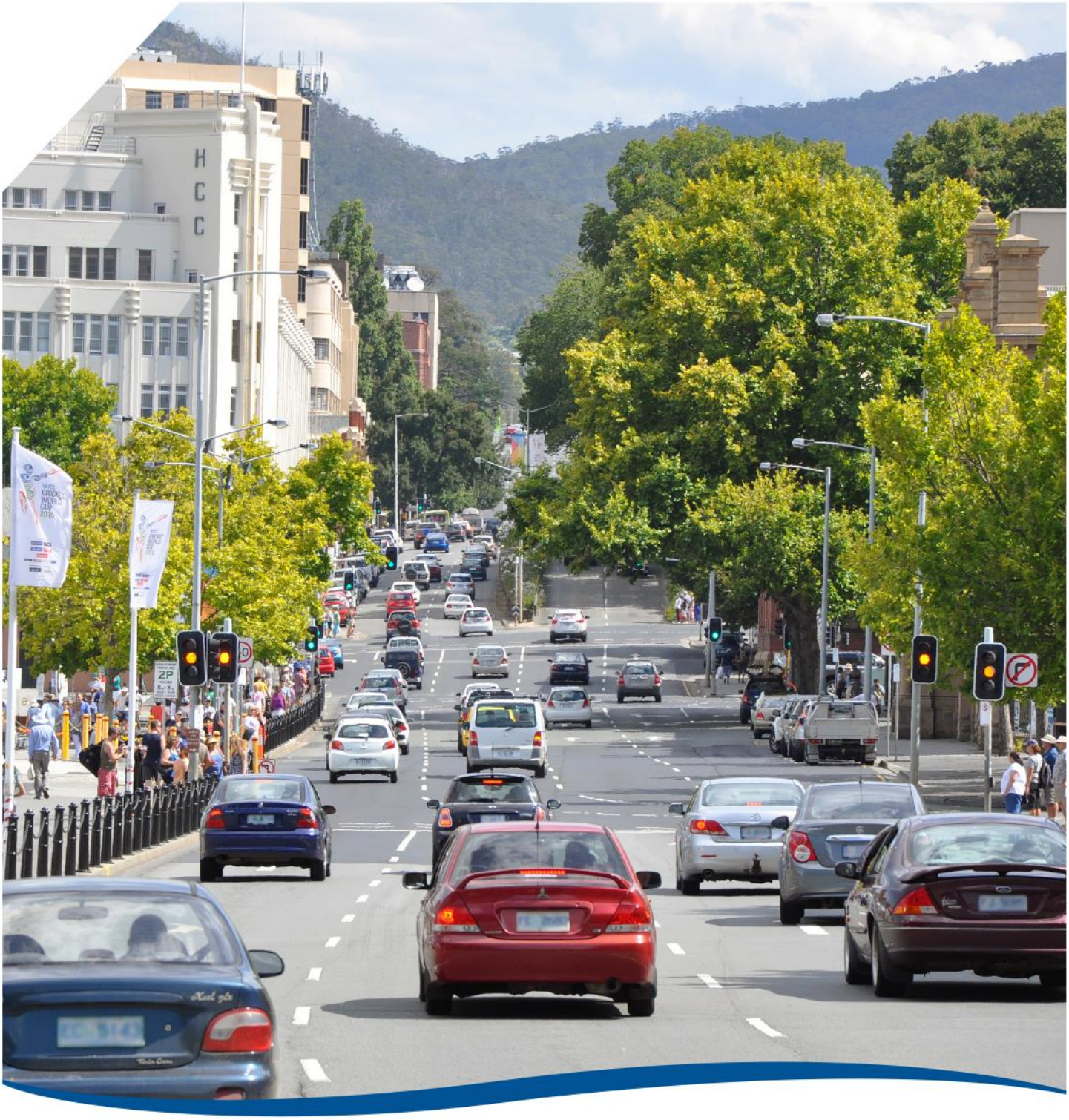
# State Roads Audit




Infrastructure Tasmania

Tasmanian Government

# Context for the Review

The State's road network is Tasmania's biggest infrastructure asset. The Tasmanian Government charged the newly-created Infrastructure Tasmania with the task of undertaking an audit of the State's roads and maintenance arrangements.

The audit parameters were to include:

- an assessment of the condition of major state roads that freight and passengers use every day for moving around the state
- a review of the planned and projected maintenance programs for these state roads
- ensuring that maintenance contractors are meeting their obligations and have appropriate management systems in place
- reviewing local processes for managing road and bridge maintenance programs and identifying any systemic infrastructure planning issues that impede regional development
- identifying priority areas that require further investment by the State and local councils.

The audit is designed to ensure our roads and bridges are kept in an appropriate condition, are reliable and safe, and are managed at the lowest achievable cost.

This audit will also be an important first step in developing an Asset Management Plan for the State's road assets.

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# 1. Scope of the Audit

Infrastructure Tasmania has relied on a review of systems and processes to understand the arrangements and practices within the various road managers and the processes they use to prioritise their expenditure, procure resources and manage their assets.

This has involved discussions with these road managers, review of key documentation and independent inquiry and analysis.

The audit highlights some of the key pressure points on the system, inefficiencies within the broader networks and recommendations to address shortcomings. It involves consideration of a range of matters relating to ownership, asset management capability and contribution to economic growth. At the Tasmanian Government level there are significant differences in management approaches and capabilities to the various road networks.

Infrastructure Tasmania has focused on a series of actions that it considers can enhance the management of the various networks and improve the economic prosperity of the state in the short term but proposes that longer term consideration should be given to the transfer of the various state-owned networks to the state road authority, the Department of State Growth (State Growth). Any such decision would obviously need to consider cross agency funding arrangements with appropriate adjustments to budgets and payment structures.

# 2. Executive Summary

Infrastructure Tasmania has focused on a series of actions that it considers can enhance the management of the various road networks in Tasmania and improve the economic prosperity of the state in the short term. It proposes that longer term consideration be given to the transfer of the various State-owned networks to the State road authority, the State Growth, to achieve scale efficiencies and more robust management and maintenance of the combined networks.

The audit reveals that there are differing capabilities across the various networks to efficiently manage the road management and maintenance task. Summary findings for each network owner are detailed below.

State Growth has a capable level of in house expertise to manage its network. Its investment in systems, procedures and plans to support its operations indicates that it is operating at an effective level.

It has adequate systems in place to manage its construction and maintenance programs. The programs are well planned, delivered as intended and evaluated regularly. The audit identified some deficiencies in terms of contract management and proposes a comprehensive evaluation of the strategic approach to contract management functions be undertaken.

The audit also noted limitations around the flexibility of budgeting arrangements and recommends a review of these processes along with a range of road manager responsibilities between State and local government.

Hydro Tasmania with its relatively small road network has embraced an outsourced model of maintenance and asset management which is providing an effective, value for money solution. This is considered to be a fit for purpose process which provides an effective and affordable road management solution.

Forestry Tasmania does not possess the in house capability to effectively manage its network. It does not have an asset management system and the deficiencies in standards and methods of procurement require immediate and significant attention. The audit identifies a number of opportunities for improvement with a longer term option of transferring management of all or part of the network to State Growth.

The Parks and Wildlife Service (PWS) of the Department of Primary Industry Parks Water and Environment (DPIPWE) has limited in house capacity and capability to execute its road management function. Its prioritisation of works on key tourist roads is a sound strategy as is seeking to negotiate new ownership for these roads. At risk for PWS is the potential for maintenance task and safety issues on the remainder of its network. It is proposed that PWS expedite its review of these roads and that in the longer term consideration be given to the possible transfer of the PWS road network to State Growth.

Local Government has significantly improved its capacity to manage its road network over recent years. It continues to require additional funding for maintenance backlogs but its better planning processes across its networks is allowing for targeted prioritisation and overall improvement. This is particularly apparent with bridges where councils have been working collaboratively with the State Government in response to heavy vehicle reform. The audit proposes a process for councils to identify and trade roads with the State Government to improve efficiencies across both road networks.

# 3. Summary of Recommendations

## 3.1 Department of State Growth

- That a process be established to clarify and resolve the uncertainty around road management functions related to line marking, traffic lights, street lighting and bus stops.
- That State Growth establish a capacity for capture data and analysis that supports long term, infrastructure planning as well as the capacity to evaluate infrastructure and non-infrastructure solutions
- That State Growth consider how it might develop to meet this need.
- That State Growth undertakes a comprehensive evaluation of its strategic approach to its contract management functions.
- That consideration be given to building program flexibility into the capital and maintenance budgeting arrangements that would allow improved levels of flexibility while ensuring that appropriate accountability and transparency is maintained.

## 3.2 Hydro Tasmania

- That the Hydro Tasmania network management model be reviewed by Forestry Tasmania and the Parks and Wildlife Service to ascertain its portability and adoption as an efficient means to manage a network with limited in-house capability.
- That in the event that is was determined to aggregate state road ownership in a single entity, Hydro Tasmania roads be included in that process.

## 3.3 Forestry Tasmania

- That Forestry Tasmania review its processes with a view to developing an appropriate specification for maintenance and construction activities on the forestry network which not only meet the Forest Practice Code requirements but provide appropriate ongoing use for other users
- That, in conjunction with the above activity, consideration be given to how the maintenance task could be packaged and presented to market through a robust tender process.
- That Forestry Tasmania review the Hydro Tasmania road network management arrangements with a view to adopting a similar model of outsourced management of the entire network but with the possibility of having the maintenance task undertaken on a whole of network or partial network basis through appropriate tender processes.
- That consideration be given to the capability and capacity of those seeking to access the forests for wood production to construct or meet the cost of construction of new roads required to access the forest resource.
- That longer term consideration be given to whether the management of the Forestry Tasmania road network should be transferred to State Growth to ensure that the necessary expertise in managing the

network can be provided and that the designation of "forestry roads" could remain in place to ensure that any such transfer does not trigger the necessity to maintain those roads at a higher standard than necessary.

