Tasmanian Government
2012 Submission to Nation Building 2 Program

Overview

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Department *of* Infrastructure, Energy *and* Resources

Tasmania
Explore the possibilities

Executive summary

This document provides a strategic overview of Tasmania's transport system as context for the integrated package of the key freight and passenger projects being submitted by the Tasmanian Government under Nation Building 2. Individual submissions should be read in conjunction with this Overview. Through previous work – including strategic documents such as the Tasmanian Infrastructure Strategy, Tasmanian Urban Passenger Transport Framework, 2007 AusLink Corridor Strategy and Tasmanian Road Safety Strategy; analysis undertaken to date to inform the development of a Tasmanian Freight Strategy; and the triennial Tasmanian Freight Survey – the Tasmanian Government has a good understanding of the current challenges facing the transport system, likely future demand, and the specific issues that need to be addressed in the short to medium term. This work and understanding forms the basis for the projects submitted under the Nation Building 2 Program.

The Tasmanian Government is submitting a total of 22 proposals for consideration under the Nation Building 2 Program, at a combined value of $895 million. An additional four projects are submitted as concept ahead of a full submission in 2013/14.

The projects identified:

- target infrastructure weaknesses on major freight and passenger corridors to improve efficiency and safety outcomes;
- provide low-cost solutions to enhance urban accessibility through key public transport infrastructure and system upgrades, together with new, active transport linkages;
- support the completion of all assessments, approvals, and land acquisition for projects in their final stages of planning; and
- set the framework for long-term investment in Tasmania's freight and passenger system through a series of strategic planning studies.

Together, the projects represent an integrated package that appropriately combines infrastructure and non-infrastructure solutions to deliver improved efficiency, safety and accessibility across the transport system, benefiting Tasmanian industry and the community. The projects are consistent with the Tasmanian Government's stated objectives for the State's transport system, and with commonwealth and state frameworks informing development of the system. The relationship between individual projects, Tasmania's strategic transport frameworks and Nation Building 2 theme objectives is outlined in detail within this document and within individual project submissions.

This Overview is divided into two sections. Part 1 summarises Tasmania's projects under the Nation Building 2 themes. Substantially more information is provided on each in the individual project submissions.

Part 2 provides the strategic context for the Tasmanian Government's submission, focusing on the challenges, current and future demand, and strategic priorities to guide long-term system planning.

Part 1. Key projects, Nation Building 2

Moving Freight

Forecast growth will see larger volumes of freight moving through Tasmanian's ports, intermodal facilities and over the land transport network. Road and rail networks will continue to play a complementary role in meeting this growth and providing industry with modal choice.

By tonnage, traffic volumes, and strategic land use connections, the Burnie to Hobart Corridor is Tasmania's most significant freight corridor. Extending from Burnie Port to Hobart, it includes the Bass Highway, Midland Highway, Illawarra Main Road, Brooker Highway, and the north-south rail line, connecting major ports, the Brighton Transport Hub and key industrial and manufacturing centres in all three regions. It is Tasmania's key corridor for the movement of containerised freight.

In planning and managing this corridor, the Tasmanian Government's priorities are to:

- provide a connected, integrated safe and efficient freight network, focusing on connections between Tasmania's major export points, freight generating areas and distribution centres; and
- deliver ongoing improvements to support productivity gains over the long term.

Major regional freight roads play a critical role in moving freight to/from this key corridor. The Frankford-Birralee-Batman Freight Corridor is the key freight route connecting the north-east and north-west regions, including to the Bell Bay Port and industrial area. The Murchison Highway is the key freight link out of the West Coast, moving high-value mining product to Burnie Port for export.

In order of priority, the Tasmanian Government is submitting the following eight projects under the *Moving Freight* theme:

1. **Tasmanian Rail Revitalisation Program:** concrete re-sleepering of the rail network between Burnie Port and the Brighton Transport Hub and relaying life-expired rail track.
2. **Brooker Highway Upgrade Package:** intersection upgrades and forward planning to address safety and efficiency on the two major bottlenecks on the Highway.
3. **Illawarra Main Road Upgrades/South Perth Bypass**: bypass of the constrained eastern section of the Road to deliver a high speed, dual-carriageway link that avoids residential areas; targeted upgrades to support existing improvements west to the Bass Highway.
4. **Midland Highway: Mangalore to Bagdad Upgrades and future Bagdad Bypass:** interim upgrades to deliver improved safety and efficiency on a constrained section; continued planning for the future Bagdad Bypass.
5. **Midland Highway: Duplication, Perth to Breadalbane:** duplication to meet future capacity requirements and address safety issues on the approaches to Launceston and connecting to the Bell Bay Port and industrial area.
6. **New Bridgewater Bridge:** continued planning to replace this critical link in the north-south supply chain and support future connectivity between key freight distribution centres in the southern region.
7. **Murchison Highway Upgrades:** safety and travel efficiency improvements to achieve HPV compliance on the Cradle Mountain Development Road to Anthony Road section of the

Highway, building on a package of improvements to the Highway already funded by the Tasmanian Government.

8. **Birralee Main Road Upgrades:** improvements to address identified deficiencies on the corridor consistent with Austroads Design Guidelines for HPV routes.

Together, these projects will deliver significant benefits for the movement of freight, providing targeted upgrades to deliver travel time savings, improved reliability and greater connectivity to export points, industrial and distribution areas, as well as improved safety. The location of these projects on a single corridor (with the exception of key connecting regional rail and road links) represents a targeted and integrated approach to improving freight efficiency and productivity from port to distribution centres. On the Burnie to Hobart corridor, rail complements the road system by providing a dedicated freight route for the movement of containerised bulk products. Although rail is expected to increase its intermodal market share, the substantial majority of freight movement will still occur by road, due to the natural affinity of many products with the more flexible nature of road transport.

The Tasmanian Government supports the incremental upgrade of the road network to support future higher productivity vehicle improvements and all new Nation Building 2 projects submitted to Infrastructure Australia have been designed to a standard capable of supporting super-B vehicles. While the introduction of these vehicles is likely to be a longer term scenario for Tasmania and significant investment is required to provide an overall corridor that meets the requisite design standards, the Government recognises that over the long life of transport infrastructure, future proofing needs to occur now to support changing demands. Similarly, works currently being undertaken, and those proposed, on the rail network are being done with a view for the future. Works such as concrete re-sleepering, replacing life-expired rail and bridge refurbishments/replacements will result in the network being capable of increased axle loads (up to 25 tonnes). However, there will remain a number of bridge structures that will be limited to current axle load constraints as these assets are not included within the proposed program of works.

A specific initiative being embarked on by the Tasmanian Government, with support from the Australian Government, is the recent one-off $20 million funding package for exporters. While strategic frameworks are in place for our freight sector, and the Government has a good understanding of issues in the sector, it is recognised that there is a need to further enhance stakeholder input and integrate frameworks. A key element in this process will be the establishment of a Freight Logistics Coordination Team, which will include broad representation from the transport industry and freight users. This Team will be responsible for the consideration of issues associated with the development of Tasmania's long term freight and logistics strategy. The Tasmanian Government is currently in the process of developing the governance structure for this Team.

Connecting People

In Tasmania, private cars provide the primary means of transport for most people. 75 per cent of all trips in Greater Hobart are undertaken by car, even though many trips are less than three kilometres. Car ownership and usage, including the number and average length of trips has steadily increased over the past decade. The community's reliance on cars reflects a range of factors, including settlement patterns; past investment in road infrastructure to facilitate car-based travel;

changes to the nature of employment; and increasing complexity in the daily travel needs of households.

In spite of these challenges, the total proportion of trips by non-car modes remains encouraging. Walking is the strongest non-car based transport mode, and is used for around 20% of trips in the Greater Hobart area. Given the short distance of many walking trips, the failure to attract a higher proportion of trips to public transport suggests that aspects of the public transport system itself may act as barriers to modal shift for those who have a transport choice.

In 2010, the Tasmanian Government developed the *Tasmanian Urban Passenger Transport Framework* to set the future direction for passenger transport in Tasmania's urban areas. This work followed on from a major review of the regional and rural bus system, in the *Core Passenger Services Review* which has resulted in significant improvements in the standard of those services, and the contract models under which those services are purchased.

The Framework's vision is to establish a safe and responsive passenger transport system that supports improved accessibility, liveability and health outcomes for our communities, in the context of the challenges of climate change. The Framework focuses on promoting a modal shift away from private cars toward increased use of public and active transport options, by adopting a corridor-based public transport strategy.

In this context, the Tasmanian Government has developed a package of projects to improve public transport infrastructure and delivery; provide dedicated cycling infrastructure in all three major urban areas; and deliver targeted upgrades on Hobart's strategic urban road network. In order of priority, the Tasmanian Government is submitting the following six projects under the *Connecting People* theme:

1. **Transit Corridors and Macquarie Street Clearway**

   Part A **Main Road Transit Corridor and Greater Hobart Transit Corridor Planning:** planning and delivery of the Hobart Main Road Transit Corridor – including bus priority measures and bus stop improvements - and planning for three additional transit corridors between the Hobart CBD and major population centres on the eastern shore, at Sandy Bay (UTAS) and Kingston/Blackmans Bay. *Part of the Hobart Passenger Transport Innovation Program*

   Part B **Macquarie Street Clearway *(concept only):*** extension of the existing Southern Outlet bus lane and peak-hour Macquarie Street clearway to deliver improved travel reliability on one of Hobart's key urban corridors. *Part of the Hobart Passenger Transport Innovation Program*

2. **Connecting Universities to their Communities:** delivery of dedicated cycling and pedestrian links between university campuses and the CBDs in Hobart, Launceston and Burnie, to encourage increased active transport for staff and student travel between campuses and city centres.
3. **Tasman Highway – Tasman Bridge Eastern Approaches Upgrade:** upgrades to improve access and safety on the eastern approaches to the Tasman Bridge, one of Tasmania's highest volume road sections
4. **Tasman Highway/Holyman Avenue Roundabout Upgrade:** planning and delivery of improvements to the Holyman Avenue roundabout on the Tasman Highway, the key access

to Hobart International Airport, and a major intersection on the Sorell-Hobart growth corridor.

