Transport Infrastructure (Ports) Regulations 2005 Explosives Regulations 2003	Port Handbook Government Owned Corporations Act 1993 Government Owned Corporations Regulation 2004 Queensland Competition Authority Act and Regulation 1997 Infrastructure Investment (Asset Restructuring and Disposal) Act 2009
Land Side - Port			Sustainable Planning Act 2009 (Integrated Planning Act 1997) Transport Infrastructure Act 2005 Cultural Record Act 1987 Environmental Protection Agency 2003 Native Title Act 1993 Aboriginal Cultural Heritage Act 2003 Coastal Protection and Management Act 1995	MOU with Local Councils
Road		Heavy Vehicle National Law Act 2012	Transport Operations (Road Use Management) Act 1995 Transport Operations (Road Use Management Mass Dimensions and Loading) Regulation 2005 Transport Operations (Road use Management Dangerous Goods) Regulation 2008 Transport and Other Legislation Amendment Regulation (No. 1) 2013 Transport Infrastructure (State-controlled Roads) Regulation 2006	
Rail			Transport (Rail Safety) Act and Regulations 2010 Transport Infrastructure (Dangerous Goods by Rail) Regulation 2008 Transport Infrastructure Act 1994 Sustainable Planning Act 2009 Transport Infrastructure (Rail) Regulation 2006	
Land - Non Port			Sustainable Planning Act 2009 (Integrated Planning Act 1997) Transport Infrastructure Act 2005 Cultural Record Act 1987 Environmental Protection Agency 2003 Native Title Act 1993 Aboriginal Cultural Heritage Act 2003 Coastal Protection and Management Act 1995	

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- Moving Freight, A strategy for more efficient freight movement, Transport and Main Roads, Dec 2013
- Central Queensland Transport Supply Chain Study: Working Paper D - Future Situation and Scenario Analysis
- Report 120 Bureau of Infrastructure, Transport and Regional Economics (BITRE) 2014
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- The Containerization of Commodities: Integrating Inland Ports with Gateways and Corridors in Western Canada, Hofstra University, April 2012
- <http://www.vesseltracker.com/en/Vessels/Home.html>

Details on vessel types

- http://www.swireshipping.com/index.php?option=com_content&view=article&id=144&Itemid=11
- <http://www.anl.com.au/products-services/our-services>
- http://www.austcoastal.com.au/schedule_3.html
- <http://www.marianashipping.com.au/schedules/>
- <http://www.tollgroup.com/toll-marine-logistics-australia-shipping-schedules>

Public Domain Port Sources

- <http://www.portbris.com.au/home>
- Additional details POB (TEU crane) handbook: <http://www.gpcl.com.au>
- Additional GPCL details – handbook: <http://www.nqbp.com.au/wp-content/uploads/2013/07/Port-of-Mackay-Port-Handbook-December-2012-version-1rev-32.pdf>
- Additional POM details: <http://www.townsville-port.com.au/>
- <http://www.portsnorth.com.au/>

Public Domain Road Sources

- Department of Transport and Main Roads
- Network maps, bridges and OSOM: <http://www.tmr.qld.gov.au/Travel-and-transport/Maps-and-guides/Queensland-state-controlled-roads-and-region-maps.aspx>

Rail freight maps

- <http://www.queenslandrail.com.au/NetworkServices/DownloadsandRailSystemMaps/Freight/Pages/freight.aspx>

Land details SEQ, Gladstone, Mackay, Townsville and Cairns

- <http://www.dsdp.qld.gov.au/resources/map/cg/sda-map.pdf>