## 3.4 Parks and Wildlife Service

- That the prioritisation on upgrading and resolving long-term ownership and management of high-use tourist roads be continued.
- That where those road ownership arrangements involve State Growth, or where that agency could assist with packaging a trading of roads with local government, the process be expedited.
- That PWS allocate the additional resources necessary to expedite the assessment of the roads transferred from Forestry Tasmania and take the actions necessary, including road closures or erecting barriers, to manage risk and improve safety.
- That longer term consideration be given to whether the management of the PWS road network should be transferred to State Growth to ensure that the necessary expertise in managing the network can be provided.

## 3.5 Local Government

- That councils continue to work cooperatively to enhance the overall capacity and capability of its resources involved in asset management and network planning.
- That a period of six months apply to the identification of local government roads that could be 'traded' to the Tasmanian Government.
- That the trade process adopt cost-neutrality for all parties as a fundamental principle.
- That in the 12 months following the 'trade period', State Growth details a program of priorities for completing road-trades.
- That the State Growth and Hobart City Council conclude the agreement to transfer the Macquarie Street/Davey Street couplet to Tasmanian Government ownership on the basis of cost neutrality.
- That the State Growth and the Launceston City Council commence discussions on the arrangements and timing for a transfer of the Wellington Street/Bathurst Street couplet to Tasmanian Government ownership on the basis of cost neutrality.
- That councils take a strategic approach to planning on their road networks through collaborative decision making on infrastructure priorities that support and enhance economic development both regionally and state-wide.

# 4. The Tasmanian Road Network

Unlike other asset classes across Government, roads do not simply rest within a single agency. Nor is there central responsibility, commonality of process, management or practices. The skills and management capability across agencies varies considerably with some having roads as a core responsibility and others managing them as ancillary to their core business.

The State Growth, Forestry Tasmania, Hydro Tasmania, and PWS are all custodians of the State-owned network of roads. In addition, there are 29 units of local government that have ownership and management of a network of local roads within their own jurisdictions.

While all have differing levels of amenity and use, there is no regularised approach to asset management, prioritisation, procurement or funding.

The entire Tasmanian road network is in excess of 36 000 kilometres. State Growth road assets include about 3 700 kilometres of roads, 1 300 bridges and major structures and 9 500 hectares of land. The replacement value of state road authority's physical assets is almost $7 billion.

Local government has responsibility for a total of 14 470 kilometres of roads (7 591 kilometres sealed and 6 973 kilometres unsealed) as well as over 1 700 bridges.

Hydro Tasmania has a road network of some 600 kilometres of which 170 kilometres are sealed and 200 kilometres are accessible to the public.

Forestry Tasmania has responsibility for more than 10 000 kilometres of roads while the PWS network is now some 7 500 kilometres with the recent transfer of approximately 5 000 kilometres of roads from Forestry Tasmania.

The standards and categorisation of roads within each authority differs considerably based on the purpose for which the road was originally built and its usage. They range from key freight and passenger routes through to bush tracks constructed and maintained for the purposes of fire management.

The networks are not exclusive and are joined up across the State with significant cross dependency for access. Roads managed by State Growth and councils are generally accessible by the public while the operational roads of Forestry Tasmania, PWS and Hydro Tasmania can be subject to restrictions of access and closure to the public. This can be for safety or operational reasons with such access generally restricted by physical barriers such as gates.

## 4.1 How Are the Networks Being Used?

The vehicle fleet in the State has increased moderately in recent years with the largest growth category being trucks, demonstrating a greater participation in the road freight task in the State

| Vehicle Type | 2011 | 2012 | 2013 | 2014 | 2015 | Growth 2011-15 (% per annum) |
|---|---|---|---|---|---|---|
| Car and motorcycle | 221 112 | 221 256 | 220 874 | 221 280 | 220 344 | - 0.1% |
| Station wagon/SUV | 93 667 | 96 144 | 99 349 | 104 011 | 109 132 | 4.1% |
| Truck | 39 786 | 40 113 | 40 860 | 41 857 | 42 784 | 1.9% |
| Utility and van | 64 247 | 65 271 | 66 747 | 69 053 | 71 453 | 2.8% |
| Other | 126 633 | 128 478 | 130 448 | 133 600 | 136 339 | 1.9% |
| **Totals** | **545 445** | **551 262** | **558 278** | **569 801** | **580 052** | **1.6%** |

Table: Summary of Tasmanian road vehicle fleet for the 2011-15 period.

Tasmania's road networks are responsible for the majority of the State's land freight task, carrying in excess of 1.5 million tonnes of product per annum. The remainder is carried by rail. The quantum of the freight task on each road manager's network highlights the relative impact in terms of tonnes carried and the broad maintenance task of each road manager.

| Movements by Road Owner Road ownership | Tonne kilometres travelled | % of total tonne kilometres travelled |
|---|---|---|
| National Land Transport Network – Road | 872 million | 47% |
| State Roads | 512 million | 28% |
| Local Government Roads | 105 million | 6% |
| Roads under other ownership | 39 million | 2% |
| **Total Road Freight** | **1528 million** | **82%** |

Recent trends influencing Tasmania's road freight task include:

- continued concentration of freight volumes through the northern ports, particularly domestic containers at the Ports of Burnie and Devonport, and bulk freight through Bell Bay;
- development of the Brighton Freight Hub and closure of the Brighton to Hobart rail line for freight;
- increase in proportion of freight carried on the National Network (road) – from 39 per cent of net tonne kilometres (NTK) in 2008-09 to 47 per cent NTK in 2011-12
- an increase in proportion of total freight carried on rail volumes from around 18 per cent NTK to 22 percent NTK
- an increase in agricultural freight volumes, and a reduction in the state-wide forestry freight task, and in mining volumes on the West Coast.

Tasmania's largest road freight commodities by volume are construction materials, agricultural products, forestry and mining. All sectors rely on regional and rural road networks to access central freight corridors.

The transport of construction materials is Tasmania's highest tonnage freight task, with more than six million tonnes moved in 2011-12. Movements tend to be within regions, and made over shorter distances. Tasmania's agricultural task has grown proportionately from around 16% of total freight volumes in 2008-09 to 21per cent in 2011-12. Volumes are highest in the North West, where major production and processing centres are located. Future growth is expected across all regions as a result of irrigation investment. Forestry freight volumes declined from 9.3 million tonnes in 2008-09, to 3.4 million tonnes in 2011-12. Changes in the sector have seen major reductions in freight volumes on individual roads, across the state; for example on the East Tamar Highway, Bridport Main Road, and Tea Tree-Fingerpost Road. Despite this decline, forestry remains a key road freight task, and current volumes are likely to be higher than those reported in 2011-12, with subsequent changes, including re-opening of the Hampshire and Longreach chip mills, increasing forestry output.

Tasmania's mining sector has a limited impact on the State's road network, with significant volumes of product moved via private facilities, by rail and/or over very short distances between processing centres and ports. The major use of the road network is on the West Coast, the Bell Bay Industrial Estate, and for the movement of coal out of the North East.

Three quarters of Tasmania's land freight task is moved intra-regionally. The North West region supports the highest freight volumes.

Freight forecasts include the following -

- Total land freight volumes are projected to increase from 26.7 million tonnes in 2015 to 38 million tonnes by 2035.
- The Burnie to Hobart Freight Corridor is projected to continue to carry the highest freight volumes, with the highest volumes projected on the Bass Highway between Deloraine and Westbury.
- The East Tamar Highway and Bass Highway, west of Burnie will remain the principal regional freight connections, with forecast volumes of 3.3 million tonnes and 3 million tonnes respectively.

## 4.3 Key Road Related Legislation

The Audit noted that the activities undertaken on road networks and the obligations to meet certain fundamental requirements are detailed under legislation. The extent of their management, control and responsibilities is provided across a range of legislative instruments that provides the requisite head of power to fulfil their road management obligations. There are a number of specific pieces of legislation that govern the classification and management of Tasmania's road network.

- *Roads and Jetties Act 1935* - The main source of law on state roads and subsidiary roads
- *Local Government (Highways) Act 1982* - The main source of law on local government roads
- *Traffic Act 1925* - Contains traffic management provisions that relate to all roads open to the public
- *Transport Act 1981* - Regulates and controls transport services on roads, water or air through the Transport Commission

- *Vehicle and Traffic Act 1999* - Regulates the licensing of drivers, registration of vehicles and traffic management.

In addition, legislation governing the operations of Forestry Tasmania and PWS provide the authority in relation to access, management and responsibility for roads and roading structures.

# The Road Managers

# 5. Department of State Growth

*The Roads and Jetties Act 1935* defines the state road authority as being the Minister for Infrastructure. Responsibility for the management, construction and maintenance of the Crown's State highways and subsidiary roads is directly vested in the Minister through this Act of Parliament. The State Roads Division of the Department of State Growth is the vehicle through which these requirements are managed and delivered.

The infrastructure managed by the State road authority provides the arteries of the State's economy and communities. It is therefore vital that these assets be managed sustainably and efficiently to ensure that the expectations of Tasmanians can be met well into the future.

In addition to the State road authority's 3 733 kilometres of roads and 1 300 bridges and major infrastructure, there are 9 500 hectares of land. The replacement value of these physical assets is approximately $6.8 billion.