5. **Latrobe to Devonport Cycleway *(concept only)*:** planning and delivery of a new active transport link between Latrobe and Devonport, in Tasmania's north-west.
6. **Real-time Passenger Information**: development and implementation of Real Time Passenger Information (RTPI) technology across the Tasmanian public bus network to enhance the level of information to both public transport users and the network operator. *Part of the Hobart Passenger Transport Innovation Program*

The Tasmanian Government has also identified the **Sandy Bay Walking and Cycling Project** as a key project. Sandy Bay Road is part of Hobart City Council's Principal Bicycle Network, linking major residential areas, schools, recreational facilities, shops, and the UTAS Sandy Bay campus. The project will see the staged development of a walking and cycling route from Marieville Esplanade south to the municipal boundary at Cartwright Reserve. The project is submitted as concept only at this stage, consistent with a focus on the receipt of active transport project submissions in 2013/14.

Together, these projects will encourage a greater modal shift toward public and active transport by improving travel time reliability; improving the convenience, amenity and navigability of the public transport system; removing barriers to cycling for a significant proportion of potential users and increasing safety for cyclists and pedestrians. The package of projects delivers on key outcomes identified in the *Tasmanian Urban Passenger Transport Framework*, *Tasmanian Walking and Cycling for Active Transport Strategy* and *Hobart Capital City Plan*.

The Tasman Highway, which includes the Tasman Bridge, from central Hobart to Hobart International Airport carries a high volume of traffic and is part of the National Network. Upgrade of the eastern approaches to the Tasman Bridge, Tasmania's highest volume road link, and Holyman Avenue, the major access to Hobart International Airport, will improve connectivity and safety for all road users on this key corridor.

Safety

Tasmania has increasing vehicle registrations and many of the State's roads are used by a mix of vehicles, with key freight routes often also being used for tourism and commuting. Tasmania also has the oldest vehicle fleet in Australia, meaning that vehicles are not as crashworthy as newer vehicles, with less protection from enhanced vehicle safety features in vehicles driven by a significant proportion of the driving population.

Serious casualty crashes (serious injuries and fatalities) on Tasmania's roads are dispersed, with a serious crash problem on 100km/h non-urban roads, accounting for over 40 percent of serious casualty crashes, more than in any other speed zone. The dispersed nature of crashes makes it increasingly difficult to identify clusters of crashes where similar types of crashes are occurring in close proximity, so it is necessary to take a broader network based approach to improving safety. The recently released *Safer Roads: Non-Urban Road Network Strategy* takes such an approach to improving safety on 100km/h roads through targeted infrastructure investment and speed management.

The *Tasmanian Road Safety Strategy 2007-2016* represents the Tasmanian Government's commitment to improving the overall safety of the road network. The long-term vision of the Strategy is the elimination of fatalities and serious injuries caused by road crashes in Tasmania. It is

based on the Safe System approach where roads and roadsides, travel speeds, vehicles and road users form the transport system and should work together to reduce crashes and minimise the impact should a crash occur.

The Strategy contains four key Strategic Directions that have been identified through research and expert advice as the areas of focus that are most likely to target Tasmania's crash problems and to reduce the number of serious casualties on our roads:

1. Safer Travel Speeds;
2. Best Practice Infrastructure;
3. Increased Safety for Young Road Users; and
4. Enhanced Vehicle Safety.

The Strategy's supporting three year Action Plans outline a range of initiatives that will be undertaken against each of the four key strategic areas. These are initiatives that will deliver the optimum return in terms of casualty crash savings.

Significant investment is being made each year to improve the standard of Tasmania's road network. Investment levels reflect the different road functions and are focused on Tasmania's strategically important and high volume roads. Most of the investment has been on new road construction and major road upgrades, and in treating crash clusters on the network.

Other initiatives under the Strategy complement infrastructure projects and focus on safer speeds, safer vehicles and safer road use. Measures introduced or underway, to support a reduction in serious casualties, include: introduction of the *Safer Roads: Non-Urban Road Network Strategy* and improved speed limit signage; roll-out of Electronic School Speed Limit signs at schools across Tasmania; investigating further changes to the Graduated Licensing System; improved Government fleet safety; design of an alcohol interlock program and point to point speed enforcement.

In order of priority, the Tasmanian Government is submitting two projects under the *Safety* theme:

1. **Midland Highway Safety Package**: targeted infrastructure improvements to the Midland Highway between Hobart and Launceston. The Package comprises sixteen individual safety projects, consistent with the short term priorities identified in the *Midland Highway Partnership Agreement 2009*.
2. **Huon Highway-Summerleas Road Intersection Upgrade:** upgrade the high-accident Huon Highway/Summerleas Road junction, south of Hobart.

These projects are consistent with the aims of the *Tasmanian Road Safety Strategy*, including increased protection of vulnerable road users such as cyclists and pedestrians. Infrastructure treatments such as separation of vehicles, increased lane and sealed shoulder width, improved alignment, removal of roadside hazards, installation of safety barrier and better delineation will contribute to greater safety outcomes on Tasmania's roads.

Innovation

The Tasmanian Government will shortly make operational its first variable speed limit (VSL) system on the Tasman Highway. The Tasman Highway is the principal link connecting Hobart with the eastern suburbs, and includes the Tasman Bridge, the highest volume road section in Tasmania. Extension of VSL to the Brooker Highway and Southern Outlet, together with other Intelligent Transport System (ITS) support systems, will assist in improving peak period traffic flows and

incident management on these major urban corridors. The approach represents a low-cost solution to improve safety and efficiency on Hobart's strategic urban network, complementing proposed targeted infrastructure upgrades at key bottlenecks and public transport improvements.

To guide long-term investment in Tasmania's freight and passenger system, the Tasmanian Government has identified a series of strategic planning initiatives, supported by improved analytical capabilities to better understand and model transport demand.

Planning studies to identify key efficiency, connectivity and safety issues on key intrastate and urban corridors will inform the identification of appropriate, prioritised responses to meet future higher productivity needs and increased traffic volumes. This is the focus of planning on the Bass Highway (Latrobe to Deloraine) and Domain Highway Interchange (Hobart). For the South Arm Highway and at the existing Hobart Bus Interchange, a mix of infrastructure and non-infrastructure solutions to improve modal choice, connectivity and accessibility, are key.

The Tasmanian Government has invested significantly in its analytical systems to better understand and model transport demand. This includes the Tasmanian Freight Survey (TFS), a triennial survey of major companies which provides detailed information on freight origin, destination, volume, mass and value, and a Greater Hobart household travel survey, a key input to The Department of Infrastructure, Energy and Resources' recently developed Greater Hobart Urban Travel Demand Model. The continuous update of transport data and development of robust transport models are keys to effective transport planning. The Government is seeking funding to develop a four-step statewide freight model, building on the significant data resource contained within the TFS, and to re-run a Greater Hobart household travel survey, last undertaken in 2008/09.

In order of priority, the Tasmanian Government is submitting the following seven projects under the *Innovation* theme:

1. **Bass Highway (Latrobe to Deloraine) Planning:** Identification of priority projects to improve efficiency and safety on the Highway between Latrobe and Deloraine.
2. **Hobart Central Bus Interchange Design**: planning and options development for a redesign of the existing Hobart Central Bus Interchange to address identified issues with the current design's amenity and its contribution to travel delays/unreliability in the broader system
3. **Domain Highway Planning:** investigation of options to upgrade the Domain Highway Interchange and review opportunities to improve efficiency and safety on the Highway connecting to the Tasman Bridge.
4. **Urban Intelligent Transport Systems, Hobart:** extension of variable speed messaging to the Brooker Highway and Southern Outlet, SMS traveller information and improvements to traffic management systems
5. **Greater Hobart Household Travel Survey:** undertake a second survey of Hobart households to track trips types and mode choices.
6. **South Arm Highway Planning:** investigation of infrastructure and non-infrastructure solutions to improve connectivity and modal choice on the South Arm Highway to Rokeby
7. **Tasmanian Freight Model:** development of a model to enable analysis of the impact of potential policy interventions on the freight network.

The Tasmanian Government has also identified **Greater Launceston Transport Planning** as a key project. Together with local government, the Tasmanian Government is undertaking three major

initiatives to better understand transport issues and opportunities in the northern region and Greater Launceston area: a *Northern Integrated Transport Plan* (regional framework to support long-term planning and investment decision making); *Greater Launceston Passenger Transport Plan* (metropolitan plan, providing long-term direction for urban passenger transport planning in Launceston); and *Launceston traffic modelling* (detailed investigation of key network/road issues in Launceston). The project is submitted as concept only at this stage, with submissions to be provided in 2013 once specific initiatives have been identified.

The Tasmanian Government's complete list of prioritised projects under each theme is provided in the table below.

Nation Building 2: Summary of Submitted Projects, Tasmania

NB2 THEME: MOVING FREIGHT			
PROJECT	**PROJECT DETAIL AND COMMENTS**	**COST AND BCR[1]**	**PRIORITY**
Rail Revitalisation Program ***$325M total*** ***$240M NB2 bid***	**Burnie to Hobart rail upgrades** *Project:* Replace life-expired rail; concrete sleeper replacement program *Comment:* The Burnie to Hobart rail line connects key intermodal points at Burnie Port and the Brighton Transport Hub. The project will reduce the maintenance costs associated with concrete sleepers, supporting increased freight volumes.	$197.4M BCR: 1.4	**1**
	Melba Line *Project:* Replace life expired rail, sleeper replacement, formation works and bridge rectification. *Comment:* Safety initiative – all works prioritised are of safety-critical nature.	$36.7M	
	Fingal Line *Project:* Safety initiative – replace life expired rail.	$4.7M	
	Derwent Valley Line *Project:* Safety initiative – replace life expired rail.	$1.2M	
Brooker Highway Upgrades ***$80M total*** ***$37M NB2 bid***	**Elwick-Goodwood to Howard Road: $32M** *Project:* Consolidate existing intersections at Goodwood and Elwick Roads; signalise Howard Road *Comment:* The Brooker Highway is one of the highest volume freight and passenger corridors in Tasmania. Elwick-Goodwood to Howard Road is as a key constraint affecting corridor efficiency. Project delivers on previous commitment to upgrade this intersection.	$32M BCR: 0.9	**2**
	Domain Highway Interchange (Planning): $5M *Refer Innovation theme*	$5M *Included under Innovation*	*Prioritised under Innovation*
Illawarra Main Road ***$142M total*** ***$142M NB2 bid***	**1. South Perth Bypass: $84M** *Project:* Bypass of southern Perth (Midland Highway to Illawarra Main Road) *Comment:* Illawarra Main Road provides a shorter route between the Bass and Midland Highways. The Road carries around 1.9 million tonnes of freight, and is a critical part of the north-south freight supply chain. Removes heavy vehicles from Perth for north west-south freight movements.	$84M BCR: 0.19	**3**

