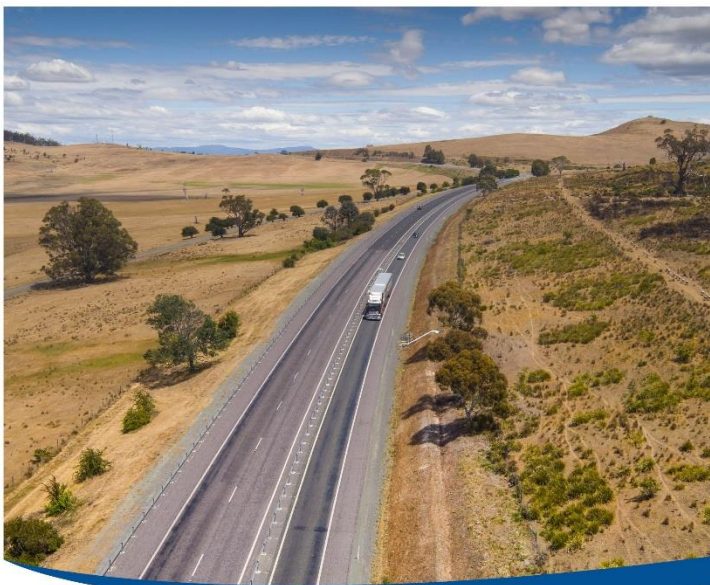


Burnie to Hobart Freight Corridor Strategy



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Message from the Minister for Infrastructure

Tasmania's businesses rely on high standard, on-island freight connections, supporting the efficient movement of freight to and from production areas, processing and industrial centres, and export points.

The Burnie to Hobart Freight Corridor is the core of Tasmania's land freight network, connecting all major population, industrial and export centres. The Corridor supports the movement of high volumes of freight and forms a part of nearly every major industry supply chain in the state.

As Tasmania's premier freight network, the Corridor is performing well. The Tasmanian Government has developed this Corridor Strategy to ensure existing freight performance standards are maintained and enhanced over the long-term in line with freight demand, user needs and emerging challenges. The Strategy is underpinned by detailed freight analysis and engagement with key freight stakeholders. It directly considers the role of key freight feeder routes, such as the Bass Highway between Burnie and Smithton, as part of the broader operation of the Corridor and the supply chains which rely on it.

The standard of infrastructure provided along the Corridor directly influences freight efficiency, productivity and costs to users. The Tasmanian and Australian Governments have, and continue to make, significant investment in the Corridor in support of improved freight outcomes.

This Strategy outlines a long-term approach to freight planning and investment along the Corridor. It includes replacement of the Bridgewater Bridge, planning in support of forecast high freight volumes along the Bass Highway between Devonport and Deloraine, and Corridor-wide infrastructure and bridge upgrades aimed at improving access for higher productivity vehicles, and rail reliability.

The Corridor operates as a parallel road and rail network. While this supports competition and service choice for users, it also requires close coordination and integration of planning and investment across modes to ensure funding supports the best outcomes for users.

The Department of State Growth and TasRail will continue to develop and maintain contemporary modal investment frameworks and project business cases, and ensure that future investment aligns with the priorities outlined in this Strategy.

Executive summary

The Burnie to Hobart Freight Corridor underpins Tasmania's land freight network, carrying the highest freight volumes, and connecting all major population centres, ports and most major freight-generating centres. It is part of the Australian Government's National Land Transport Network and listed as a Priority Initiative on Infrastructure Australia's Infrastructure Priority List.

The Corridor operates as part of a state-wide, market-driven freight system. It is an essential supply chain connection across all major industry sectors in Tasmania.

As Tasmania's premier freight network, the Corridor is currently performing well in terms of meeting user needs, and supporting broader freight efficiency and productivity outcomes. Continued investment by government, supported by strategic planning and decision making, will consolidate the Corridor as Tasmania's premier freight route.

Part of a state-wide, market-driven freight system

The Burnie to Hobart Freight Corridor extends from Burnie to Hobart, via Launceston, and includes key feeder routes to Smithton, Bell Bay, Fingal and Boyer. The Corridor provides a direct connection to the state's major domestic container ports at Burnie and Devonport, and to the southern region's major intermodal hub at Brighton.

The Corridor operates as a key part of Tasmania's broader freight system. Previous analysis of Tasmania's container-based export and import supply chains indicates Bass Strait shipping forms the largest proportion of transport costs for a Tasmanian shipper (Aurecon, 2013). Land freight costs form around 15 per cent of total freight costs, reflecting the quality, efficiency and competitiveness of Tasmania's on-island freight connections.

Maintaining current network standards across the Corridor is essential to ensuring land freight costs remain a small component of overall supply chain costs for business, and that freight user outcomes, including efficiency, reliability and choice, continue to be supported.

Responding to the future freight task

The majority of the Corridor's freight task is on road, with volumes highest between Burnie and Launceston, and over the Bridgewater Bridge. Total and proportional freight volumes on rail are lower, but vary across lines.

Road freight volumes are forecast to increase by around 36 per cent and rail volumes by 10 per cent, over the next twenty years, driven largely by the agriculture, construction and consumer goods sectors. This level of growth is manageable within the existing network and operational capacity of road and rail.

Contestability analysis indicates the proportional split of freight carried by road and rail along the Corridor is unlikely to change significantly over the long-term. Across most Corridor segments, even a major shift in freight from one mode to the other would have limited impact on capital upgrades or maintenance costs.

The approach to Corridor investment outlined in this Strategy reflects the above context, with large-scale investment targeted to areas where freight outcomes are maximised. Priority areas include delivery of the Midland Highway 10 Year Action Plan, replacement of the Bridgewater Bridge, and a continued rail investment program. Consistent with demand, future planning and investment will focus on the Bass Highway between Devonport and Deloraine and from Smithton to Burnie, and the Brooker Highway.

Improvements to freight productivity and access on road and rail, will continue to be delivered through smaller-scale projects, including bridge upgrade and maintenance programs.

Coordinated modal planning and project evaluation

The Burnie to Hobart Freight Corridor operates as a parallel freight network, where government investment is made in both road and rail.

This Strategy identifies principles to guide coordinated investment at the Corridor level. At a modal level, the Government is seeking a structured and transparent approach to investment, including -

- A long-term investment and planning framework, outlining infrastructure funding priorities; and
- Contemporary and comprehensive businesses cases, supporting individual project bids.

Road and rail are at different stages of developing long-term investment frameworks.

The Department of State Growth recently released its *10 Year Infrastructure Investment Plan* for the state road network. The *10 Year Infrastructure Investment Plan* outlines future investment in relation to user needs, infrastructure and maintenance standards.

TasRail has undertaken a significant amount of work on asset renewals and maintenance by line. A comprehensive investment framework will link required investment to service level outcomes and infrastructure standards, and consider the relationship between capital expenditure and maintenance costs.

Cost benefit analysis will continue to underpin the justification and evaluation of individual projects, and will be developed in line with the requirements of the Australian Government and the Tasmanian Government, coordinated by Infrastructure Tasmania.

Corridor protection

Land use planning is an important mechanism to support Corridor outcomes, including safety and functionality. The Tasmanian Government has developed a *Road and Railway Assets Code* (the Code) for inclusion in local government planning schemes. The Code addresses new and intensified access, and facilitates the application of attenuation buffers along the Corridor.

The Tasmanian Government supports the consolidation and location of major freight-generating activities at key nodes, including the Brighton Hub, Bell Bay Industrial Estate and Burnie Port. Further investigation of a potential transport and industrial hub adjacent to Launceston Airport is also supported.

Information and consultation to inform effective decision making

This Strategy is underpinned by a significant information base, including freight demand forecasts, market contestability analysis and an assessment of the infrastructure impacts of any modal shift. The freight profile outlined in this Strategy will underpin Corridor planning, across both modes, together with the analysis of individual projects. It will be complemented by information on asset condition and commercial considerations provided by TasRail and the Department of State Growth. Consultation with stakeholders will continue to inform all aspects of planning along the Corridor.

Corridor investment priorities

Over the next decade, major investment in capital upgrades will target Corridor segments and modes where freight outcomes are greatest. Investment across the Corridor will prioritise activities that deliver continuous improvements that anticipate and support corridor users and supply chain needs. Addressing key capacity constraints and ensuring that the Corridor meets the service level standards required to meet future demand is critical. The replacement of the Bridgewater Bridge has been identified as the key Corridor priority in the short to medium term.

This Strategy

The *Tasmanian Integrated Freight Strategy* (2016) identified the development of a Burnie to Hobart Freight Corridor Strategy as a key action. The Tasmanian Government has released this Strategy consistent with that commitment.

This Strategy is guided by the following outcomes for the Burnie to Hobart Freight Corridor.

A freight Corridor that:

- is planned, managed and delivered to support broader freight system and supply chain outcomes for Tasmania
- supports efficiency, access and modal choice for freight users
- responds to and appropriately manages freight demand, considering freight volumes, user needs and the ability of road and rail to cost-effectively support a freight task
- is based on transparent investment frameworks and project business cases, supporting a coordinated evaluation of freight investment across the Corridor
- reflects contemporary freight analysis and information, including from key freight users.

