NERA
ECONOMIC CONSULTING

Building a Road Network to Support Western Australia's Future Prosperity

Reforming Heavy Vehicle Charging and Road Infrastructure Investment

21 May 2014

Project Team

Adrian Kemp

Tom Graham

NERA Economic Consulting
Darling Park Tower 3
201 Sussex Street
Sydney NSW 2000
Tel: 61 2 8864 6500 Fax: 61 2 8864 6549
www.nera.com

Contents

1. The Road Freight Industry is Critical to Western Australia's Prosperity

The road freight transport industry is a significant contributor to WA's economy. For example, the road freight industry:

- supports economic growth and builds Western Australia's prosperity – the transport, postal and warehousing sector added approximately $11.2 billion to the Western Australian economy in 2012-13;[1]
- is a significant employer – the transport, postal and warehousing sector is one of the State's largest employers, employing approximately 61,700 people as at February 2014;[2]
- connects remote, regional and metropolitan Western Australia and creates development opportunities. An efficient transport industry makes jobs and services more accessible and links remote, regional and metropolitan Western Australia so that all parts of the State can share in the benefits of population and economic growth; and
- provides the goods, equipment and services that support all other industries in the State, especially manufacturing, retail, agriculture and resources.

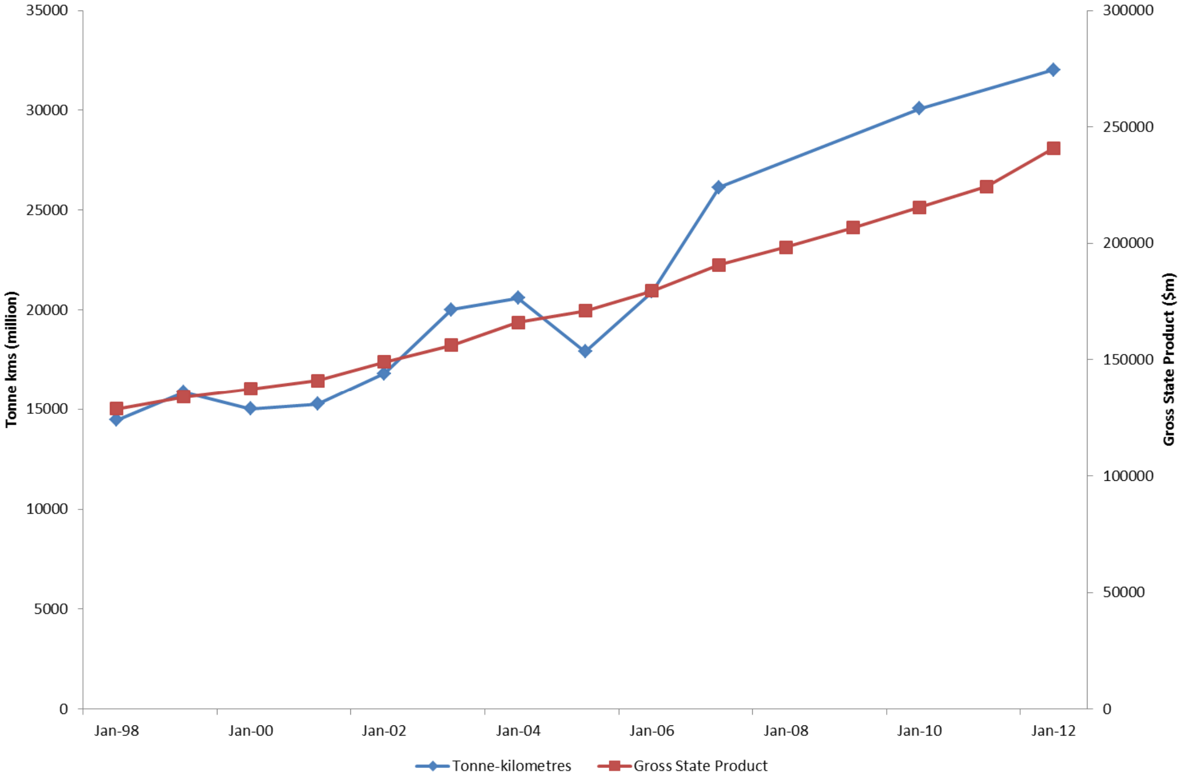
Road freight in Western Australia is used principally by the primary industries in the State – mineral resources (iron ore, gold, etc) and agricultural commodities (wheat, cattle, canola, barley etc). The road freight industry supports these primary industry through the transport of equipment and supplies, and in some instances the transport of the final commodity to port for export.