## 5.1 What Does the State Road Network Look Like?

The State Road Network is the most heavily used transport infrastructure in the state. Its economic significance to the state is immense and must be maintained to a high standard to provide for the productive efficiency of the state's economy as well as the effective movement of people between communities. This network is planned and managed within a clear strategic framework involving a five tier hierarchy that categorises roads by function, forecast use and traffic volumes. The categories are:

- Category 1 – Trunk Road - primary freight and passenger vehicle roads
- Category 2 – Regional Freight Roads - major regional roads for carrying heavy freight
- Category 3 – Regional Access Roads - the main access to the State's regions, carrying less heavy freight traffic than Regional Freight Roads
- Category 4 – Feeder Roads - State roads that provide connections between towns, major tourist destinations and industrial areas
- Category 5 – Other Roads - the remainder of State Roads

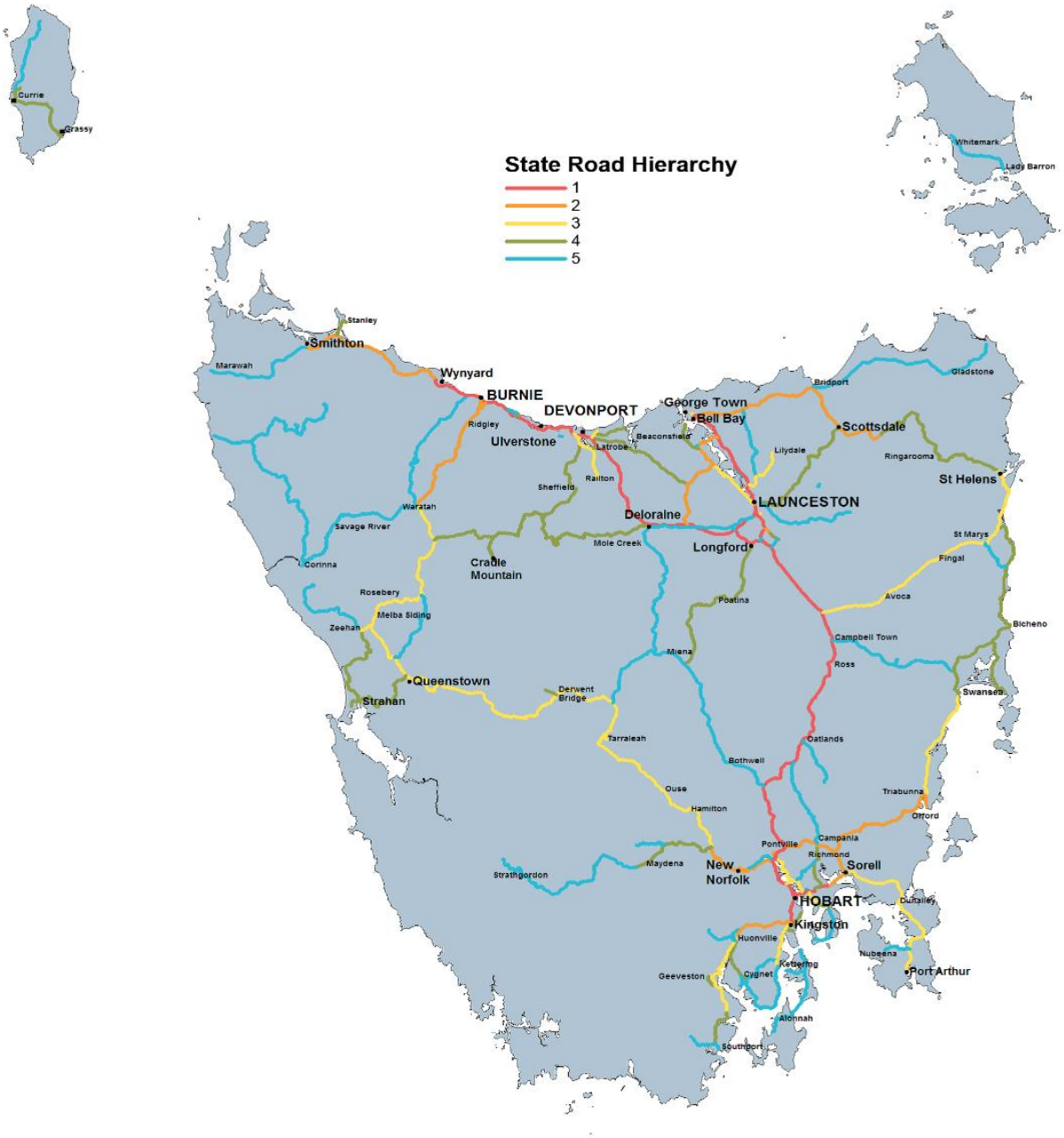
| **Road Category** | **Road length km** | | | **Number of structures** | | | |
|---|---|---|---|---|---|---|---|
| | Sealed | Unsealed | Total | Culverts | Bridges | Other | Total |
| 1 | 454 | 0 | 454 | 166 | 174 | 25 | 365 |
| 2 | 428 | 0 | 428 | 76 | 51 | 1 | 128 |
| 3 | 725 | 0 | 725 | 133 | 162 | 1 | 296 |
| 4 | 853 | 0 | 853 | 90 | 119 | 0 | 209 |
| 5 | 1025 | 248 | 1273 | 123 | 118 | 1 | 242 |
| **Total** | **3485** | **248** | **3733** | **588** | **624** | **28** | **1240** |

It should be noted that these categories are only applicable to that part of the network for State Growth has responsibility. Local Government and other road authorities have their own categories for each of their networks and there is little cross reference or commonality among the network category definitions and uses.

On the State Road Network, average annual daily traffic (AADT) volumes are forecast to remain highest on the Category 1 Road network, with the highest growth of around 1.3 per cent on the non-urban part of this network.

Growth in AADT is also forecast on the Category 2-3 road network, but from a significantly lower base, with a projected decrease on Category 5 roads.

High volume urban roads include the Tasman Highway at the Tasman Bridge, Brooker Highway and Southern Outlet, and Macquarie and Davey Streets in Hobart and Bathurst and Wellington streets in Launceston.


State Road Hierarchy
1
2
3
4
5
Currie
Grassy
Whitemark
Lady Barron
Stanley
Smithton
Marawah
Wynyard
BURNIE
DEVONPORT
George Town
Bell Bay
Bridport
Gladstone
Ridgley
Ulverstone
Latrobe
Beaconsfield
Scottsdale
Lilydale
Ringarooma
St Helens
Sheffield
Railton
Waratah
Savage River
Deloraine
LAUNCESTON
Mole Creek
Longford
St Marys
Fingal
Corinna
Cradle Mountain
Rosebery
Poatina
Avoca
Melba Siding
Zeehan
Campbell Town
Bicheno
Miena
Ross
Queenstown
Derwent Bridge
Swansea
Strahan
Tarraleah
Oatlands
Bothwell
Ouse
Triabunna
Hamilton
Orford
Pontville
Campania
Richmond
Maydena
New Norfolk
Sorell
Strathgordon
HOBART
Dunalley
Kingston
Huonville
Nubeena
Ketterring
Port Arthur
Geeveston
Cygnet
Alonnah
Southport

## 5.2 Condition of Network

State Growth released a State of the Roads Report in 2014 which provided a summary of the condition of the state road network at a point in time. The report provided a summary of the data and trends relating to condition, use and performance of the network.

The key features of the report included the following:

**Traffic Levels**

- The use of state roads by trucks and other vehicles increased by 7.5 per cent over the previous decade.
- Most traffic growth was on Category 1 roads with small fluctuations from year to year on other roads.
- Truck traffic was constant from 2009-13 but from 2003 to 2013 it increased by 8.2 per cent.

**Age - Road Pavement and Seals**

- New road pavements typically have a design life of 20 years. Good regular maintenance practices can result in economic life extending to around 40 years from highly used roads and 60 years for less used roads.
- The overall average of seals is generally 15 years. In 2013 the average seal age was 10 years with 21 per cent being greater than 20 years.
- Since 2009 the average seal age has been decreasing due to implementation of a program to increase skid resistance.
- In 2013 average pavement age was 38 years, increasing in average age of three years.

**Bridge Lives**

- Bridges built since the 1970s are anticipated to have an economic life of 100 years.
- Steel and concrete bridges built prior to the 1970s have been found to have an average life of around 70 years.
- Bridges built over salt water tend to have shorter lives.
- In recent times the number of bridges over 70 years of age has increased by about 10% per cent
- Over the next 10 years about 150 additional bridges will become 70 years of age or older meaning they have exceeded their average expected bridge economic life.
- 22 bridges have been replaced in the past decade. The majority of bridges older than 70 years are on Category 3-5 roads.
- Six bridges in Category 1 are 70 years and older.

## 5.3 How is the Network Being Managed?

### 5.3.1 What is Happening Now?

State Growth manages the Tasmanian Government road network with available funding. All works undertaken on the network are performed by external contractors and there is also significant private sector involvement in the planning and design functions of the network. All major construction projects are subject to individual tender while maintenance is spread across three contracts that are offered on a regional basis across the state. A significant challenge for State Growth is managing the construction program in such a way as to ensure that contracts can be developed and put to the market at times that align with the most favourable weather conditions for the construction task. The planning, procurement and funding cycles often make this difficult but much effort is being put into the network management function to ensure that projects can be put to the market at the earliest opportunity.

The nature and management of this important network demands that appropriate attention and resources are dedicated to identifying the requirements of the network and its users and then carefully planning for the effective delivery of maintenance, remediation and upgrade. It requires a diligent and mature approach with good data capture and a capacity to utilise that data to appropriately manage the network within available resources.

There are a series of documents that outline the characteristics, scope and general condition of the state road network. Since 2014 State Growth has embarked on a series of programs under the banner of Roads for our Future which has sought to provide a strategic focus to the various components of the management and funding of the overall network.

Roads for our Future takes a long term strategic planning approach to the delivery of Tasmania's road network. Traffic, freight trends, population growth and industry development require individual and collective scrutiny to ensure that safer and more efficient roads are delivered.

State Growth has recently developed a draft Ten-Year Infrastructure Investment Plan which sets out the principles, processes and methodologies it will seek to utilise in the delivery of its network program.

