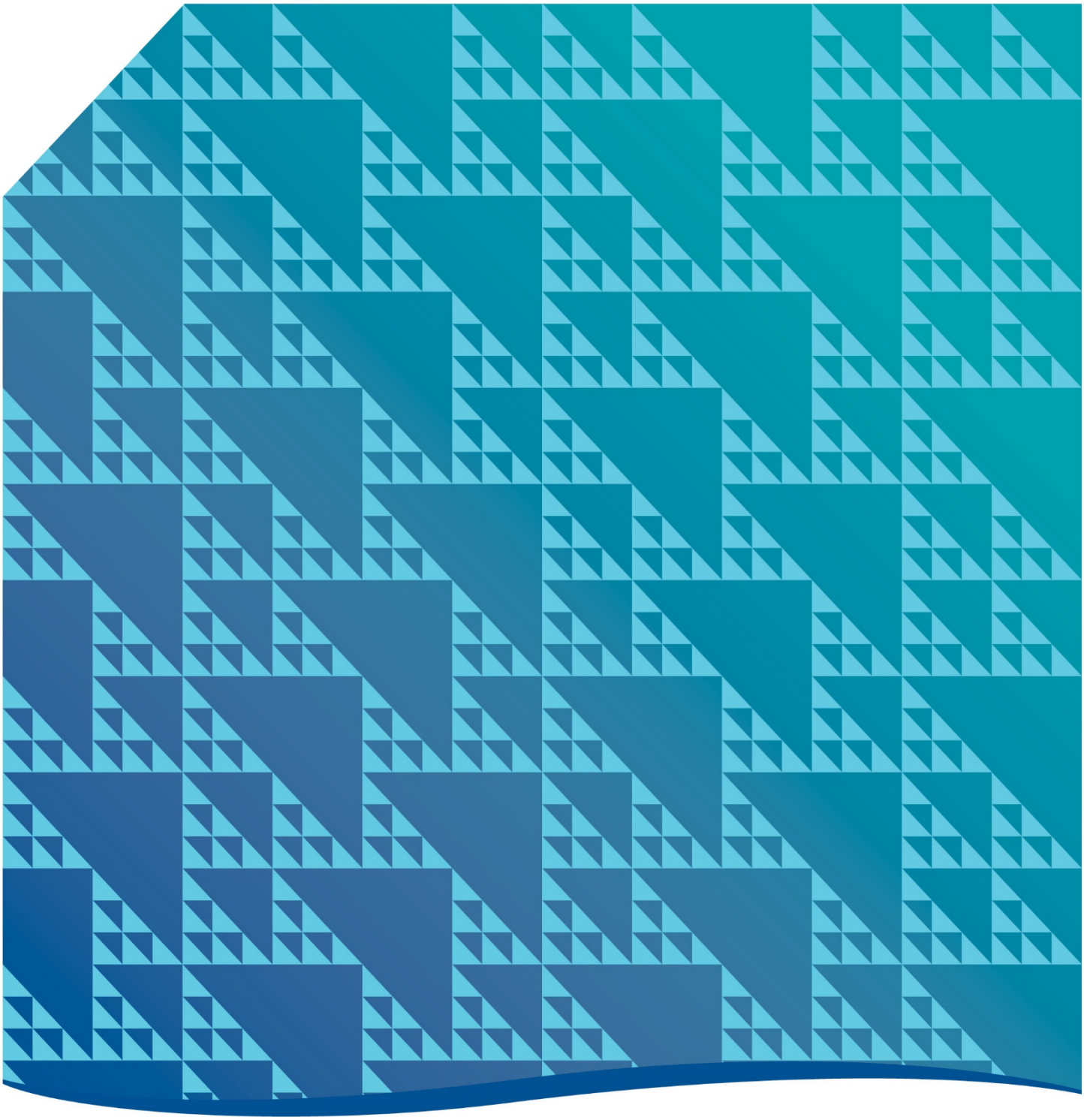
Tasmanian Freight Survey 2014-15

Data Summary



Department of State Growth

Tasmanian Government

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Introduction

The **Tasmanian Freight Survey** (the Survey) is a regular survey of heavy freight movements across Tasmania, undertaken by the Department of State Growth. The results of the Survey are used to inform planning for Tasmania's future freight transport system. The 2014-15 Survey is the fifth time that the survey has been conducted, with previous surveys held in 2002-03, 2005-06, 2008-09 and 2011-12.

Data collected in the Survey is primarily gathered through interviews with Tasmanian businesses across a range of industries in Tasmania including, agriculture, construction inputs, consumer goods, forestry, and mining. The Survey collects information on -

- Origin and destination;
- Commodity mass and type;
- Frequency of trips; and
- Transport mode and vehicle type.

Survey data is analysed and represented spatially, allowing analysis of the Tasmanian freight task at a state-wide, regional, intra-regional and network level.

Data is comparable across surveys, allowing the identification of trends in freight demanding industries and major changes in Tasmania's freight system.

The Survey provides important information on the operation of Tasmania's freight system, and is a key input to strategic freight planning. The Department uses the Survey for a range of planning purposes, including -

- The Tasmanian Integrated Freight Strategy and Burnie to Hobart Freight Corridor Strategy (under development).
- Individual infrastructure projects and funding submissions.
- Strategic frameworks, including the State Road Hierarchy and regional integrated transport plans.
- Analysis and forecasting of the potential impacts of freight-related developments on the freight network.

Updates to the 2014-15 Tasmanian Freight Survey

The 2014-15 Freight Survey is based on over 40 interviews with Tasmania's most significant freight producers and forwarders. The freight movements of other businesses were included using past Survey data, supported by supplementary data (e.g. information from Mineral Resources Tasmania, TasPorts and Forestry Tasmania).

The 2014-15 Survey uses the following six commodity group classifications, which are consistent across Surveys. Example commodities within each group are listed below -

1. Agriculture
    - Raw milk
    - Vegetables
    - Fertiliser
    - Beer
    - Animal feed
2. Construction inputs
    - Stone, sand and clay
    - Premixed concrete
3. Consumer goods
    - Petroleum and diesel
    - Mixed groceries
    - Mixed consumer goods
4. Forestry
    - Harvested logs (hardwood and softwood)
    - Wood products (paper and newsprint, woodchips, veneer)
5. Mining and bulk products
    - Mining ores
    - Cement
    - Basic metal products
6. Other
    - Manufacturing goods (waste, basic chemicals)
    - Empty containers

The 2014-15 Survey captures a number of changes to the freight network, including the -

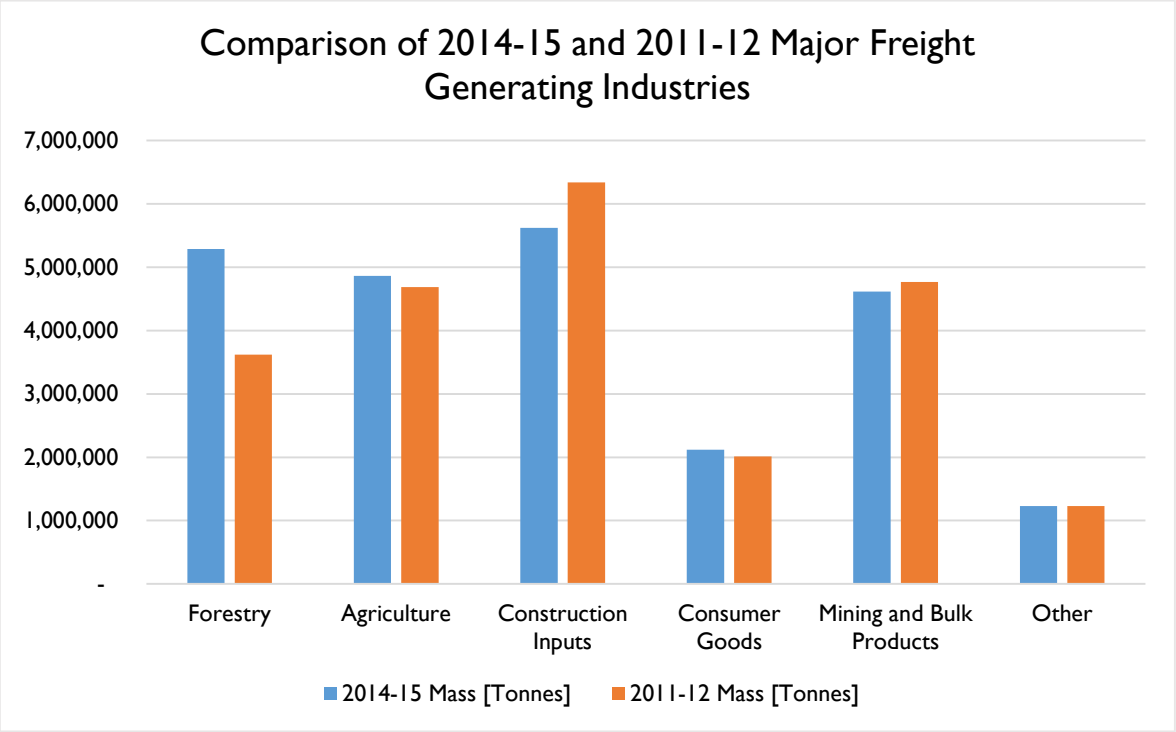
- Opening of the Brighton Hub;
- Completion of the Burnie Port Optimisation Project;
- Completion of the Kingston Bypass; and
- Completion of the Richmond Link Road.

Key Results and Findings

The key results from the 2014-15 Freight Survey presented a range of key results and findings relating to the State wide network, the State's Ports, regional areas, and defined commodity groups.

- In 2014-15, Tasmania's total estimated freight task was 23.7 million tonnes.
- 21.0 million tonnes (89%) of freight were transported on the road network, with 2.7 million tonnes (11%) transported on rail.
- Of Tasmania's publically owned ports, Burnie Port had the highest throughput (4.3 million tonnes), followed by Devonport (3.6 million tonnes), Bell Bay (3.2 million tonnes) and Hobart (1.5 million tonnes).
- The majority of freight in Tasmania is moved intra-regionally at 18.3 million tonnes, or 77%, compared to an inter-regional task of 5.4 million tonnes or 23%.
- The north-west is Tasmania's largest freight producing region, with 10.5 million tonnes of freight originating in the region, compared to 7.6 million tonnes in the north and 5.6 million tonnes in the south.
- Construction inputs accounted for the largest freight task by volume (5.6 million tonnes, or 24%), followed by forestry (5.3 million tonnes, or 22%) and agriculture (4.9 million tonnes, or 21%).

Figure 1: Comparison of 2014-15 and 2011-12 Major Freight Generating Industries



Between 2011-12 and 2014-15, Tasmania's land freight task by mass increased by 4.8% (Figure 1).

- Forestry recorded the strongest growth of all sectors at 46% by mass.
- The agricultural sector grew 4% by mass, driven largely by growth in dairy and aquaculture.
- Construction inputs fell 11% by mass, based on a decrease in recorded aggregate movements, such as sand, stone and clay.
- Consumer goods experienced modest growth at 5% by mass. This result was driven by growth in the mixed groceries task.
- Mining and bulk products were relatively steady between 2011-12 and 2014-15, falling 3% by mass overall.
- Other freight, including empty containers and manufacturing goods, remained steady between 2011-12 and 2014-15.

State-wide Land Freight Task

Overview

In 2014-15, Tasmania's road and rail freight network carried 23.7 million tonnes and travelled around 2 billion tonne-kilometres. The majority of this task was moved on the road network – 89% by mass and 80% by tonne-kilometres, compared to 11% by mass and 20% by tonne-kilometres for rail[1].

Table 1 - Freight Movements by Road Owner

Road ownership	Total length (km)	Tonne-kilometres travelled	% of total tonne-kilometres travelled
National Land Transport Network – Road	404	886 million	43%
State Roads[2]	3,662	613 million	30%
Local Government Roads[3]	14,274	131 million	6%
Roads under other ownership[4]	55,448[5]	64 million	3%
Total Road	***73,788***	***1,694 million***	***82%***
National Land Transport Network – Rail	411	334 million	16%
State Rail[2]	200	37 million	2%
Total Rail	***611***	***372 million***	***18%***

59% of Tasmania's total freight task, in tonne-kilometres, is carried on the National Land Transport Network (National Network)[6] – the majority by road (Table 1). While this Network comprises only a small proportion of Tasmania's total land freight network by length, it underpins the State's land freight network, connecting all major ports (Bell Bay, Burnie, Devonport and Hobart), urban centres (Hobart, Launceston, Burnie and Devonport) and key freight hubs and industrial centres.

A high proportion of heavy freight movements travel on the National Network for at least part of their journey, and most of Tasmania's highest freight volume roads are on the National Network. These include -

- The Bass Highway, a key road for freight in the north-west, carried up to 3.0 million tonnes between Devonport and the Illawarra Main Road, and up to 2.3 million tonnes between Burnie and Devonport.
- The Midland Highway, a key link between northern and southern Tasmania, carried up to 2.4 million tonnes.
- The East Tamar Highway, a key link in northern Tasmania, carried up to 1.7 million tonnes.

[1] Tonne-kilometres are a commonly used measure for freight transport, and one tonne-kilometre represents the transport of one tonne of freight over one kilometre.
[2] Excludes State-owned sections of the National Network.
[3] Excludes local government owned sections of the National Network.
[4] Owners include Forestry Tasmania, TasPorts, Hydro Tasmania and private owners.
[5] Includes 32,000 km of authorised access or privately owned roads.
[6] The National Network identifies nationally-significant freight and passenger transport network across Australia. It is primarily funded by the Australian Government. In Tasmania the Network extends from Burnie to Hobart Airport, and Launceston to Bell Bay.

- Key urban links, including the Brooker Highway in Hobart (2.0 million tonnes) (Figure 3) and the Southern Outlet (Midland Highway) in Launceston (1.8 million tonnes).

The Tasmanian Government-owned State Road Network carries a high proportion of the state-wide freight task, and is important for sectors such as agriculture and forestry (Table 1). Key links in this network, by region, are show in Figure 3 and include -

- Northern - Bridport Main Road, Tasman Highway (Scottsdale to Derby), Esk Main Road, Illawarra Main Road, Evandale Main Road, Frankford Main Road/Birralee Main Road/West Tamar Highway/Batman Highway (connecting Bass and East Tamar Highways)
- North-west - Ridgley Highway, Murchison Highway, Bass Highway (Burnie to Smithton), Mersey Main Road
- Southern - Lyell Highway, Tasman Highway, Huon Highway, Southern Outlet and Boyer Secondary Road.