[1] BCR = Benefit Cost Ratio

	2. Illawarra Main Road Upgrade: $58M *Project:* Series of projects on the western section of Illawarra Main Road to address safety and efficiency *Comment:* Consolidates improvements for heavy vehicles and passenger traffic associated with the South Perth Bypass.	$58M BCR: 0.25	
Midland Highway Improvement Package ***$1.6B total (includes new Bridge, Bagdad Bypass and all NB2 Midland Highway upgrades)*** ***$250M NB2 bid (includes Midland Highway Safety Package)***	**Bagdad Upgrades and Bagdad Bypass planning: $35M** *Project*: Improve safety of turning movements and accesses through Mangalore-Bagdad. Final planning and land acquisition to support future Bagdad Bypass. *Comment:* Interim, short-term upgrades ahead of a Bagdad Bypass. The final planning phase for the Bypass will undertake all tasks critical for project development through to calling tenders for construction.	$35M $24M (upgrades) $11M (planning and land acquisition) BCR: 1.9	**4**
	Midland Highway – Duplication, Perth-Breadalbane: $72M *Project:* Highway duplication (4 lanes) between Perth and Breadalbane; new roundabouts north of Perth and at Devon Hills *Comment:* Major freight and passenger connection between Launceston/Bell Bay and southern Tasmania. Key passenger connection between Perth and Launceston.	$72M BCR: 0.24	**5**
	New Bridgewater Bridge – final planning: $15M *Project:* Final planning – undertake tasks critical for final project development (e.g. planning and heritage assessments, geotechnical investigations etc.). *Comment:* Key link in the north-south freight supply chain and within Greater Hobart. Initial planning for a new Bridgewater Bridge complete, using funding provided by the Australian Government.	$15M BCR: 1	**6**
Murchison Highway **$56M total** **$34M NB2 bid**	**Murchison Highway Upgrades: $34M** *Project:* Upgrades to provide a consistent standard for high productivity vehicles. *Comment:* Murchison Highway is the key transport corridor linking the west and north west coasts. Proposed upgrades extend the State Government's existing $21M investment on the Highway.	$34M BCR: to be developed	**7**
Frankford-Birralee-Batman Freight Corridor ***$48M total*** ***$48M NB2 bid***	**Birralee Main Road Upgrades: $48M** *Project:* Upgrades to provide a consistent standard for high productivity vehicles on Birralee Road *Comment:* High freight volumes related to north-west/north movements for forestry and agriculture. Importance of the corridor will increase over the long-term.	$48M BCR: to be developed	**8**
	TOTAL FUNDING, FREIGHT	**$618M**	

NB2 THEME: CONNECTING PEOPLE			
PROJECT	**PROJECT DETAIL AND COMMENTS**	**COST AND BCR**	**PRIORITY**
Transit corridors and Macquarie Street Clearway, Hobart ***$5M total*** ***$5M NB2 bid*** ***(does not include cost of Macquarie St Clearway – to be finalised in 2013)***	**Transit Corridors: Main Road Transit Corridor and Greater Hobart Transit Corridor Planning: $5M** *Project:* Package of projects to provide improved travel time and reliability for buses and bus users, along Main Road. Additional planning of other transit corridors. *Comment:* Part of existing two-year project to identify public transport improvements along this urban corridor. Councils and Metro involved in existing project and supportive. Roll out approach to other key corridors. *PART OF HOBART PASSENGER TRANSPORT INNOVATION PROGRAM*	$5M ($3M Main Road; $2M planning, other corridors) BCR: to be developed	**1**
	Macquarie Street Clearway, Hobart *Project:* Extension of the existing Southern Outlet bus lane and peak-hour Macquarie Street clearway *Comment:* improved travel reliability on one of Hobart's key urban corridors. Additional planning required, including to address carparking. *PART OF HOBART PASSENGER TRANSPORT INNOVATION PROGRAM*	*Cost and BCR to be finalised in 2013*	
Connecting Universities to their Communities **$30M total** **$30M NB2 bid**	**Connecting Universities to their Communities: $30M** *Project:* New/upgraded cycling and walking paths, connecting University of Tasmania campuses to the CBD in Hobart, Launceston and Burnie. *Comment:* Provides logical connections between key destinations. Likely to be attractive to university students/staff and others (a large target group).	$30M Hobart (full walkway): $23.3M Launceston: $2.9M Burnie: $3.7M BCR: 1.1	**2**
Tasman Highway – Tasman Bridge Eastern Approaches Upgrade **$46M total** **$46M NB2 bid**	**Tasman Highway –Tasman Bridge Eastern Approaches Upgrade: $46M** *Project:* Upgrades to improve access and safety on the eastern approached to the Tasman Bridge. *Comment:* The Tasman Bridge carries the highest daily traffic volumes on the Tasmanian state road network. Builds on existing Australian Government funding commitment to undertake detailed planning and some upgrades of this section of the network.	$46M BCR: to be developed	**3**
Tasman Highway-Holyman Avenue Roundabout	**Tasman Highway-Holyman Avenue Roundabout Upgrade: $8M** *Project:* Upgrade of existing roundabout to provide additional lane capacity	$8M BCR: to be developed	**4**

Upgrade ***$8M total*** ***$8M NB2 bid***	*Comment:* Higher volume intersection connecting to Tasmania's major airport and future commercial development at Hobart Airport. Key intersection on the Sorell-Hobart corridor.		
Latrobe to Devonport cycleway, north west Tasmania ***Cost to be finalised in 2013***	**Latrobe to Devonport Cycleway** *Project:* New, active transport link between Latrobe and Devonport *Comment:* Planning and detailed design required.	*Cost and BCR to be finalised in 2013*	**5**
Real-time Passenger Information ***$2.5M total*** ***$2.5M NB2 bid***	**Real-time Passenger Information: $2.5M** *Project:* ITS-based project to provide travel time information via displays at stops, SMS etc., supported by in-vehicle technology *Comment:* Reduces actual and perceived wait times for bus passengers by providing real time information on bus arrivals at key stops. *PART OF HOBART PASSENGER TRANSPORT INNOVATION PROGRAM*	$2.5M BCR: to be developed	**6**
	TOTAL FUNDING, CONNECTING PEOPLE	**$91.5M**	
Key project to be submitted as concept only in 2012. Future submission to be provided 2013/14 in accordance with DOIT guidelines			
Sandy Bay Walking and Cycling Project, Hobart	*Project:* Staged development of a walking and cycling route from Marieville Esplanade south to the municipal boundary at Cartwright Reserve. *Comment:* Sandy Bay Road is part of Hobart City Council's Principal Bicycle Network, linking major residential areas, schools, recreational facilities, shops, and the UTAS Sandy Bay campus.	*Cost and BCR to be finalised in 2013*	
NB2 THEME: SAFETY			
PROJECT	**PROJECT DETAIL AND COMMENTS**	**COST AND BCR**	**PRIORITY**
Midland Highway Safety Package ***$128M total*** ***$128M NB2 bid***	**Midland Highway Safety Package: $128M** *Project:* Series of targeted safety upgrades: • **Upgrade to major junctions:** Oatlands Northern Access, Esk Main Road, Mud Walls Road, Kempton South Access • **Streetscaping:** Campbell Town and Perth • **Rail realignment, Conara**: remove existing at-grade rail crossing • **Realignments/upgrade of existing alignment:** South of Tunbridge, St Peters Pass, White Lagoon • **Improvements to minor junctions:** Mood Food, Sorell Springs Road, Stonor Road, Auburn Road and Ashby	$128M Major junctions: $15.3M Streetscape: $15.2M Rail: $22M Realignment:$ 32.3M Minor junctions: $42.9M	**1**

	Road, Lower Marshes Road, Mona Vale *Comment:* Delivers on short term projects identified in the Midland Highway Partnership Agreement.	BCRs: to be developed	
Huon Highway-Summerleas Road Intersection Upgrade ***$22M total*** ***$22M NB2 bid***	**Huon Highway-Summerleas Road Intersection Upgrade: $22M** *Project:* New grade-separated interchange at Huon Highway-Summerleas Road intersection *Comment:* Improve safety to/from and between Summerleas Road and Huon Highway.	$22M BCR: to be developed	**2**
	TOTAL FUNDING, SAFETY	**$150M**	
NB2 THEME: INNOVATION			
PROJECT	**PROJECT DETAIL AND COMMENTS**	**COST AND BCR**	**PRIORITY**
Bass Highway (Latrobe to Deloraine) Planning ***$5M total*** ***$5M NB2 bid***	**Bass Highway (Latrobe to Deloraine) Planning: $5M** *Project:* Planning only – identify priority projects to improve efficiency and safety on the Highway between Latrobe and Deloraine. *Comment:* The Bass Highway is the highest volume freight road in Tasmania, and is also a key passenger corridor. The section between Latrobe and Deloraine is below National Network standard.	$5M	**1**
Hobart Central Bus Interchange Design: ***$1m total*** ***$1m NB2 bid***	**Hobart Central Bus Interchange Design: $1M** *Project:* Planning only – investigate options for a new/re-developed Hobart CBD bus interchange. *Comment:* Central Hobart is the major destination for all trips undertaken by people in Hobart. Improvements to the existing interchange will increase the attractiveness of public transport and improve traveller experience. *PART OF HOBART PASSENGER TRANSPORT INNOVATION PROGRAM*	$1M	**2**
Domain Highway Planning ***$5M total*** ***$5M NB2 bid***	**Domain Highway Planning: $5M** *Project:* Planning only – investigate options to upgrade the Domain Highway Interchange; review opportunities to improve efficiency and safety on the Highway connecting to the Tasman Bridge. *Comment:* The Highway is the key freight and passenger link between Glenorchy and the eastern shore.	$5M	**3**
Urban Intelligent Transport Systems, Hobart: ***$19M total***	**Urban Intelligent Transport Systems, Hobart: $19M** *Project:* Extend variable speed messaging to the Brooker Highway and Southern Outlet; SMS traveller information; improved traffic management systems *Comment:* ITS is a low-cost solution to improve safety and efficiency, particularly on higher volume corridors. The	$19M	**4**