The key actions identified in this Strategy are outlined on the following page.

Burnie to Hobart Freight Corridor Strategy – Implementation Actions		
Action	Who	Target date
Develop transparent service level standards for road and rail.	Department of State Growth (State Roads) TasRail	Dec 2018
Develop 10 year road and rail investment plans, addressing major capital upgrades, ongoing maintenance and service levels.	Department of State Growth (State Roads) TasRail	Dec 2018
Apply a consistent assessment methodology and freight demand assumptions to all road and rail investment initiatives across the corridor.	Infrastructure Tasmania	Ongoing
Develop robust business cases to support future freight-related investment including: <ul style="list-style-type: none"> Bass Highway, Devonport to Deloraine Bass Highway, Burnie to Smithton Illawarra Main Road Brooker Highway, Domain Highway overpass Second Tranche Rail Investment Program. 	Department of State Growth (State Roads) TasRail Infrastructure Tasmania	Dec 2018
Finalise a business case for a new Bridgewater Bridge for submission to Infrastructure Australia.	Department of State Growth (State Roads) Infrastructure Tasmania	Jan 2018
Implement the Midland Highway 10 Year Action Plan.	Department of State Growth (State Roads)	Ongoing until 2025
Update Corridor freight movement data, including through the Tasmanian Freight Survey and time sensitive freight database.	Department of State Growth	Feb 2018 ongoing
Engagement with industry and key stakeholders, including local government, on the current and future use of the Corridor for freight movement.	Department of State Growth Infrastructure Tasmania	Ongoing

The Burnie to Hobart Freight Corridor

Over the next 20 years, growth across the Burnie to Hobart Freight Corridor is forecast to be moderate and manageable overall across both road and rail, with some clearly identifiable potential constraints. The road network is forecast to continue to carry the highest freight volumes and also experience the highest rates of freight growth.

Construction inputs, agriculture and consumer goods are the key industry drivers of growth. Bulk commodities will continue to underpin volumes across segments, particularly on rail, but are expected to grow at lower rates.

Overview of the Corridor

The Burnie to Hobart Freight Corridor connects Tasmania's highest volume export container ports at Burnie and Devonport, major population centres at Burnie, Devonport, Launceston and Hobart, major industrial sites, and intermodal hubs.

It operates as a parallel road and rail network, and includes the following key segments:

- Burnie to Devonport (via Bass Highway and Western Line)
- Devonport to Launceston (via Bass Highway and Western Line)
- Illawarra Main Road
- Launceston to Conara (via Midland Highway and South Line)
- Conara to Brighton (via Midland Highway and South Line)
- Brighton to Hobart (via Midland and Brooker Highways).

Around 70 per cent of freight trips across Tasmania use the Corridor for at least part of the journey. For some sectors and businesses, reliance on the Corridor is high. A significant number of major freight-generators are located adjacent to, or in close proximity to the Corridor and its key feeder routes.

Current freight volumes by Corridor and mode

The Corridor's freight task is summarised below. Further information is provided in the supporting reports to this Strategy (*Burnie to Hobart Freight Corridor Strategy*, *Freight Demand Analysis and Future Productivity Improvements*. ACIL-Allen, 2017; *Tasmanian Freight Survey* 2016).

- In 2014-15, 66 per cent of freight in Tasmania travelled along the Burnie to Hobart Freight Corridor for part of its journey (15.3 million tonnes (MT)). This figure has gradually increased over the past decade (by 5 per cent).
- The Corridor is projected to be the fastest growing section of Tasmania's land transport freight network, carrying 35 per cent more freight by 2034-35, compared to 2014-15 volumes (up to 20.7MT).
- The majority of freight carried on the Corridor is moved by road – 79 per cent by net tonne-kilometres (NTK) in 2014-15, compared to 21 per cent by rail. The road network carries 13.5MT and the rail network carries 2.5MT.¹
- Along key segments, freight growth is also forecast to be highest on road – an increase of 36 per cent compared to 10 per cent on rail. This reflects expected growth in commodities that largely use road (agriculture, construction and consumer goods), with more limited growth expected in rail-based commodities (cement, paper, zinc).

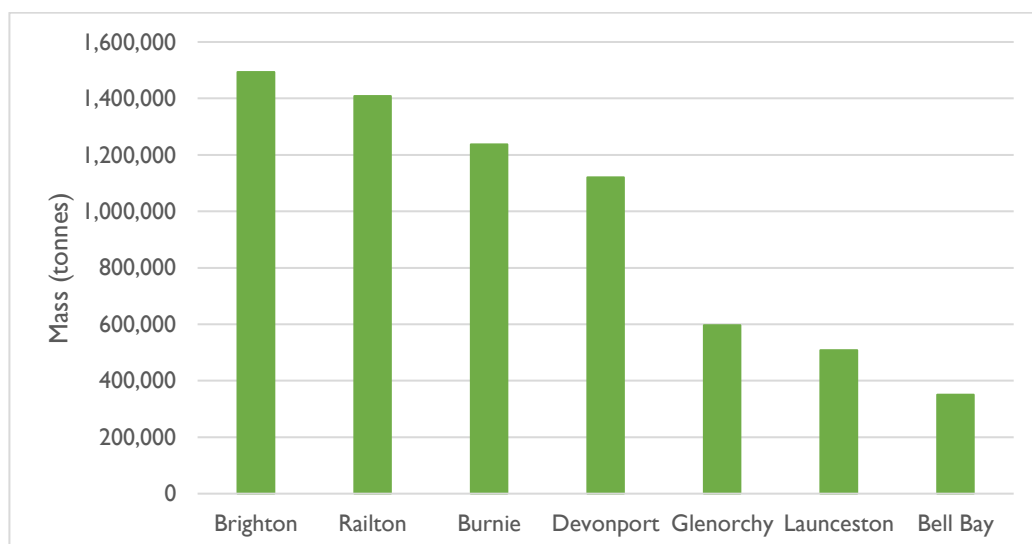
¹ Some freight tasks use both road and rail networks.

- In 2014-15, 65 per cent of freight carried along the Corridor was bulk, and 21 per cent containerised².
- The average distance travelled by road freight on the Corridor is 107km, compared to around 270km for rail.

Ports, intermodal hubs and industrial areas

- Approximately 42 per cent of freight on the Corridor is derived from one of seven major freight generating sites, including the three northern ports and the Brighton Hub.

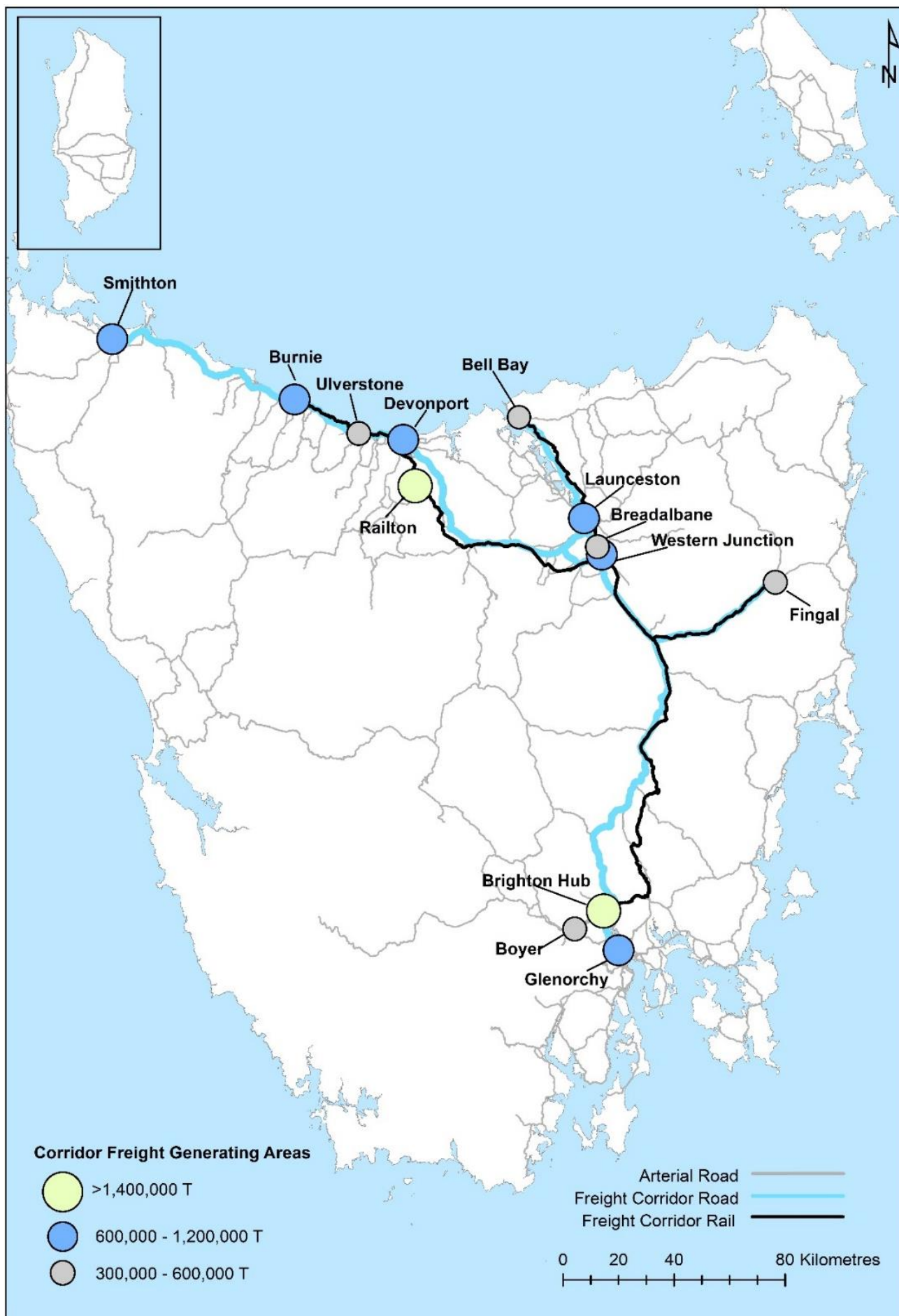
Figure 1: Key Corridor Freight Generating Areas