While local government-owned roads carry a smaller proportion of the State's overall freight task, they are important in providing 'first and last mile'[7] freight connections. Higher volume local roads include -

Regional Links

- Trowutta Road, Edith Creek
- Irishtown Road, Irishtown

Roads into major ports:

- Marine Terrace at Burnie
- Mobil Road at Bell Bay

Urban industrial centres:

- Derwent Park, Main and Risdon Roads, Glenorchy
- Goderich, Cimitiere and Lower Charles Streets, Launceston
- Tarleton and Wright Streets, and Formby and Devonport Roads, Devonport

Urban freight links:

- Macquarie and Davey Streets, Hobart
- Bathurst and Wellington Streets, Launceston

The majority of the Tasmanian freight task moves on sealed roads, but in some areas, unsealed roads are important for freight movement, especially for forestry.

By region, the north-west was Tasmania's largest freight producing area in 2014-15. 44% of the state-wide freight task originated in the north-west by mass, followed by the north (32%) and south (24%). These figures include freight imported through ports as well as goods produced within the region (Figure 2).

[7] The first and last mile refers to first and final leg of freight movements, which are often made on local roads.

Figure 2: Freight generating regions in Tasmania

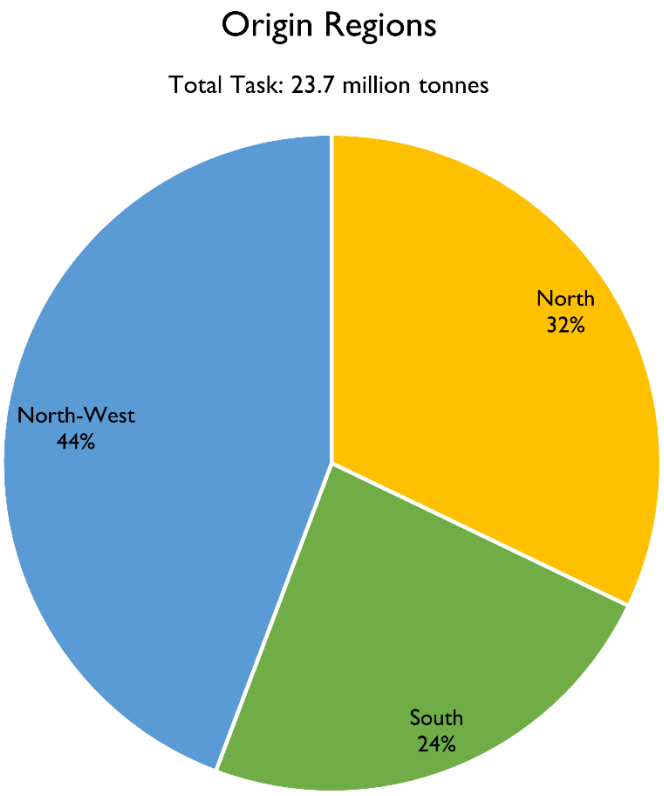
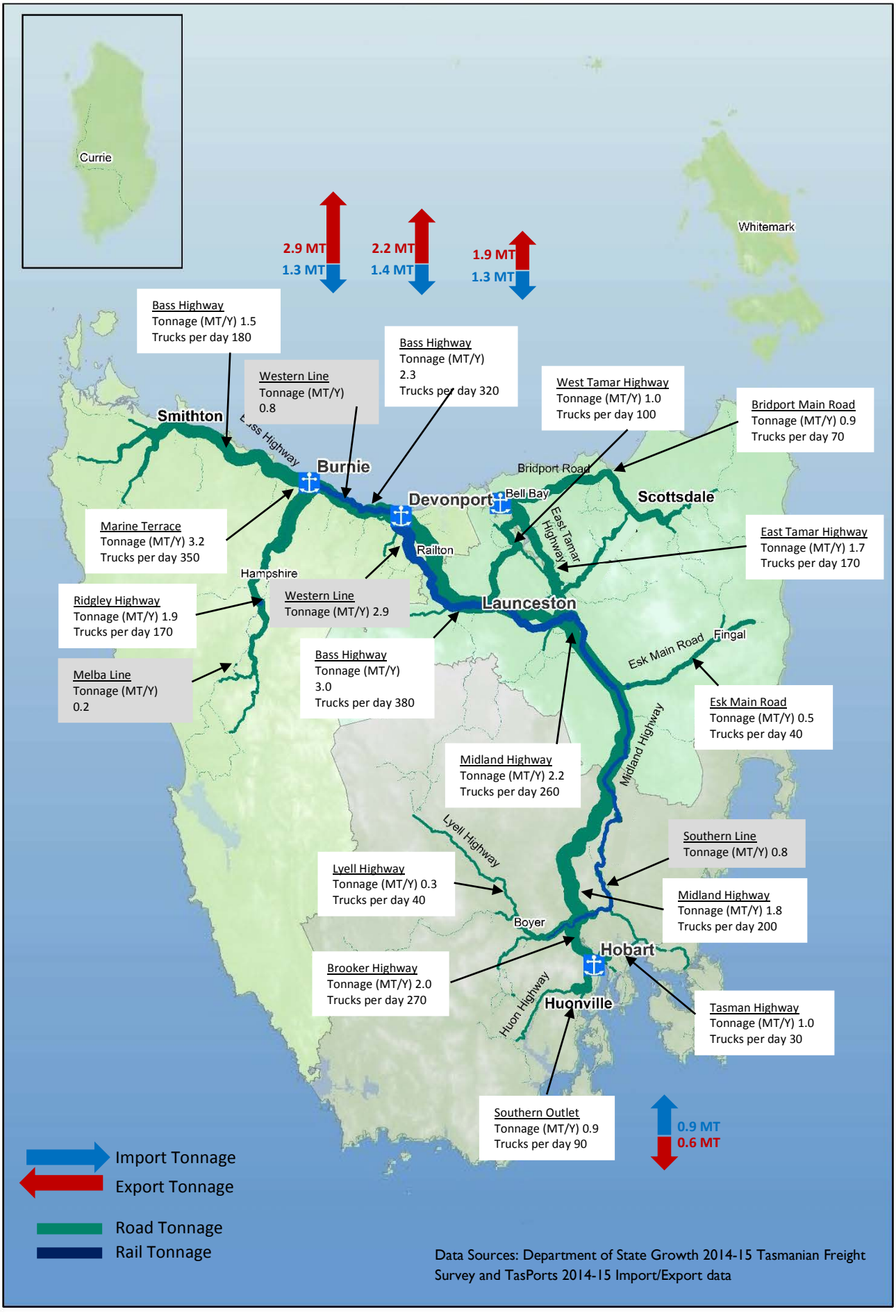


Figure 3: State-wide Freight Movements: Overview Map



Movements into and out of Tasmania

As an island state, access across Bass Strait is critical to Tasmanian businesses. Over 99% of freight leaving and arriving in Tasmania is moved by sea.

In 2014-15, 12.8 million tonnes of freight moved through Tasmania's publicly-owned ports; around 5.1 million tonnes of freight was imported and 7.8 million tonnes exported. Total container throughput was 462,000 twenty foot equivalent units (TEUs), split relatively evenly between imports (233,000 TEUs) and exports (229,000 TEUs). In addition, up to 2.7 million tonnes of bulk material was moved through the privately-owned Port Latta[8] .

Tasmania's major ports, by tonnage and container movements, are located in the north-west region.

The Port of Burnie (Figure 3) is Tasmania's largest port, handling over 4.2 million tonnes and 239,000 TEUs in 2014-15. Around 2.9 million tonnes were exported, with bulk products (including ores, concentrates and woodchips) and containerised goods (including newsprint, processed metal outputs, dairy products and vegetables) accounting for the majority of the task. Over 1.3 million tonnes of freight imported via Burnie, mainly as containerised freight. Key imported commodities include mixed consumer goods, groceries and other food or beverages.

The Port of Devonport (Figure 4) had the second largest task in 2014-15, with over 3.6 million tonnes and 208,000 TEUs moving through the port. Almost 2.2 million tonnes were exported out of Devonport, dominated by bulk shipments of cement which were around 1.3 million tonnes. Devonport is a critical port for the movement of time-sensitive, fresh and processed agricultural products, and trailerised freight. Major commodities imported into Devonport included mixed consumer goods, groceries and other food or beverages. Devonport also received the largest volume of fuel of the three northern ports.

The Port of Launceston (Figure 5) handled over 3.2 million tonnes in 2014-15, consisting almost entirely of bulk goods such as woodchips and mineral ores. In total, 1.9 million tonnes were exported from the Port of Launceston, and 1.3 million tonnes were imported. Woodchips are the key export commodity by mass. Mineral ores, for processing within the Bell Bay industrial precinct, was the major import commodity into the Port.

The Port of Hobart (Figure 6) handles lower overall freight volumes, with 1.5 million tonnes of bulk goods moved in 2014-15. Total throughput reflects volumes across a number of locations, including Macquarie Wharf, Self's Point and Nyrstar (Lutana). Nyrstar accounts for the majority of recorded freight movements, with significant volumes of mineral concentrates into the port; and exports of sulphuric acid, fertiliser and mineral concentrates. High volumes of fuel are imported into Selfs Point in New Town (around 270,000 tonnes). Together, these sites handled over 1.4 million tonnes in 2014-15.