$19M NB2 bid	project will roll-out the existing variable speed messaging to other key urban arterials, together with improved information for travellers.		
Greater Hobart Household Travel Survey ***$350K total*** ***$350K NB2 bid***	**Greater Hobart Household Travel Survey: $350K** *Project:* Undertake a second Greater Hobart Household Travel Survey. *Comment:* The Greater Hobart Household Travel Survey 2008/09 measured trip types, origin/destination, length and mode, providing a powerful dataset to support passenger transport analysis. Update of the Survey is required to ensure analysis remains current.	$0.350M	**5**
South Arm Highway Planning ***$5M total*** ***$5M NB2 bid***	**South Arm Highway Planning: $5M** *Project:* Planning – investigate infrastructure and non-infrastructure solutions to improve connectivity and modal choice on the South Arm Highway to Rokeby. *Comment:* South Arm Highway is a key urban passenger corridor, connecting to one of the highest growth residential areas in Greater Hobart at Rokeby. The project will build on existing upgrades of the Highway, and past strategic planning of the corridor through Rokeby and at Pass Road.	$5M	**6**
Tasmanian freight model ***$350K total*** ***$350K NB2 bid***	**Tasmanian freight model: $350K** *Project:* Develop a statewide freight model *Comment:* Supports modeling of the impact of policy interventions on the freight network, including impacts on the network, freight efficiency and the broader community. The Model builds on DIER's triennial Tasmanian Freight Survey.	$0.350M	**7**
	TOTAL FUNDING, INNOVATION	**$35.7M**	
Key project to be submitted as concept only in 2012. Future submission to be provided 2013/14 in accordance with DOIT guidelines			
Launceston Passenger Transport Network Planning	The Tasmanian Government, together with local government, is undertaking three major initiatives to better understand transport issues and opportunities in the northern region and Greater Launceston area. These initiatives are: **Northern Integrated Transport Plan** - Regional framework to support long-term planning and investment decision making - Partnership: State government, 8 local councils **Greater Launceston Passenger Transport Plan** - Metropolitan plan, providing long-term direction for urban passenger transport planning in Launceston - Partnership: State government, 3 local councils **Launceston traffic modelling** - Detailed investigation of key network/road issues in Launceston - Partnership: State government, Launceston City Council	*Cost and BCRs for individual projects to be finalised in 2013*	

Part 2. Overview of Tasmania's transport system

1. Strategic context

Tasmanian Economy and Population

Tasmania is a small, open economy reliant on trade as a major source of income. Tasmania is connected to and part of the national economy. In a national context, Tasmania can be considered a discrete economic region.

Tasmanian industries are linked to the rest of the world through global markets. Nearly 20 per cent of all goods produced in Tasmania are sold overseas, with a further 20 per cent sold to the Australian mainland.

The Tasmanian economy is currently undergoing a period of structural change driven by a downturn in traditional industries such as forestry. Tasmanian Treasury forecasts indicate Tasmanian Gross State Product is expected to grow at a rate of 1 ¾ per cent in the short term and at a rate of 2 ¼ per cent per year in the medium term.

Tasmania has a small, highly dispersed population of just over 500,000. Population projections for the State indicate a moderate population growth over time with growth focused in urban areas. Tasmanian Treasury forecasts indicate Tasmania's population growth will remain steady at 0.4 per cent in 2012-13, increasing to 0.5 per cent for 2013-14 and subsequent years. The highest growth is likely to occur in greater Hobart. Launceston is likely to grow in line with the overall population, with lower growth in the Burnie-Devonport region.

Economic activity underpins demand for transport infrastructure. Forecast population growth and growth in key sectors of the economy such as agriculture and mining will lead to increased demand for passenger and freight movement over the next 30 years. Detailed assessment of future demand across key industry sectors, together with analysis of current and likely future infrastructure constraints will drive the long term supply strategies for Tasmania's transport infrastructure.

Tasmanian Infrastructure Advisory Council

The Tasmanian Government has established the Tasmanian Infrastructure Advisory Council (TIAC) to provide advice broadly on issues related to the State's economic infrastructure. This role encompasses priority infrastructure projects and issues related to the use and provision of infrastructure. TIAC includes membership from all major infrastructure owners/managers, the Tasmanian Planning Commission and peak interest groups. TIAC has produced priority project lists based on a similar methodology as that employed by IA. The Chair of TIAC has established broad networks both nationally and in Tasmania. TIAC has provided advice to the Tasmanian Government on its 2012 Nation Building 2 submission.

Tasmanian Government Strategy and Policy Frameworks

There are a number of existing frameworks in place that inform the development of strategic priorities for the Tasmanian Transport System.

The **Tasmanian Economic Development Plan** aims to improve the prosperity of all Tasmanians through economic development which is socially and environmentally sustainable. The Plan articulates four key goals:

- To support and grow businesses in Tasmania;
- To maximise Tasmania's economic potential in key sectors;
- To improve the social and environmental sustainability of the economy; and
- To support and grow communities within regions.

The Economic Development Plan will be supported by Regional Economic Development Plans in Tasmania's three major regions: north, north-west and southern. The Plan identifies infrastructure as one of the key levers that can assist in achieving these goals.

The Tasmanian Economic Development Plan identifies ten key sectors where Tasmania has a competitive advantage. These are: Antarctic Tasmania, Building and Construction, Food and Agriculture, Forestry and related products, ICT, Mining and Mineral processing, Renewable energy, Science and Research, Specialist manufacturing and Tourism. At least seven of these sectors are identified as significant current users of the transport system and will continue to generate future demand.

The **Tasmanian Infrastructure Strategy** is a long term framework to guide future infrastructure priorities and decision making for the planning, provision, use and maintenance of infrastructure in Tasmania. The Strategy focuses on four key economic infrastructure sectors – water, digital, energy and transport. Five key focus areas are identified as priority issues that need to be addressed and priority actions have been identified to support each:

- Coordinated infrastructure planning;
- Effective governance and decision making;
- Viable and sustainable infrastructure;
- Efficient infrastructure delivery; and
- Leveraging our natural advantage.

Tasmania's **Integrated Transport Policy,** which is currently under development, outlines five objectives for the State's transport system:

- A system that supports productivity and economic prosperity;
- An accessible system that connects communities;
- An environmentally responsible system;
- A safe and healthy system; and
- A system that works together.

These objectives identify, at a high level, what the Tasmanian Government is trying to achieve through the transport system in terms of economic development, social inclusion and environmental sustainability.

The **Tasmanian Freight Strategy,** also currently under development, will provide a strategic plan for the management and provision of Tasmania's freight system. The objectives for Tasmania's freight system outlined in the draft strategy are to:

- Support efficient movement of freight in Tasmania, now and in the future;
- Facilitate reliable supply chains and a competitive freight and logistics sector;

- Facilitate efficient cost effective and sustainable investment in the freight network; and
- Minimise the impact of freight movement on communities and the environment.

The **Tasmanian Urban Passenger Transport Framework** provides a framework for achieving a safe and responsive passenger transport system that supports improved accessibility, liveability and health outcomes. The Framework provides strategic direction to guide the development and delivery of economically, socially and environmentally sustainable transport options for urban areas over the long term.

The Framework signals a far broader role for public transport in Tasmania's urban areas, focusing on a public transport system that offers improved choice and flexibility. The importance of improving active transport linkages to safely support alternative transport modes is also identified as a key initiative.

The Tasmanian Road Safety Strategy 2007-16 is the State's policy framework for improving road safety and reducing road trauma, consistent with the community vision and targets articulated in Tasmania *Together*. The Strategy reflects the Tasmanian Government's long-term aspirational commitment to eliminate fatalities and serious injuries caused by road crashes in Tasmania. It aims to achieve this by using a Safe System approach focussing on four key strategic directions – best practice infrastructure, safer travel speeds, safer young road users, and enhanced vehicle safety.

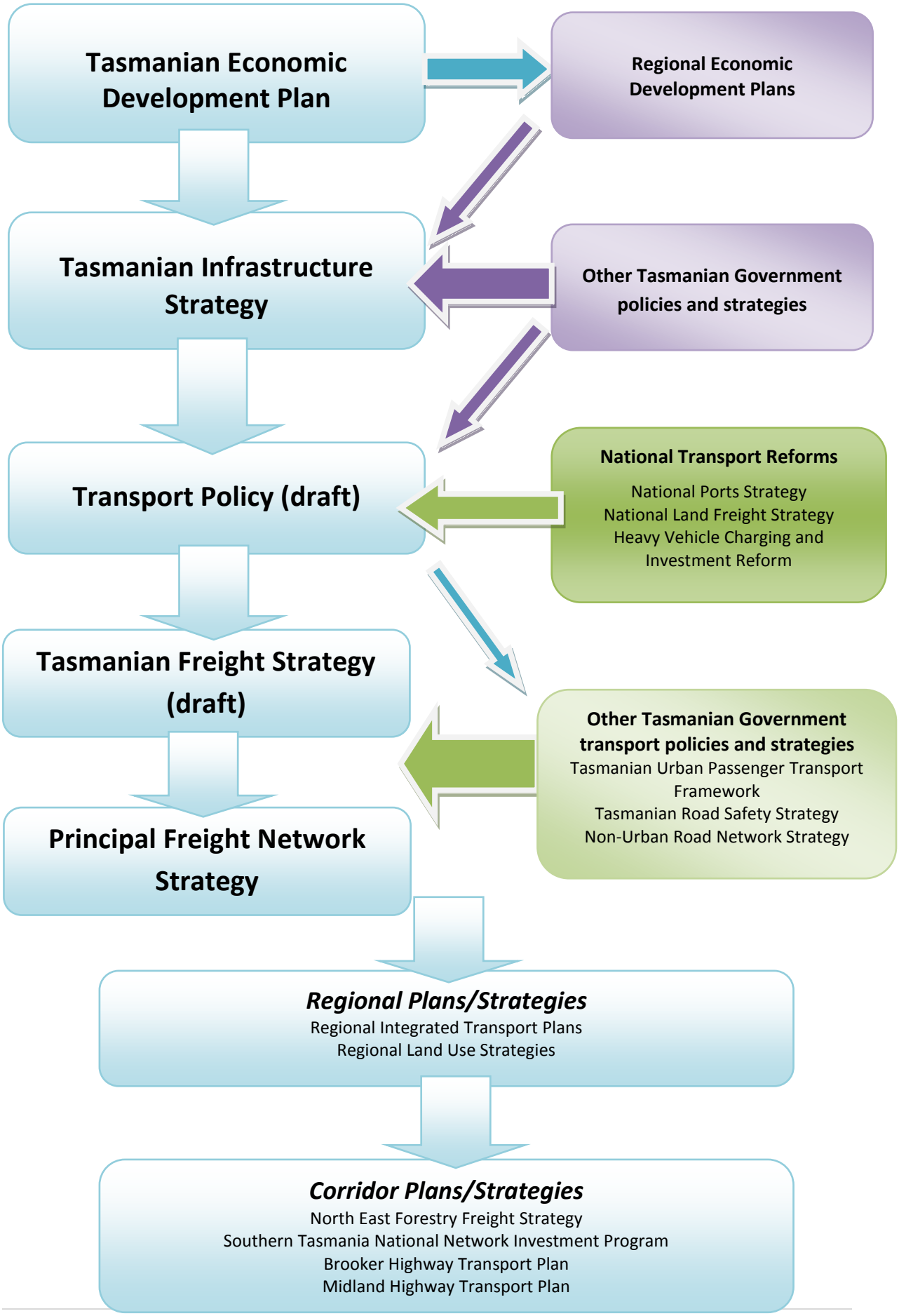
The Strategy is given effect through an accompanying Action Plan, which is reviewed at regular intervals. The current Action Plan outlines the key initiatives the Tasmanian Government is committed to implementing for the period 2011-13 to deliver the optimum returns in terms of casualty crash savings. Implementation of the Action Plan is overseen and monitored by the Tasmanian Road Safety Advisory Council.