- Burnie and Devonport Ports are Tasmania's largest container ports. Both also carry a significant bulk freight task. Of the 7.8MT passing through the ports of Burnie and Devonport per annum, 6.4MT utilises the Corridor.
- Bell Bay Port is Tasmania's primary bulk port. The port also caters to a number of direct international container shipping services. The Port is adjacent to the Bell Bay Industrial Estate, a major heavy industrial centre for the state, containing significant forestry processing, metal smelting, alloy production and fuel depots. There is a close alignment between the two sites, with the majority of the Estate's freight task transported directly to and from the port, without using the public transport network. Although Bell Bay port has a total throughput of 3.2MT, only 350,000T utilises the Corridor.
- The Brighton Hub is the major intermodal site for southern Tasmania. The South Line connects directly to the site, while the Brighton Bypass has provided high-standard road access and interchanges for heavy vehicles. Major freight forwarders located at the site include Toll and SRT Logistics. The Brighton Hub is a key part of Greater Hobart's urban freight network.
- The Glenorchy industrial area in southern Tasmania is a high-volume industrial centre, catering to around 10 per cent of the southern region's freight task. It contains high-volume freight generators, including Cadbury, Nyrstar and Impact Fertilisers. The area is closely aligned to the Brighton Hub, with freight transferred to and from rail and larger heavy vehicles for distribution within Glenorchy and the broader Hobart region. The Glenorchy industrial area and Brighton Hub totals 28 per cent of the southern freight task.
- Many of Tasmania's major industrial areas and freight generators are located within 15km of the Corridor or the designated key feeder routes (Figure 2).

² Bulk freight includes dry bulk, bulk liquid and gas, and logs. Freight not classified as bulk or containerised freight includes break bulk, livestock, unitised freight and other freight.

Figure 2 – Major corridor freight generating areas located within 15km of Corridor and key feeder routes.



Key freight connections

Feeder routes

Almost 30 per cent of road freight along the Corridor is derived from the key feeder routes. For rail, the proportion is slightly lower at 25 per cent of total rail volumes.

The key feeder routes are:

- Smithton to Burnie (Bass Highway)
- Launceston to Bell Bay (East Tamar Highway and Bell Bay Line)
- Fingal to Conara (Esk Road and Fingal Line)
- Boyer to Brighton Hub (Boyer Road and Derwent Valley Line).

Many of these routes are aligned to a specific industry sector. For example, agricultural products between Smithton and Burnie (road); paper from Boyer (rail); hardwood logs to Bell Bay (road and rail); and coal and hardwood logs from Fingal (road and rail).

The Bass Highway between **Smithton and Burnie** is the highest volume freight feeder route connecting to the Corridor. Current freight volumes are close to 2MT per annum, all of which is carried by road. This route largely carries agriculture (50 per cent) and forestry (29 per cent) freight, and is the only feeder route projected to undergo a high rate of freight growth. Freight volumes are expected to increase up to 2.7MT per annum by 2034-35 (42 per cent growth).

The **Bell Bay, Fingal and Boyer** freight feeder routes operate as parallel road and rail networks, and are more closely associated with a single commodity or freight task. Freight growth along these routes is forecast to be low over the long-term, largely reflecting the underlying growth forecasts of key users and sectors.

- The East Tamar Highway and Bell Bay Line connect Launceston to the Bell Bay Port and Bell Bay Industrial Estate. Volumes on the East Tamar Highway between Launceston and Bell Bay have decreased over time, reflecting changes in the forestry sector and reduced container volumes through Bell Bay Port. The road freight task of 0.9MT per annum is predominantly forestry freight (57 per cent), with some construction inputs (15 per cent). The Bell Bay Line currently carries log traffic from Brighton to Bell Bay and some containers southwards from the Bell Bay Industrial Estate. The rail freight task of 0.08MT per annum is predominantly forestry freight (89 per cent).
- The Esk Main Road and Fingal Line connect Conara to Fingal. The road network carries log traffic from north-east production areas (0.4MT per annum), while the rail line exclusively carries coal (0.1MT per annum).
- Boyer Main Road and the Derwent Valley Line connects Bridgewater Junction to Boyer. The rail freight task of 0.3MT per annum includes high volumes of finished paper and paper products, logs and coal. The road freight task of 0.5MT per annum is largely made up of log traffic.

All ports and industrial areas rely on a network of local government roads for last mile access. Some of these roads carry high freight volumes, including Bathurst-Wellington and Macquarie-Davey Streets, Derwent Park Road and Risdon Road.

Future freight task

Demand by segment

Road

- Road supports a diverse freight task. Agriculture, consumer goods and construction inputs (particularly aggregates) are the key drivers of road freight growth.
- The Bass Highway between Devonport and Illawarra Main Road carries the highest freight volumes of any Corridor segment. By 2034-35, this segment is projected to carry around 4MT per annum, driven largely by growth in construction inputs and agriculture.
- The Brooker Highway is projected to undergo the highest rate of growth, increasing 46 per cent from 2014-15 volumes. This growth is largely driven by construction inputs.

Figure 3 - Current and forecast freight volumes, 2014-15 – 2034-35, Burnie to Hobart Freight Corridor