[8] Mining Resources Tasmania 2014-15

Figure 4: Port of Burnie: Land Freight Task

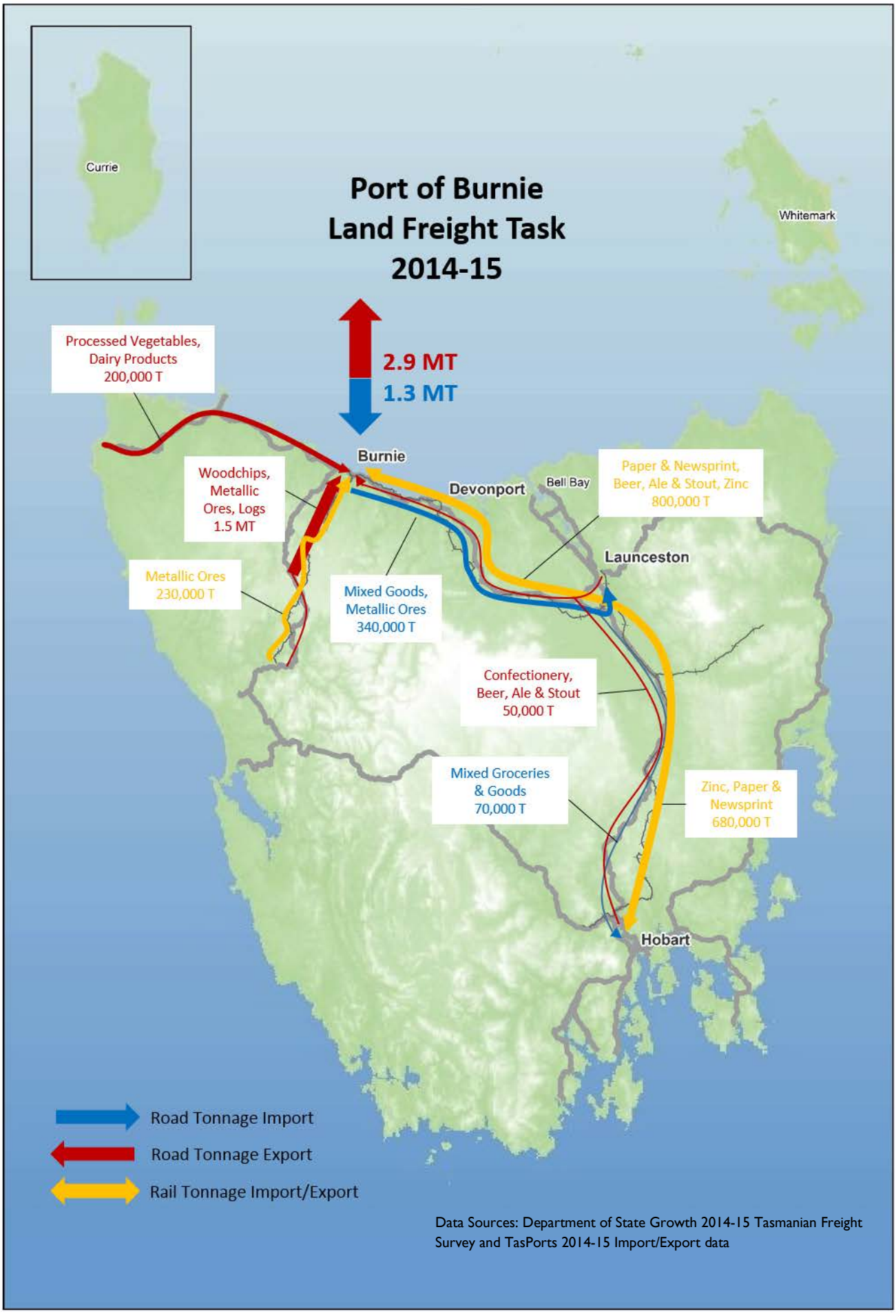


Figure 5: Port of Devonport: Land Freight Task

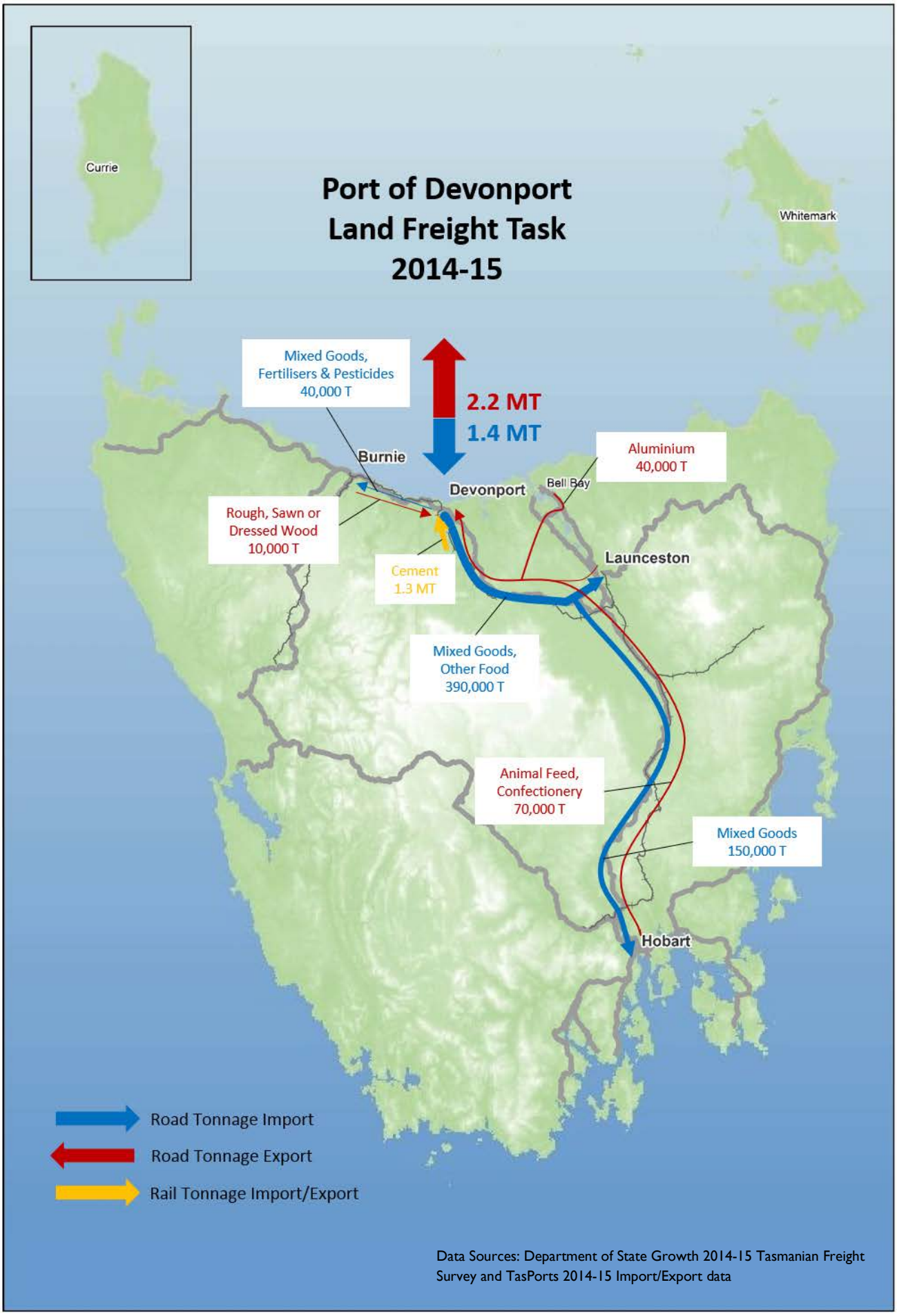


Figure 6: Port of Launceston: Land Freight Task

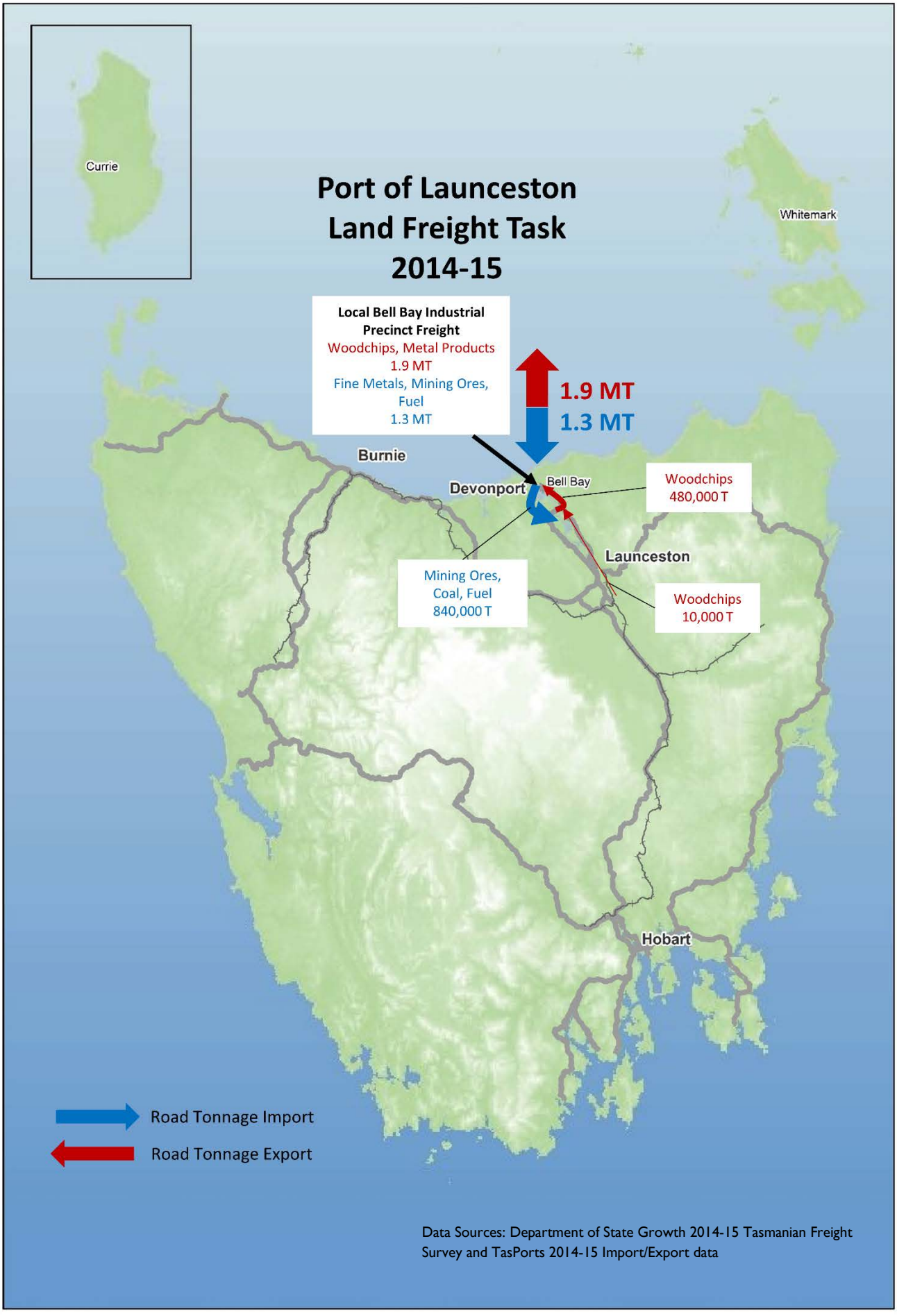


Figure 7: Port of Hobart: Land Freight Task

Intra-regional Freight Task – North-West, Northern and Southern Regions

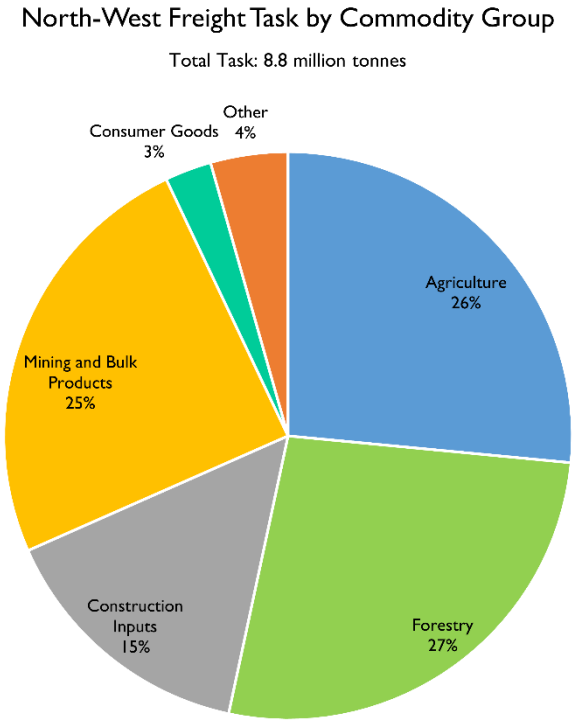
The intra-regional freight task involves the localised movement of freight within a region, and is a key component of Tasmania's heavy freight task. In 2014-15, the combined intra-regional task across Tasmania's three regions was approximately 18.3 million tonnes, comprising 77% of the state-wide freight task by mass.

Across all three regions, a large component of intra-regional freight movements was related to construction, with aggregate materials (such as stone, sand and clay) contributing 52% (2.2 million tonnes) of the southern and 33% (1.7 million tonnes) of the northern tasks. In the north-west, the construction task was less significant contributing just 15% (1.3 million tonnes) of the intra-regional task.

North-west region

In 2014-15, the north-west was Tasmania's largest freight generating region it also had the largest intra-regional task. Combined, an estimated 8.8 million tonnes of freight was produced and/or transported to the north-west Figure 8). The north-west region contains two major ports, major agricultural and forestry production areas and processing sites, and an established mining sector (Figure 11).

Figure 8: North-west intra-regional task



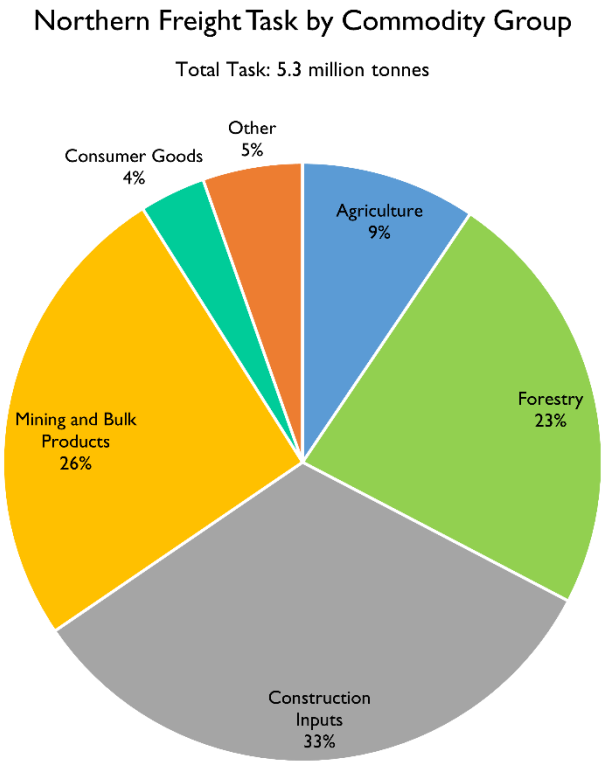
- Forestry accounted for 2.4 million tonnes or 27% of the intra-regional task. This task includes harvested logs and wood products, and is focused on movements associated with the Hampshire woodchip mill.
- Agricultural products accounted for 2.3 million tonnes or 26% of the intra-regional task. Key products include raw milk, fresh vegetables and live animals. The region contains most of the State's major agricultural processors.

- Mining ores (a component of mining and bulk products) made up approximately 9% of the freight movements in the region by mass; however, the significance of these movements was increased by the relatively long intra-regional distances the mining ores were transported.
- Around 1.3 million tonnes of cement is moved from Railton to Devonport Port via rail. This considerable mass was moved over a relatively short distance and therefore had a reduced task in terms of tonne-kilometres (6% by tonne-kilometres, and 15% by mass).

Northern region

The northern region[9] had a significant intra-regional freight task of 5.3 million tonnes (Figure 9 and Figure 12).

Figure 9: Northern intra-regional task



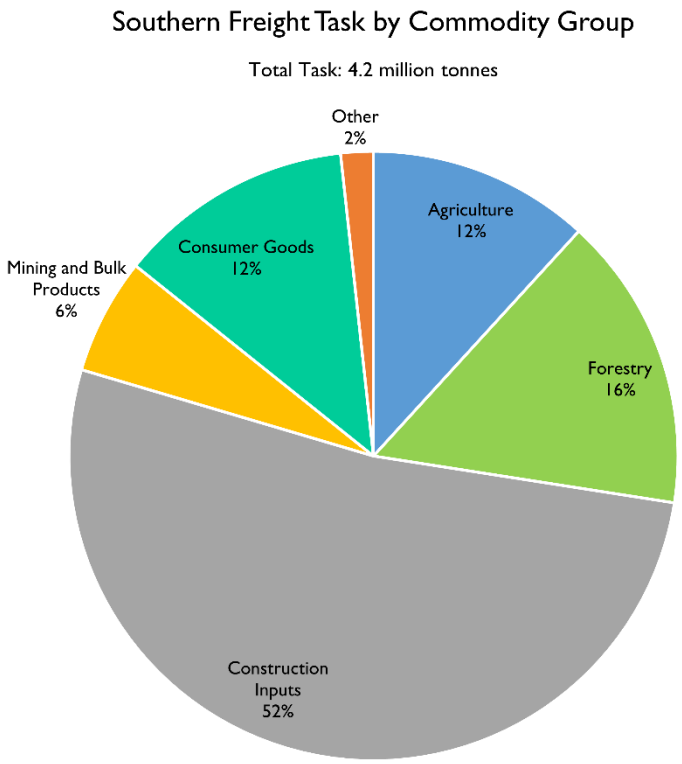
- Construction inputs comprise nearly half the region's intra-regional task.
- Metal processing at Bell Bay and coal production in the Fingal Valley contribute 26% of the intra-regional freight task by mass (1.4 million tonnes). However the majority of these movements are over very short distances (e.g. from port or mine to processing facility), and account for just 4% of the intra-regional task on a tonne-kilometre basis.
- Forestry related freight movements (logs and wood products) make up 23% (1.2 million tonnes) of intra-regional movements. Movements tend to be over comparatively longer distances, with forestry representing 57% of the intra-regional task on a tonne-kilometre basis.

[9] The northern region includes the local government areas of Meander Valley, West Tamar, George Town, Launceston, Dorset, Northern Midlands, Break O'Day and Flinders Island.

Southern region

The southern region[10] had a smaller intra-regional freight task of 4.2 million tonnes (Figure 10 and Figure 13).

Figure 10: Southern intra-regional task



A large proportion of the overall intra-regional freight task in the south was related to the forestry industry, with the movement of logs (530,000 tonnes) and other wood products (120,000 tonnes) together making up 16% of the southern region's intra-regional tonnage or 36% on a total tonne-kilometre basis.

