

Freight in Queensland

Queensland has an extensive freight task driven inter alia by mining, agriculture, building and construction, hospitality and retail, household consumption (food and beverages), accommodation and business services. These types of industries, combined with Queensland's dispersed settlement pattern, result in various competing freight movement needs and challenges across the state.

In 2010–11, Queensland's total freight volume, comprising export, import and domestic freight movement, was 871mt.¹

Export and import freight

Export and import freight activity is extensive across the state, supported by multiple trading ports (as outlined in **Figure 2**) which connect industry to international markets.

Generally, Queensland's production related industries have a strong export focus. In 2012–13, state exports were valued at approximately \$46.3 billion; since 2000, exports have, on average, represented 23% of estimated total freight volumes.²

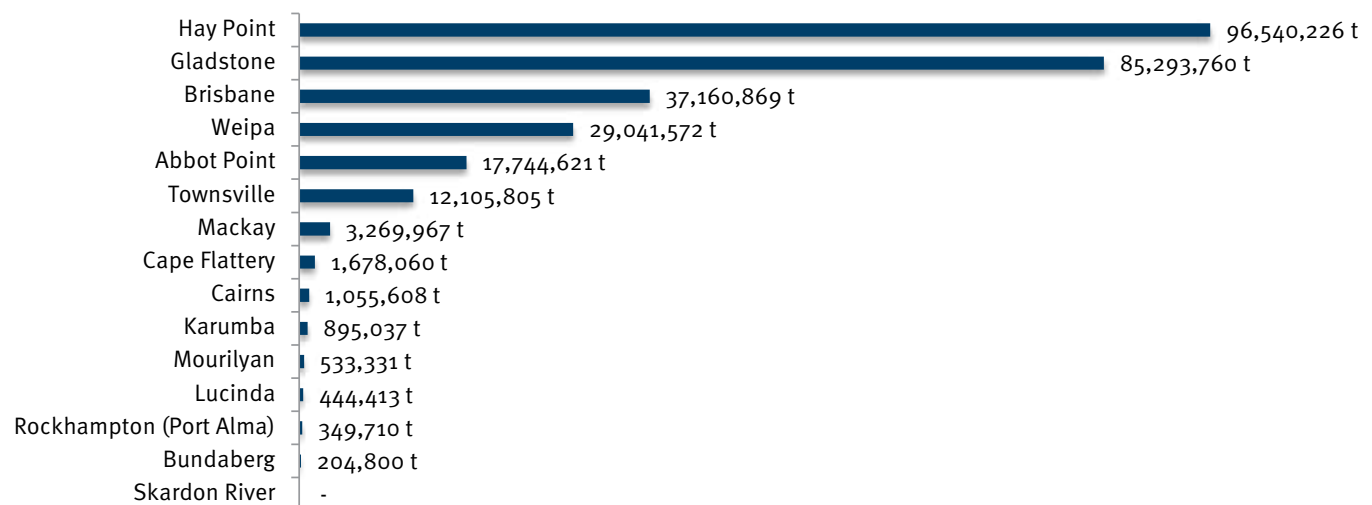
Coal is the most significant export commodity by volume; exports have increased by more than 50% since 2001 and account for more than 80% of all Queensland exports³ (see **Table 1**).

Table 1 – Queensland international exports 2012–13

| Commodity group | Tonnes | Share % |
|--|--------------------|------------|
| Coal | 179,901,014 | 84.2 |
| Metalliferous ores and metal scrap | 16,327,916 | 7.6 |
| Food, beverages, tobacco, live animals | 3,222,747 | 1.5 |
| Crude materials - inedible except fuels | 1,885,060 | 0.9 |
| Grains, cereals, and cereal preparations | 2,691,308 | 1.3 |
| Manufactured goods including metals, machinery | 1,481,325 | 0.7 |
| Chemicals and related products | 590,642 | 0.3 |
| Animal and vegetable oils, fats and waxes | 253,311 | 0.1 |
| Commodities not classified elsewhere | 7,389,235 | 3.5 |
| Total | 213,742,558 | 100 |

Source: OESR: *Overseas exports by commodity, volume, Queensland Ports* Department of Transport and Main Roads: *Trade Statistics for Queensland Ports*