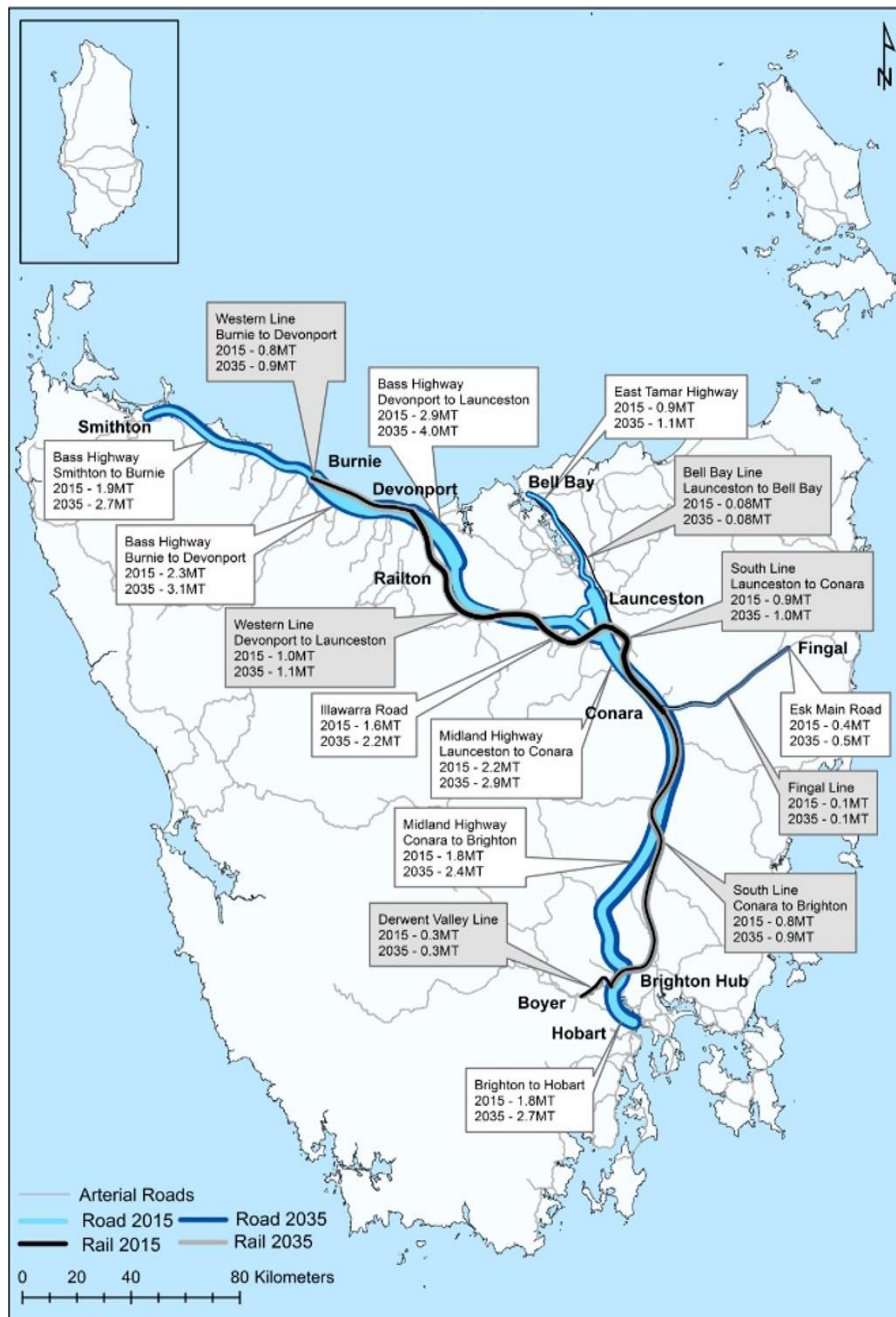
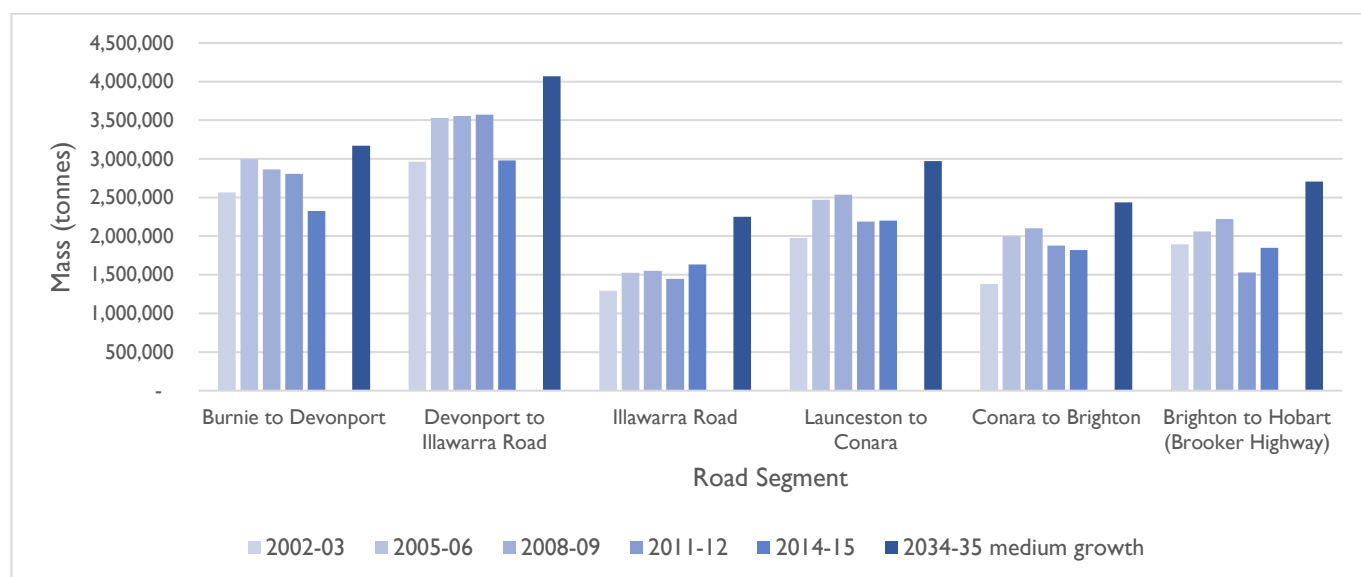


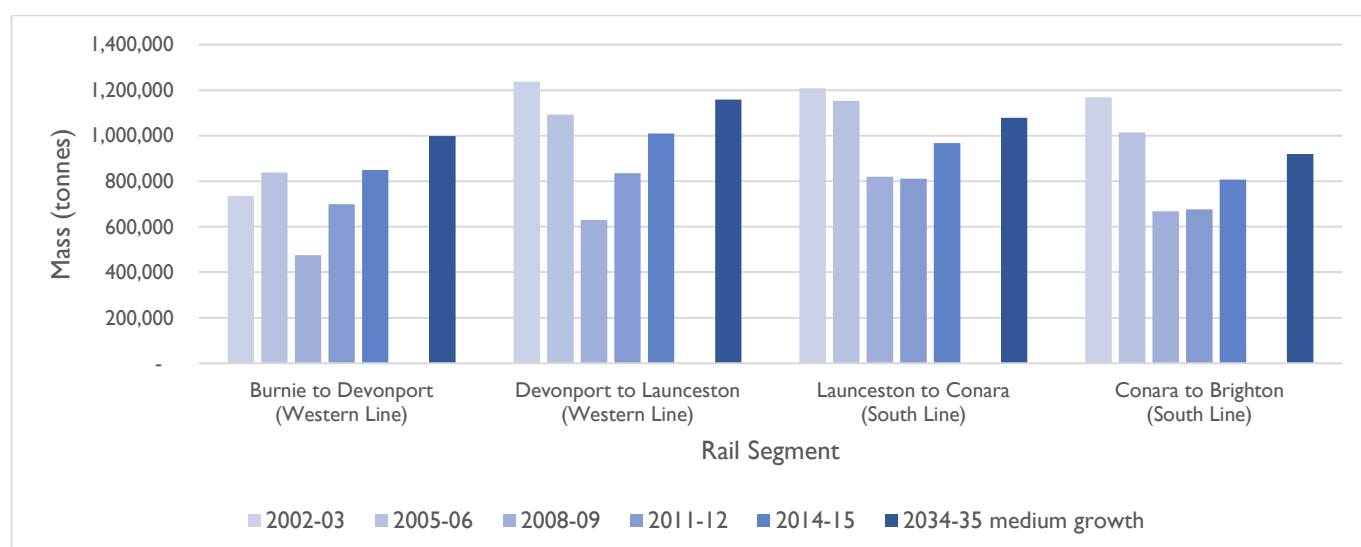
Figure 4: Comparison of historic and projected freight volumes across key road segments of the Burnie to Hobart Freight Corridor



Rail

- The rail network is generally used to transport bulk commodities over relatively long distances. The task is dominated by cement, zinc, paper and newsprint. Only limited growth is expected in these commodities due to most businesses being at, or close to, production capacity.
- Rail volumes are highest between Railton and Devonport, at around 2.1MT. This segment includes a significant cement task between Railton and Devonport Port.
- Since 2009, the modal share of rail has gradually increased.

Figure 5: Comparison of historic and projected freight volumes across key rail segments of the Burnie to Hobart Freight Corridor



Drivers of freight growth

- All Tasmania's major industry sectors rely on the Burnie to Hobart Freight Corridor as part of their supply chains. For some commodities and companies, including cement, agriculture, consumer goods, manufacturing and wood products, use of the Corridor is high.
- The proportion of the freight task carried on the Corridor and expected growth, is shown in
- Table 1, by industry sector.
- Under a medium growth scenario, the highest rates of growth over the next 20 years are forecast to occur in construction inputs, consumer goods and agriculture.

Table 1: Proportion of Freight Task and expected growth along Burnie to Hobart Corridor in 2014-15 – Industry Sectors

Commodity	Proportion on Corridor	Medium growth (2014-15 to 2034-35)*
Agriculture and Agricultural Products	73%	48%
Basic Metal Products	48%	9%
Cement	83%	1%
Construction Inputs	54%	82%
Consumer Goods	93%	53%
Empty Containers	93%	28%
Forestry	50%	0%
Manufacturing	68%	4%
Mining Ores	35%	1%
Wood Products	88%	0%
All Commodities	66%	35%

* Refer to *Burnie to Hobart Freight Corridor Strategy, Freight Demand Analysis and Future Productivity Improvements*. ACIL-Allen, 2017 for description of growth rates.

Road and rail networks

Freight transport infrastructure along the Burnie to Hobart Freight Corridor is provided in response to freight volumes, the nature of the freight task, and user needs.

The type and quality of infrastructure provided along the Corridor has a direct influence on supply chain efficiency, reliability, access and modal choice for Tasmanian businesses.

Overview

The Burnie to Hobart Freight Corridor is part of the Australian Government's National Land Transport Network, and listed as a Priority Initiative on Infrastructure Australia's Infrastructure Priority List.