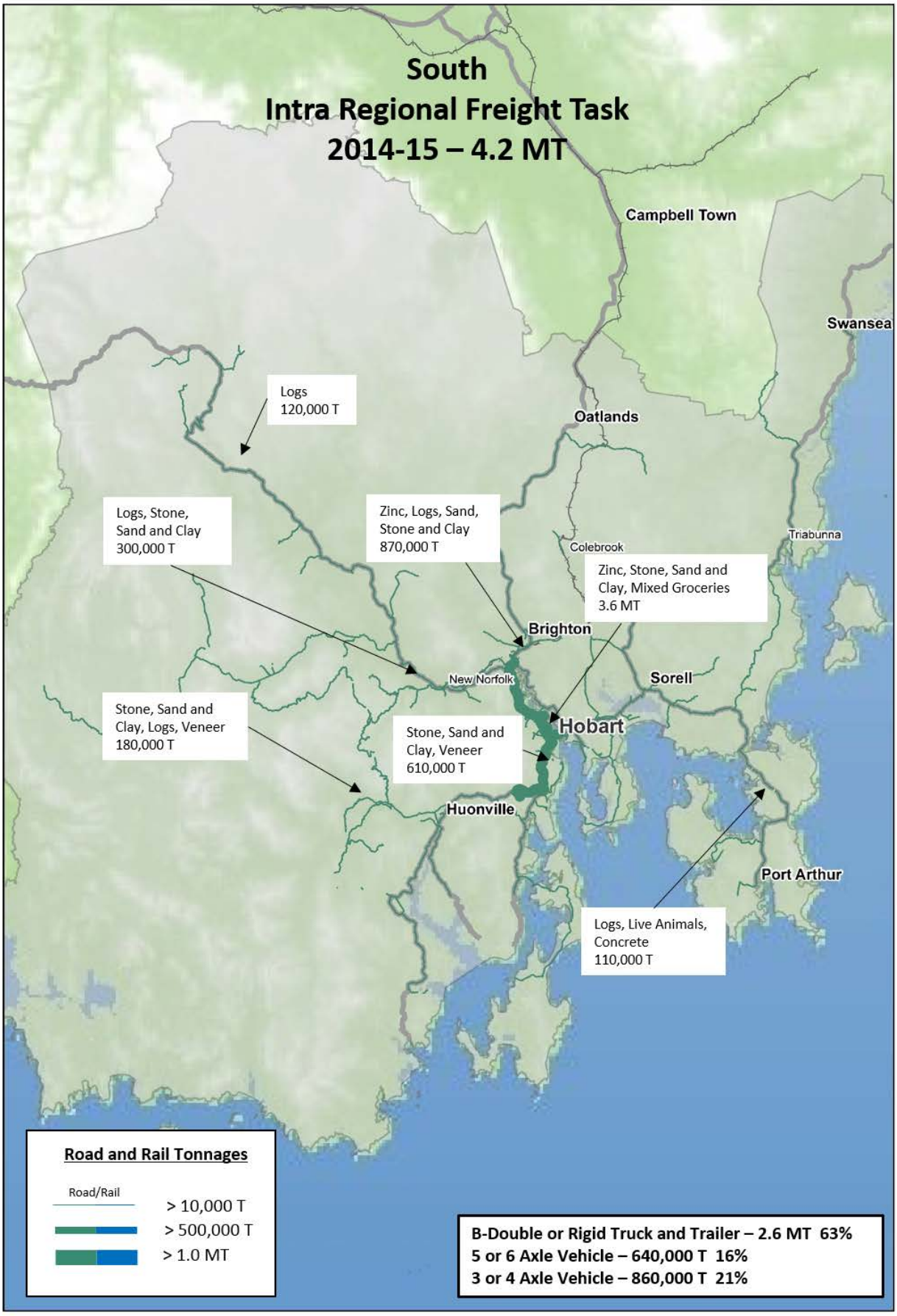
Southern Tasmania also distributed a considerable volume of consumer goods, the majority originated from the northern and north-west regions. The distributed totals are included in the intra-regional task.

[10] The southern region includes the local government areas of Central Highlands, Glamorgan-Spring Bay, Southern Midlands, Derwent Valley, Brighton, Glenorchy, Clarence, Hobart, Sorell, Tasman, Kingborough and Huon Valley.

Figure 11: Intra-regional Task: North-West Region Map

Figure 12: Intra-regional Task: Northern Region Map

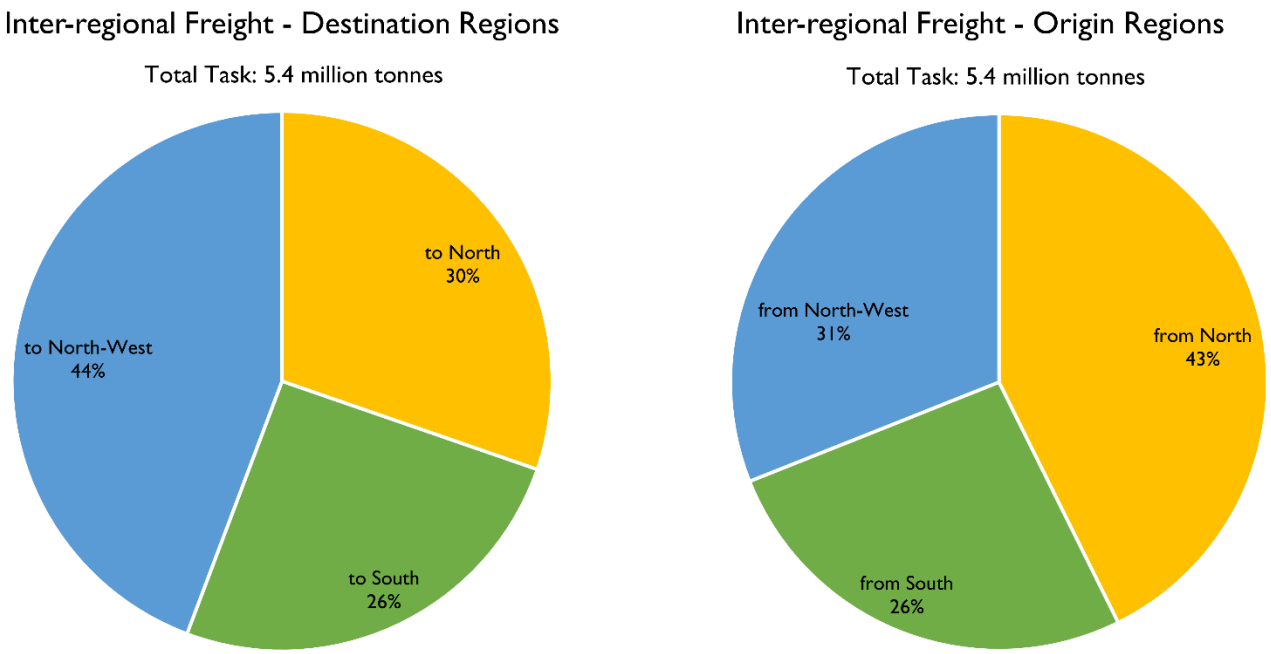
Figure 13: Intra-regional Task: Southern Region Map



Inter-regional Task

The inter-regional freight task describes freight that moves from one region to another region. Around 5.4 million tonnes (23% of total freight volumes) moved between two regions.

Figure 14: 2014-15 inter-regional task



In terms of *destination*, the north-west was the major regional destination, with over 2.4 million tonnes (44%) of freight moved from the north and south. Almost 1.6 million tonnes (30%) was moved to the northern region and 1.4 million tonnes moved to southern Tasmania (26%). A significant component of the southern inter-regional freight task was in the movement of commodities to and from the northern ports.

In terms of *origin*, the northern region generated the greatest inter-regional freight task at 2.3 million tonnes (43%). The north-west and southern regions also generated significant inter-regional freight volumes at 1.6 million tonnes (31%) and 1.4 million tonnes (26%), respectively.

From the northern region, the major movements were:

- agricultural freight (including raw milk and fresh vegetables) by road, and coal by both road and rail to the north-west (Figure 14); and
- mixed groceries, harvested logs and coal and to the southern region (Figure 15).

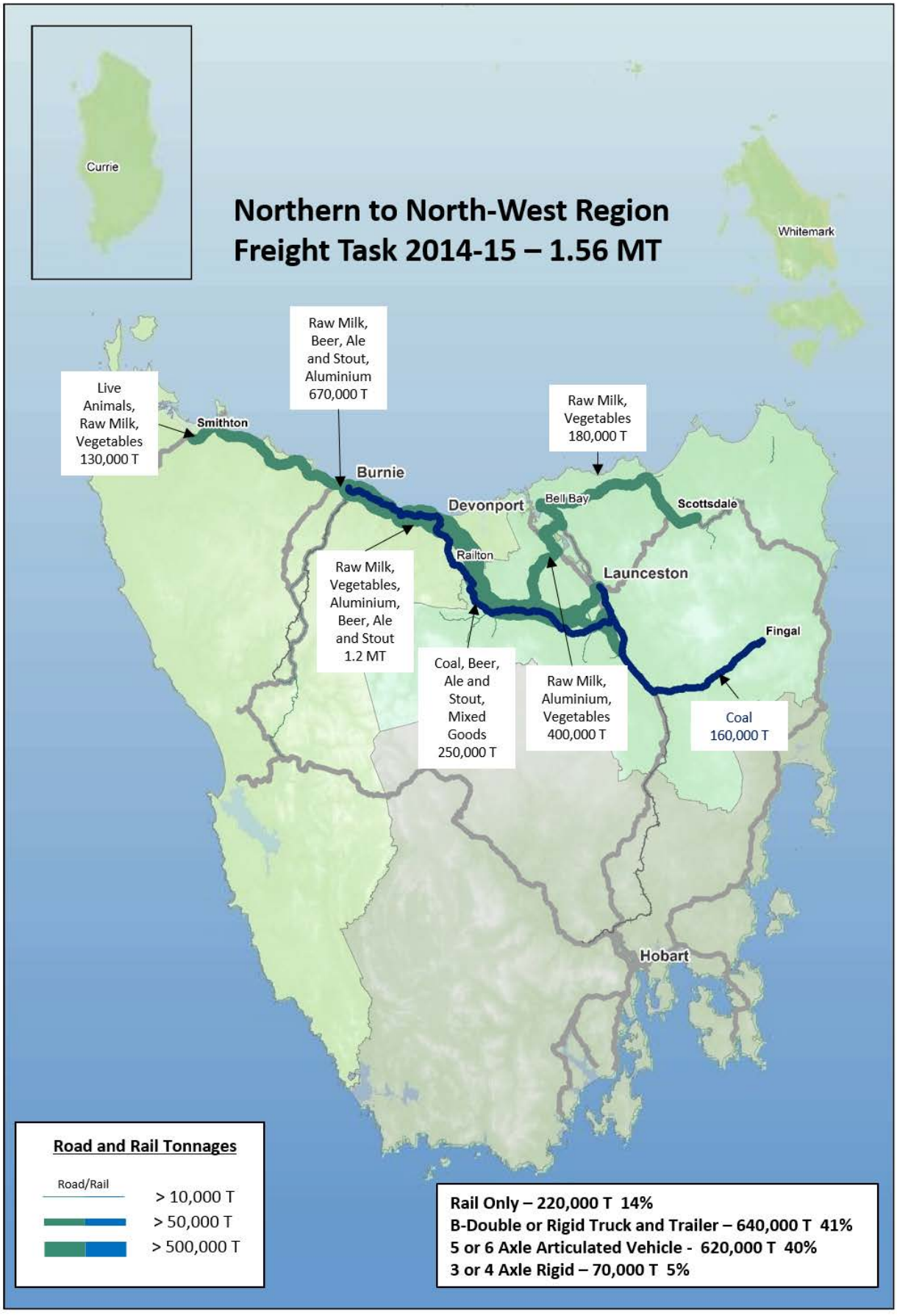
From the north-west region, the major movements were:

- mixed groceries, fuel, and consumer goods to the north (Figure 16);
- movements from Port of Burnie to Hobart, including mixed groceries and consumer goods (transport by road and rail) (Figure 17); and
- cement and mining ores to the southern region.

From the southern region, the major movements were:

- paper, newsprint and zinc (primarily moved by rail) to the north-west;
- animal feed and fresh fish, also to the north-west (Figure 18); and
- harvested logs, construction inputs and wood products to the northern region (Figure 19).

Figure 15: Northern to North-West Region Inter-regional Freight Task



* Rail Only tonnages refer to task that only travelled on rail – some freight tasks travel on both road and rail.