The Tasmanian Government has recently launched a **Safer Non-Urban Road Network Strategy**, which balances infrastructure improvements and speed management to improve the overall safety of the non-urban road network.

Supporting transport planning frameworks are provided at the regional level through the **Northern, North West and Southern Integrated Transport Plans.** In addition, long term partnership agreements have been negotiated with local governments for the Brooker and Midland Highways.

Relationships between these strategic frameworks are show in **Figure 1**, below.

Figure 1: Tasmanian Strategic Policy and Planning Frameworks



2. Key challenges

The following are the key transport system challenges affecting the productivity, safety and accessibility of Tasmania's transport system.

Maximising Tasmania's competitive advantages: Tasmania has a diverse range of agricultural, mining and forest resources, and significant potential for value adding service industries. Improved transport infrastructure investment is critical to facilitate productivity improvements and industry investment in key sectors.

Growing, diverse and spatially separated freight demand: Forecast freight growth will see larger volumes of freight moving through Tasmania's ports, intermodal facilities and over the land transport network. The freight task is highly dispersed across the network. While a portion of these movements are on major roads or rail, movements are often on regional roads that are not designed to carry heavy freight, and do not support more productive vehicle configurations. Without significant investment these restrictions will constrain freight productivity, leading to higher transport costs for industry and higher maintenance costs for governments.

Productivity Commission modelling (2007) indicates that because Tasmanian industries have a relatively high export content and large freight demand, the Tasmanian economy would experience a greater increase in economic activity from freight industry productivity improvements than for Australia as a whole.

Transport cost impacts on Tasmania's export-oriented industries: Transport costs are a significant input cost for industries which are operating in increasingly competitive global markets. Transport productivity improvements are critical, as cost savings in the transport of goods increases the scope for competitive pricing. Continued transport infrastructure improvement is critical to ensure that Tasmanian industries remain competitive and future growth is not constrained.

An extensive and substantially mature transport system with high recurrent costs: Much of Tasmania's road and rail and port infrastructure is reaching the end of its life cycle and requires major maintenance funding and capital investment. The age of existing transport infrastructure means it is not able to meet the longer term challenge of productivity growth. While funding for maintenance is essential, assets must also be upgraded to meet this challenge.

The Tasmanian rail system is currently going through a period of revitalisation. While improvements have been made to enable safe and reliable operations, considerable investment is required to ensure that rail continues to meet the needs of existing customers and is seen as a viable option for new freight tasks.

Changing demands resulting from changing social demographics: Tasmania has a highly dispersed settlement pattern with a relatively small overall population. Over 60 per cent of the population lives outside the major urban areas of Hobart and Launceston, and most households have diverse trip needs. Continued growth in low density outer urban areas is likely to continue, leading to a corresponding higher level of private vehicle use. An ageing population, with a likely reduction in the levels of participation in full-time work and to levels of mobility, will change patterns of demand for passenger transport infrastructure, services and modes.

Enhancing productivity without compromising safety: The dispersed nature of Tasmania's population, a heavy reliance on private transport and the mixture of freight and passenger vehicles on the road network creates a safety challenge, particularly on the higher speed, high volume and non-urban road network. The interaction between vulnerable road users, passenger and freight vehicles through increased walking and cycling is also an increasing issue. Improvements to the transport network must also deliver improved safety outcomes, including allowing users to make mistakes without death or serious injury resulting. A reduction in crashes will also improve the efficiency and reliability of the road network.

Reducing emissions from the transport sector: The Tasmanian Government has a legislated target to reduce greenhouse gas emissions to at least 60% below 1990 levels by 2050. Transport is the third highest contributor to greenhouse gas emission in Tasmania, with private passenger vehicles the main component of the transport sector. Tasmania's transport system needs to provide viable alternatives to high emissions modes, particularly for passenger trips. Strategies that support improved efficiency for freight vehicles and an increased freight task carried on rail are key to improving the environmental performance of Tasmania's freight transport sector.

3. Tasmania's transport system

Road

The road network in Tasmania is a multiple user network, with a significant proportion of use related to personal transport. Tasmania has high per capita motor vehicle ownership and low use of public transport and other non-car based modes. In 2006, an estimated 1.47 billion vehicle kilometres was travelled by car, compared to 0.025 billion vehicle kilometres travelled by bus.

In terms of kilometres travelled, over 40 per cent of Tasmania's freight task is carried on the National Land Transport Network connecting Tasmanian's three northern ports and four major urban centres (Hobart, Burnie, Devonport, Launceston and Bell Bay).

Tasmania has an extensive road network, with ageing infrastructure that is reaching the end of its life cycle. The road network has multiple owners, including the Tasmanian Government and 29 local governments. These issues create significant challenges for planning, managing and operating the network.

Unlike the rail sector, the road sector does not operate within a market framework. Although heavy vehicle registration charges are set to cover past expenditure on roads used by these vehicles, there is currently little direct relationship between use of the road network and road funding allocations. Within current frameworks, the opportunity for private sector funding of freight roads is limited.

Rail

The Tasmanian Rail Network dates from the late 1800s and is a single rail line, narrow gauge transport system consisting of a total of 632 kilometres of operational lines and a further 213 kilometres of non-operational lines.

The rail network integrates its operations with ports, road transport terminals and large industries as part of an integrated supply chain which is vital to improving the overall efficiency and productivity of freight transport in Tasmania.

Rail complements the road network by playing a key role in moving large volumes of bulk commodities (mineral ore, coal, and cement). Rail also participates in the intermodal market (containerised goods – for example paper products, zinc ingots and retail products) primarily on the north-south line between Hobart and the Port of Burnie. In this market sector rail competes with road transport. Based on current and projected freight tasks, rail is expected to increase its intermodal market share.

After a period of private ownership, where network and service operations were undertaken by separate entities, TasRail was established as a vertically integrated State owned corporation in 2009.

Sea Ports

Tasmania's sea ports are the key link to international and interstate markets. Due to the Tasmanian economy's reliance on exports and bulk commodities, the reliability, capacity and efficiency of port and shipping infrastructure and operations is a significant factor in industry competitiveness.

In 2006 TasPorts was established as a State-owned corporation to operate Tasmania's major ports on a commercial basis.

Currently, the key ports for the bulk and container freight task are Burnie and Devonport (container and bulk) and Bell Bay (bulk). There are limited freight ships from the Port of Hobart, which is primarily focused on Antarctic and cruise vessels.

The three major northern ports of Burnie, Devonport, and Bell Bay handle approximately 80 per cent of Tasmania's import and export freight task by tonnage and move virtually all of Tasmania's containerised interstate and international freight task. Southern Tasmania relies on the three northern ports for the majority of international and interstate freight, and this is likely to continue due to the shorter sea distance to the northern ports relative to the Port of Hobart.

In the short to medium term, the Bell Bay port will continue to service the bulk freight needs of major industrial customers near the port. In addition, a master planning exercise at the Port of Burnie has identified a range of changes within the port precinct that will enable the port to accommodate more freight and facilitate more efficient shipping and rail operations. Stage 1 of these enhancements is underway.

Airports

The privately owned Hobart and Launceston airports play an important role in interstate business and tourist travel to and from Tasmania.

Both airports provide belly-hold cargo services via regular passenger services to a range of interstate destinations, including Melbourne and Sydney, as well as dedicated freighter services. Approximately 17,000 tonnes of freight, including high value products such as live seafood, fruit and cut flowers are air-freighted each year, representing less than 1 per cent of the overall freight task by volume.

Shipping and transport services

Freight shipping and transport/logistics services to Tasmania are generally provided by the private sector on a commercial basis. These services provide the important linkages for Tasmanian businesses to interstate and overseas markets.

The key shipping services for most of the State's freight demanders are interstate container services, operating from Burnie and Devonport. The majority of these services go to the Port of Melbourne, and Tasmanian freight is estimated to comprise around 20 per cent of the annual throughput of the Port of Melbourne.

There are no direct international container shipping services at any of Tasmania's ports.

TOLL is a major operator in the freight and logistics market in Tasmania, operating shipping, logistics and road transport services. TOLL operates a regular roll-on, roll-off service six days a week between Burnie and Melbourne. Searoad is a significant provider of shipping, logistics and road transport services, operating a regular roll-on, roll-off service six days a week between Devonport-Melbourne.