The Tasmanian Government has adopted a Tasmanian Land Freight Network (refer *Tasmanian Integrated Freight Strategy*), based on current and forecast freight demand and network function. The Network identifies the Burnie to Hobart Freight Corridor as Tasmania's premier freight corridor, and the priority for freight-related investment. The outcomes and guiding investment principles for the Corridor are:

Outcomes	Investment principles
Priority for investment to support general freight growth and major step changes in vehicle productivity. Highest standard road freight productivity and efficiency, including: <ul style="list-style-type: none">• high level of service in terms of vehicle operating costs• pre-approved higher productivity vehicle routes supporting more productive freight movements• Pre-approved access for specified oversize/over-mass vehicles. Alternative options to meet freight needs examined, across modes. Improved safety and reliability on the rail network.	Road Priority network for investment. Projects that address major freight infrastructure deficiencies. Infrastructure standards that cater for major step changes in heavy vehicle productivity. Upgrades to provide as of right access for specified classes of higher productivity vehicles; retain access controls for others. Delivery of heavy vehicle standards built into capital programs. Rail Target remaining safety and reliability deficiencies. Consolidate investment around current funding. Demand-driven investment, directly assessed against road capacity.

Road

The Tasmanian road network includes the state road network owned and operated by the Tasmanian Government, and local government roads, owned and operated by individual councils.

The state road network carries the highest freight volumes, carrying 75 per cent of the state's total freight task in NTK. Local government roads are critical in providing urban and intra-regional connections (Macquarie-Davey Streets in Hobart, and Bathurst-Wellington in Launceston), and last mile access (e.g. Derwent Park Road, Hobart; the access roads to Burnie and Devonport Ports). The freight volumes carried on some of these roads are significant.

Passenger travel comprises around 90 per cent of traffic volumes across the state road network, and most road investment targets projects that improve safety, reliability and capacity for private and public transport users. However, many of these projects also deliver freight benefits in terms of improved safety, travel reliability, and improved access to key freight roads.

On higher category roads, and roads with high proportional freight volumes, projects are delivered to a freight infrastructure standard. This approach delivers important productivity benefits to heavy vehicles in terms of pavement strength and shoulder width, and represents a cost-effective method of meeting multiple user needs within a single project. This approach is currently being implemented as part of the *Midland Highway 10 Year Action Plan*.

The Burnie to Hobart Freight Corridor is defined as part of the National Land Transport Network and is identified as part of the National Key Freight Routes. As part of these national transport systems, the Corridor attracts funding from the Australian Government.

Road network planning and management

Across the Corridor, freight volumes are highest between Burnie and Launceston, and in the urban area of Hobart along the Brooker Highway and Bridgewater Bridge. The following Corridor segments carry high total or proportional freight volumes.

- Annual average daily heavy vehicle volumes of over 1 500 are carried on the Brooker Highway and Bridgewater Bridge, and on the Bass Highway between Burnie and Devonport, and from Elizabeth Town to Illawarra Main Road.
- As a proportion of total traffic volumes, the route from Devonport to Perth (via the Bass Highway and Illawarra Main Road), and Perth to the Brighton Hub, carries a high proportion of heavy vehicles at 15 per cent and over.
- The Bass Highway west of Burnie and the East Tamar Highway feed the highest volumes of freight onto the corridor.
- Esk Main Road (Fingal to Conara) and Boyer Main Road (Boyer to Brighton) have a low level of freight activity.
- Heavy vehicle volumes are expected to continue to comprise only a small proportion of total traffic volumes over the long-term, even under the highest freight forecast scenario.

In 2016, the Tasmanian Government released its *State Roads 10 Year Infrastructure Investment Plan (Infrastructure Investment Plan)* to guide future investment in the state road network.

The objective of the *Infrastructure Investment Plan* is to deliver sustainable, affordable and appropriate levels of service for road users in accordance with transparent service parameters. The *Infrastructure Investment Plan* is based on customer service outcomes relating to road function, safety, and capacity.

The *Infrastructure Investment Plan* identifies freight-based performance measures and standards. This includes ensuring that current levels of heavy vehicle access are maintained across the state's strategic freight network, primarily through bridge strengthening and replacement. The *Infrastructure Investment Plan* also aims to:

- provide opportunity for improved freight efficiency between Brighton, Bell Bay and Burnie by 2025
- provide further freight efficiency improvements by upgrading the Midland and Bass Highways to enable safe access by more efficient freight vehicles by 2035
- strengthen bridges outside of the strategic freight network to maintain current heavy vehicle access levels of service where possible.

The *Infrastructure Investment Plan* is informed by a series of strategies and reports on the Tasmanian road network, including *State of Our Roads*, *Tasmanian State Road Hierarchy*, and the *State Roads Infrastructure Asset Management Policy*.

Road network access

The National Network from Hobart to Burnie, including Illawarra Main Road, the Bass Highway and the East Tamar Highway, are part of the:

- 26m B-double network
- truck and dog network
- High Mass Limit (HML) and Increased Mass Limit (IML) networks
- quad axle combination network
- Performance Based Standards (PBS 2A network).

Industry demand to introduce longer and higher mass vehicles is incremental.

Oversize and overmass vehicles operate on Tasmanian roads under a Gazette notice allowing for vehicle combinations of up to 103 tonnes. This notice allows full access for all vehicles described in the notice on the Burnie to Hobart road network, with the exception of two bridges in the Launceston area which are managed with specific conditions under permit.

Road network investment

The Burnie to Hobart road network is currently supporting productivity needs, with no significant demand from industry to introduce step-changes in heavy vehicle productivity. Significant investment is however required to maintain historic levels of access and provide for incremental access increases into the future.

The *Midland Highway 10 Year Action Plan* represents a joint, \$500 million commitment by the Australian and Tasmanian Governments to improve safety along the Midland Highway. The Plan commenced in 2015, and has the overall objective to deliver a minimum 3-star safety rating across the entire length of the Highway. Upgrades being delivered under the Plan are also delivering benefits to heavy vehicles:

- Perth Link Roads: new connections to the south and west of Perth, will improve safety and efficiency by removing heavy vehicle traffic from the centre of Perth as they travel to and from the north and north-western ports.
- Perth to Breadalbane: new dual carriageway section between Perth and Breadalbane.
- Upgrade of key sections along the length of the Highway from north of Brighton to Perth, delivering improved pavement strength, extended sealed shoulders, additional overtaking lanes and upgrade of key junctions.

Bridge strength, road width and road geometry are the most frequent factors limiting network access for heavy vehicles. Both impact on vehicle mass and length, and can restrict access on some lower category roads. Road width across the Corridor and key feeder routes is generally adequate, however, the addition of sealed shoulders on some sections could improve overall safety and maintenance.

Tasmania has a high proportion of older bridge structures, which were not designed or constructed to meet contemporary heavy vehicle loads. The Department of State Growth has identified a bridge upgrade program as part of its *Infrastructure Investment Plan*. This program targets 24 bridges along the Corridor at a combined value of \$12.2 million.

The current average cost per kilometre for maintaining the state road network is \$16 700.

Rail

The Tasmanian Rail Network is freight-only. It is owned and operated by the state-owned company TasRail, which operates as a vertically integrated 'above rail' (train services) and 'below rail' (rail network) business. Guiding objectives are to provide 'safe, reliable, efficient and competitively priced services to all major freight ports delivering full state connectivity between major industrial and international markets.'

On the Burnie to Hobart Freight Corridor, the rail network extends from Burnie Port to the Brighton Hub, via Western Junction. It includes connections to Devonport Port (west), central Launceston, Bell Bay, Fingal and Boyer.

The rail network from Brighton Hub to Burnie (and including from Western Junction to Bell Bay) forms part of the National Land Transport Network, and is included in the National Key Freight Routes.

Current rail volumes on the Corridor account for around 21 per cent of the freight task in NTK. The highest volumes are carried on the Western and South Lines between Brighton and Burnie.

TasRail carries both containers and bulk products.

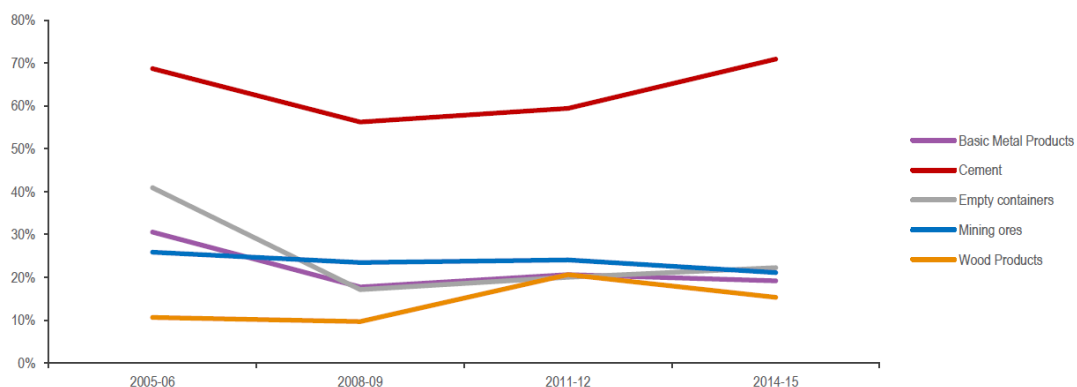
- Containers move in each direction between the Brighton Hub and Burnie, Devonport and Bell Bay ports. The majority of containers are carried to Burnie Port, and include zinc and paper products from the Hobart region. Consumer goods and other general containerised freight is moved to and from Launceston.
- Bulk commodities include cement from Railton to Devonport Port, and coal from Fingal to Railton and Boyer. TasRail is currently also moving logs from the Brighton Hub to Bell Bay Industrial Estate.