Figure 16: Northern to Southern Region Inter-regional Freight Task

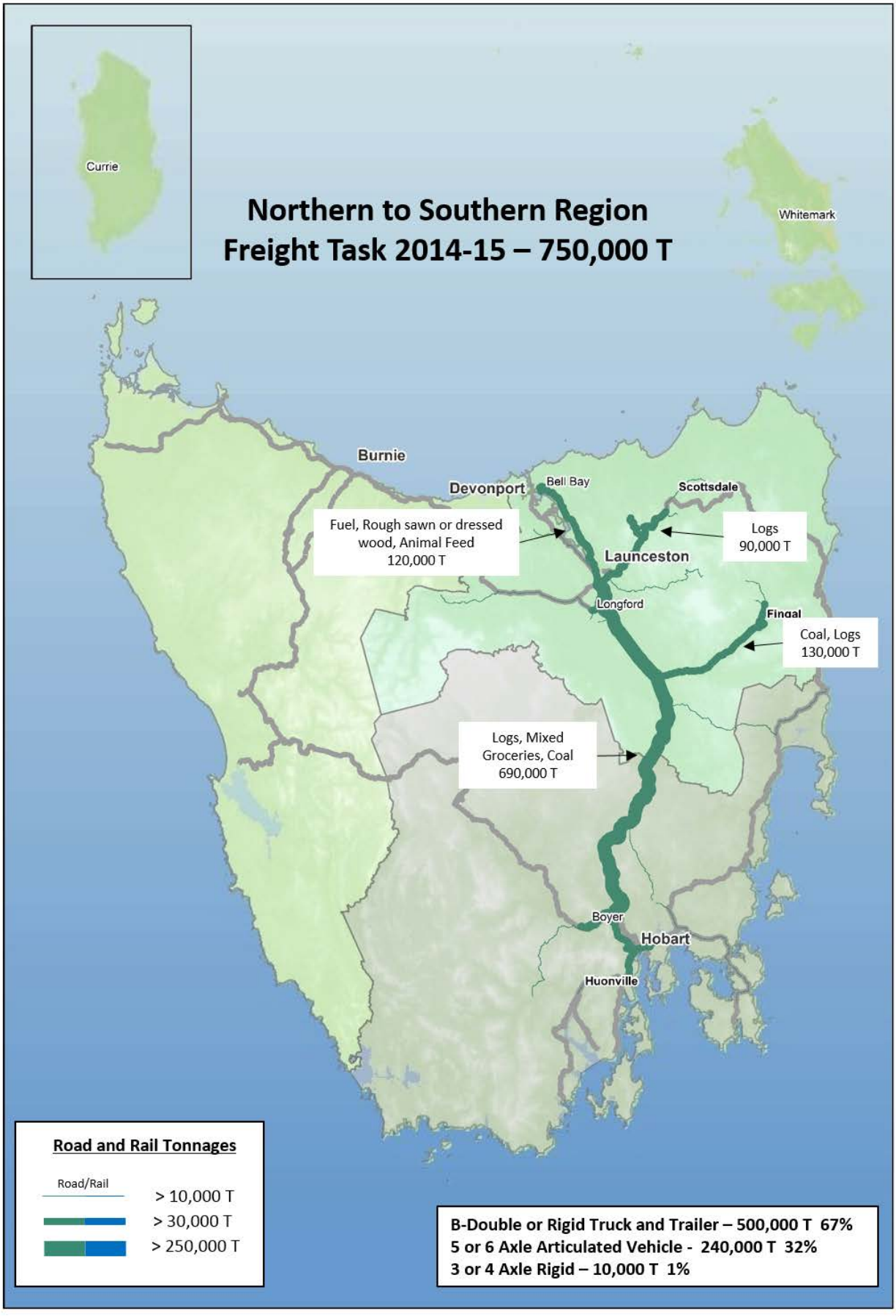


Figure 17: North-West to Northern Region Inter-regional Freight Task

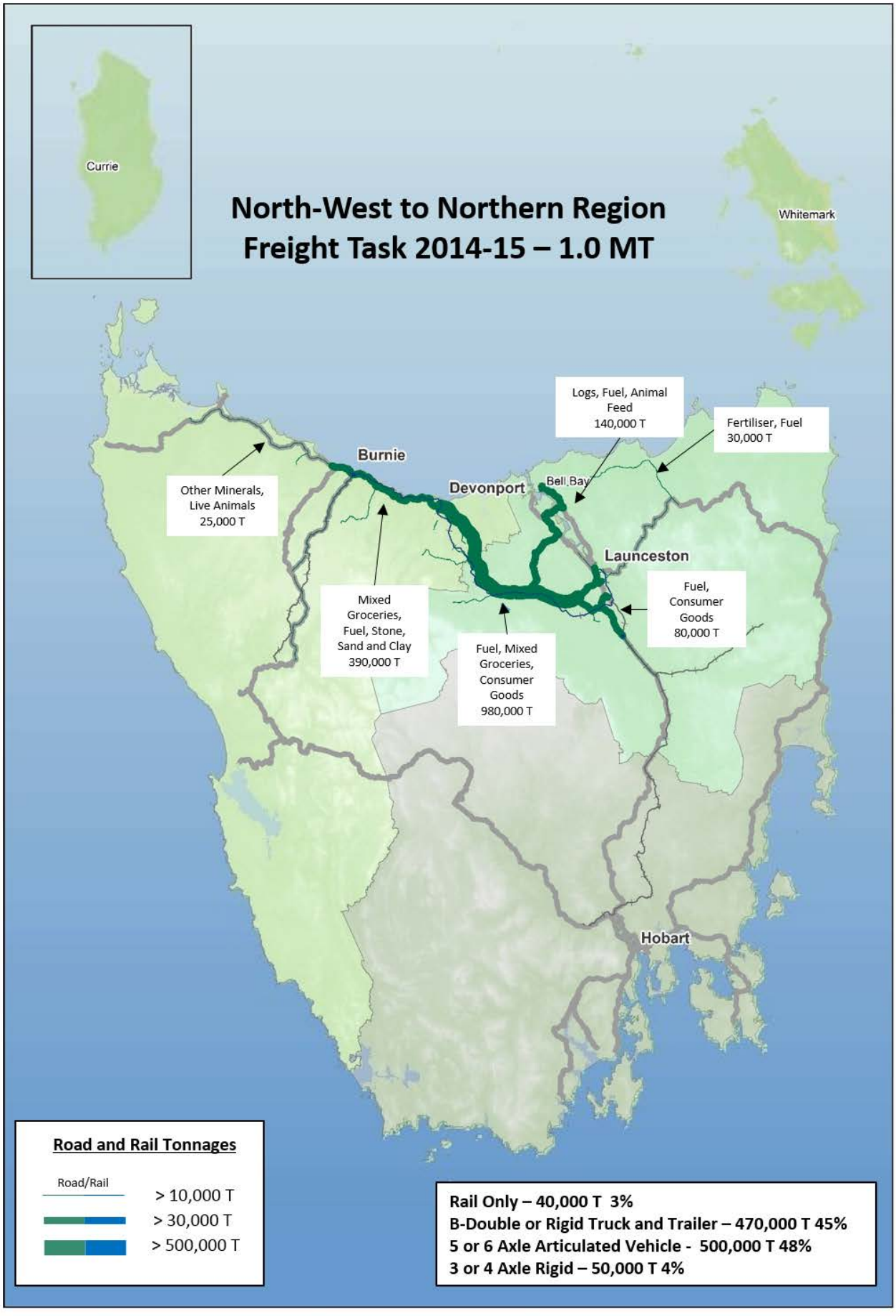
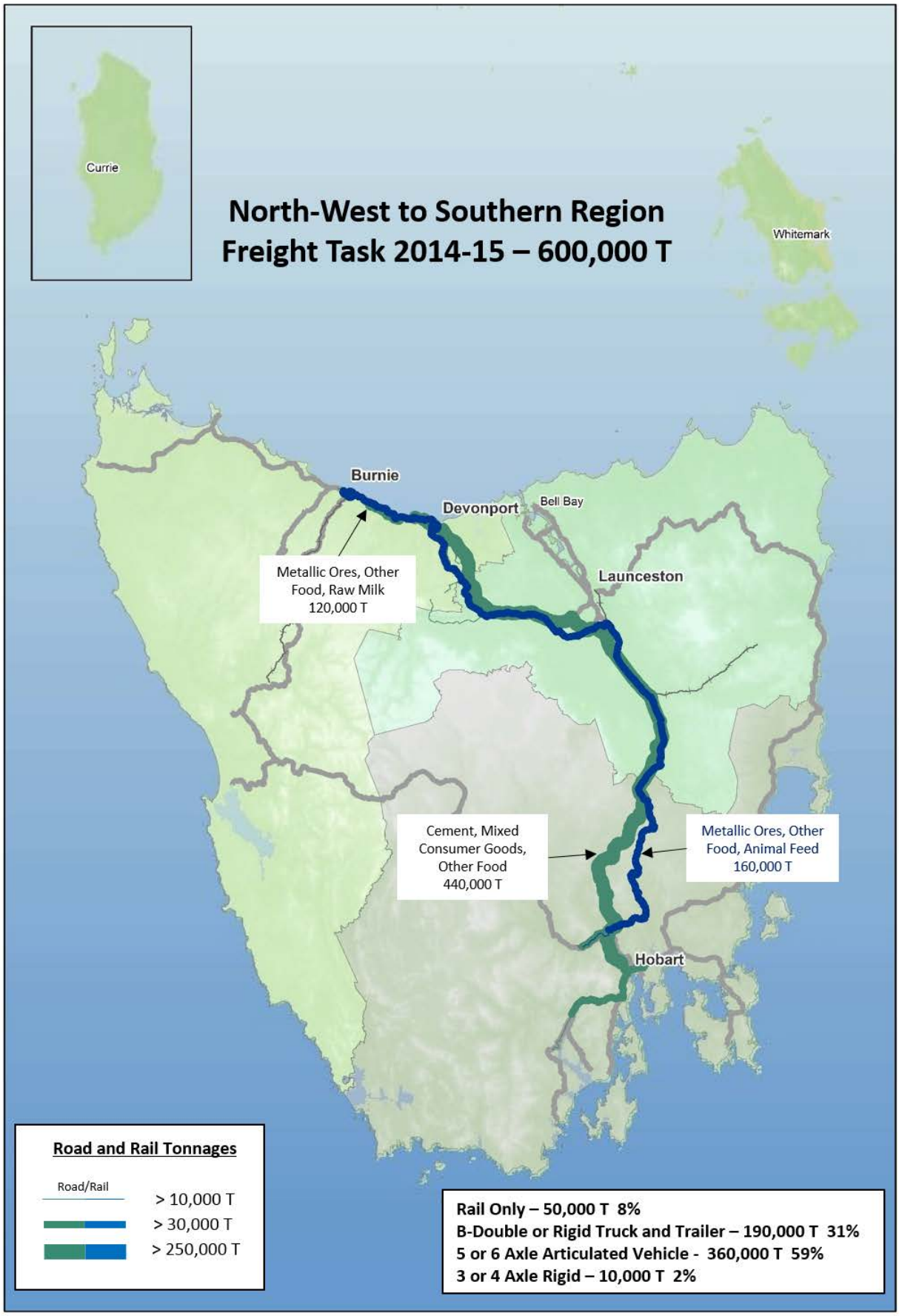
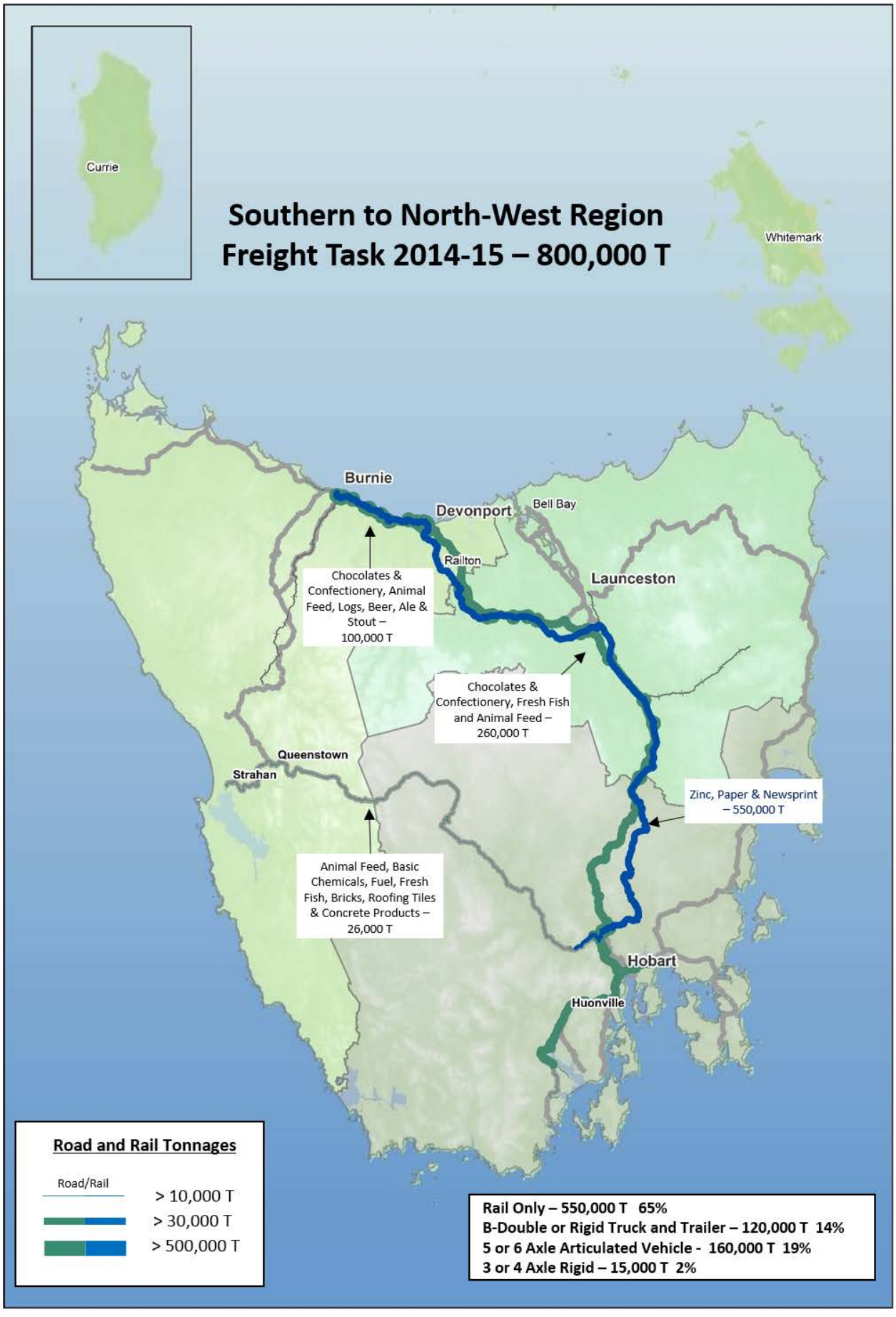


Figure 18: North-West to Southern Region Inter-regional Freight Task



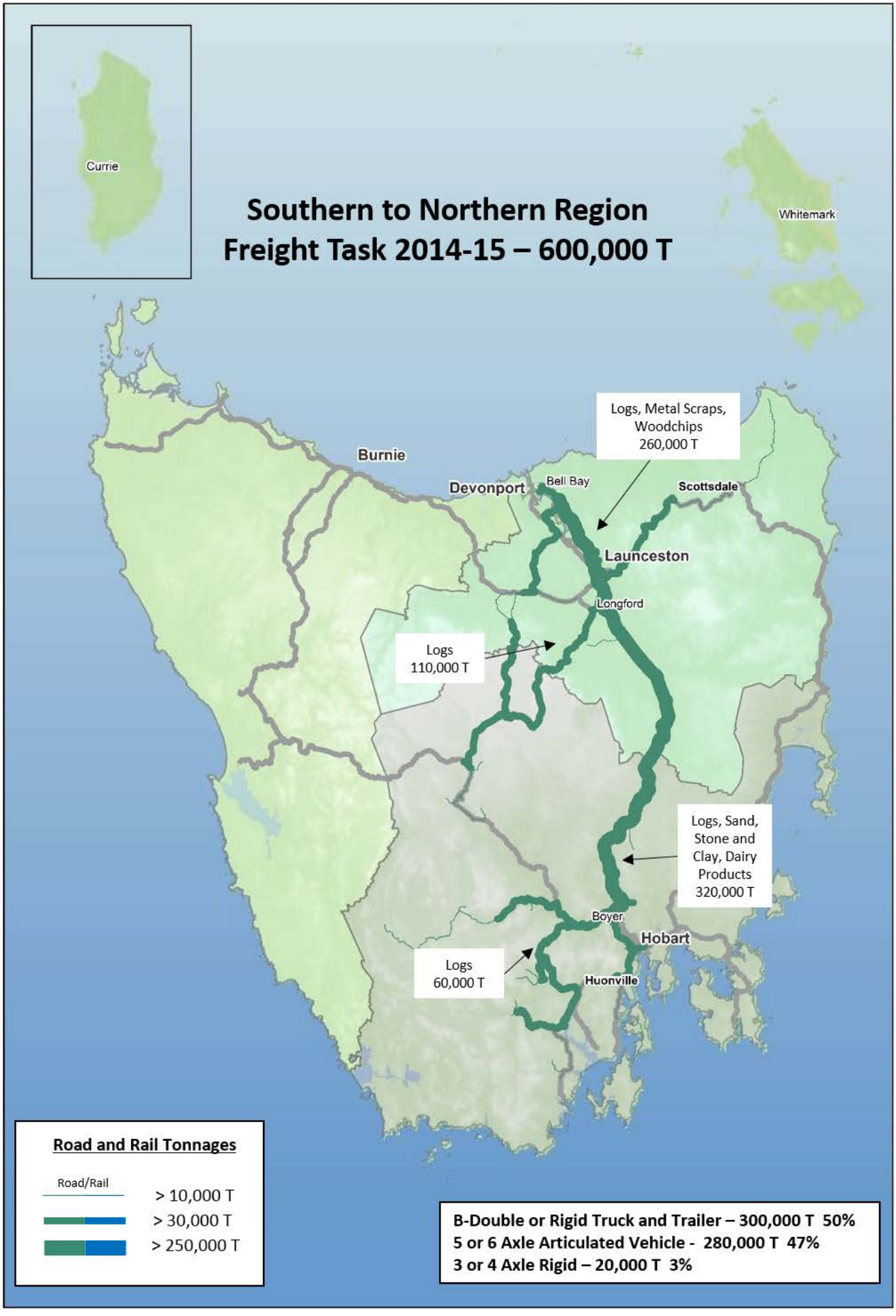
* Rail Only tonnages refer to task that only travelled on rail – some freight tasks travel on both road and rail.