Figure 2: Total throughput of trading ports 2012-13



Source: *Trade Statistics for Queensland Ports*

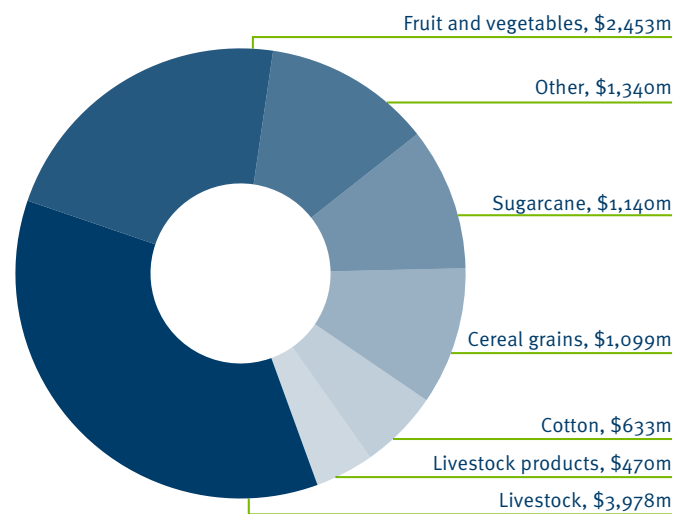
Agricultural commodities and their derivatives, including livestock, are a further important state export. While comprising only 3% of export volumes in 2012–13 they were valued over \$8 billion, which is second only in terms of value to coal exports.⁴ Despite the volume of agricultural exports being considerably less than minerals, the value of these commodities is significant and is expected to continue to be an important economic driver for regional and rural communities.

Queensland is a significant producer of agricultural commodities. In 2012–13, the gross value of Queensland’s agricultural production was approximately \$11.1 billion⁵ (refer **Figure 3**).

Containerised freight movements are a notable component of Queensland’s export and import freight task (refer **Figure 4**). In 2012–13, container trade was approximately 1.14 million Twenty-foot Equivalent Units (TEU).⁶ Almost 94% (1,069,000 TEU) of import and export containers passed through the Port of Brisbane. Townsville had the next largest share with 4.3% (50,173 TEU), with the remaining 2% of container trade handled by Gladstone, Rockhampton and Cairns.⁷

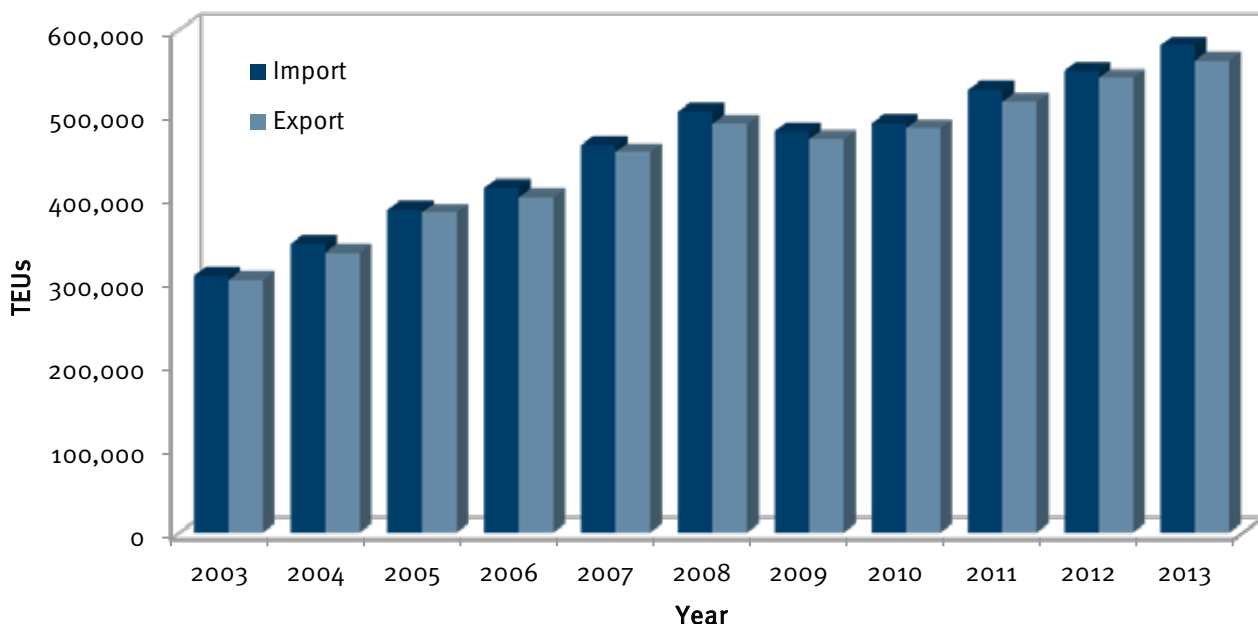
Queensland’s imports generally include containerised high value manufactured goods. The value of Queensland imports has grown ten fold over the last 25 years from \$3.7 billion to almost \$42.7 billion in 2012–13.⁸ For the same period the value of Queensland exports grew five fold from \$9 billion to approximately \$46.3 billion.⁹