It follows that there is a direct link between the road freight industry in Western Australia and the state's prosperity. Figure 1.1 illustrates the growth in total tonne-kilometres in Western Australia since 1998 as well as the growth in Gross State Product (GSP) over this period.

[1] Australian Bureau of Statistics, 2014. Labour Force, Australia, Detailed, Quarterly, Feb 2014. cat. no. 6291.0.55.003.

[2] Ibid.

Figure 1.1: Western Australia's Freight Tonne-Kilometres Travelled and GSP[3]



The Western Australian road freight fleet has evolved over the years (basically to larger, more productive vehicles). Efficiency gains in freight transport translate to greater productivity growth, higher living standards and more competitive businesses. This is illustrated in Figures 1.2 and 1.3 that show an increase in the average tonne-kilometres travelled and a relatively stable level of average business laden kilometres travelled by freight vehicles in Western Australia, respectively. In addition, Figure 1.4 shows the upwards trend in the average load carried by light commercial vehicles, rigid trucks and articulated trucks in Western Australia since 1998.

3 Australian Bureau of Statistics, Catalogue Numbers 9208.0 & 5220.0.

Figure 1.2: Average Tonne-Kilometres Travelled by Freight Vehicles in Western Australia, by Vehicle Type[4]

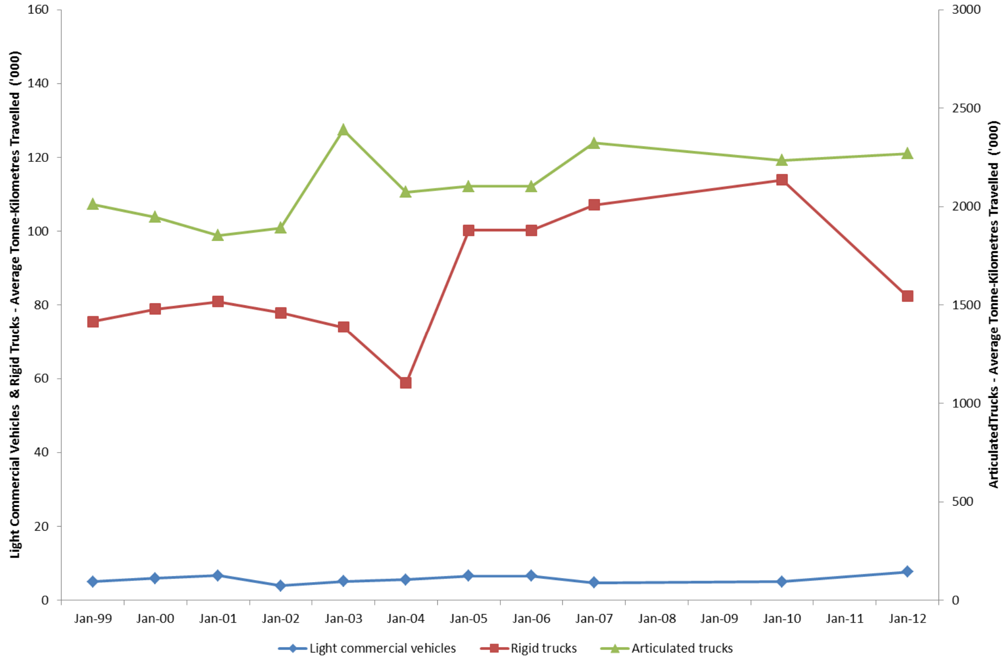
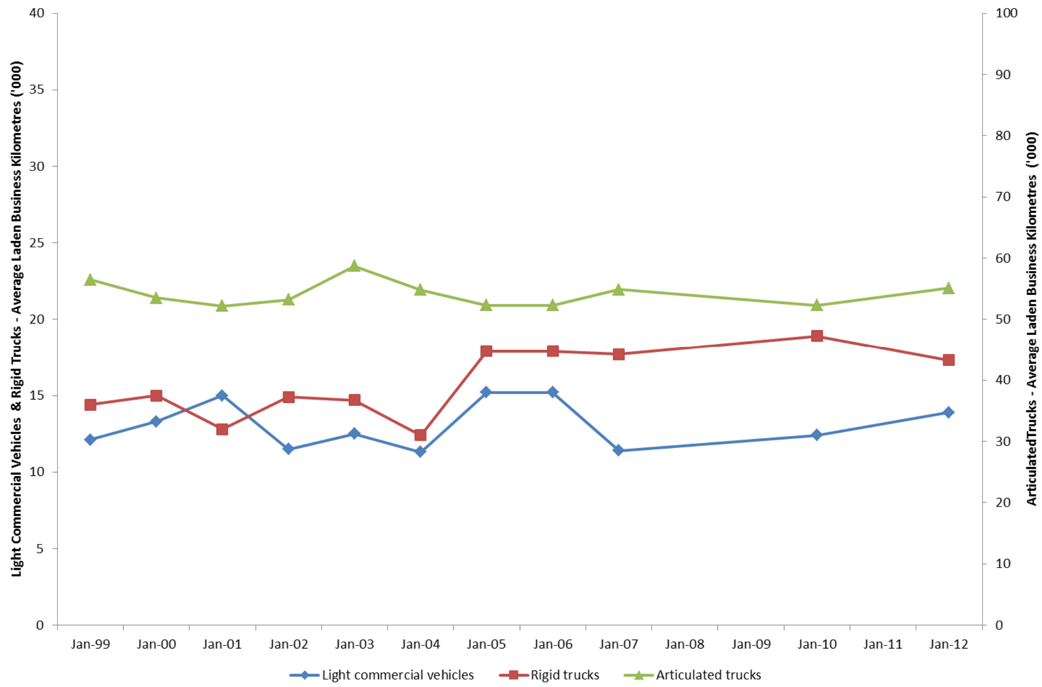