A small number of high-volume customers account for a high proportion of rail's freight volumes. Some lines operate for a single customer.

Cement comprises the single largest rail freight task by volume, and is also the single largest task carried across the Corridor. The cement task operates as a closed-loop system between Railton and Devonport Port (west).

Figure 6 (below) shows the proportion of freight volumes carried by rail, by commodity group. Bulk commodities dominate the freight task, with rail underpinning most of the cement freight task.

Figure 6: Rail share by commodity group.



Forecast growth in most rail tasks is low to stable, reflecting customers that are at or close to production capacity. Of the existing rail tasks, the highest growth is expected in the consumer goods sector, and from individual businesses.

Under a medium growth scenario, volumes of over 1MT would be carried across the Western and South Lines over the next twenty years. Even under the highest growth forecast, there is no identified requirement to invest in additional corridor infrastructure capacity in order to accommodate future rail task volumes.

Rail network planning and management

Rail transport is typically focused on higher volume freight tasks, where cost minimisation is important, and transit times and speed to market are less so. For some Tasmanian rail users, largely in the bulk sector, reliability is a key requirement. This service and customer profile indicates a focus on safety and reliability, rather than faster speeds or transit times, to be an appropriate context for rail investment.

This approach broadly aligns with TasRail's focus on a 'fit for purpose' rail network, defined by TasRail as a network that:

- is safe (i.e. no derailments)
- facilitates service reliability (i.e. on-time running)
- satisfies customer requirements regarding transit times (but no faster)
- facilitates efficient asset utilisation (i.e. rolling stock turnaround).

The use of rail provides broader supply chain benefits for some businesses and also contributes to improved safety and environmental outcomes (or 'externalities'). These broader benefits can be monetised and should be considered as part of any project-based benefit cost analysis, as well as in the strategic justification of any project.

Service reliability is an important part of developing customer confidence in using rail, ensuring customers can build their freight supply chain around a rail service. Reliability requires consistency in departure and arrival times, minimisation of delays (e.g. through temporary speed restrictions and derailments), and the efficient intermodal transfer of freight.

Rail network access

In 2007 the Tasmanian Rail Network was declared open access under Part IIIA of the *Trade Practices Act (1974)* (now the *Competition and Consumer Act (2010)*). This declaration provides third party rail operators the opportunity to negotiate with the Network Manager, TasRail, to access the Tasmanian railway network. The access declaration establishes access fees to be paid to the Network Manager by any party seeking to access a rail line.

The rail network within the Burnie to Hobart Freight Corridor operates at an axle load limit of 18 tonnes. The Tasmanian Rail Network is a single track configuration, with trains able to pass each other at crossing loops at locations along the track. The capacity of trains operating on the network is limited by the constraints imposed by the frequency and length of crossing loops.

Rail network investment

In 2009, the Tasmanian Government assumed ownership of the Tasmanian rail network. The condition of the track had deteriorated significantly under private ownership, and significant investment was made by both the Tasmanian and Australian Governments to reduce derailment risks, remove condition related speed restrictions, and address life expired assets. This investment included a \$78 million Rail Rescue Package and a \$205 million Rail Revitalisation Package. A further \$120 million program is currently underway, which is being directed to priority works across all lines. Of this program, over 70 per cent of the total project funding is being invested in the Burnie to Hobart Freight Corridor.

The Tasmanian Government also provides an annual contribution to assist in below rail maintenance. This contribution has reduced over time in line with investment in the network, and is forecast at \$8.1 million per annum from 2017-18.

Investment in rail infrastructure, along with corresponding capital expenditure on rolling stock, has significantly improved safety and reliability across the network. The investment has supported major upgrades and remediation across the network, and contributed to a rail system that can now be competitive within its target markets.

Rail investment is targeted at two key areas – improved network outcomes (safety and reliability) and reduced business costs (maintenance and asset renewal).

Under the first tranche of the Tasmanian Freight Rail Revitalisation Program, between mid-2015 and mid-2017, infrastructure upgrades targeting safety and reliability on the Burnie to Hobart Corridor have comprised the renewal of significant rail assets, including new rail, new sleepers, new ballast, improved formation and drainage, level crossing upgrades and bridge refurbishment.

TasRail is focused on establishing a more sustainable maintenance regime, primarily through reducing the age of assets across the network. This includes replacing non-standard and life-expired assets, replacing materials at locations which require higher, regular maintenance interventions, and procuring assets with a longer-life span.

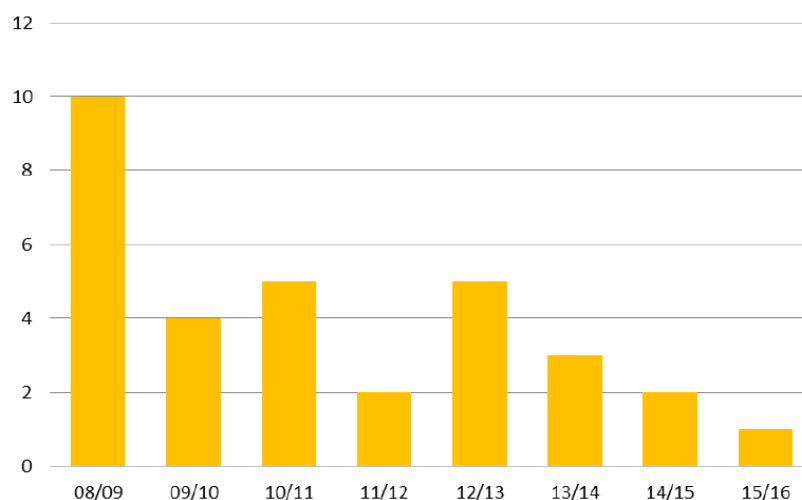
The cost of rail maintenance is comparatively high, reflecting the condition of the network at purchase, together with inherent network constraints (for example, rail alignment). Current average annual maintenance costs for rail are around \$24 000 per kilometre.

The capital investment required to reduce rail maintenance costs is also high. For example, a capital investment of an additional \$120 million would reduce existing network maintenance costs from \$24 000 per kilometre per year to \$21 000 per kilometre per year.

Achieving a balance between the level of annual maintenance costs across the network, and the investment required to reduce these costs, is a key issue for rail planning and investment.

Derailments on the Tasmanian Rail Network including the Burnie to Hobart Freight Corridor have reduced by 90 per cent since TasRail was established in 2009 (Figure 7).

Figure 7: Annual number of derailments on the Tasmanian Rail Network.



Improved infrastructure has made a significant contribution to the decline in derailment incidents, together with an improved internal engineering capability and condition monitoring regime. TasRail's condition monitoring regime will take another significant step forward with the deployment of a real-time track geometry recording device in the 2017-18 financial year.

Understanding the potential for modal shift

As a parallel network, the potential for, or extent of, any modal shift in freight volumes between road and rail is an important consideration in Corridor planning.

The freight demand and contestability analysis underpinning this Strategy considered potential future changes to the Corridor freight task, including a major modal shift in freight volumes in response to market factors or business choices, together with the infrastructure implications of any change.

Overview

For businesses, the choice of freight transport mode reflects a balance between price and service. Some businesses require just-in-time delivery, necessitating reliable and flexible freight services, often at a premium price. Other business, with a stronger focus on minimising transport costs, or for whom speed to market is not a primary consideration, can accommodate slower transit times and some lessening of reliability within their supply chains.

For most Tasmanian businesses, road is the preferred transport mode, offering greater flexibility and responsiveness within a generally competitive services delivery market. Heavy vehicles operate over an extensive road network, enabling the direct transfer of freight between production, processing, warehousing and export points. This approach minimises transit times and the double handling of freight through a supply chain. For some markets, including time-sensitive freight, and for some connections, including last mile access, road transport is critical.

Rail operates over a narrower network, although all major ports, population centres and many of Tasmania's major industrial centres are connected, or are in close proximity (e.g. east Devonport Port, Bell Bay Industrial Estate), to the Tasmanian rail network. Rail tends to be suited to the point-to-point movement of high volumes of bulk freight for which travel time is not a key supply chain requirement. The Tasmanian rail network operates effectively over shorter distances, in contrast to the longer distances which characterise operational railways in many other jurisdictions. The movement of high volumes of freight on a single rail service offers scale and cost advantages to some businesses.

How contestable is the Corridor freight task?

The factors influencing any modal shift are largely market-based, but also include infrastructure factors. Supporting analysis to this Strategy considered the impact of three market variables – price, service levels and transit time – on the attractiveness of road or rail to a company or industry sector.

At a Corridor level, the analysis indicated limited elasticity between road and rail. Road freight users were less sensitive to changes in the market variables measured compared to rail users. Price was the key factor influencing modal shift for both modes, and was most significant for rail. Reliability was important for specific rail customers, including mining-related bulk products, cement, and manufactured products.