A third shipping service is provided by TT Line, a Tasmanian Government-owned passenger ferry service between Melbourne and Devonport. These services run seven days a week, with capacity to carry roll-on, roll-off freight.

Bulk shipping services are chartered by specific industries, such as mining, to move product out of Tasmania direct to interstate and international destinations.

4. Function and performance of the transport system

Moving freight

Road is the dominant mode for the movement of freight in Tasmania, with the highest volumes moved on the National and State Road Networks.

Tasmania's four highest freight tonnage roads are on the National Network:

- The Bass Highway carries an average of 3.6 million tonnes between Burnie and Launceston;
- The Midland Highway connects northern and southern Tasmania, and carried up to 2.4 million tonnes in 2009;
- The East Tamar Highway is a key link in northern Tasmania, carrying up to 3.3 million tonnes in 2009; and
- The Brooker Highway is Hobart's major urban freight link, carrying 2.7 million tonnes in 2012.

The majority of containerised freight is transported on the National Network, with 80% carried between Burnie and Hobart.

Tasmania's State Road Network carries around 39 per cent of the state's total freight task, with a number of key regional roads carrying significant freight volumes. The majority of the freight is agricultural products from farms, logs and other forestry freight, with high volumes of mining product moved on the West Coast. Key regional links include:

- Bridport Main Road, the Tasman Highway (between Scottsdale and Derby) and the Esk Main Road in the north;
- Ridgley Highway, Murchison Highway and Bass Highway (between Burnie and Smithton) in the north west; and
- Lyell Highway, Tea Tree Road, Fingerpost Road, Tasman Highway and the Huon Highway in the south.

Local Government roads carry a smaller proportion (7.1 per cent) of the State's overall freight task, but are important for the 'last mile' of the overall freight task. The Bathurst-Wellington and Davey-Macquarie Street couplets are significant local government roads, with a high freight volume and strategic function related to movement through Launceston and Hobart respectively. Local Government roads in the Glenorchy municipal area carry high volumes connecting to/from the Brooker Highway to adjacent warehousing, manufacturing and heavy industrial sites.

Nearly 2.3 million tonnes of freight was moved by rail in 2008-09, representing 8.1 per cent of the total freight task by tonnage and 12.5 per cent by net tonne kilometres. The majority of freight is moved over long distances, however some bulk freight is carried over shorter distances, such as mined ore and cement. Major freight tasks on the rail network include:

- cement between Railton and Devonport;
- mined ore between the west coast and Burnie;
- paper and newsprint between Boyer and Burnie;
- general containers between Macquarie Point (Hobart) and Burnie;
- zinc between Macquarie Point (Hobart) and Burnie; and
- coal and briquettes between Fingal and Railton.

In terms of the network segments, the Western Line and South Line carry the highest tonnages. The highest volume task moved on the rail network is the cement task between Railton to Devonport.

Moving People

In Tasmania, private cars are the primary means of transport for most people. Historically high use of public transport in Tasmania has declined in the context of increased levels of private vehicle ownership, changing land use patterns favouring lower-density development in outer urban areas, and changes in workforce participation and employment structures.

Tasmania's outer urban areas have developed around car-based travel and road-based solutions. Significant investment in arterial roads has greatly improved mobility for people with cars, and made outer urban areas more attractive places to live by reducing travel times. Tasmanians are continuing to move from central urban areas into urban fringe areas. This growth will place increased demands on the urban transport system in terms of infrastructure provision, capacity and service delivery.

The public transport system has been adapted to reflect a car-centric transport model. The primary focus of the public transport system is to mitigate transport disadvantage. It does so through an extensive network of bus routes, providing generally low frequency services at heavily subsidised

concession fares. Service needs have been assessed using socio-economic data to predict areas of highest need.

The public transport system continues to provide a diminished, but important, peak transport role, for both adult commuters and school students. Peak commuter services include targeted products offering fewer stops and greater use of higher speed arterials.

The Greater Hobart Household Travel Survey, completed in 2008/09, provides an insight into travel patterns in the State's capital. The survey, conducted across 2000 households, confirms the Tasmanian community's high reliance on private cars. However, it also shows strong variation in the levels of use of public transport for different purposes, with the highest use being for work and educational purposes.

While the highest growth residential areas are located on the urban fringe, the greatest volume of trips continues to be generated within the established, central metropolitan area of Hobart. Approximately 50 per cent of passenger trips in Greater Hobart are wholly within, or end, in the Hobart local government area, reflecting the role of Hobart as the region's administrative and commercial centre.

A substantial proportion of household trips – around two thirds of weekday trips – are undertaken within the home Local Government Area, particularly for non-work related purposes. The dispersal of economic, social and educational activities across multiple sub-metropolitan centres is a significant influence in the design of public transport services.

Use of public transport is not growing in Tasmania, and has either gradually declined or remained constant since the mid 1980s. Across Tasmania, less than 3 per cent of people travel to work on public transport. In sections of Hobart, this increases to 4% on average, and up to 9.5% for specific activities. Cycling remains a niche activity, attracting only a very small proportion of transport trips, in spite of at least 19% of Tasmanians riding a bike each week for recreation. Significant scope exists to improve connectivity for walking and cycling at the local level and between key activity centres.

While traffic volumes are increasing on Tasmania's road network, traffic congestion is generally limited to travel delays during peak periods on specific routes. The most heavily trafficked roads are in the Hobart and Launceston urban areas. The Tasman Bridge carries over 66, 000 vehicles per day, and is the highest volume road section in Tasmania. The Brooker Highway carries over 50,000 vehicles a day, and plays a key role in both passenger and freight movements. In contrast, Main Road in Hobart carries only 9,000 to 21,000 vehicles a day, but its role as a key public transport corridor is impeded by localised congestion created by competing uses on limited road space.

Bus services can be characterised as "high penetration, low frequency" in nature, meaning that services provide access to a large area but, with the exception of key high frequency corridors, run at lower frequencies of thirty minutes or hourly frequencies. On these parts of the network the priority is reliability and predictability of services. Tasmania's small, dispersed population is a key influence and challenge for the delivery of effective urban public transport.

Efficiency and Productivity

While Tasmania's National Network generally supports efficient road transport, significant areas for improvement remain. As the network is shared between freight and passenger vehicles there are

still some conflicts, including in urban areas. Urban areas are the key destinations for freight due to the location of ports, processing facilities and general industrial areas.

The majority of the road freight network has high productivity access. The focus is on improving efficiency through the targeted upgrade of this network. The focus for the medium to long term is providing access for super B-Doubles and the next generation of higher productivity vehicles, without compromising safety.

Older parts of the road network still contain direct access points, which impact on safety and efficiency. This is particularly an issue where major highways, such as the Midland Highway, pass through urbanised areas.

Although considerable improvements have been made to rail network productivity in recent years, there is still a need for further enhancement to ensure rail is sustainable. With recent Tasmanian and Australian Governments rail funding packages, rail is close to achieving a 24 hour turnaround cycle on the North-South line; this outcome will be fully realised when the Brighton Hub is operational and the first stage of optimisation of Burnie Port is complete in 2012-13.

Accessibility and Reliability

The overall reliability of Tasmania's road network is good.

A key focus of passenger transport in urban areas is improved travel reliability, by providing consistent travel times for all transport users, including public transport users, to ensure predictable journey times and reliable journey planning. Through the *Walking and Cycling for Active Transport Strategy*, the Tasmanian Government is also placing an increasing focus on the opportunities provided by walking and cycling. Average trip lengths, as measured in the *Greater Hobart Household Travel Survey*, suggest that a higher proportion of trips could be undertaken on foot or by bicycle.

The relocation of the rail intermodal facility to the Brighton Transport Hub will reduce heavy vehicle movements on the most congested road segments in Greater Hobart, especially the southern section of the Brooker Highway, with benefits for both freight and personal users.

As a result of recent Tasmanian and Australian Governments investments, rail system performance has significantly improved. However improving reliability remains a critical objective for Tasrail, as it is a key issue for customers whose operations are driven by on time arrivals rather than warehousing products for on shipment.

Safety and sustainability

Safety performance of the road network has gradually improved in recent years. In 2011 Tasmania had 25 road fatalities (a 46.3 per cent decrease of the 5 year average of 46.6 for 2006-2010) and 296 serious casualties (a 13.0 per cent decrease on the 5 year average of 340.4 for 2006-2010). Further reductions in serious casualties will come from recently announced speed reductions on Tasmania's 100km/h non-urban roads.

For the period 2007-2011, 46 per cent of serious casualties were run-off road crashes and 19 per cent were head-on crashes. On the National Network, for the period 2007-2011, serious casualty crash densities were highest on sections of the Bass, Brooker, and Midland Highways; 44 per cent of these were single vehicle run off road crashes and 27 per cent were head on crashes.

As a result of recent investments, the overall safety performance of the rail network has improved substantially. The number of derailments is trending downwards and was significantly lower in 2011-12 compared to the long term trend. Safety incident reporting has increased over recent years reflecting the strong and growing safety culture at TasRail.

Transport is the third highest contributor of greenhouse gas emissions in Tasmania, with passenger vehicles the key contributor within this sector. The targeted provision of infrastructure and services to support public transport, walking and cycling, together with land use planning strategies will assist in promoting a modal shift toward lower emission modes and in reducing distances travelled.

The environmental performance of Tasmania's rail network will also substantially improve with the recent purchase of new locomotives. These locomotives have much greater haulage capacity and will deliver significant fuel and emissions savings, as well as provide future capability for bio-diesel fuels. Strategies that support improved efficiency for freight vehicles and an increased freight task carried on rail are key to improving the environmental performance of Tasmania's freight transport sector.

Complementary freight modes

Road and rail transport both play an important role in providing an efficient, safe and sustainable transport system in Tasmania. Tasmania is seeking to maximise overall transport system outcomes by utilising the inherent advantages of each mode in an integrated and complementary way.

Road transport is the dominant land transport mode, and this situation will not change. Road and rail offer very different service characteristics, with road freight inherently more flexible and suited to carrying perishable, fragile or time sensitive freight, and to the collection and distribution of goods. Rail is well suited to the movement of bulk freight, and in these situations the rail system complements the road system.