In recent years there have been significant reforms in the energy, water and sewerage and local government sectors which have led to improved financial accountability and commercial discipline. The draft Ten-Year Infrastructure Investment Plan will seek to bring the management of State Growth's road network into line with contemporary infrastructure planning and the associated financial management practices.

State Growth has invested significant effort into a suite of activities to provide for more transparent and accountable asset planning and management. It has undertaken an assessment of asset management maturity measured against best practice standards. It has developed the State Roads Infrastructure Service Policy and the State Roads Infrastructure Asset Management Policy. A State of Our Roads report has been completed and a Level of Service Framework is included in the draft Ten Year Infrastructure Investment Plan.

The impact of this recent work has been significant with the key focus on renewal and maintenance expenditure to efficiently achieve specified levels of surface and optimising asset upgrades to minimise further ongoing maintenance costs. These foundations, particularly defined levels of service, allow for the transparent allocation of expenditure to meet desired service outcomes and enable effective communication and consultation with customers in relation to priorities, costs and trade-offs.

Adapted from a New Zealand model, the Level of Service Framework seeks to describe 'customer' - that is, road user - expectations of the State Road Network. It relies on a hierarchical categorisation of roads which have historically have been the drivers for prioritising road pavement and surface renewals.

Within this framework a number of challenges have been identified – maintenance, safety, freight efficiency, peak commuter demand, active transport and tourism investment. This matrix of challenges coupled with the defined levels of service are intended to help identify and drive priorities and budget allocations across the network with a minimum forward outlook of 10 years.

### 5.3.2 Asset Management Policy

Infrastructure asset management is the systematic and coordinated activities and practices through which an entity sustainably manages its assets and asset systems, their associated performance, risks and expenditures over their life with appropriate levels of service that balance the needs of customers within available funding.

The State road network represents a significant investment built up over many generations. Road and bridge assets are long-lived as discussed previously. Investment in assets of this nature requires considerable care as poor decisions can impact generations of Tasmanians. Asset maintenance is also central to their financial sustainability as up to 80 per cent of the lifecycle cost of a road infrastructure asset may be expended after construction.

State Growth has spent considerable effort in developing its asset management policy. It sets the framework for investment in maintenance and remedial cycles and drives decisions on decision making around replacement and new construction.

This Asset Management Policy is a cornerstone document in the Tasmanian state road authority's asset management system. The asset management system promotes the responsible management of, and investment in, the Crown's road infrastructure assets for the long-term benefit of current Tasmanians and future generations.

It is intended to support long-term capital and operational funding forecasts and a robust forward investment program. This system seeks to ensure that investments in road infrastructure investments and services provided to customers are at levels appropriate for current and future demand. Risk management and asset performance reporting are to be used to assist in the prioritisation of investments

The asset management system covers all road transport infrastructure asset classes including road assets, bridge assets, property assets, traffic services assets and data assets.

### 5.3.3. Managing the Maintenance Task

Periodic maintenance must be hardwired into the system. While a choice exists in funding new projects or significant upgrades, if the network is to be sustained at a level that ensures the current and projected needs of users, it must have a reliable, steady and adequate level of funding for maintenance. Without this the network will degrade as deferred maintenance in the short term is likely to lead to greater lifecycle costs in the longer term. The capacity to make the interventions when the network most needs it ensures that the network is kept to the level required. This is what the asset management plan seeks to drive.

In terms of the operational system elements of maintenance, the regime operated by the State Growth is sophisticated and rigorous. Driven by a maintenance performance specification, contractors are monitored through an electronic system that sets out key service levels with relevant KPIs. Contractors are required to

provide a base service which has a series of actions identified with service standards for a range of maintenance activities.

All activities are reported and monitored and there are monetary penalties imposed for lack of performance. In the case of extraordinary events or minor works there is a defined and clear process of inspection prior to work being undertaken, agreement on a program of work and a quote provided. Inspection follows completion of the work.

In the event of emergency works, the contractor simply does what is necessary to clear or reduce any hazard with appropriate reporting arrangements directly and through the management system.

### 5.3.4 What was Happening?

A significant and highly strategic series of activities have placed the State Growth in a much better position to understand and manage its network in accordance with the needs of users.

There has not been a strategic investment plan for the State road network since 2004. The process of the agency responsible for the network has been to do what could be done with available funding. Rather than systematically advocating for funding on the basis of strategic priorities that were identified through a robust asset management regime, practice dictated submissions of a series of potential projects, the value of which exceeded the likely allocation with the funding entity (Australian Government) effectively choosing those projects, which it sought to support. It was a system based on a formulaic model of allocation that tended to be driven in large part by projects with public appeal, regional equity and election commitments. While some needs of some users were being met very well, network equity and priority of needs balanced against required service levels simply did not occur.

The recent development by State Growth of its asset management frameworks represents the appropriate application of a well-tried and understood approach to infrastructure management. While State Growth has long invested in asset management frameworks and systems, they have tended to be theoretical constructs offering little guidance on the particular needs of the network and its users. The documents did not drive actions but fulfilled a requirement to demonstrate an understanding of the network capability and condition and highlight areas requiring action or intervention.

There is a new focus on service needs of network users rather than on the network itself. Pinch points, blockages and economic gateways need to be addressed and prioritised to ensure that the network operates efficiently and that the objective is not simply to spend the available allocation through some arbitrary process that sees funds allocated on a geographic model or in response to a suite of programmed responses that take little account of the requirements of users.

### 5.3.5 How the Funds are Spent

About $90 million was spent on construction on the network last year with a further $71 million allocated this year. The maintenance spend last year totalled $49 million with a further $61 million allocated towards this year's program. A substantial amount of maintenance activity is also delivered through capital projects involving renewals and bridge upgrades

In the context of the network's financial sustainability the past decade has seen the level of capital investment in assets exceed depreciation in only two of those years. With an average annual depreciation charge of about $86

million over that same period, cumulative unfunded depreciation of $234 million has resulted. The 10-Year State Roads Investment Strategy is designed to ensure that the right decisions are made and investment is directed to the right projects, by having a clear plan for the development and management of roads and consolidation of funding programs to achieve the maximum benefit capital investment, including funding from the Australian Government. It will be built upon clear transport policy objectives, defined levels of service and key performance indicators to measure success.

A key priority on the network is the upgrade of the major freight corridor between Hobart and Burnie and, more specifically, a major rolling program of works on the Midland Highway aimed at providing a safer highway for all users.

The current funding commitment of $500 million over 10 years is the largest ever single investment in the Midland Highway. Using the AusRAP (the international Road Safety Audit approach adopted by the combined National Automobile Associations) methodology, the objective is to raise the standard of this strategic Highway to a minimum Three-Star AusRAP rating.

Currently 86 per cent of the Midland Highway rates at two or one stars. In the short term, the priority is to improve safety at high-risk crash sites and reduce head-on collisions by implementing a set of consistent treatments, including installing median separation and flexible safety barriers in the centre of the road in high speed areas, removing roadside hazards, widening sealed shoulders, providing audible line marking and improving skid resistance.

Consistent with the objective of a safer highway, additional overtaking lanes will also be constructed. This will result in the time between overtaking opportunities being typically less than three minutes. Consequently, this program of safety improvements will also deliver freight efficiency gains on the state's main freight corridor. Most of these projects will be under construction for more than 12 months.

Projects for the coming years are already being developed as part of the 10 Year Action Plan and will be delivered as rapidly as the program budget permits.

## 5.4 Observations

### 5.4.1 Program Rather than Project Budgeting and Reporting

The budgeting cycle associated with the Road Network requires that projects are identified and budget allocations made against them. In relation to pavement renewal and reseals, projects can be listed seven to eight years into the future but they will not necessarily be the highest or best priority when the time arrives to procure them. Greater flexibility to reallocate funding or re-order priorities based on service levels or customer need would provide for a more efficient network overall. This must be balanced against fiscal constraint and accountability but a network program model would provide some level of flexibility within the program budget to bring other priority projects forward.

The capital program is funded along similar lines where individual projects are identified well in advance and cost estimates made in the budget against those projects. This discipline ensures that the process for estimation is rigorous and considered and that the budget allocations against each project provide a sound basis for anticipated expenditure. In a market where favourable pricing can be achieved, the savings on an individual project are not able to be automatically reinvested into the network program. From an infrastructure perspective, the capacity

to reinvest any savings into other projects would provide greater continuity and efficiency rather than having to report and make subsequent requests against individual projects.

Another challenge is the treatment of the capital budget as an operating budget with respect to the capacity of State Growth to carry over only 3 per cent of its funding without referral to Treasury. While fiscal discipline is a priority, funding arrangements should allow the flexibility to respond to externalities such as weather and planning approval process delays. An underspent allocation to a capital project can be lost due to an administrative process without regard for the implications for the project cash flows and continuity. Opportunities to defer or to bring forward projects to achieve operational efficiency can also be lost (with the possibility that the overall cost over time is greater) under existing arrangements.

### 5.4.2 Contract Management

In recent times there have been a number of asphalt failures on the state network. This has been the subject of much criticism and angst from the travelling public and road users. The reasons are complex and relate to some system and skill deficiencies in the industry but may also reflect on the broader contract management of State Growth.

While it is not possible to be present for each stage of the construction and remediation process, there must be confidence that the processes being used by contractors comply with standards and that there is a capability within the skill set of contractors to meet challenges that might arise from particular weather events.

The sealing problem has resulted in a collaborative effort between State Growth and the industry to access skills and training to ensure that those involved in this endeavour are exposed to best practice and the controls and judgements that are necessary to achieve compliance and deliver a robust product.

While the overall shortcoming and resultant failures may be isolated to a specific or particular issue, Infrastructure Tasmania considers that there is merit in State Growth undertaking a comprehensive evaluation of the strategic approach to its contract management to satisfy itself that similar shortcomings can be avoided in the future and any improvements implemented.