In terms of industry sectors, consumer goods, manufacturing, and basic metal products had the greatest potential to switch from road to rail. These commodity groups typically travel longer distances, and are not time sensitive. Production and warehousing sites are also generally located close to the rail network.

Mining ores, basic metal products and consumer goods have the greatest potential to switch from rail to road. These commodities are highly sensitive to changes in price, transit time, and service level.

Specific findings from the analysis include:

- price to users has the most significant impact on the use of a mode, for both road and rail. A 20 per cent reduction or increase in price is the tipping point for both modes, however the impact is more significant for rail
- a 20 per cent decrease in rail prices could double rail demand, whereas a 20 per cent increase could see nearly all of the rail task switch to road
- a 20 per cent reduction in road transport prices (for example, triggered by a step change in heavy vehicle productivity) could result in a shift of all current rail users to road
- service levels and transit times are of limited importance to most users in terms of modal choice. The agricultural sector is the exception, which includes a high proportion of time sensitive freight and for which speed to market is important
- reliability of rail services is important for mining related bulk products, cement, and manufactured products.

The analysis did not consider the business, operational and infrastructure changes required to facilitate a modal shift, or the supply chain practicalities of switching mode (for example, distance to railhead, or additional heavy vehicle movements). The cost of implementing some changes for infrastructure owners and service providers would be high.

Infrastructure implications of a major modal change

The Corridor supports a number of high-volume freight generators. Any change to these freight tasks, in terms of volume, route or mode used, could have a potentially significant impact on Corridor planning and investment.

Analysis informing this Strategy also considered the potential infrastructure impacts associated with a major freight generator or task changing modes. This included the:

- impact of a discrete rail freight task moving to road
- introduction of a new freight task onto rail
- entire rail task switching to road, across the Corridor.

Assessment of infrastructure impacts was based on the predicted increase in heavy vehicle movements or train services, as a result of a task transferring modes.

Under nearly all scenarios, the Brighton to Burnie (via Illawarra Main Road) section of the Corridor is most affected by any major shift in the rail or road freight task. Under the transfer of rail freight to road:

- if the existing rail freight task moved to road, freight volumes between Brighton and Burnie would increase by 25 per cent
- level of service along the Bass Highway between Devonport and Illawarra Main Road would decrease, however level of service on all other segments would remain unaffected
- corridor maintenance costs would increase by an estimated \$800 000 from an existing \$6 million
- existing and planned capital and maintenance investment would address the medium to longer term increase in volumes. For example, the South Perth Bypass and new Bridgewater Bridge. The predicted higher freight volumes would not of themselves trigger a need to bring forward planned upgrades.

On branch lines, the transfer of freight from rail to road would trigger unplanned upgrades along Railton Main Road and Boyer Road. These feeder roads currently have very limited road freight tasks, and are not planned or designed to cater to a high freight task.

The introduction of a new forestry freight task on rail between Brighton and Bell Bay would increase rail volumes by 30 per cent, but would not trigger any upgrade of rail infrastructure.

Planning and investment for future freight demand

The Burnie to Hobart Freight Corridor is performing well as a freight network, providing efficient and safe access between major points, industrial areas and population centres.

The Tasmanian Government will continue to work with the Australian Government and Infrastructure Australia to progress priority freight initiatives along the Corridor. This will include the development of robust project business cases in support of future investments.

Investment along the Corridor will focus on maintaining network standards, delivering continuous improvements that anticipate and support user and supply chain needs. Investment will be closely evaluated in the context of the freight efficiency and productivity benefits achieved.

Overview

The Burnie to Hobart Freight Corridor is Tasmania's major land freight connection, and a critical part of most major industry supply chains in the state. Management of the Corridor is currently meeting, and largely anticipating, freight capacity, access, service and productivity needs.

Ongoing investment is critical to maintaining and enhancing freight standards along the Corridor.

As a parallel network, the Tasmanian Government will continue to closely evaluate freight investment to ensure funds are directed to projects that support and maximise Corridor outcomes, and which represent an appropriate use of public funds.

Major feeder routes are an important part of overall freight volumes along the Corridor, and will be considered as part of the future planning framework for the Corridor.

An investment approach which responds to the freight task

Over the next 20 years, freight growth is forecast to be highest on road, with freight volumes increasing 36 per cent by 2034-35 compared to 10 per cent on rail. Tonnages will remain highest between Burnie and Launceston, and over the Bridgewater Bridge.

High proportional freight growth is expected between Smithton and Burnie, on the Brooker Highway and over the Bridgewater Bridge, all of which are anticipated to grow by more than 40 per cent.

Rail volumes are forecast to increase, but at a lower rate.

The proportional split of freight volumes carried on road and rail along the Corridor, is unlikely to change significantly over the long-term.

Over the long-term, lower levels of service, driven by capacity constraints, are forecast on the Bass Highway between Burnie and Devonport and Illawarra Main Road and Launceston; on the Bridgewater Bridge and sections of the Brooker Highway.

On feeder routes, the highest freight growth will occur between Smithton and Burnie, driven largely by agriculture. Volumes between Launceston and Bell Bay are also likely to increase on road and rail, however both networks have significant capacity to meet this growth. In urban areas, a general increase in traffic volumes has the potential to impact on the efficiency of freight movements, particularly during peak periods. Freight movements along the Brooker Highway are likely to be most affected.

The infrastructure costs of supporting a higher freight task on road are manageable, and can largely be addressed through existing investment and planning frameworks. Maintenance costs are also lower on road compared to rail, and are relatively inelastic to changes in freight volumes. The capital investment required to appreciably reduce rail maintenance costs is currently high.

Agriculture and construction are two of the key sectors driving freight growth along the Corridor. Both have the potential to change the nature of the infrastructure responses required on individual segments as development and activity within these sectors, increases. Growth in the agricultural sector, in particular, is likely to see the need for upgraded accesses to accommodate larger vehicles, together with bridge strengthening and replacement on feeder routes to support heavy vehicle access.

Efficient access to ports remains a key issue in the overall freight supply chain for Tasmania. Demand for Tasmania's exports will be closely monitored, with investment directly responding to the current and future freight task.

The approach to Corridor investment outlined in this Strategy reflects the above context – moderate freight growth, with higher freight volumes on road, on key feeder routes and within specific industry sectors.

Ongoing investment in the Corridor is key to ensuring freight efficiency, productivity and access is maintained.

Transparent investment frameworks for road and rail

Across the Corridor, there is an inevitable and unavoidable overlap in freight investment between road and rail, in terms of both project locations and investment timing. The Tasmanian Government recognises the overlap in investment as a natural outcome of a parallel freight corridor, and is comfortable with this outcome in circumstances where distinct and defensible business cases for investment can be made.

At a broad level, road and rail have key differences in their approach to freight planning – road investment is primarily driven by passenger outcomes, while rail operates in a commercial market, where customer needs are a factor in investment decisions. These differences influence the objectives and content of any investment framework, however there is still substantial commonality.

The Tasmanian Government expects that its state-owned road and rail infrastructure providers will take a consistent approach to network planning and investment that includes the following elements:

- transparent minimum service level standards that reflect user needs and service outcomes and allows for differential standards across road categories or rail lines
- an investment framework that clearly identifies capital upgrade and maintenance priorities over a 10 year period or more, to deliver the minimum service standard
- an investment profile that demonstrates an appropriate balance between capital and maintenance, where:
 - whole of life asset costs are minimized
 - least-cost solutions are identified
 - works are prioritised and packaged over the medium to long term
 - some projects will be triggered by specific changes in demand or user needs.

In addition, the Tasmanian Government expects that the following principles are applied to road and rail investments along the Corridor:

- investment in support of general upgrades must support the delivery and maintenance of transparent, well-articulated, minimum service standards
- critical points of failure across the Corridor will be prioritised. These will largely relate to the strengthening and replacement of bridge and culvert structures

- the proposed timing of all major expenditure will be closely assessed
- investment in support of a specific freight task or customer will consider cost-recovery, or clearly articulate on what basis this has not been sought or achieved. The priority of this investment relative to other Corridor needs will also be closely examined
- all investments where funding support is sought must be supported by a robust and contemporary project justification, which may include a full economic analysis of the project.

Given the manageable nature of the Corridor's freight task, it is also realistic to expect that frameworks will be conservative in their investment ask.

Contemporary project proposals to support project evaluation and funding

As part of the National Land Transport Network, capital and maintenance expenditure on the Burnie to Hobart Freight Corridor attracts a higher proportion of Australian Government funding. This is currently delivered through a structured five-year investment program, administered as the Infrastructure Investment Program. The Tasmanian Government partners with the Australian Government to support delivery of the program, with the state's contribution varying from 20 to 50 per cent of total project costs, depending on the type of project.

All projects seeking major government funding require contemporary business cases, outlining the justification for the project and the economic and transport benefits realised through delivery of the project. Individual project proposals will need to be consistent with any Australian Government and Tasmanian Government assessment requirements, including a consistent benefit cost analysis approach and a common freight demand profile. This approach will assist in evaluating investment across modes.