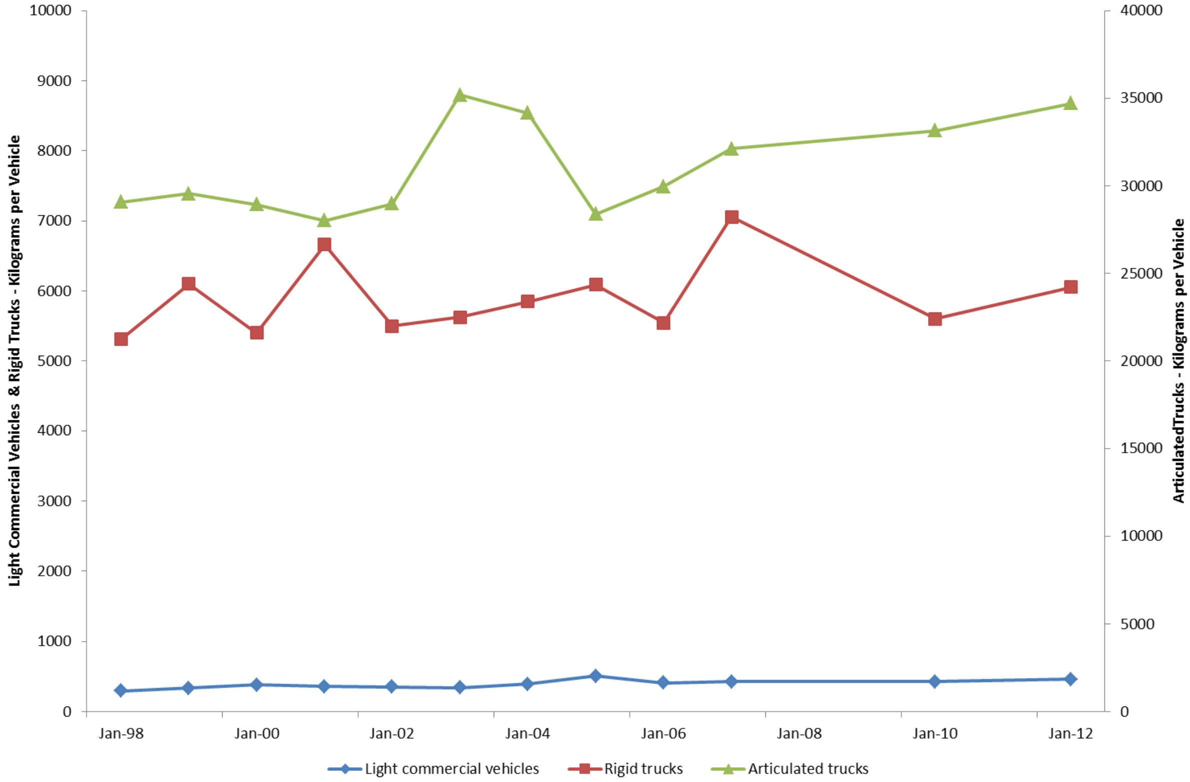
Figure 1.3: Average Business Laden Kilometres Travelled by Freight Vehicles in Western Australia, by Vehicle Type[5]