Figure 19: Southern to North-West Region Inter-regional Freight Task



* Rail Only tonnages refer to task that only travelled on rail – some freight tasks travel on both road and rail.

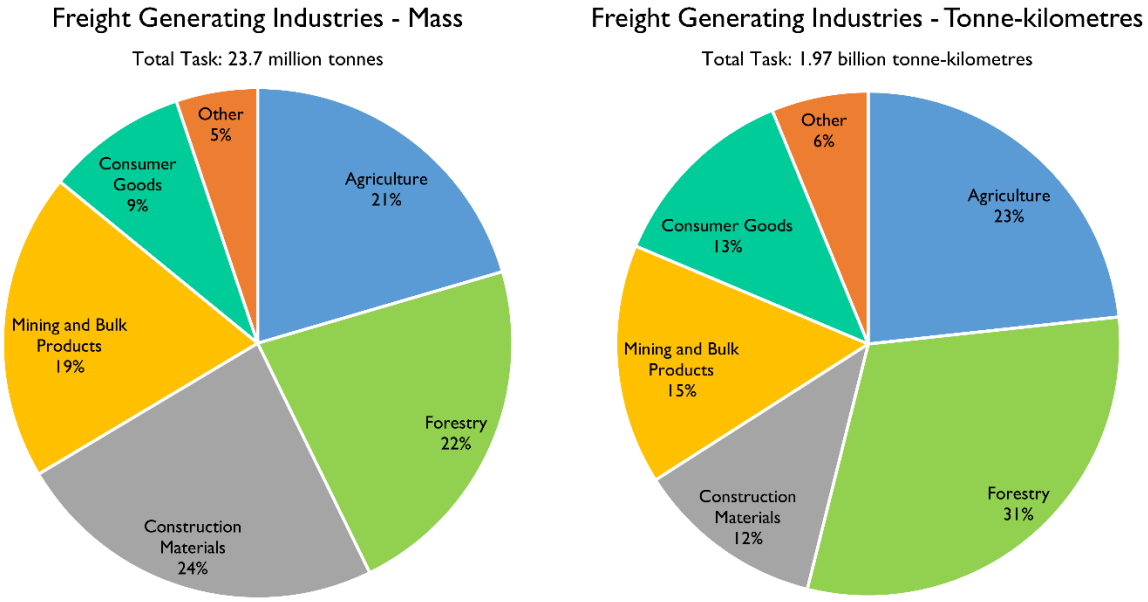
Figure 20: Southern to Northern Region Inter-regional Freight Task



Major Freight Demanding Industries

Tasmania's freight task can be categorised into five key industry sectors; forestry, agriculture, construction inputs, consumer goods, and mining and bulk products. Each industry is discussed below, and summarised in Figure 21.

Figure 21: State-wide freight generating industries



Forestry

Forestry includes both hardwood and softwood harvested logs, and processed wood products, such as sawn timber, woodchips and paper.

Tasmania's forest industry underwent a period of significant change between the 2011-12 and 2014-15 Surveys. From comparatively low recorded volumes in 2011-12, forestry freight volumes have increased significantly to approach previous production levels. As a result, the forestry task recorded the highest growth between surveys of all sectors at 46%.

To ensure the Survey accurately reflects current and likely future forestry freight volumes, company data from both the 2014-15 and 2015-16 financial years have been used. This ensures, for example, that a full and representative year of production for major forest processors has been captured.

In 2014-15, Tasmania's total forestry task was almost 5.3 million tonnes. The forestry task accounted for 22% of the overall freight task by mass and 31% by tonne-kilometres (Figure 21). Overall, 83% of the harvested logs were processed or exported from within the region where they were harvested (intra-regionally).

In 2014-15, the transport of harvested logs to processing and export sites represented close to 68% of the forestry task (3.6 million tonnes). The hardwood log freight task exceeded the softwood log task at around 2.6 million tonnes compared to 970,000 tonnes. This reflects the significant increase in demand for hardwood pulpwood logs for woodchip export.

The north-west region harvested the highest volume of logs of the three regions (1.4 million tonnes). 98% of product was moved intra-regionally. The Bass Highway is the key road in the north-west for both inter- and intra-regional forestry freight, including the processed task of veneer and sawn timber travelling from Smithton to the

Ports of Burnie and Devonport. Re-opening of the Hampshire woodchip mill saw an increase in forestry freight on Ridgley Main Road between Burnie and Hampshire.

The northern region harvested the second highest volume of logs (1.3 million tonnes), but also received significant inter-regional inputs (around 400,000 tonnes), primarily from the south. The main destination for the log task in the northern region is Bell Bay, with over 1.3 million tonnes of logs transported for chipping, prior to export. (Figure 22).

In 2014-15, the southern region harvested around 900,000 tonnes of logs, of which 59% were processed in the south (intra-regional). The southern region also had a significant inter-regional log task of around 360,000 tonnes, the majority of which was harvested within the Central Highlands and Derwent Valley area and destined for the Bell Bay Industrial Estate.

The major destination for processed forestry from the south is the Port of Burnie, with around 240,000 tonnes of paper/newsprint transported by rail in 2014-15. Sawn timber was either sold locally or transported to either the Port of Burnie or Devonport. Veneer produced in the south was transported to Hobart Port for direct export (Figure 23).

Agriculture

Agricultural freight is a major component of Tasmania's freight task at around 4.9 million tonnes in 2014-15. This represents a 4% growth in mass compared to the 2011-12 Freight Survey. The agriculture task represents 21% of the state-wide freight task in terms of mass and 23% in terms of tonne-kilometres (Figure 21).

The majority of the agricultural freight task involved movements of commodities to and from farms, including raw milk (1.0 million tonnes), vegetables (760,000 tonnes), fertilisers and pesticides (530,000 tonnes), live animals (360,000 tonnes) and animal feed (260,000 tonnes).

Major processed agricultural products by mass were beer, ale and stout (390,000 tonnes), dairy products (330,000 tonnes), prepared and preserved vegetables (280,000 tonnes), meat and meat products (130,000 tonnes) and chocolates and confectionery (50,000 tonnes).

The north-west is Tasmania's key region for agriculture. The region contains major vegetable, dairy and meat processors, large areas of highly productive agricultural land, and key export ports, including for time sensitive freight. 56% (2.7 million tonnes) of Tasmania's total agriculture task originated in the north-west, with a further 19% transported inter-regionally from the north and south of the state. Around 85% of the north-west agricultural task remains within the region. Major commodities include raw milk, vegetables, processed vegetables and dairy products.

The northern region produced 29% of the state agricultural task (1.4 million tonnes). Major commodities transported from farms included raw milk, vegetables and live animals. Over 55% of the northern region's agricultural task was transported to the north-west for processing, or to Burnie or Devonport ports for export. The northern region also produced high tonnages of beer and meat products from processing sites in Launceston and the Northern Midlands. It is also a major source of agricultural lime.

The southern region had a smaller agricultural freight task of 750,000 tonnes. The region contains several major manufacturing facilities, producing beer, chocolate, dairy products, fertiliser and animal feed. The major farm outputs were live animals and fresh/chilled fish.

Generally, the highest volumes of agricultural freight move on the state's key inter-regional links, such as the Bass and Midland Highways. However, regional and local roads are critical in moving agricultural products from farms to processing locations and ports, and for the transport of agricultural inputs. Key roads include Trowutta Road, and Montagu Road in the far north-west, and Devonport Road, Mersey Main Road and Sheffield Road south of

Devonport. Key roads in the north are Mole Creek Road and the road network connecting the productive far north-east to the north-west, which includes the Tasman Highway, Bridport Main Road, East Tamar Highway, Frankford Road and Birralee Road. In the southern region key regional roads include the Lyell Highway, Tea Tree Road, Fingerpost Road, Southern Outlet, Huon Highway and Brooker Highway (Figure 24).

Construction Inputs

In 2014-15, over 5.6 million tonnes of construction inputs were moved across the network, representing 24% of the State's total freight task by mass (Figure 21). Construction inputs included aggregates (4,500,000 tonnes), premixed concrete (920,000), bricks, tiles and concrete products (160,000 tonnes) and bitumen (65,000 tonnes).

Generally, construction inputs are transported relatively short distances by road using either a 3-axle rigid truck or a rigid truck and trailer combination. In 2014-15, 94% of construction movements were intra-regional. The task accounted for 12% of the State's freight task in tonne-kilometres, considerably lower when compared to the task in terms of mass (Figure 21).

The southern region had the largest construction material task (2.3 million tonnes), followed by the northern region (1.9 million tonnes), and around 1.4 million tonnes moved around the north-west (Figure 25) in 2014-15.

The majority of the construction material task is moved by road, with the highest tonnages recorded on major highways. Key roads include the Bass Highway in the north-west; the East and West Tamar Highways and Midlands Highway in the north; and the Midland Highway-Brooker Highway corridor, the Tasman Highway, Southern Outlet and Huon Highway in the south.

Consumer Goods

The movement of consumer goods is an important part of the state-wide freight task. In 2014-15, 2.1 million tonnes of consumer goods were transported on the Tasmanian road and rail network, equivalent to 9% of the total task by mass and 12% by tonne-kilometres (Figure 21).

Consumer goods include petroleum and diesel, mixed groceries, other food, mixed consumer goods, other alcoholic beverages, grain mill products, motor vehicles and parts, and petroleum gases. The majority of consumer goods are imported through Burnie or Devonport ports, with less than 50,000 tonnes exported out of Tasmania.

Petroleum and diesel represented 35% (770,000 tonnes) of the consumer task, with shipments made direct to major ports in each region. The Port of Hobart (Selfs Point) received the largest volume of diesel and petroleum into the state, 94% of which was distributed within the southern region. In the north-west, petroleum and diesel was shipped into the Ports of Devonport and Burnie. From the north-west around 47% of petroleum and diesel was transported to sites within this region and 52% was transported to sites in the northern region. Shipments of petroleum and diesel into the Port of Launceston were lower than in other regions. 46% of this fuel was transported to sites in southern Tasmania, 30% to the north-west region and only around 24% remained in the northern region.

The majority of the remaining consumer goods task was shipped into Burnie and Devonport from interstate or overseas via Melbourne. Approximately 360,000 tonnes (56%) of the north-west non-fuel consumer task is transported to the northern region, a further 220,000 tonnes (34%) to the southern region. Only around 10% is transported intra-regionally within the north-west.

The consumer goods task generally makes a higher number of trips on the network than other freight, as consumer goods are generally moved from a port to a distribution centre, then onto retailers. The large inter-regional

movement of consumer goods from the north-west to the northern region reflects the location of several major distribution centres in or just south of Launceston[11].

Approximately 490,000 tonnes of the non-fuel consumer goods freight task originated in the northern region, 42% of which was transported within the northern region, 44% to the south and 14% to the north-west. Around 260,000 tonnes of non-fuel consumer goods are distributed in the southern region. Of this, 78% is transported to sites within the southern region.

Consumer freight is highly reliant on the Burnie to Hobart corridor (including the Bass, Midland and Brooker Highways), with most distribution centres located within close proximity to this corridor. The Bass Highway (between Devonport and Launceston) carries the highest mass of consumer goods (peaking at over 800,000 tonnes), with the Midland Highway carrying the second highest mass (peaking at over 500,000 tonnes, south of Perth). From the major distribution centres, consumer goods move on regional and urban roads to major shopping centres, industrial parks, businesses and town centres across the state (Figure 26).

Mining and Bulk Products

In 2014-15, Tasmania extracted approximately 4.0 million tonnes of metal ores, concentrates and coal. The majority of mines are located in the West Coast and Fingal Valley regions. Up to 2.7 million tonnes of ores and concentrates were transported to the privately-owned Port Latta via pipeline from the Savage River mine site. This freight task is not included in the road and rail task recorded in the Freight Survey.

Most mining and bulk products were used or processed interstate or overseas, with the exception of zinc concentrates, which were processed in Hobart. There are two major metal processors located at Bell Bay. Most metal concentrates, processed at the three processing sites in Tasmania, were sourced from outside the state and imported to ports adjacent to the processing plants.

The majority of Tasmanian coal extraction occurred in the Fingal Valley, supplemented with coal from the Derwent Valley. The processed (washed) coal amounted to around 270,000 tonnes and was used by manufacturing facilities within Tasmania, predominantly in the north-west, with smaller tonnages transported to southern Tasmania. Approximately 60% of processed coal was transported using rail.

Around 1.5 million tonnes of ores and concentrates were transported on the State road and rail land transport network, with approximately 740,000 tonnes (50%) transported a short distance by road (less than 5km) from port to processing site. Overall, around 280,000 tonnes (19%) of ores and concentrates were transported on rail and 38% of the long distance freight (moving more than 5km on the land freight network) was transported by rail.

In 2014-15, Tasmania's metal processors had an output of around 800,000 tonnes of basic metal products. The vast majority of this output was destined for export or interstate consumption with over 95% shipped out of ports in the north or north-west. Processed metal from southern Tasmania was transported a short distance via road to the Brighton Hub for transport by rail to Burnie Port.

Metal production out of Bell Bay (including aluminium, ferro-and-silico manganese and sinter) was shipped from multiple ports; with around 290,000 tonnes from the Port of Launceston and 60,000 tonnes from the Port of Devonport.

Tasmania has a major cement manufacturing plant at Railton. Most of the production is transported in bulk via rail to the Port of Devonport then shipped to Victoria and New South Wales (Figure 27).

[11] When goods are transported via a distribution point those goods are effectively captured twice in the Freight Survey. A large proportion of consumer goods originating in the northern region fall into this category, having been originally transported from a port in the north-west region to a distribution centre in the northern region and finally on to a retailer.