The Tasmanian Government's *'Tasmanian Rail Network: Objectives and Priorities for Action'* clearly identifies a viable rail system as a key contributor to productivity improvements and broader economic development, with the long term objective to move a greater proportion of Tasmania's growing freight task by rail.

A portion of the intermodal freight task is contestable, where road and rail are in direct competition.

There is a continuing need to upgrade both rail and road infrastructure to meet Tasmania's future transport needs.

5. Foreseeable changes and likely future demand

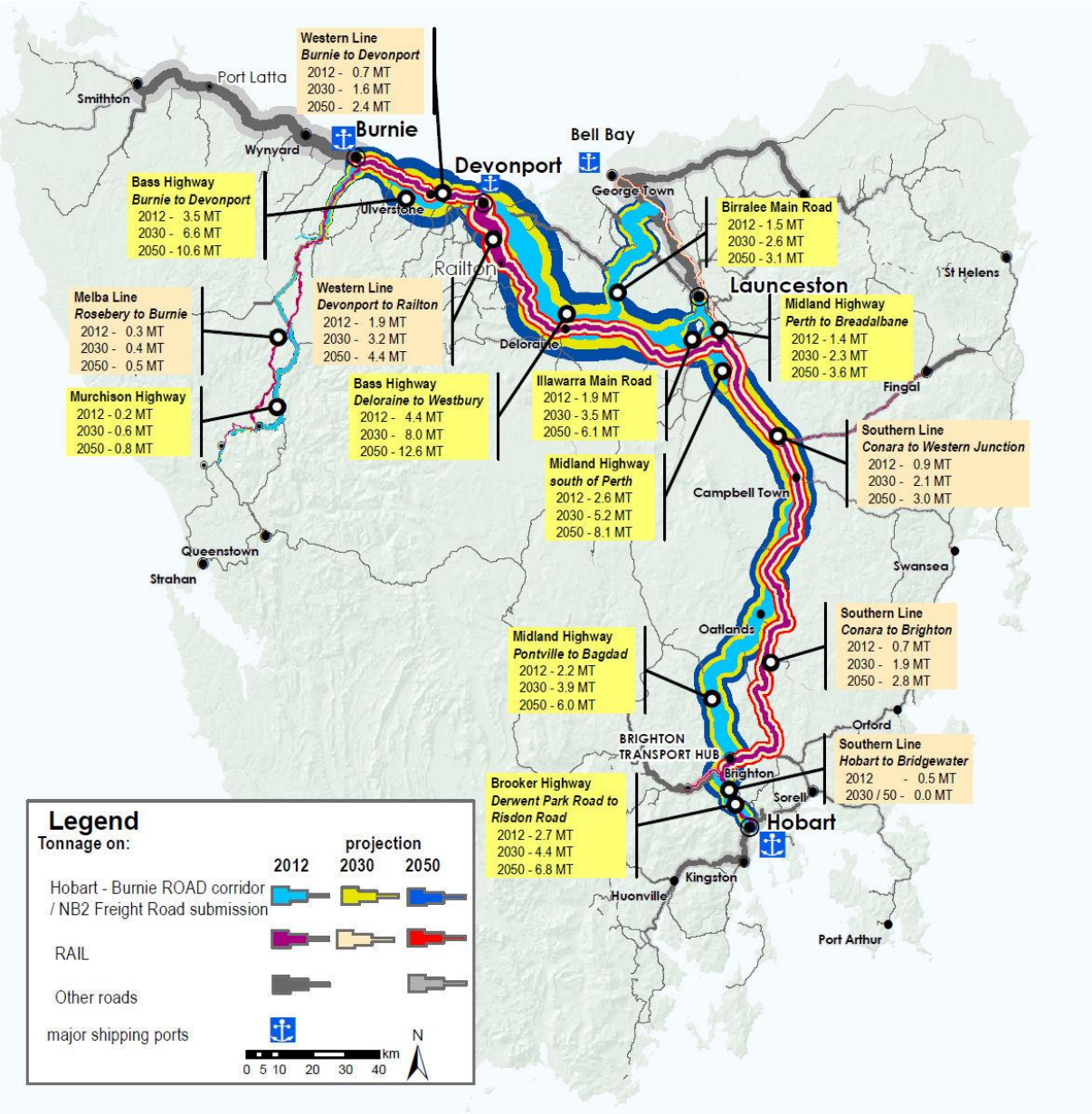
Freight

Freight volumes are forecast to be highest on the Burnie to Hobart road corridor. The Bass Highway carries the highest freight volumes in Tasmania, and this is forecast to double over the long-term. Other higher volume roads include the Midland, Illawarra and Brooker Highways (see Map 1).

High growth in freight volumes, but from a lower base, is forecast to occur on some regional roads (e.g. Bass Highway between Smithton and Burnie, Ridgley-Murchison and the Frankford-Birralee-

Batman freight corridor) and on parts of the rail network. Future industry developments, particularly agriculture and mining, will see significant freight increases on key regional roads and on the rail network; for example, proposed mines on the West Coast and at Fingal will both see 1 million tonnes of product moved annually via regional rail or road links onto inter-regional freight corridors.

The bulk of Tasmania's freight task is generated by agriculture, construction, mining, and until recently, forestry. Based on data collected from the Tasmanian Freight Survey in 2008/09 and GSP forecasting from a number of national studies, Tasmania's average freight growth across all commodity sectors (excluding forestry) is estimated at 2.3 per cent per annum. By 2029, Tasmania's freight task (excluding forestry[2]) is projected to increase to over 35 million tonnes, an increase of around 80 per cent over 20 years.



~~Map 1 Current and forecast freight~~ tonnages, Tasmania's strategic freight network

[2] *With recent changes in the forest industry, most notably the large decline in native forest harvesting, forestry freight volumes are likely to decrease in the future. Due to the considerable uncertainty about the future of the forestry industry, forestry freight has not been included in the forecasts. All forecasts exclude forestry, and will be updated once better information on the future forestry task is available.*

The majority of freight growth will occur in the agricultural sector, with nearly half of the future growth in the freight task projected to come from increased agricultural production. The majority of agricultural production is in the north-west and north of the state, with most processors located in the north-west. The majority of agricultural freight moves on the road network, and, as such, roads in the north and north-west are likely to experience the highest increases in agricultural freight, including the Bass Highway (Smithton to Illawarra Main Road); Bridport Main Road, Frankford Main Road, Birralee Main Road and Batman Highway (linking the north-east to processors in the north-west); and the Midland Highway.

Consumer goods are forecast to undergo a large increase, but will make up a relatively small proportion of the overall task. Most consumer goods are brought into Tasmania via one of the three northern ports. Product is generally moved to urban centres via larger vehicles before being distributed to individual businesses by smaller vehicles. The rail network currently plays a key role in moving consumer goods between ports and southern Tasmania. The movement of consumer goods is likely to increase most strongly on the road and rail corridors between key container ports (Burnie and Devonport) and major urban centres (Hobart, Launceston, Burnie and Devonport).

Demand for construction inputs is also expected to continue to increase, as building activity continues across the state.

Future Freight Demand - Rail

Rail freight operations are split into two broad markets: 'bulk' and 'intermodal'.

Bulk freight consists of cement (transported from Railton to Devonport), mineral ore concentrates (transported on the Melba Line from the West Coast to Burnie Port) and coal (transported from Fingal to Railton). Intermodal freight consists of containerised goods (for example paper products, zinc ingots and retail products), primarily on the main north-south line between Hobart and the Burnie Port.

TasRail is working closely with the Tasmanian minerals sector to determine how mining freight that is currently being carried by road can be transferred to rail. In particular, TasRail is working closely with the proponents of two potential large mining projects, the Venture Minerals Mount Lindsay Project located on Tasmania's West Coast and the Hardrock Coal Project located in the Fingal Valley to undertake the primary transport task. Both tasks are forecast to generate over 1 million tonnes per annum.

TasRail has also engaged with the forestry sector to identify potential opportunities. A trial transport of logs between the north and south of the State was recently completed using refurbished rolling stock. This is a sector that has not used rail for many years due to numerous derailments over time. However, TasRail is confident that the track is now in a much better condition, and forestry product is now of a much more consistent nature (i.e. regrowth product) allowing improved load distribution.

Some of Tasmania's heavy manufacturers are major users of the rail system, and have direct connections to the rail network (for example, the production of paper products at Boyer).

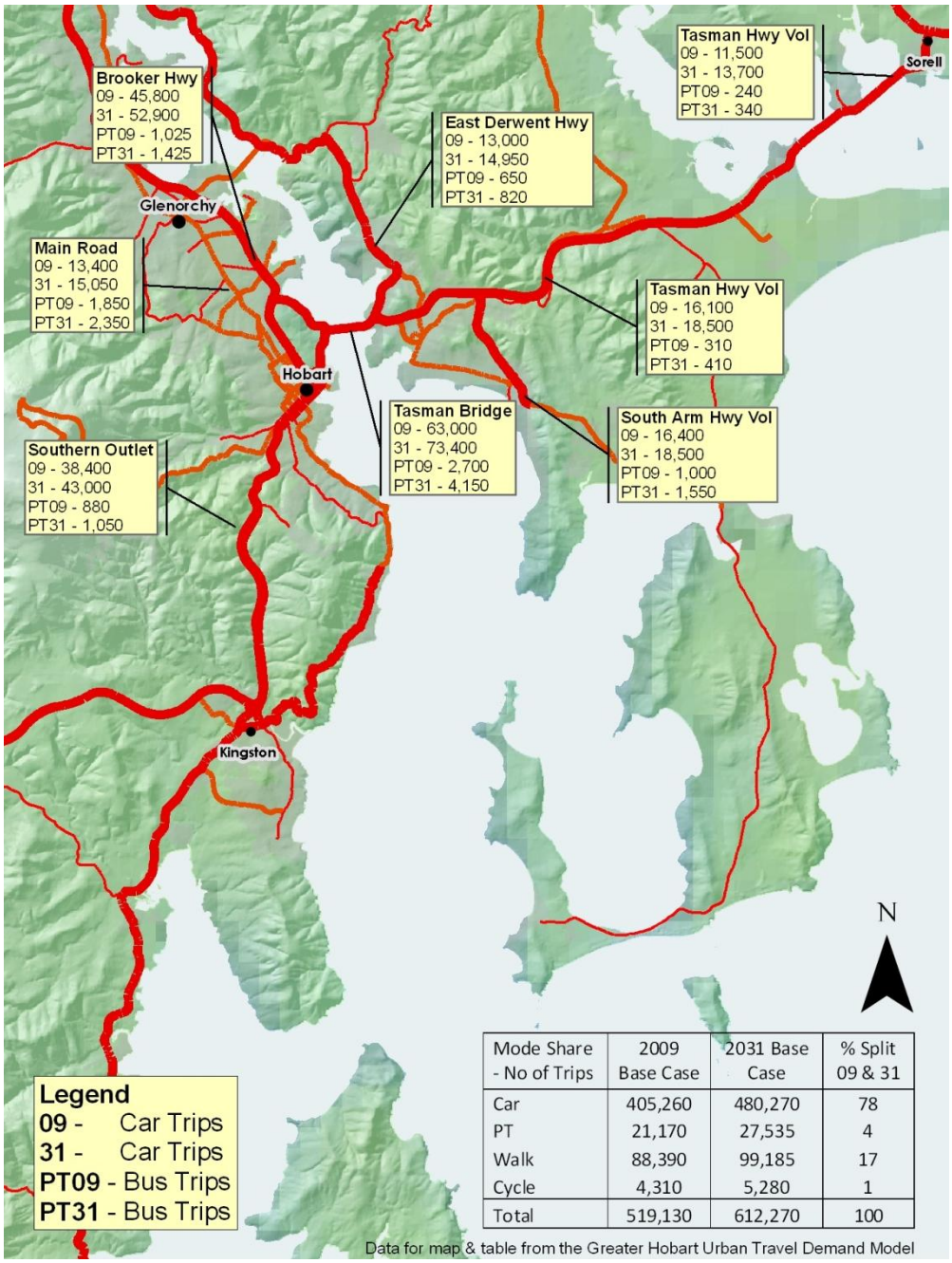
Overall, market analysis projects a contestable market share of intermodal task estimated to be an additional 800,000 tonnes.