4 Ibid.

5 Ibid.

Figure 1.4: Western Australia's Average Load Per Trip for Freight Vehicles[6]



Importantly, the Western Australian freight network operates largely in isolation from the 'national' network. For example, unlike in Victoria, Queensland and New South Wales, Western Australia does not have a large degree of cross-border freight activity with the associated risk of duplicated or 'disconnected' investment. The vast majority of Western Australian freight activity occurs within the State's borders with a small amount crossing a few designated cross-border road, rail and port links.

6 Australian Bureau of Statistics, Catalogue Number 9208.0.

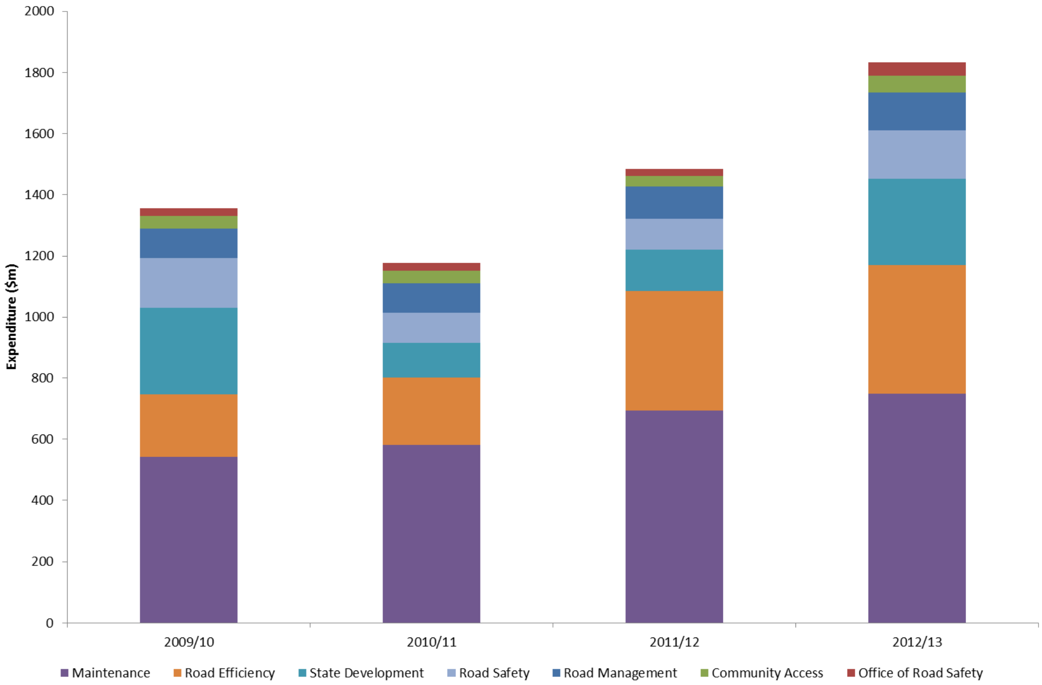
2. Building and Maintaining a Road Freight Network that Supports WA Businesses is Expensive

Western Australia's road network comprises approximately 54,000 sealed kilometres and 95,000 unsealed kilometres of road. Much of the network is concentrated in the south-west corner of the State, where the majority of the population lives.[7] While the road network in Western Australia is extensive, only a relatively small number of roads are responsible for moving the vast majority of Western Australia's road-based freight.