Figure 22: State-wide Hardwood and Softwood Log Task

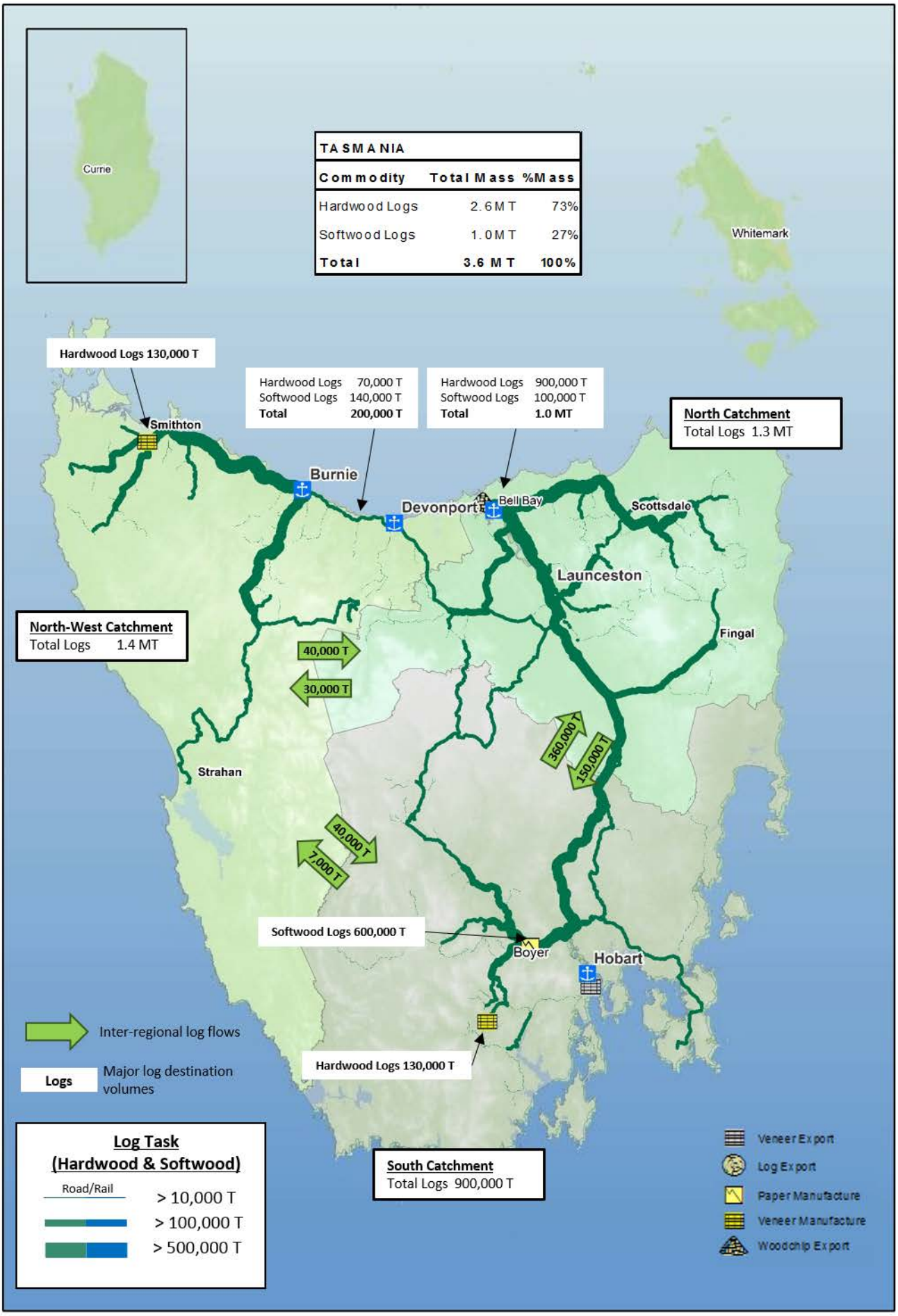


Figure 23: State-wide Forestry Processing Task

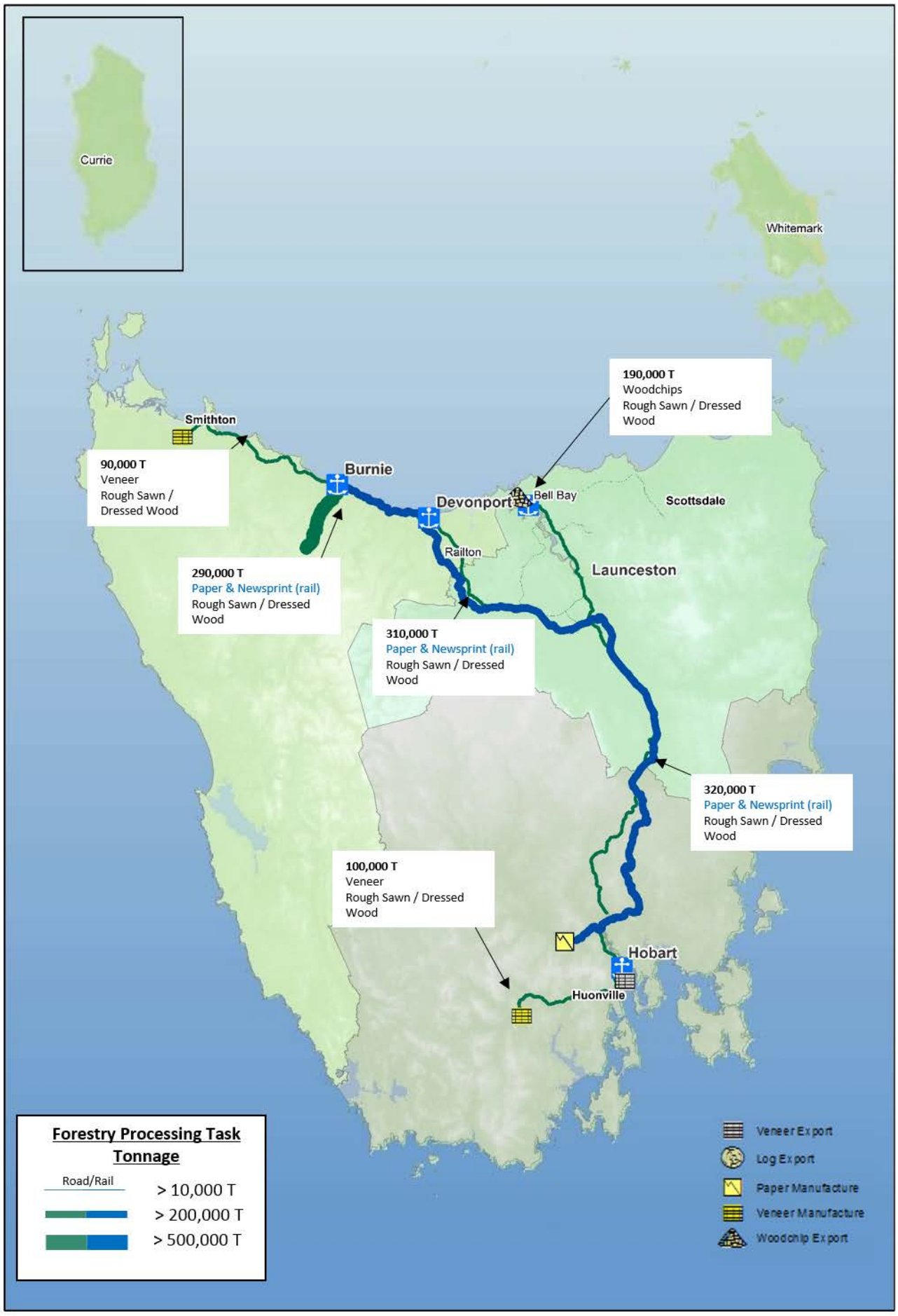


Figure 24: State-wide Agricultural Freight Task

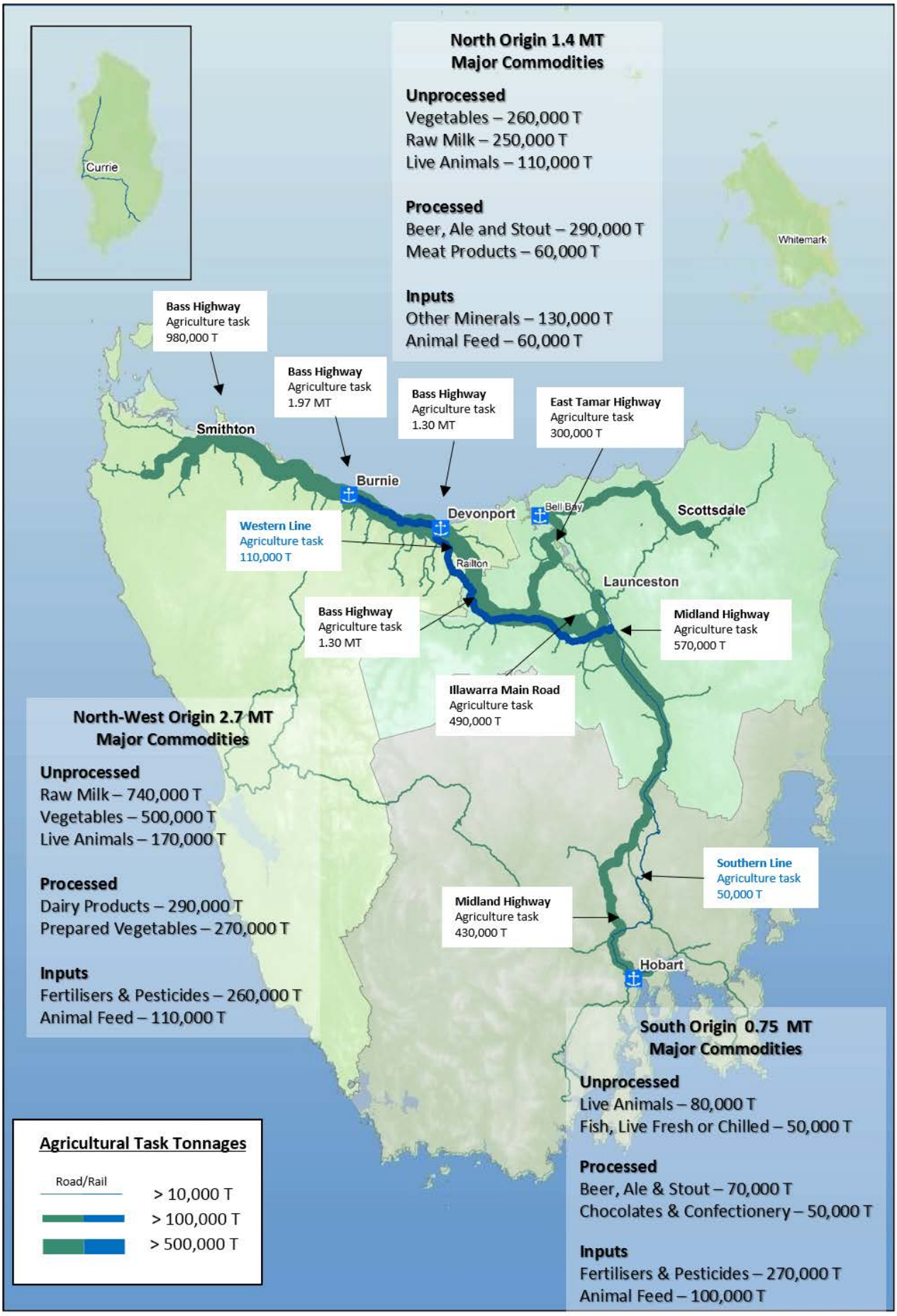


Figure 25: State-wide Construction Inputs Freight Task

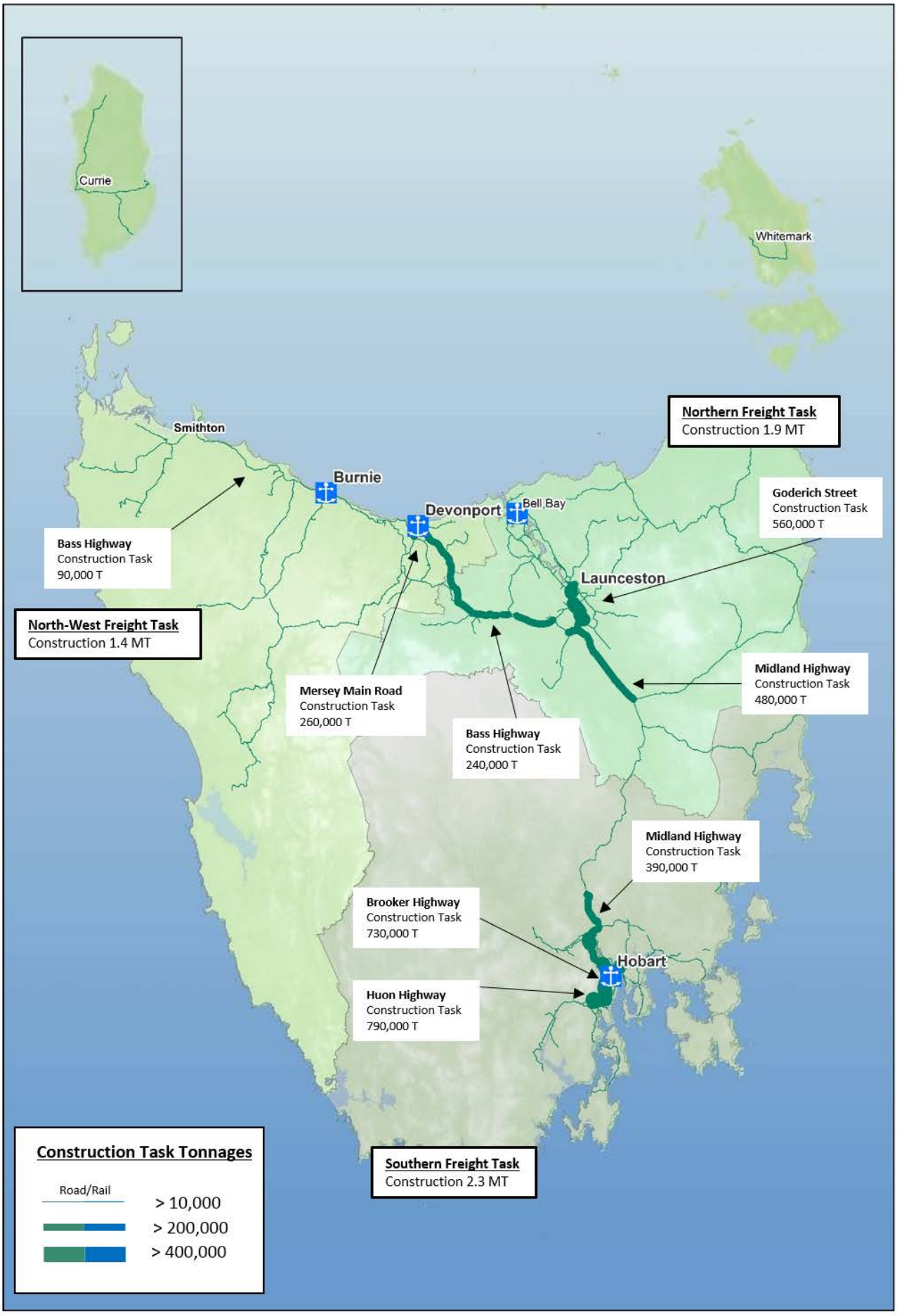


Figure 26: State-wide Consumer Freight Task

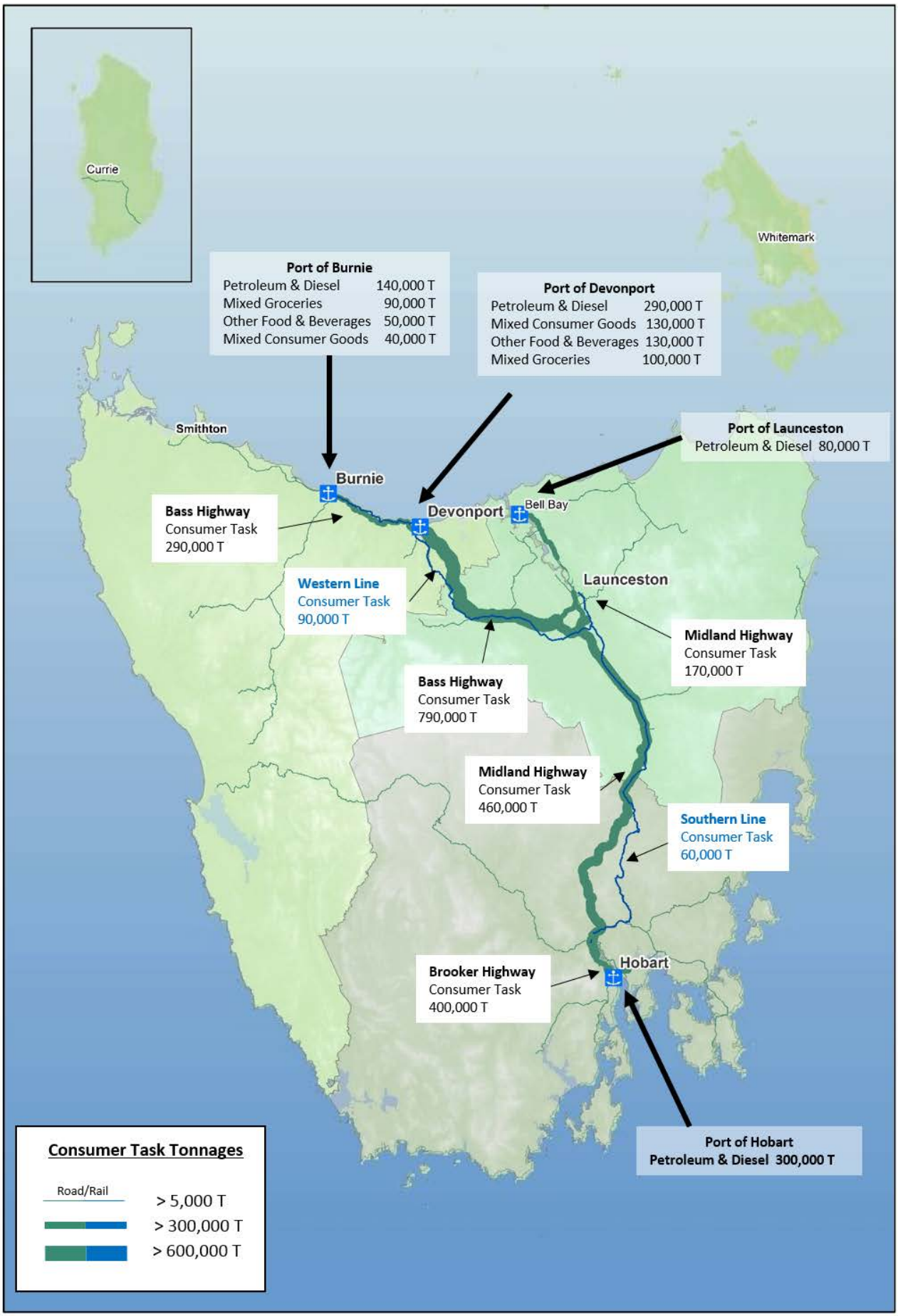
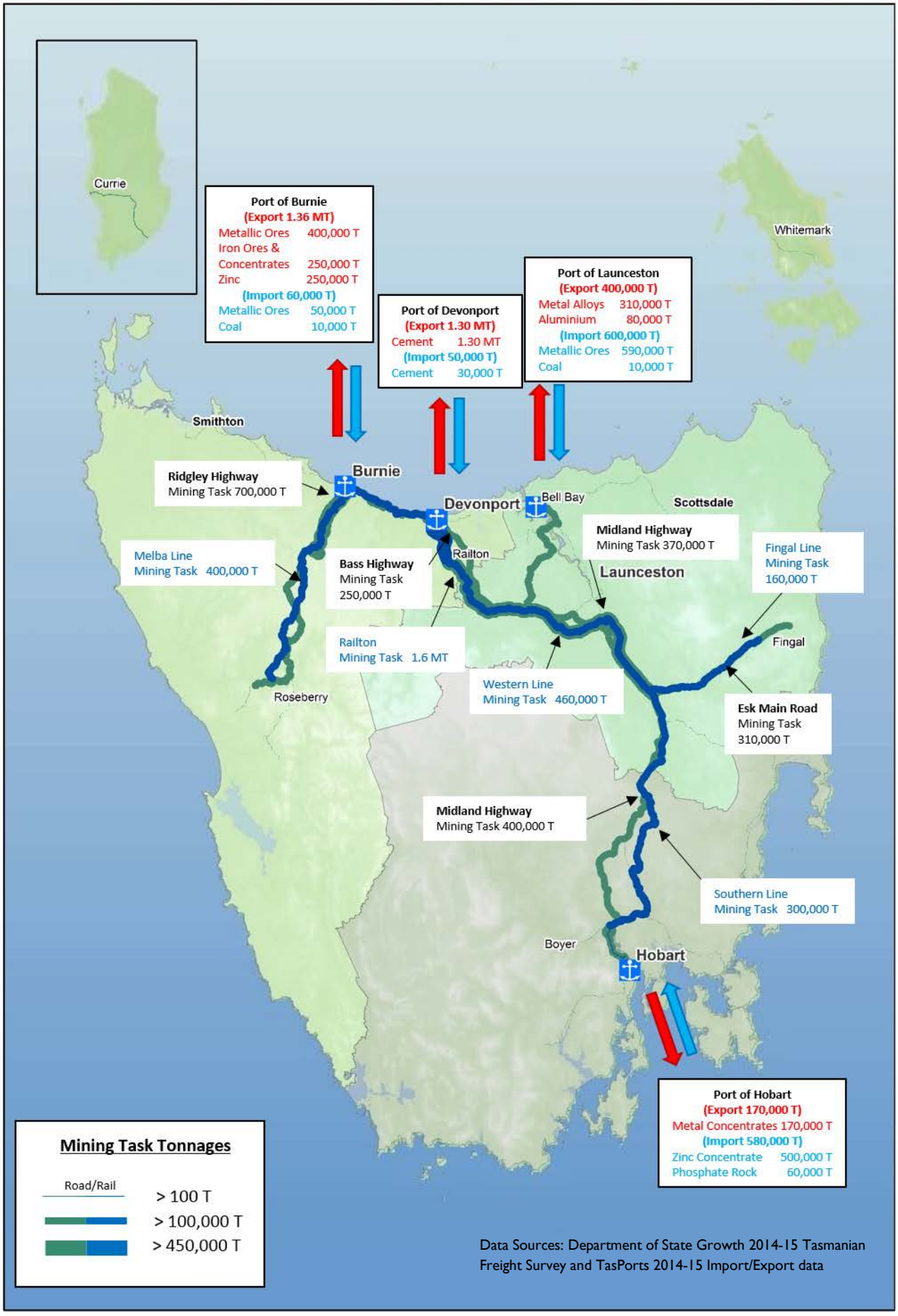


Figure 27: State-wide Mining Freight Task



Freight Volumes by Mode

Trucks carry the majority of the State's land freight task by mass (89%) and tonne-kilometres[12] travelled (80%). Heavier trucks, including B-doubles, rigid truck and trailer combinations and semi-trailers[13], carry a large proportion of the state-wide task – 79% of overall tonnage and 76% of tonne-kilometres travelled (Table 2).

Table 2: Freight Volumes by Vehicle Type

Vehicle Class	Total state-wide mass (tonnes)	% Total task (by mass)	Total state-wide (tonne-kms)	% Total task (by tonne-kms)
Rigid Trucks	2,300,000	10%	75 million	4%
GA Articulated Trucks	6,100,000	26%	587 million	30%
B-double or Rigid Truck & Trailer	12,600,000	53%	921 million	46%
Rail (road/rail & rail only)[14]	2,700,000	11%	394 million	20%
Total freight task	***23,700,000***		***1.97 billion***	

Table 2 and Figure 28 show the proportion of the state-wide freight task that is carried by B-doubles and rigid truck and trailer combination vehicles. On Tasmania's major road corridors, including the Bass and Midland Highways, around half of the freight task by mass is carried by these vehicles.