### 5.4.3 Road Manager Responsibilities

Efficient and effective road management requires having and taking responsibility for those matters that form part of that network. There are a number of areas where there has been longstanding debate between State Growth and local government as to whose responsibilities certain functions belong. It is important for the effective management of road networks throughout the state that these matters are addressed and resolved. They include line marking, traffic lights, street lighting and bus stops.

Line marking on local government roads is presently carried out under a head contract administered by State Growth. An allocation of $860 000 is budgeted each year and is spent across councils on a first in first served basis. Once the limit is reached councils have the option to fund their own line marking. A number of councils when undertaking new works or major upgrades will simply include line marking as part of the project and fund the component part of the project from their own funds. There has been a long standing custom and practice arrangement that the Tasmanian Government is responsible for line marking, although is not a legislated responsibility. While not a large outgoing, it does raise the issue of the whether individual road managers should be responsible for their own line marking on their network.

The installation of traffic lights on local government streets is funded by the relevant council road manager. However, councils do not make any contribution to the ongoing operation or powering of the facilities. The Tasmanian Government through State Growth takes responsibility for ongoing maintenance of the signals and they form part of the broader signalling and traffic management systems in urban areas. The issue arises as to whether councils should make any ongoing contribution to the operational costs of these devices that are located on their networks. State Growth maintains that the payment of electricity costs would be a possible contribution.

The electricity costs associated with street lighting is paid for by the relevant road managers. In some cases councils own a large number of street lights in their own right. There are circumstances, however, where councils request additional lighting above the standard on state roads, particularly in urban areas, to ensure the safety and amenity of community members. In these cases, there have been agreements that the council would contribute towards the cost of the additional power supply resulting from the supplementary lights. This matter has also become a matter of contention in recent times in terms of the road network owner responsibilities.

There also continues to be a lack of clarity around responsibility for bus stops on respective road networks. The necessity for bus stops to be erected in compliance of the *Disability Discrimination Act* is an emerging issue.

Infrastructure Tasmania recommends a process to address and resolve these issues to best match the functions with the responsibility of the road manager. This will ensure that the focus of the road managers remains on the tasks that they are responsible for in maintaining the effectiveness and efficiency of their respective networks.

### 5.4.4 Data Capability

Long range infrastructure planning can only occur if there is access to long range demand data and associated analytical capability. This lack of data and capability was highlighted during the recent congestion event issue in Hobart. Having the capacity to not only capture and analyse data to model scenarios across various modes is an essential requirement of a strategic road managers.

### 5.4.5 Customer Service Solutions

The recognition that infrastructure is only a means of providing services, has wider implications for State roads. It implies that non infrastructure solutions should be evaluated where they present a potentially credible path to meeting a source need.

In the medium to long-term, this will mean State Growth will need the capacity to examine deferring infrastructure spending through demand-side management. In turn, this will require more sophisticated and integrated decision-making frameworks. For example, frameworks that enable additional bus services or time of day access restrictions for specific vehicle classes or alternate traffic management technologies to be evaluated against road infrastructure spending.

The most pressing example of the need for this capability is likely to relate to growing traffic management pressures in and around Hobart.

A pre-requisite to this is that the levels-of-service embedded in the Draft 10 Year Plan be finalised in order to have an objective target against which alternative solutions can be assessed.

## 5.5 Recommendations

- That a process be established to clarify and resolve the uncertainty around road management functions related to line marking, traffic lights, street lighting and bus stops.
- That State Growth establish a capacity for capture data and analysis that supports long term, infrastructure planning as well as the capacity to evaluate infrastructure and non-infrastructure solutions
- That State Growth consider how it might develop to meet this need.
- That State Growth undertakes a comprehensive evaluation of its strategic approach to its contract management functions.
- That consideration be given to building program flexibility into the capital and maintenance budgeting arrangements that would allow improved levels of flexibility while ensuring that appropriate accountability and transparency is maintained.

# 6. Hydro Tasmania

## 6.1 What Does the Network Look Like?

Hydro's Tasmania's road network is integral to the efficient and effective management of the state's major energy generating assets. The network comprises around 600 kilometres of roads with around 130 kilometres being sealed and around 200 kilometres of roads accessible to the public.

The annual capital spend on roads is around $500 000 with another $800 000 spent on maintenance and contract administration. A further $500 000 is spent on bridges each year.

## 6.2 How is the Network Being Managed?

Hydro Tasmania has let a five-year contract to the private sector for the provision of capital and maintenance works on their 200 kilometres of road network. The contractor maintains a predictive model to inform the road spend. The model involves Hydro Tasmania setting a desired condition index for roads of differing types, from sealed to closed to the public gravel roads. The contractor completes a condition criticality/duty of care assessment from which a program of works is presented.

A case is presented to the Board of Hydro Tasmania annually for approval of a works program. There is an additional layer of scrutiny with an annual external audit of the maturity of the asset management practices of the contractor.

The contract is structured such that there is a fixed component for the contractor to cover the administration (modelling and reporting functions) and then the at risk components of the capital and maintenance spends. This provides sufficient revenue certainty for the contractor to cover the planning and administration while having confidence there will be a significant amount of capital/maintenance spend.

With the majority of Hydro Tasmania roads and structures located on the west coast of Tasmania, the company benefits from the scale efficiency of its contractor, which also undertakes services for the West Coast Council, some of the mining operations and maintenance of the State roads network in the region. This allows the fixed costs to be spread rather than having all plant and equipment in house.

There is no Community Service Obligation payment provided for the public access roads. The volumes on the public access roads are understood to be quite small.

Prior to moving to a new contract management in around 2009, roads were maintained by multiple contractors. The business was structured along geographic lines around major assets meaning that a unit that looked after a particular power station managed all the infrastructure associated, including access roads. Dedicated road funding was therefore not provided and the asset management of roads was not given priority.

## 6.3 Observations

In comparison to other road managers, the Hydro Tasmania network is very small. Roads are not the core business of Hydro Tasmania but play an integral part in the management of its generating assets. Past processes around road management meant that funding was not allocated on a strategic and fit for purpose basis and levels of service did not match operating requirements.

The decision to outsource the road management and maintenance function to a private provider has allowed Hydro Tasmania to focus more heavily on core functions but have the confidence that this essential ancillary service is being managed and delivered effectively with adequate controls and accountabilities in place.

## 6.4 Recommendations

- That the Hydro Tasmania network management model be reviewed by Forestry Tasmania and the Parks and Wildlife Service to ascertain its portability and adoption as an efficient means to manage a network with limited in-house capability.
- That in the event that is was determined to aggregate state road ownership into a single entity, Hydro Tasmania roads be included in that process.

# 7. Forestry Tasmania

## 7.1 What Does the Network Look Like?

Forestry Tasmania currently manages an extensive network of around 10 000 kilometres of all-weather forestry roads in Permanent Timber Production Zone Land.. These roads are constructed for the principal purpose of providing access to working forests for harvesting and regenerating forestry coupes. The construction of this road network is funded by Forestry Tasmania through income received from the sale of wood products.

These road assets are valued at some $65 million and about $5 million is spent annually on maintenance and upgrades/construction of roading required for timber harvesting. The network entails a series of main trunk roads that are under regular industry traffic. Roads where production will be required within the harvesting plan are brought to a standard for the purposes of resource retrieval but once a particular area has been logged and remediated, the road may simply go into care and maintenance. Some roads will not receive attention for many years until such time as a production area in the vicinity requires access. Management and maintenance of forestry roads is determined by a range of factors contained within the provisions of the *Forest Practices Act*.

## 7.2 How is the Network Being Managed?

This just-in-time approach is the only way that Forestry Tasmania is able to effectively manage its vast network, given its limited resources. In the past financial year Forestry Tasmania constructed 51 kilometres of new road and maintained a further 2 738 kilometres.

Some revenue is raised for the maintenance/construction task through the imposition of road tolls and the State Government provides a Community Service Obligation of around $1.2 million to assist offset fire-fighting activities and to continue to provide public access to key sites on the Forestry Tasmania road network.

Once constructed, many of these roads also fulfil other functions for the benefit of the community by providing alternate and often superior access to private property; through routes between rural communities, thereby complementing the rural road infrastructure provided by local and State Government, and public access to State forests for recreation and tourism.

An important differentiation between forestry roads and other roads throughout the state is that under the provisions of *the Forestry Act 1920*, a forest road, being any road constructed or maintained by or for Forestry Tasmania, does not incur any liability by virtue of the failure to keep it in repair.

This means that Forestry Tasmania is at liberty to determine the level at which it seeks to maintain its network. It is under no obligation to meet the standards and requirements of the travelling public and is able to keep its roads at whatever standard it requires to meet its harvesting and fire management obligations.

Because Forestry Tasmania allows the public to use these roads, they are regarded as public streets as defined in Section 3 of the *Traffic Act 1925*. Accordingly, the same regulatory regime for public roads also applies to the vast majority of forestry roads. Normal registration, insurance and licence requirements apply to the operation of any motor vehicle. Unlicensed drivers and/or unregistered vehicles may not use any roads in state forest areas. In

addition to compliance with the *Traffic Act*, Forestry Tasmania recognises the need to manage public use of forest access in order to protect the environmental and productive values of state forests, to provide equitable use for all users of State forests and to provide for public safety.

As the road owner, Forestry Tasmania is best placed to determine when public access to particular roads should be restricted, to ensure that public safety is maintained during forestry operations. It can erect barriers and gates to prevent access or limit access for intermittent operational requirements.

## 7.3 Challenges Impacting the Road Network

Forestry Tasmania is transforming as a business and is facing challenges in responding to a changing market, budget imperatives and its ongoing role in the broader sector.

In the past, Forestry Tasmania has had the ability to manage its broad and vast network for not only management and production purposes, but has previously had the capacity to provide roads and facilities to a standard that provided significant access and amenity for the public. That capacity has severely diminished with many roads traditionally used by tourists to access iconic sites no longer maintained. In some cases where bridges have deteriorated or the road fallen into significant disrepair, Forestry Tasmania has had to make the difficult decision to close roads and/or structures. This has attracted criticism from motorists and local councils and particularly from apiarists. Where possible, arrangements have been made to allow limited access for apiarists through the provision of keys to locked gates or a basic level of maintenance to allow continuing access to hives.