Main Roads Western Australia manages the State Road Network of 18,000 kilometres, while the remainder is independently managed by local governments and the Department of Conservation and Environment.[8] Most of the arterial roads managed by Main Roads Western Australia are particularly important and have been identified as Strategic Freight Roads and Major Freight Roads within the Western Australia Regional Freight Transport Network Plan.[9]

The total expenditure on roads in Western Australia is growing. The figure below shows the increase in the annual expenditure of Main Roads Western Australia over the last 4 years, which is driven largely by continual increases in road maintenance and road efficiency investments.

Figure 2.1: Increase in Expenditure by Main Roads Western Australia[10]



7 Western Australian Department of Transport, *Western Australian Regional Freight Transport Network Plan*, p. 23.

8 Ibid.

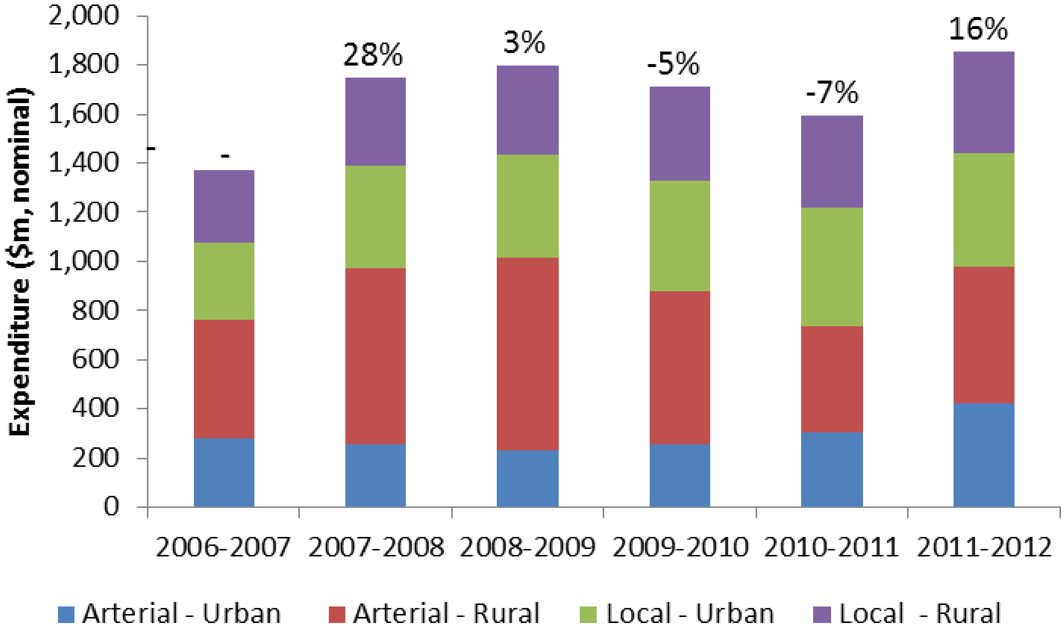
9 Ibid.

10 Source: Main Roads Western Australia Annual Reports.

The expenditure by Main Roads WA of over $1,800 million in 2012-13 compares with total motor vehicle licence fees for both light and heavy vehicles of $616 million.[11] This licence revenue represents 34 per cent of total road expenditure by Main Roads WA.

Figure 3.2 and Figure 3.3 below show that the rate of change in road expenditure in Western Australia has been largely consistent with the national trend.