Figure 3: Gross value of Queensland agricultural production 2012–13



Source: Department of Agriculture, Fisheries and Forestry: *Queensland AgTrends Update April 2013*

Figure 4: Queensland container trade



Source: *Trade Statistics for Queensland Ports*

Freight types

Based on the typical handling characteristics of commodities, the type of freight moved in Queensland can be broadly categorised as:

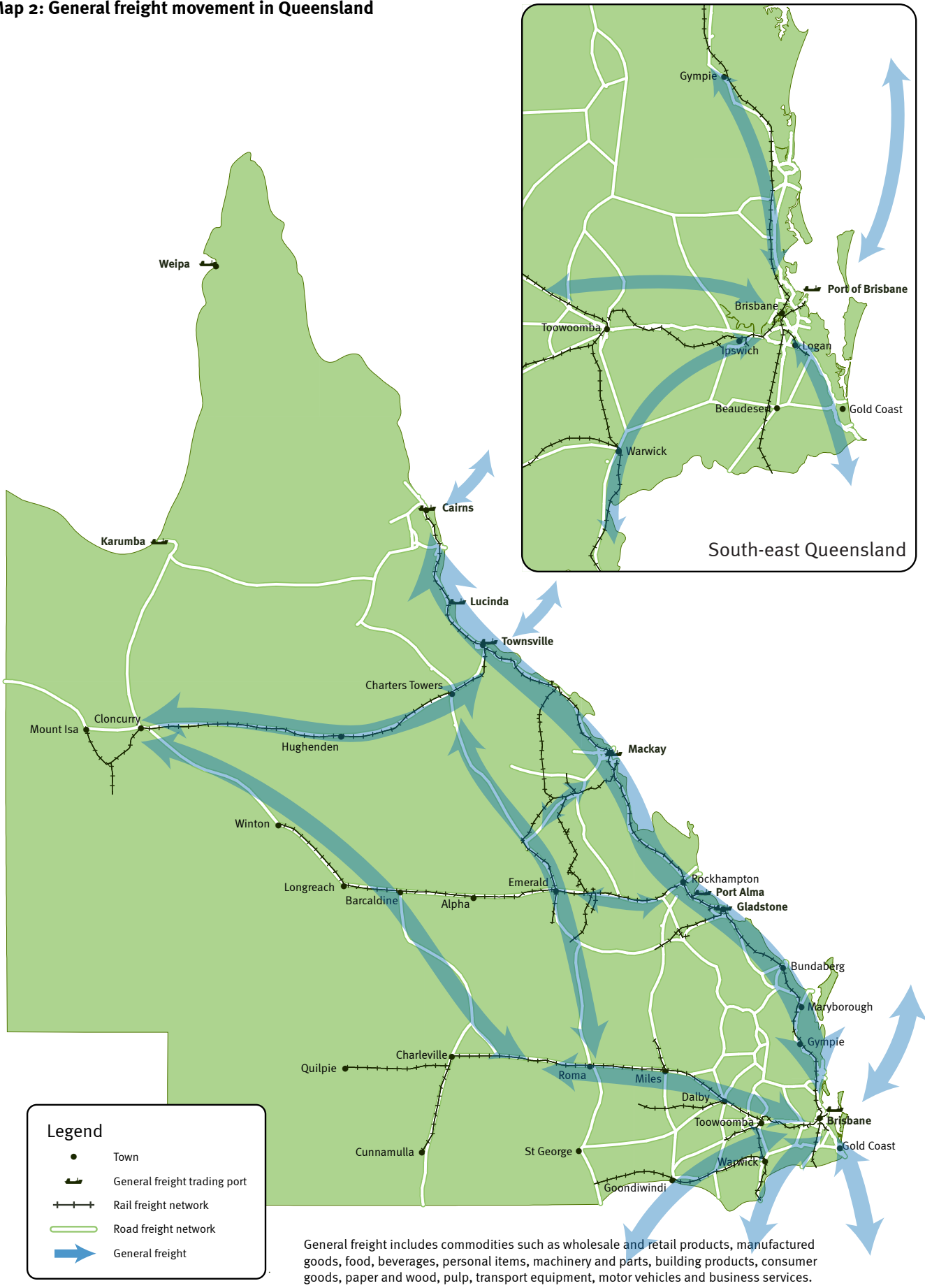
- General freight – commodities moved individually and/or in containerised, palletised and/or parcel sized configurations, such as: wholesale and retail products, manufactured goods, food, beverages, personal items, plant and machinery parts, and building products.
- Commodities moved in bulk – single commodity movements in high volume or bulk configuration such as: coal, minerals, bauxite, cement, grain, and sugar.