The provision of road infrastructure has previously been the responsibility of those companies accessing timber from the State Forest. Private companies were responsible for the construction and maintenance of vast networks of roads to service their harvesting activities. As each company withdrew from the market, the legacy of the road assets was transferred to Forestry Tasmania with the necessity to provide funding for those networks as they required access for production. While there remains a strong commitment to the principle of user pays, the margins of some forestry activities could threaten their ongoing operation if road charges had to be imposed in all instances.

*The Forests Management Act 2013* declared about 221 000 ha of forest reserves to be either regional reserves or conservation areas under the *Nature Conservation Act 2002*. Responsibility for this land was transferred to the Department of Primary Industry, Parks, Water and the Environment (DPIPWE).

While responsibility for the management and maintenance of the former forestry roads in and over these reserves has also been transferred to DPIPWE, Forestry Tasmania still has a need to utilise parts of the transferred network to access its own roads. Infrastructure Tasmania understands that there is presently amending legislation being considered to address this anomaly and to allow Forestry Tasmania ongoing access and maintenance of these roads to a forestry road standard.

The proposal to sell down plantation assets also raises an issue in relation to the ongoing road management and maintenance of the forestry network serving these areas. While the plantations may be sold in their own right, there will still be an expectation for purchasers to access those holdings over any existing network. This matter may well need to be considered at the time of any plantation asset sales.

## 7.4 Observations

A fundamental issue that exists within the management arrangements for the forestry road network is the procurement arrangements for construction and maintenance. By virtue of the nature of the roading task, Forestry Tasmania does not issue a standard for the maintenance or construction of its roads. The roads are prepared to a fit-for-purpose level and the decision is largely left to the Forestry Tasmania supervisor to determine that level of service. Forestry Tasmania maintains that there is difficulty in defining the task, particularly given the variables associated with access to coupes, general terrain, available materials and weather conditions. Forestry Tasmania supervisors and contractors work from a schedule which guides pavement width and gravel depth, along with generic specifications in the Forest Practices Code relating to drainage and grade.

As a result there is no standard that has been issued for road procurement. Forestry Tasmania operates on an experience model where there are imputed costs largely focused around an hourly rate. This model limits the awarding of works to a select number of contractors across the state. It would have to be assumed that there could be an improvement on this model through the development of a standard at some level and testing this in the market place. While the current arrangements provide for surety for contractors who have the appropriate equipment and skills to undertake the work necessary with often relatively short lead times, an aggregated suite of maintenance contracts in various areas of the state has the potential to provide greater transparency, efficiency, innovation and savings.

Forestry Tasmania does not possess an asset management system or capability in its business to manage the significant road asset holdings it has. In the near term consideration needs to be given as to whether Forestry Tasmania effectively outsources the management and maintenance of its network in the same way that Hydro Tasmania does or whether responsibility and ownership of the entire network should be transferred from the organisation to an entity that is capable of managing the network effectively.

Neither course presents an obvious pathway. Limiting the overall consideration is the funding equation. Forestry Tasmania has a $65 million asset on its balance sheet against which it must meet an annual depreciation obligation. It is operating in an environment where revenues to commit to the network are declining but access to the forestry resource is likely to continue to require use of any part of the network at any time. It has the capacity to offset some of the costs of construction and maintenance through the charging of road tolls and the provision of a Community Service Obligation payment from the Tasmanian Government but there remains a considerable gap in meeting the operating costs of the network and the annual depreciation charge.

Theoretically there could be the possibility to achieve some scale efficiency through aggregating some or all of the Forestry Tasmania network with another road network in the state such as State Growth. This would provide an opportunity to drive efficiency through a more sophisticated management and systems approach and likely provide a better value for money outcome. However, under this course the depreciation liability would simply flow to another entity, there would continue to be inadequate funding to support the effort required and there would be a general reluctance from another road manager to continue procurement of maintenance and construction activities without a documented standard specification. There would also be the potential for pressure to be brought to a new road authority to increase the standard of forestry roads to provide greater or improved public access. Another possibility in relation to new roads required for harvesting would be to place a proportion of the responsibility of the road construction task and cost with the beneficiary of the resource. At the completion of the harvesting, the newly constructed road could revert to Forestry Tasmania ownership in a similar way that roads serving subdivisions are transferred to councils by the developers that constructed them.

## 7.5 Recommendations

- That Forestry Tasmania review its processes with a view to developing an appropriate specification for maintenance and construction activities on the forestry network which not only meet the Forest Practice Code requirements but provide appropriate ongoing use for other users
- That, in conjunction with the above activity, consideration be given to how the maintenance task could be packaged and presented to market through a robust tender process.
- That Forestry Tasmania review the Hydro Tasmania road network management arrangements with a view to adopting a similar model of outsourced management of the entire network but with the possibility of having the maintenance task undertaken on a whole of network or partial network basis through appropriate tender processes.
- That consideration be given to the capability and capacity of those seeking to access the forests for wood production to construct or meet the cost of construction of new roads required to access the forest resource.
- That longer term consideration be given to whether the management of the Forestry Tasmania road network should be transferred to State Growth to ensure that the necessary expertise in managing the network can be provided and that the designation of "forestry roads" could remain in place to ensure that any such transfer does not trigger the necessity to maintain those roads at a higher standard than necessary.

# 8. Parks and Wildlife Service

## 8.1 What Does the Road Network Look Like?

PWS has traditionally maintained those roads that support access and management of the national parks and reserves network in the state. This has involved the management of approximately 2500 kilometres of roads. The typical spend on maintenance for its road network is $400 000 per annum. It now has road management responsibilities for approximately 7 000 kilometres of road, its responsibilities increasing by some 5 000 kilometres when new reserves and Future Potential Production Forest Land (FPPFL) were transferred from Forestry Tasmania.

## 8.2 How is the Network Being Managed?

PWS has some internal capability to manage and undertake maintenance but relies on contractors to fulfil more complex remediation or construction. The process of procurement is largely quote based although for some larger jobs there is an opportunity to tender.

PWS has just secured a new asset management system to manage its asset base including roads, tracks, structures and bridges. PWS has some internal capacity to assist in management of roads however more complex or larger projects are typically contracted out to consultants and external contractors. The transfer of new reserves and FPPFL was accompanied by a one off budget allocation of $8 million, which was provided in the 2015-16 budget for Parks High Priority Infrastructure Renewal and Maintenance projects. Not all of this money was provided for road maintenance.

PWS has been seeking to identify and prioritise roads for maintenance taking into account current and future needs of users, commencing with high risk infrastructure that is frequently traversed by tourists and park users. Asset inspections associated with former Forestry Tasmania roads and structures indicate that many of the bridges and culverts are at or near the end of their life. To date some 150 bridges have been inspected along with over 1 500 culverts, road cuttings and embankments and road retaining structures.

By virtue of the fact that these roads were former forestry roads and were not built or maintained to a prescribed standard, many fall short of Australian Standards requirements for night time delineation, pedestrian safety and vehicle guard rails.

While important asset information has been provided by Forestry Tasmania to PWS the process of asset inspection and assessment represents a significant task for PWS. Infrastructure Tasmania has identified a deficit of capability and expertise within PWS to effectively assess its road assets and to bring its entire network up to a consistent standard.

Consequently, PWS resources available for road maintenance are mainly directed to roads accessing major parks and reserves and where popular tourist and visitor facilities exist. Urgent roadworks have already been undertaken and others are planned for high visitor/high use roads and facilities.

In recognising its limited capacity to manage roads, PWS has commenced discussions and negotiations with the Department of State Growth and several councils to consider the transfer of ownership and management of key

strategic tourist roads. These are not large in either number or length but have relatively high use and significant through-access issues. They include Wielangta Road, Coolangatta Road, Bruny Lighthouse Road, Sumac Road and Poimena Road (Blue Tier). This process is time-consuming and will require a significant financial investment to bring roads to a standard that a new road manager would be prepared to accept.

PWS has also identified a number of other high priority roads that it considers have merit in being under alternative ownership and management.

The sheer volume of roads transferred to PWS has necessitated a risk-management approach to prioritisation.

An important consideration in the road management equation is that PWS does not have the resident expertise to manage a vast road network, particularly roads that receive high traffic volumes. To supplement its relative lack of expertise, PWS has in the past relied upon Forestry Tasmania, local government and contractors to assist this expertise.

On the advice of PWS, an audit of roads on reserves transferred from Forestry Tasmania in 2013 should be completed by the next two years.

## 8.3 Observations

The recent transfer of roads to PWS demonstrates the limitations of individual agencies to meet the fundamental requirements of all parties. PWS has inherited a number of roads as detailed above that are high-traffic tourist roads. They require a higher standard of maintenance and attention to ensure public safety. There are also a number of roads used by commuters as short-cuts rather than relying on the local government network. Several of these high use assets are likely best placed in local government hands but the discussions and negotiations are likely to be complex and lengthy. Consideration needs to be given as to how this can best be achieved.

There are some roads in which State Growth likely has an interest in relation to a package that could be put to local government under the 'road trade' initiative. These opportunities need to be identified in order to achieve the best outcome for all road managers, road users and Tasmania more broadly.

Although PWS has utilised external resources to assist in early assessments, the process was costly and still required on-ground inspection to attest to condition in many cases. PWS has engaged additional internal resources to progress the project more quickly, however, as a road manager, there is significant potential exposure and consideration should be given to whether the supplementing internal resources with further external expertise.

Funding to support priority maintenance the road network (and other assets, land and reserves) transferred to PWS from Forestry Tasmania consists of a one-off payment of $8 million over a two-year period. Not all of the funding was provided for road maintenance and there is no additional funding forecast to support ongoing maintenance of this enhanced road network and other additional assets.