Figure 3.2: Annual estimated road expenditure and annual percentage increase, Western Australia[12]

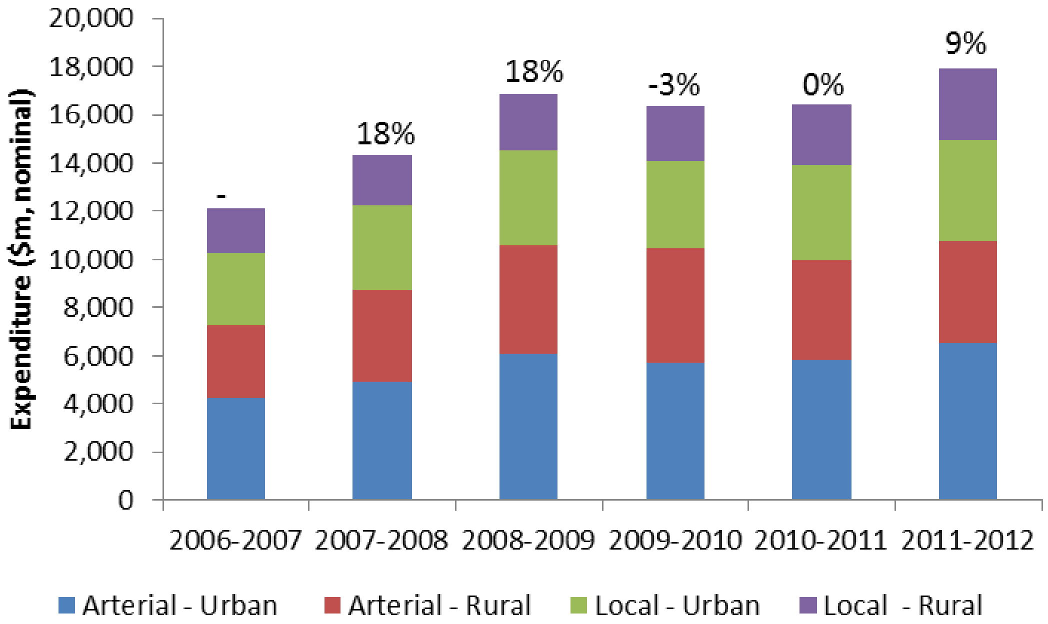


---

11 See page 808, 2014-15 WA Government budget papers.

12 National Transport Commission, 2013, PAYGO Model, November.

Figure 3.3: Annual estimated road expenditure and annual percentage increase, Australia[13]



In addition, Main Roads Western Australia has estimated that the road freight task will double in the next two decades. Specifically, the regional road freight task is estimated to increase substantially, from 20 billion tonne kilometres per annum of freight in 2010 to 40 billion tonne kilometres per annum of freight moving into, within and out of the State's regions by 2030.[14]

The Western Australian Regional Freight Transport Network Plan sets out numerous, major project investment proposals out to 2020 and beyond to ensure that the road network can support this anticipated growth.[15] The Regional Freight Transport Network Plan also outlines the following key areas of investment:[16]

- Regional Western Australia: while there is little need for a large number of major new road links, major upgrade and regeneration programs to certain existing road infrastructure will be required; and

- Pilbara and South West regions: the upgrade of a number of routes to meet the increased freight task is identified as an investment priority to 2031. There are significant sections of ageing road infrastructure in the south, which are more than 50 years old with substandard geometry, particularly in the Great Southern and Wheatbelt regions. Investment is required to rehabilitate these assets to accommodate increasing freight tonnages and maximise safety outcomes for users.

---

13 Ibid.

14 Western Australian Department of Transport, *Western Australian Regional Freight Transport Network Plan*, pp. 11-13.

15 Ibid.

16 Ibid, p. 29.

3. There are Opportunities for WA from Heavy Vehicle Charging and Investment Reform

Road infrastructure has been identified as requiring economic reform to address deficiencies with the approach used for charging, particularly for heavy vehicles, and to improve investment decision making and project prioritisation.

In particular it is widely acknowledged that the current heavy vehicle charging system does not lead to fair outcomes in each jurisdiction, which has led to some jurisdictions – like WA – not implementing proposed national charges. In addition there is growing concern about the need for higher road maintenance expenditure and the availability of government funds for new road investments to meet the freight and logistics industry's needs.