These categories of freight typically place diverse demands on the freight system. For instance, the movement of general freight in Queensland is outlined in **Map 2, page 15**, which illustrates:

- Movement to and from international, inter-state, intra-state markets as well as within Queensland urban freight networks.
- Strong north-south flows between the major centres along the coastline and inter-state locations, with some east-west flows supporting mining, agriculture and regional household needs.
- Concentrated movement in south-east Queensland, due to its population, economic activity, and access to processing, value-adding and port export facilities.
- Road transport supports the majority of general freight movement within Queensland.



Map 2: General freight movement in Queensland



Source: Department of Transport and Main Roads (2013)

The major movements of commodities in bulk are illustrated in **Map 3, page 17**, which shows:

- the movement of commodities to and from international, inter-state and intra-state markets.
- the majority of commodities moved in bulk comprising mining and agricultural exports.
- commodities predominantly moving in a west to east direction to Queensland’s ports.
- rail has a key role in moving commodities in bulk, with its 29% modal share of the overall freight task largely attributed to this type of freight, with coastal shipping also fulfilling a role.

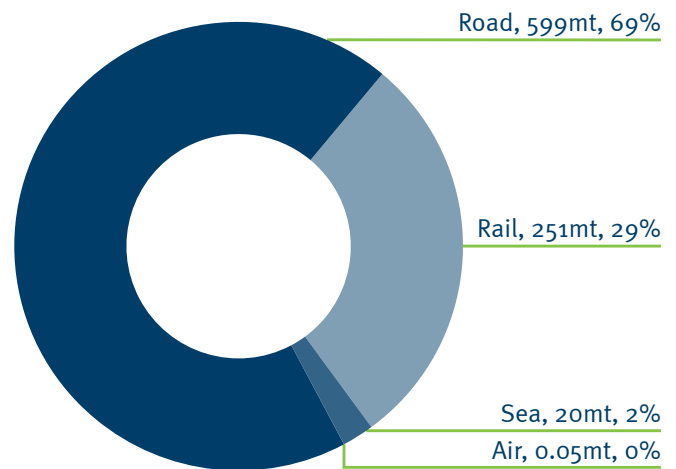
Intrastate modal share and selection

Generally, modal selection is informed by the best match between the characteristics of the freight to be moved (volume, mass and handling requirements) and transport options (cost, speed, service frequency, reliability, availability and flexibility). Existing modal share of Queensland’s total freight task by volume is outlined in **Figure 5**.

Characteristics of the existing modal share are:

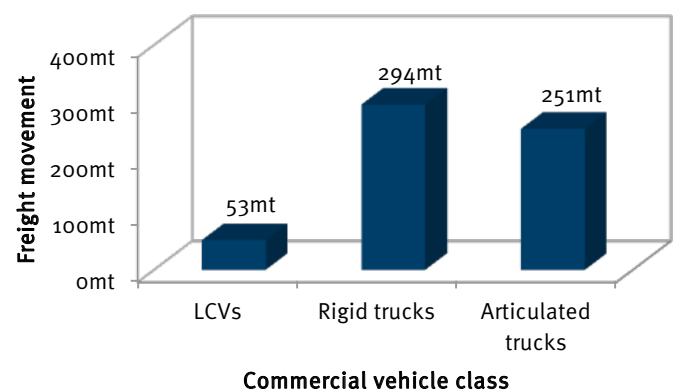
- Road freight comprises various commercial vehicle classes. **Figure 6** identifies the freight volume moved and fleet size by commercial vehicle class.
- Rail freight is predominantly attributed to coal exports.
- Coastal shipping primarily comprises inter-regional movements of bauxite, petroleum products and cement.
- Air freight is relatively small in volume. However, it has an important role supporting high value and urgent freight.