With a maintenance spend of around $400 000 a year on the road network prior to the transfer of Forestry Tasmania lands, it will be essential for PWS to make early decisions about the extent of its network in terms of the actions that can be taken to keep spending in check. This will require important decisions around road closures and restricted access.

PWS has embarked upon a strategic, top-down approach to the evaluation and treatment of its new assets but there is a need to expedite this effort to ensure that road closures and access constraints can be imposed where necessary. This will limit potential exposure to public liability as well as limiting the overall maintenance task.

## 8.4 Recommendations

- That the prioritisation on upgrading and resolving long-term ownership and management of high-use tourist roads be continued.
- That where those road ownership arrangements involve State Growth, or where that agency could assist with packaging a trading of roads with local government, the process be expedited.
- That PWS allocate the additional resources necessary to expedite the assessment of the roads transferred from Forestry Tasmania and take the actions necessary, including road closures or erecting barriers, to manage risk and improve safety.
- That longer term consideration be given to whether the management of the PWS road network should be transferred to State Growth to ensure that the necessary expertise in managing the network can be provided.

# 9. Local Government

## 9.1 What does the Network Look Like?

There are approximately 14 300 kilometres of council-owned roads in Tasmania with about half of those sealed and the remainder unsealed. There are also in excess of 1 700 bridges on the council network in varying condition and structure.

Road infrastructure assets represent approximately 70% of the total infrastructure held by local government at a value of at around $3.25 billion.

Detailed below are the road lengths by council area of sealed and unsealed assets.

| **Local Government** | **Road length sealed (km)** | **Roads length unsealed (km)** |
|---|---|---|
| Break O'Day Council | 205 | 322 |
| Brighton Council | 155 | 29 |
| Burnie Council | 298 | 45 |
| Central Coast Council | 535 | 123 |
| Central Highlands Council | 116 | 621 |
| Circular Head Council | 299 | 470 |
| Clarence City Council | 412 | 41 |
| Derwent Valley Council | 97 | 236 |
| Devonport City Council | 268 | 13 |
| Dorset Council | 245 | 494 |
| Flinders Council | 71 | 279 |
| George Town Council | 178 | 96 |
| Glamorgan Spring Bay Council | 169 | 188 |
| Glenorchy City Council | 296 | 64 |
| Hobart City Council | 310 | 5 |
| Huon Valley Council | 186 | 521 |
| Kentish Council | 279 | 202 |
| Kingborough Council | 80 | 359 |
| King Island Council | 274 | 263 |
| Latrobe Council | 228 | 60 |
| Launceston City Council | 568 | 362 |
| Meander Valley Council | 564 | 257 |
| Northern Midlands Council | 573 | 399 |
| Sorell Council | 235 | 176 |
| Southern Midlands Council | 183 | 620 |
| Tasman Council | 72 | 125 |
| Waratah-Wynyard Council | 289 | 251 |
| West Coast Council | 99 | 96 |
| West Tamar Council | 307 | 156 |
| **Total** | **7591** | **6873** |

Bridges and culverts are significant infrastructure components of the Tasmanian road network. Many of these assets were not designed to carry the masses presented today by some segments of the heavy vehicle fleet.

Historically, councils as local road managers have had a relative lack of asset management capability and information regarding their critical road infrastructure, including bridges. This deficiency has been highlighted as a consequence of the recent introduction of a national heavy vehicle regulatory framework. The establishment of the National Heavy Vehicle Regulator has been a catalyst for State and local government road managers to undertake more detailed assessment of the risks for bridge assets and customers as a result of the movement of unusually heavy loads and vehicles around the state. In 2015 the State Government allocated $1.7 million in its annual budget to assist Local Government in assessing the capability of council-owned and nominated road networks and associated bridges and structures to accommodate certain types of the heavy vehicles. A significant effort has been expended in to ensure the effect of impending changes to arrangements for gaining access to roads for the freight logistics industry will be minimised.

The project had a state-wide focus, with an emphasis on regional collaboration and strategic 'cross-boundary' outcomes in order to optimise road access for heavy vehicles across the State. By obtaining a better understanding of bridge assets, councils will be well-placed to take advantage of future funding opportunities and also to manage these critical assets appropriately as well as adding to the economic capacity of the state by enhancing the effective movement of freight around the network.

## 9.2 Funding the Network

Local Government capacity to fund infrastructure is constrained by its general revenue raising capacity. Most revenue comes from rates and user charges but the Australian Government supplements local governments' own sources of income with financial assistance grants.

Local Government increasingly provides human services at the expense of traditional property-based services (particularly roads). Although road expenditure remains the largest function, its importance has declined significantly through community pressure to broaden the range of local government services.

Local Government spends more than $94 million a year on construction and a further $42 million on maintenance. Funding for maintenance, renewals and upgrades is sourced from the general revenue of councils as well as grants from the Commonwealth Government. Councils obtain external funding for roadworks through two key sources:

- Financial Assistance Grants distributed by the State Grants Commission
- Commonwealth Government Roads to Recovery Grants.

The Australian Government has set total Financial Assistance Grants for Tasmanian roads at $37.3 million a year for the next three years. These grants are reviewed on a three-yearly basis by the State Grants Commission in terms of the methodology and cost adjustment assigned to allocate the funds to councils.

Roads to Recovery funding is allocated by the Australian Government in five-year schedules under the *Nation Building Program (National Land Transport) Act 2009*. This program addresses the problem of local roads reaching the end of their useful life, and their replacement being beyond the financial capacity of councils. The Australian Government recognised the importance of local roads and the difficulties that local government has had in providing local roads to communities by establishing the Roads to Recovery Program in 2000. Successive governments have renewed their commitment to the program since that time.

As with most road managers, local government has a significant asset renewal gap but with improved practices and asset management regimes, it is reasonable to suggest that over recent years, councils are slowly closing the gap.

## 9.3 Managing the Road Network

Councils utilise contractors to construct or renew roads and their in-house resources to maintain roads. While many councils have qualified professionals on staff, others rely on consultants while some councils share professional services across their organisations.

Councils tend to have an adequate fleet of equipment to undertake their maintenance task with councils in more remote areas often supporting other agencies during emergency events (e.g. fire, flood) with access to that equipment. Urban councils tend to have more access to hire equipment and contractors.

Councils also acquire roads from property developers with the establishment of new subdivisions. There is a subdivision standard provided by each council to ensure that the assets they receive are at an appropriate level of construction, service and amenity.

With respect to procurement, local government is bound by the provisions of the *Local Government Act 1993* and *Local Government Regulations 2015*. The Act requires councils to invite tenders for any contract they intend to enter into for the supply of goods and services, including roads, at or above the prescribed amount and in the manner prescribed. The council must adopt a code relating to tenders and contracts. That code is to promote the following prescribed principles:

- Open and effective competition;
- Value for money;
- Enhancement of the capabilities of local business and industry; and
- Ethical behaviour and fair dealing.

Tenders must be invited for projects for the supply of goods and services at or above $250 000 (excluding GST). Councils are also encouraged to consider the conduct of a tender process involving amounts below this threshold to ensure that the best value for goods/services is obtained.

In 2006, the Local Government Association of Tasmania (LGAT) engaged Access Economics to undertake a comprehensive analysis of the financial sustainability of the 29 Tasmanian councils. The report identified areas for improvement and highlighted the need for councils to move from annual to medium to long-term service and financial planning periods.

The report indicated that quality, long-term financial plans needed to be supported by sound asset management plans documenting the services to be provided and the funds required to provide the services.

Significant work was undertaken by LGAT with its member councils in the ensuing few years assessing the barriers and benefits to implementing a common specified framework for long-term financial planning and strategic asset management planning in all councils. The focus of the work was on requiring councils to demonstrate to their communities that they were financially sustainable into the future.

From these processes it became evident that the requirements for financial and asset management planning were so significant that they should be enshrined in legislation to ensure that the actions necessary were not undertaken on an opt-in basis but were a necessary function of council planning and operations.

Consequently, amendments to the *Local Government Act 1993* passed in 2013 requires councils to maintain long term financial and strategic asset management plans (10 years) and financial and asset management strategies. Councils must maintain an asset management policy. All these instruments must be reviewed on a four-yearly basis.

Ministerial Orders formed part of the legislation. These Orders outlined the minimum requirements necessary for appropriate long-term financial management and strategic asset management plans, strategies and policies. They also list the sustainability indicators upon which councils must report.

The legislation was a significant step forward in financial and asset management for local government in Tasmania and has provided a sound framework to guide local government in its planning, interventions and funding allocations for its road network and other classes of assets.

In his Local Government Performance Report for the 2013-14 Financial Year, the Director of Local Government detailed a series of findings of council performance against sustainability objectives and indicators, including those for asset management.

The report indicated that, as a sector, councils had shown significant improvement in asset management over the seven years under review, with the sector as a whole exceeding benchmarks in two of the indicators set by the Auditor General and falling just below the third.

The report concluded that:

- councils were spending almost an equivalent amount on the maintenance of existing assets to the estimated depreciation of those assets;
- on average, councils were retaining an appropriate level of "as new" condition in their road assets;
- councils were maintaining sufficient capacity to fund future asset replacement requirements as defined by their long term financial and asset management plans; and
- a relatively higher number of councils had developed and adopted long-term financial and asset management plans in accordance with the requirements of the legislation. 20 councils had introduced long-term asset management plans and 22 had long-term financial management plans.

The results suggest that councils collectively are maintaining their assets in a sound and appropriate manner. The report highlighted areas for improvement across individual councils but surmised that as councils further refined and developed their planning instruments, improvements in financial and asset management indicators were expected.