The most recent effort to identify and develop reform opportunities (the Heavy Vehicle Charging and Investment Reform (HVCI)[17]) proposed to change the heavy vehicle charging and road expenditure decision making that currently applies in WA. The reform had five core elements, namely:

1. Creation of a WA Heavy Vehicle Road Fund – to collect heavy vehicle charges, develop heavy vehicle road expenditure plans, and make road investments that benefit the heavy vehicle industry;
2. Benchmarking and monitoring of road service standards and levels of heavy vehicle access – to provide better information on the road infrastructure services provided to industry;
3. State-based heavy vehicle charging scheme (ie, abolishing national registration and road user charges) – to allow each jurisdiction to tailor charging scheme to individual needs;
4. A 'user-pays' charging system based on mass, kilometres travelled and type of road travelled on – to provide a clearer link between road use, charges, revenues and road expenditures; and
5. Oversight of the process by an independent umpire, with opportunities for users and/or government to bring complaints on the process or outcomes within a rules framework.

While there is uncertainty as to the future of the HVCI reform, it provides a useful starting point for considering the opportunities to improve road infrastructure outcomes for heavy vehicles in WA.

3.1. How might a WA Heavy Vehicle Road Fund work?

The key to any road infrastructure reform is to address the independence of funding decision making and ensure that road user charges are used solely for road infrastructure investment and maintenance.

The creation of a state-based heavy vehicle road fund in each jurisdiction is one approach to achieving this outcome. By making the funds state-based, the exact governance and operational processes for each fund would be based on the individual preferences of each state, ideally within a nationally consistent framework. Such a framework could include:

17 For further information about HVCI, see www.roadreform.gov.au.

- a clear objective to manage the funding of road infrastructure to promote the efficient, safe and sustainable use of the road freight network;
- establishment of an independent board, with responsibility for promoting the objective; and
- responsibility for developing periodic road expenditure plans.

A road fund would provide a mechanism for the road freight industry, state and local governments to agree on road funding priorities, and ensures that revenue from heavy vehicle charges are used on those agreed priorities.

An important consideration for any heavy vehicle focused road fund will be how best to balance those projects that combine both industry priorities, and those that are designed to satisfy community obligations. One approach to addressing this would be for the government to provide its own contribution to the fund in addition to industry user charges.

In addition, the proposed focus on a heavy vehicle fund raises the need to apportion project costs between heavy vehicles and light vehicles. Whether this is achieved via the creation of a generic road fund (ie, not heavy vehicle focused) or via bilateral negotiations between the heavy vehicle fund and government road investment planning processes, warrants further and more detailed consideration.

Crucial to the success of any road fund will be the robustness and credibility of its expenditure decision making processes, and its independence from the day-to-day government project funding and prioritisation arrangements. By creating a dedicated and independent source of funds, the fund ensures that greater focus can be placed on projects that directly satisfy freight industry priorities.

3.2. Why is benchmarking and monitoring of road service standards important?

While there is good data on the physical condition of the road network throughout Australia, there is not a clear understanding of how best to maintain a 'fit-for-purpose' road network that satisfies the road freight industry's needs.

The HVCI reform proposed that metrics of road service standards be developed to benchmark and monitor road network performance. The idea was to provide a basis for evaluating expenditure plans to ensure that the heavy vehicle industry was receiving the quality of roads that it expected.

Irrespective of the future of the road reform process, there is merit in considering whether metrics can be developed to monitor the performance of the road network. Ideally such metrics would be based on those performance attributes that are most relevant to the transport industry. If done well, this would provide a basis for ensuring that road expenditure was prioritised on those parts of the network to improve or maintain performance.

3.3. Why move to a state-based heavy vehicle charging scheme?

The current national charging scheme was put in place mainly to ensure that the eastern states did not compete for heavy vehicle registration revenue by offering lower charges than their neighbouring states. A national approach ensured consistency in charging and so avoided the distortions that might otherwise occur.

The rationale for a national heavy vehicle charging regimes is less applicable to WA due to its relative isolation from the rest of Australia's road network. In addition, advances in technology mean that there is greater scope to charge heavy vehicles based on its location in the network, thereby eliminating the potential distortions from charging principally on the basis of garaging address.