Figure 5: Freight movement by mode 2010–11



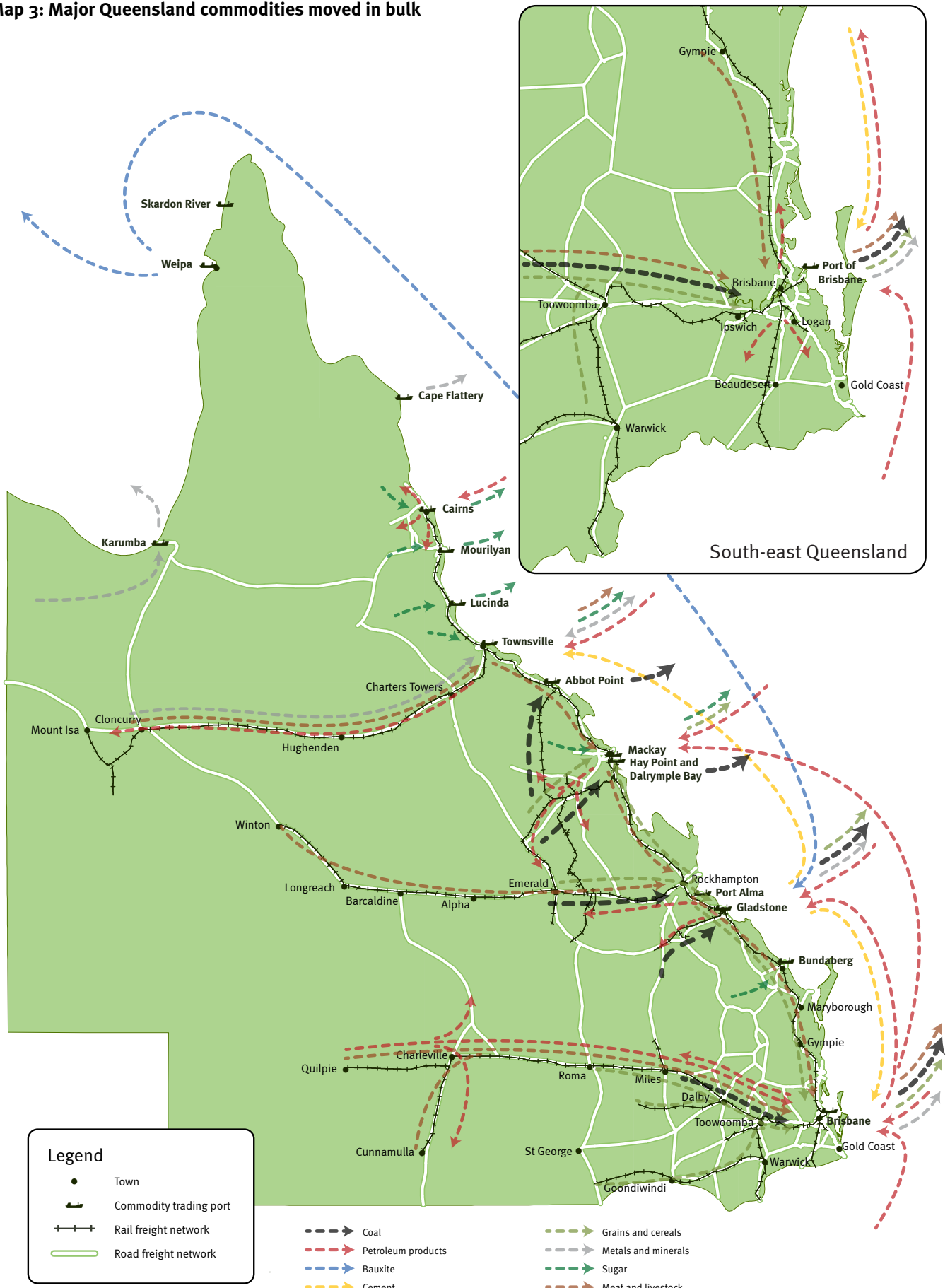
Source: Centre for Transport Energy and the Environment: *Queensland Transport Facts 2013*

Figure 6: Freight movement by road vehicles 2010–11



Source: Centre for Transport, Energy and the Environment: *Queensland Transport Facts 2013*

Map 3: Major Queensland commodities moved in bulk



Source: Department of Transport and Main Roads