Infrastructure Tasmania will coordinate any future funding submissions on behalf of the Tasmanian Government. Infrastructure Tasmania will advise proponents of the Tasmanian Government's submission process and business case requirements and will provide advice and assistance to proponents to ensure these requirements are met.

Infrastructure Tasmania will continue to provide independent advice on major freight projects across the Corridor, consistent with the principles and approach outlined in this Strategy.

Protection of the Corridor and key access points

Land use planning frameworks are an important mechanism to support Corridor outcomes, including safety and functionality. This includes ensuring that adjacent land uses are compatible with location close to a high-speed freight corridor, and that accesses onto the Corridor are appropriately managed.

The Tasmanian Government has developed a *Road and Railway Assets Code* (the Code) for inclusion in local government planning schemes. The objective of the Code is to protect the safety and efficiency of major road and rail networks, and to reduce conflicts between these networks and sensitive land uses. The Code addresses new and intensified access, and facilitates the application of attenuation buffers along the Corridor.

Under the new Tasmanian Planning Scheme, all state roads and the Tasmanian rail network are zoned Utilities. This provides an important reference for future industrial and commercial land zoning and locational decision making for industrial development which relies on the strategic freight network.

The Tasmanian Government supports the consolidation and location of major freight-generating activities at key nodes, including the Brighton Hub, Bell Bay Industrial Estate and Burnie Port.

The Brighton Hub is the southern region's major freight transport hub. There is a substantial supply of vacant industrial land adjacent to the Hub, which is currently undeveloped but which has the potential to support larger lot sizes appropriate to larger transport and freight operations. Over the medium term, the Tasmanian

Government will continue to work with key stakeholders to explore opportunities to promote the further development of this land.

Preliminary analysis of freight demand and infrastructure needs have been undertaken in support of a larger-scale freight and transport hub adjacent to the existing industrial area at Breadalbane. The 'Translink' site is well-located in relation to the Burnie to Hobart Freight Corridor, and is adjacent to Launceston Airport. Further investment in supporting infrastructure would be required in order to fully develop the area, and this would require an increase in current levels of freight activity. However the area has medium to longer term potential from a broader freight system perspective, and the Government will continue to work with local government and other stakeholders to further investigate this potential.

Informed decision making based on system and stakeholder information

Investment in freight infrastructure is generally high cost and delivered for the long-term. While the freight market is a dynamic system, decisions must be informed by quality, up-to-date data regarding operation of the system, and by the input of key stakeholders involved in generating, storing and moving freight.

This Strategy is informed by detailed freight analysis, including future freight demand and modal contestability. This analysis primarily uses data from the Tasmanian Freight Survey, a triennial, industry-based survey of freight movements across the state, including by region, mode, vehicle type, network segment, and commodity type.

Recent work has also been completed on Tasmania's time sensitive freight market, which comprises an estimated 40 per cent of the state's agricultural market and contains many high value and high volume products. This market relies on the Corridor for freight movements. The Tasmanian Government has established a time sensitive freight database, monitoring current and forecast volumes for key commodities, and this will be updated in line with the Tasmanian Freight Survey.

This Strategy establishes a robust freight demand profile for the Corridor, based on a range of potential scenarios. This freight profile will form the basis for future planning at the Corridor level, for individual modes, and in the development and evaluation of project proposals. The profile will be regularly updated in line with the Tasmanian Freight Survey, and on an ad hoc basis in relation to major changes to the Corridor freight task (for example, the emergence of a new freight task).

The Tasmanian Government, led by Infrastructure Tasmania, continues to work closely with industry, freight generators and service providers, local government and peak bodies, to better understand the issues and opportunities facing Tasmania's freight system. It also consults regularly on specific freight-related issues and opportunities. These activities are critical to effective decision making and will continue to be supported, primarily through Infrastructure Tasmania and the Department of State Growth.

Corridor investment priorities – the next 10 years

At a strategic level, investment decision making will consider how funding may be allocated across all elements of Tasmania's freight system to deliver maximum benefits to users.

Growth in key sectors (such as agriculture and construction) must be accommodated in forward planning, including key feeder routes. Freight system and stakeholder information regarding the nature and location of this growth will be important in informing investment responses.

Over the next 10 years, major capital upgrades will be targeted to Corridor segments and modes where freight outcomes are maximized. Investment priorities will be consistent with corridor target service standards.

Bridgewater Bridge

The Tasmanian Government has prioritised replacement of the Bridgewater Bridge as the key corridor initiative in the short to medium term. This project is listed as a separate project in Infrastructure Australia's Infrastructure Priority List.

The existing bridge and causeway are reaching the end of their serviceable lives, and current maintenance costs are high due to the bridge's age and operation as a vertical lift bridge. A number of design options have been considered and a preferred option has been identified. Further geotechnical work is being undertaken prior to the completion of a detailed design, with the final business case to be submitted to Infrastructure Australia in early 2018.

Completion of the \$500 million Midland Highway 10 Year Action Plan

In addition to delivering broader safety benefits, the Midland Highway 10 Year Action Plan has incorporated additional and upgraded turning facilities to accommodate heavy vehicle movements. This is a direct response to the current and expected growth in the agricultural freight task needing to access the Highway.

Future priorities for investment to be considered on the Burnie to Hobart Corridor road network over the next 10 years, subject to prioritisation across the whole network, include:

Illawarra Main Road – estimated cost \$165 million

- 12kms of duplicated road, interchange and bridge upgrades.

Wynyard to Smithton (Key Feeder) – estimated cost \$50 million

- Targeted improvements to 67km including improved shoulder widths, vertical and horizontal geometry and junction upgrades.

Oppenheims Road to Port Sorell Main Road – estimated cost \$125 million

- 8km of duplicated road, land acquisition and interchange development.

Deloraine to Oppenheims Road – estimated cost \$340 million

- 34kms of duplicated road, including upgrades to major junctions and interchanges.

South Esk Road to Deloraine – estimated cost \$165 million

- 32km of duplicated road corridor, with associated upgrades to significant bridges and overpasses.

East Tamar Highway - Dilston Bypass to Bell Bay (Key Feeder) – estimated cost \$75 million

- 25km central median implementation with junction and overpass upgrades.

Brooker Highway – Risdon Road to Domain Highway

- 1.5km upgrade focusing on travel time, reliability and safety outcomes.

Rail Renewal Program

In the 2017-18 budget the Tasmanian Government committed an additional \$59.8 million over four years in rail capital funding commencing in 2019-20, representing the Tasmanian Government's co-contribution towards a second tranche of the Tasmanian Freight Rail Revitalisation Program which is a whole-of-network infrastructure investment program of up to \$120 million. A program of works across the rail network will focus on continued delivery of a sustainable and fit for purpose network, building upon the previous investment that delivers:

- sustainable fit-for-purpose infrastructure that is matched to forecast customer demands
- a continuation of work commenced under tranche one of the Tasmanian Freight Rail Revitalisation program across the network
- increases the safety of the rail infrastructure delivering a reduction in the risk of derailment, improvement in the condition of the road/rail level crossings and increases the reliability of freight rail services
- investment on the Corridor and its key feeder routes:
 - Western Line – Burnie to East Tamar Junction (Main Line) – 178km
 - South Line – Brighton to Western Junction (Main Line) – 177km
 - Derwent Valley Line – Brighton to Boyer (Key Feeder Line) – 15km
 - Fingal Line – Conara Junction to Fingal (Key Feeder Line) – 56km
 - Bell Bay Line (Key Feeder Line) – 55km.

Aligned with Tasmanian and Australian Government policy, the scope of works for the second tranche of the Tasmanian Freight Rail Revitalisation Program will primarily focus upon improving the Corridor by addressing:

- replacement of near life expired rail and sleepers
- remediation of formation works and easing of curves
- reduction in discrete single points of failure
- improvement of drainage across the rail corridor
- management of coastal erosion areas and landslips
- renewal of specific bridges and culverts
- level crossing upgrades.

Following the completion of tranche one and two of the Tasmanian Freight Revitalisation Program, representing up to \$240 million of capital funding for rail infrastructure works, there will be a requirement for additional capital investment in the Tasmanian Freight Rail Network to maintain the integrity of the infrastructure.

The funding submission for the Tasmanian Freight Rail Revitalisation Program remains valued at \$240 million. A further submission for the ongoing investment requirements will be established through the development of a 10 year rail investment plan.

An updated business case consistent with the contemporary freight demand profile outlined in this Strategy will underpin the Tasmanian Government's rail investment commitment.

Bridge Replacement Program

Bridges can be a key supply chain constraint, and the freight productivity benefits achieved through the strengthening or replacement of a single bridge can be significant. The upgrade and strengthening of key bridges across the corridor and feeder routes are low cost but critical responses to improved heavy vehicle access and productivity.

The Department of State Growth has developed a state-wide bridge strengthening and replacement program, based on engineering considerations, freight demand and user needs. The Program includes \$12.2 million in upgrades across the road network within the Corridor.

TasRail has also identified \$10 million in bridge upgrades along the main Burnie to Hobart rail line through the Tasmanian Freight Rail Revitalisation Program.



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