Future demand, Passenger Transport

Transport is a derived demand. Passenger vehicle growth will continue to follow settlement patterns, economic activity and demographic change, suggesting that at least in the short term, car-based travel will continue to dominate passenger transport trips.

Map 2 shows forecast trips by car and public transport under a no intervention scenario in Greater Hobart (i.e. without the benefit of current and future investment in passenger transport initiatives). On some corridors, public transport use is forecast to increase at a reasonable rate – Tasman Bridge and Main Road – but for most others, growth is forecast to be comparatively low.

Over the long-term, increased traffic volumes will see longer travel times and reduced travel



Map 2 Average weekday passenger vehicles and public transport trips, 2009 and 2031

reliability on many urban corridors, including the Brooker and Tasman Highways and the Southern Outlet, and at key intersections, including the eastern approaches to the Tasman Bridge. Targeted capacity improvements to cater for higher volumes will be required on key corridors to ensure ongoing efficiency for both passenger and freight vehicles.

While Tasmanians will continue to rely on cars to meet the majority of their travel needs, there are significant opportunities to generate a greater modal shift on key urban corridors and for some trip types. This is the basis of the strategies the Tasmanian Government is pursuing in relation to public transport and active transport modes, as outlined in the *Tasmanian Urban Passenger Transport Framework*.

The Government is committed to a corridor based public transport strategy which will focus highest standard public transport services on priority corridors, primarily existing arterial roads. Reducing the use of cars for local, shorter trips is also a major opportunity, and one that future, ongoing investment in active transport infrastructure and improved integration of transport and land use planning, is expected to support.

6. Future supply of transport: Strategic priorities

The following strategic priorities are a response to the key transport system challenges, current system performance, and foreseeable changes to the transport system, including future demand. They have been developed with consideration of national policies and priorities including the National Land Freight Strategy discussion paper, the National Ports Strategy and the recent Infrastructure Australia Review of Tasmanian Ports and Shipping issues.

Reduce reliance on private motor vehicles: Tasmania's high levels of private vehicle ownership and use make the community vulnerable to external shocks such as higher oil prices. A modal shift for shorter trips will reduce demand on the road network and deliver improved social and health outcomes for the community. High levels of car ownership can hide the real levels of transport disadvantage within the community, arising when a person does not have access to a private car.

Increased investment in public transport and cycling infrastructure, coupled with targeted improvements in services and marketing, can increase the market share of these modes. This type of investment will reduce reliance on private vehicles, and provide the critical mass to support greater, long-term investment in alternative transport modes.

Promote seamless intermodal connections at ports and freight hubs: The long term aim is for inter-operability, allowing for compatibility of freight transfer from road to rail to shipping services. In the short term a key focus is to capture the benefits of the Brighton Transport Hub, which will provide a consolidation and deconsolidation point for freight and allow for the transfer of containers between modes.

The design of the new rail terminal will facilitate longer trains with reduced shunting and a more efficient interface with customers – consistent with Tasrail's objective to increase intermodal volumes and achieve a reliable 24 hour service turnaround between the hub and the northern ports.

Proposed work at Burnie Port will streamline rail and heavy truck operations within the port precinct allowing the full benefits of the efficiencies at the Brighton Hub to be captured.

Maximise benefits of recent investment in rail revitalisation: There has been a considerable recent investment in the Tasmanian Rail network with substantial funding provided by the Australian and Tasmanian governments. To gain the full benefit of this large sunk investment, a further program of work is required.

A safe, reliable and efficient rail freight network that integrates operations with ports, road transport terminals, and large industries is part of an integrated supply chain that is a key component in improving the overall efficiency and productivity of freight transport across modes.

The aim of any further investment is to ensure that operational lines are maintained or upgraded to support safe and reliable rail freight services, and to assist in establishing a financially sustainable rail operation where maintenance costs per kilometre are in line with national benchmarks, and limited ongoing subsidy is required for below rail maintenance.

Rail productivity improvements will focus on unlocking existing capacity through more efficient locomotives with greater haulage capacity. Below rail enhancements are required to support this focus.

Enhanced reliability and safety performance will ensure that rail can continue to meet the needs of existing customers and ensure that rail is seen as a viable option for new freight tasks.

Plan and design the network for higher productivity and to provide a 'safe system': Providing for projected long term growth in traffic and freight volumes in the safest and most efficient way involves ensuring that any proposed upgrades allow for increased productivity. This means ensuring road upgrades are consistent with future use by higher productivity vehicles such as super B-doubles, and that Tasmania's safe system infrastructure design principles are applied. Programmed improvements to the rail network such as track upgrades and replacing steel sleepers with concrete will be designed to facilitate the provision of increased axle loads in the future.

Targeted productivity enhancement of transport network: Based on projected freight growth, there is unlikely to be a case for investing in *global* productivity enhancements for both road and rail (such as system wide higher mass limits, or increased rail axle loads). Based on analysis, the nature of the task is unlikely to change substantially over the coming 30 years. The priority will be to consider targeted enhancement of the network to provide productivity improvements, where it is clearly linked to demand. This is more likely to be related to a specific task, such as mining or agriculture.

Transit corridors: Projects that deliver targeted improvements in public transport, walking and cycling infrastructure on key passenger transport corridors, aligned to, and integrated with supportive land use planning frameworks.

Targeted efficiency and safety enhancement of network: Deliver projects that focus on reducing bottlenecks on freight critical links of the national network, such as Illawarra Road and Midland Highway, and improve reliability of journey times for freight and personal users on key urban routes such as the Brooker Highway.

An independent evaluation of Tasmania's crash problem areas and possible solutions, conducted by the Monash University Accident Research Centre, concluded that the greatest reductions in serious casualties on Tasmanian roads will come from strategic investments in road and roadside infrastructure to prevent run-off-road and head-on crashes together with broad-based speed reductions on the open road and in built up areas.

Ensure the protection and preservation of future capacity requirements: Better integration of transport infrastructure with land use planning is important for long term efficiency, safety and accessibility. Stronger protection of key transport corridors and sites within planning schemes and strategic planning frameworks is required. In the short term, funding is sought to secure and preserve future road corridors on the Midland Highway to support the Bagdad Bypass and new Bridgewater Bridge. The future protection of major urban passenger and freight transport corridors is also required, together with the identification of local transport links.

Improved transport system planning through completion of a Principal Freight Network Strategy and creation of an industry-led Freight Logistics Coordination Team: Though substantial work has been undertaken to date on developing a draft Freight Strategy, there is an opportunity to work with industry to further develop this analysis. It is envisaged that a Freight Logistics Co-ordination Team would guide the development of a detailed long term freight planning exercise focusing on Hobart to the Northern Ports. This work would incorporate longer-term ports planning for the State and would inform the development by Tasports of a Tasmanian Ports Strategy. It is envisaged the Freight Logistics Coordination Team will be established in 2012 and will work under the stewardship of the Tasmanian Infrastructure Advisory Council.

Tasmania regularly collects freight data through the Tasmanian Freight Survey. This survey will be undertaken during the 2012-13 period, providing more up to date data as an input to this task.

Efficient supply of ports and enhanced longer term port planning: Preliminary analysis supports developing the existing multi-port system and transitioning to a ports specialisation model. However further analysis is required to determine the most appropriate long term economically efficient supply strategy for Tasmania's ports.

Detailed consideration of whole-of-supply chain issues over a 50 year horizon is required, including future industry requirements, shipping trends, port development potential, port access, and land transport impacts, in line with the objectives of the National Ports Strategy. This analysis would be an input to the development by TasPorts of a Tasmanian Ports Strategy.

Consideration of alternative funding and financing of transport infrastructure: Cost reflective pricing for heavy vehicle access to the road network and road

funding reform is being considered as part of the national Heavy Vehicle Charging and Investment Reform agenda, and the Tasmanian Government will continue to actively participate in this reform process. Tasmania has many attributes that make it suitable for a pilot study of approaches developed through national processes. It is considered that a national approach to funding and financing transport infrastructure, supported by all levels of government, is critical to effectively address long term transport infrastructure needs. In this context, the recent Infrastructure Australia Finance Working Group's *Infrastructure Finance and Funding Reform* Report is an important lead for national discussion. Tasmania is not in a position currently to adopt a unilateral approach. Further work is required in relation to project financing and the issue of cost reflective pricing in small regional economies.