General access articulated trucks carry around 26% of the freight task on major road corridors, but also carry a significant proportion of freight on regionally significant routes, including the East Tamar Highway in the north, and Frankford Road in the north-west (Figure 29).

Rail is an important part of the State's freight system, and while it only carries around 10% of the state-wide freight task in terms of volume, it carries about 20% of the total task in terms of tonne-kilometres travelled. Freight tasks carried by rail are generally moved over a longer distance compared to road.

[12] Tonne-kilometres are a commonly used measure for freight transport, and one tonne-kilometre represents the transport of one tonne of freight over one kilometre.
[13] Many of these vehicles are High Productivity Vehicles (HPVs), that is, specialised truck and trailer combinations that provide the ability to shift more freight per vehicle trip. B-doubles are an example of a high productivity vehicle.
[14] The total includes approximately 201,000T of freight that is carried on both road and rail. To avoid double counting, the total freight task figure does not include the rail component of the road/rail task.

Figure 28: Mass Carried by B-double or Rigid Truck & Trailer Combinations Compared to the Overall Task

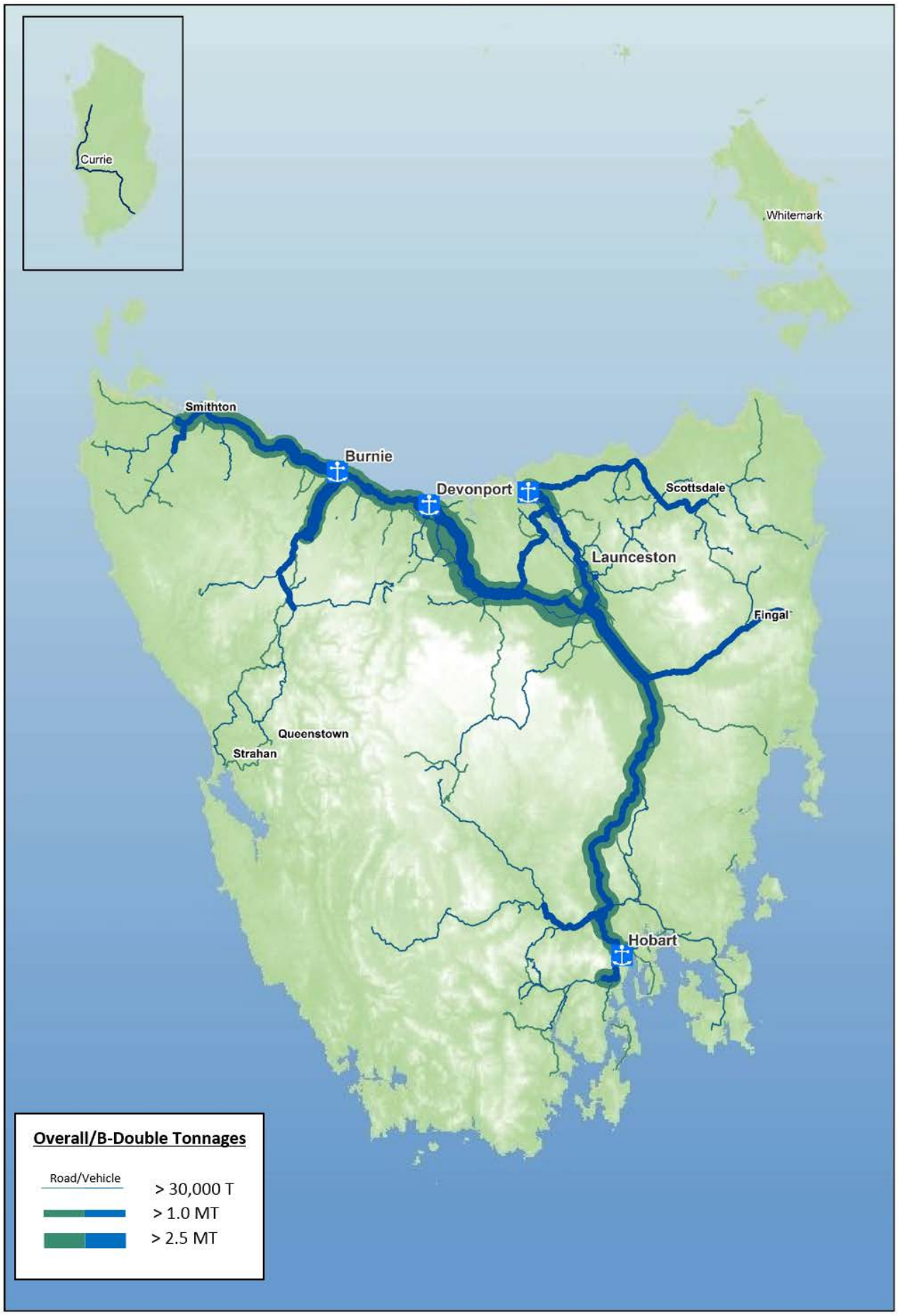


Figure 29: Mass Carried by General Access Trucks Compared to the Overall Task

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