In May of 2015, the Auditor General conducted an audit of four councils (Central Highlands, Devonport City, Northern Midlands and Waratah-Wynyard) to ascertain whether local governments were managing the construction and maintenance of their roads effectively and efficiently. The councils were chosen as a representative sample of the size categories of councils.

The audit found that the sample councils' roads were generally in reasonable to good condition; that there was a need to review the level of renewals and upgrades in order to sustain the quality of their road networks into the

future and that the councils had not kept the public adequately informed about the condition and sustainability of their road networks.

To measure efficiency, the Auditor General devised a model that took into account factors that it was felt were likely to affect costs:

- percentage of road network that was sealed
- population per road kilometre (as a proxy for level of road traffic)
- road kilometres per square kilometre of area (as a measure of dispersion of the road network).

The Auditor General concluded that based on the model used, the four councils were reasonably efficient compared to other councils. He further urged other councils review the findings identified and recommendations made.

While the sample size of the councils was relatively small (14 per cent)) and the evaluation model relied on the asset condition data contained in council asset registers being a true reflection of the physical attributes, the report card was positive.

## 9.4. Observations

### 9.4.1 Capacity and capability

All Governments across the country have lost a significant level of expertise to deliver infrastructure projects efficiently and effectively. There is a major dependency on outsourcing projects to the private sector for delivery, often without the necessary skills or expertise for proper oversight. The relatively low rates of pay in local government puts it at a particular disadvantage when seeking to attract and retain the skills set it requires. This lack or loss of internal expertise has the potential to place pressure on councils given the complexities of some projects and can lead to project delays, cost blow-outs and wastage.

The skills and capacity to manage and maintain road networks across local government areas varies considerably. While all councils are required to have in place asset-management plans, execution and delivery of those plans requires having the necessary level of expertise or the capacity to access it. Local government as a sector is at the early stages of its asset management journey but the external reviews to date indicate that it is maturing at a reasonable rate. The development of templates and sharing of expertise has ensured that all councils are progressing appropriately and that the investment in this systems approach will improve longer term outcomes.

Most councils undertake their maintenance utilising in house resources. With asset management plans driving intervention and standards of service, it is expected that the relative priorities and necessary works will be identified on a much more rigorous basis than when these instruments did not exist. It would appear from the review undertaken by the Auditor General and the measurements against sustainability indicators that the sector is achieving a reasonable to good standard of maintenance on the network.

Scale continues to be a challenge for many councils, Access to the right skills set and the ability to attract staff that are capable of strategic and efficient treatments to the road network is difficult for many councils. A pleasing result of the initiatives around asset management and the recent review of bridge infrastructure has been the cooperative efforts of councils in working together and sharing expertise. This has also been engendered by the resource sharing throughout the sector.

Water and sewerage reform provided a scale solution to a service that had lacked strategic investment, appropriate levels of maintenance and innovation. A difficult and unpopular reform, the process nonetheless allowed for a necessary focus on pricing and developing a structure to meet and pay for the needs of Tasmania on a state-wide basis. Although there could be merit in joining up local government road networks throughout the state to achieve similar scale efficiency, it is questionable whether without an appropriate pricing mechanism that there would be the capacity to achieve similar outcomes. Roads are an integral part of the fabric of communities and how they move around and local communities have a strong affinity with their local networks. Any decision to achieve efficiencies through scale should be contemplated as part of any broader structural reform of the sector.

### 9.4.2 Cooperative Arrangements

While 29 councils operate 29 road networks across the state, each has access to a procurement process operated through the LGAT. Most councils take advantage of the capacity to purchase road-making plant and equipment at significantly lower process that are available to the general public. The efficiency gained in this fleet purchasing ensures that more funds are available for road network management and maintenance.

While it would appear logical that councils would share such equipment, the nature of the maintenance task and seasonal conditions are such that the same equipment is generally required by each council at the same time. There are some limited equipment pooling arrangements but these tend to be between those where the resource-sharing arrangements are relatively mature.

### 9.4.3 Collaborative Decision Making

The obvious challenge of 29 road networks with differing road managers is the capacity to prioritise projects requiring funding at either state or federal level. While local government in Tasmania has been very successful with its policy agenda through working as a sector, it is often each council for itself when making applications for funding. The recent exercise of working through the bridge network to ascertain where there were deficiencies or 'pinch points' demonstrated that good outcomes are possible when there is collaborative effort. Understanding not only which structures were deficient but being able to rank on a regional basis the relative priorities, assisted in problem identification and the opportunity for funding support through demonstration of need.

While all road managers will have their own priorities, it would be particularly helpful for major infrastructure decisions around the network to be considered on a broader than municipal basis, particularly where regional economic benefit can be demonstrated. This approach to prioritisation was recently highlighted in Infrastructure Australia's Infrastructure Plan, citing the cost of not having collaborative decision-making.

### 9.4.4 Road Trades

With regard to productivity and economic growth it is imperative that the infrastructure that exists is fit for purpose to allow for efficient utilisation and effective movement.

Decisions taken in relation to expansion and consolidation can lead to circumstances where roads initially built for a modest or local purpose no longer meet the required standard of service or amenity. Intensive commercial activity or a key industrial hub has the ability to change the nature and volume of traffic and road demand.

Similarly, roads once utilised for key economic activity or as critical arterials can reduce in significance or usage if land-use decisions are taken that result in shift of traffic type and/or volume.

While a road initially constructed to meet a particular need could always be retained in the ownership of the original authority, it would make more sense that where service levels and demand circumstances change, there be a capacity to negotiate exchanges of roads between state and local authorities.

This has been occurring informally for many years. More recent examples have occurred at Dorset and West Coast Councils, where decisions were taken to exchange roads to allow for the establishment of particular industries requiring superior access. These trades sought to facilitate an improved economic outcome that saw the Tasmanian Government taking on the higher productivity road to ensure that the upgrade and ongoing maintenance could be provided to a standard necessary for the freight and traffic being carried.

From the council perspective, it is relieved of a growing freight challenge on its network in exchange for a less traversed "commuter" road local traffic utilisation.

These exchanges have been completed on the basis that there is an equitable "swap" between agencies where the function and use of the road sits with the more appropriate asset owner. Productivity has been enhanced with a greater contribution to economic growth from the improved access provided.

It is realistic to contemplate that even greater productivity could result from a greater number of such trades across the state. Rather than simply waiting for these opportunities to arise, it is recommended that there be a designated timeframe to allow for the identification of roads that could be considered for trade between entities.

The trade period should extend for six months, in which time councils consider whether there are specific roads that are more appropriately managed and owned by the Tasmanian Government. Councils should also consider offset roads that they may contemplate taking on in exchange for those roads. The intent would be to achieve a reasonable level of cost neutrality over the useful life of the asset but each case would be considered on its merits.

Following the "trade period", the State Roads Division of State Growth would prioritise and then negotiate a suite of arrangements over the ensuing 12 months with a view to completing mutually agreed trades.

The initiative would seek to enhance broad economic growth and management of the state's road network ensuring that the service needs of those roads with higher productivity are met and maintained.

An ideal system would involve each road being assessed in accordance with hierarchical criteria and category. In the event that a road exceeded or fell below a particular level of service/capacity for a prolonged period, then a "swap" could be triggered. This trigger could allow for a more formal assessment with a switch occurring as a matter of course if relevant criteria were met. While this would represent a pure transfer mechanism, it could result in a one-sided transfer of assets. The criteria could be used as a guide for trades but a negotiated settlement based on these and the notion of cost neutrality is likely to result in a more equitable outcome for road managers.

### 9.4.5 Strategic Couplets

Two key couplets exist in both Hobart and Launceston that provide strategically important freight links and are critical to the flows to and from the state network.

In Launceston the Wellington Street/Bathurst Street couplet carries the highest traffic volumes of all routes through Launceston and also has the highest proportion of crashes. The couplet connects the Midland Highway to the East Tamar Highway.

In Hobart, the Davey Street/ Macquarie Street couplet connects the Southern Outlet, which provides access to and from the southern suburbs of greater Hobart and the Brooker Highway and Tasman Highway, which serves the eastern and norther suburbs. In-principle agreement has already been reached between the Tasmanian Government and the Hobart City Council on the transfer of this couplet to the Tasmanian Government, subject to formal ratification by each party and further negotiations.

Strategically it makes sense that the State Government takes responsibility for these roads and combines traffic flow and movement on and off the couplet into its overall management responsibilities. Taking responsibilities for activities and arrangements on the couplet provides the opportunity to consider measures to more effectively address congestion issues or delays and to make decisions that provide greater ease of movement. While responsibility should transfer to the Tasmanian Government it will be important that a close ongoing relationship is maintained with the Launceston City Council to ensure that decisions that might be taken in respect of road closures or re-directions do not have unintended consequences or exacerbate existing shortcomings.

The change in responsibility should be in accordance with the principles espoused in the 'road-trade' concept where the exchange is to the extent possible, cost neutral for all parties. This may involve the exchange of other roads or agreement reached on a set of circumstances which see a cost neutral outcome.

## 9.5 Recommendations

- That councils continue to work cooperatively to enhance the overall capacity and capability of its resources involved in asset management and network planning.
- That a period of six months apply to the identification of local government roads that could be 'traded' to the Tasmanian Government.
- That the trade process adopt cost-neutrality for all parties as a fundamental principle.
- That in the 12 months following the 'trade period', State Growth details a program of priorities for completing road-trades.
- That the State Growth and Hobart City Council conclude the agreement to transfer the Macquarie Street/Davey Street couplet to Tasmanian Government ownership on the basis of cost neutrality.
- That the State Growth and the Launceston City Council commence discussions on the arrangements and timing for a transfer of the Wellington Street/Bathurst Street couplet to Tasmanian Government ownership on the basis of cost neutrality.
- That councils take a strategic approach to planning on their road networks through collaborative decision making on infrastructure priorities that support and enhance economic development both regionally and state-wide.
- That councils fully participate in the clarification and resolution of road management processes.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