The problem with national charging is that road expenditures in one state can lead to increases in charges to all, through the necessary averaging that occurs. While this can be partly addressed through Commonwealth road funding, in practice there has been concerns about the fairness of the current charging regime.

In addition, state-based charging has become possible with improvements in technology whereby it is becoming increasingly cost effective to charge on the basis of distance and location within the road network.

This is why moving to a state-based heavy vehicle charging scheme is crucial to the success of any reform to road charging and funding arrangements.

In practice state-based charges would require transitioning heavy vehicles to charges based on kilometres travelled. The mix of charges (ie, different charges by road type or by vehicle type), would be up to WA, but will likely be subject to some overarching pricing principles that balances the need to promote efficient outcomes with other equity considerations. Ultimately, the charges will need to provide sufficient revenue to fund agreed expenditure plans.

The key advantage of a state-based heavy vehicle charging scheme is that it allows each state to choose the charging arrangements that best meets its needs.

3.4. What are the benefits of a 'user-pays' charging system?

For a state-based heavy vehicle charging scheme to work, it needs to be 'user-pays'. Any fixed registration charging scheme will create some of the same problems that the national charging scheme was intended to resolve (ie, jurisdictions competing to attract heavy vehicle registrations by lowering the price).

This means that a heavy vehicle charging approach based on use of the road network will ensure that those jurisdictions where a truck makes use of the road network, are paid for maintaining that road network. It also means that those vehicles that do not use those road networks **do not** pay for those roads that they do not use. In this way, user-pays road charging is considered to be a fairer approach to everyone using roads.

User-pays charging also provide local governments with direct funding for roads, based on the use of roads that they are directly responsible to maintain.

3.5. Why is there a need for an independent umpire?

While the thrust of any reform to road infrastructure should be to shift to a state-based system of road expenditure plans, charging and funding, there would be concerns that industry might not have sufficient bargaining power to prevent the government from using heavy vehicle charges to fund inappropriate road investments.

So any reform should provide the capability to have an independent umpire to ensure that the road funds operate in line with any agreed principles, and that expenditure plans and charges have been appropriately agreed with industry. While the precise details of this role would need to be worked through, the umpire could be given the power to substitute its decision from that of a road fund in circumstances where it does not promote more efficient outcomes.

3.6. Why should road reform be supported?

Any reform to heavy vehicle charging and investment presents an opportunity for WA to take control of its heavy vehicle related road funding and expenditure decision making.

In the short term, it will require the Commonwealth handing revenue from the road user charge back to each jurisdiction on the basis of revenue collections within each jurisdiction.

Overtime, it will provide a sustainable funding base to ensure that heavy vehicle road investment and maintenance priorities are met.

Finally, it shifts the focus of road infrastructure to being more responsive to the needs of the freight industry and business, through a collaborative partnership based on a clear understanding of need and adequate funding for road investments.

4. Reform Will Provide the Freight Industry with a Road Network to Support Highly Productive Services

Prosperity in the freight industry requires a continued commitment to support higher productivity. While WA has been at the leading edge of heavy vehicle freight productivity for some time, ensuring the road network can support those vehicles as the road freight task grows will become the key priority. In addition, there remains scope for further productivity improvements by improving two-way loading and reducing road congestion.

The proposed reform will provide a platform for the freight industry to fund its own project priorities and co-fund wider road investment priorities in partnership with state and local governments. This will allow priority to be given to those road investments that improve productivity (eg, say by promoting investments that reduce road congestion on high value freight routes). It places the freight industry at the table with governments, to direct road expenditure priorities.

The key benefits of road infrastructure reform to the freight industry include:

- improved certainty of heavy vehicle charges over a number of years;
- opportunity to be involved in directing where heavy vehicle charging revenue collected in WA is spent;
- an improved focus on road expenditure that directly benefits the freight industry;
- improved accountability of the WA government and local governments on road expenditures that deliver benefits to the freight industry; and
- over time, more efficient delivery of road infrastructure services thereby improving the productivity of the freight sector servicing WA businesses.

However, to achieve these benefits all stakeholders would need to commit to working together to achieve a common vision of a highly productive road freight industry in WA, supported by a productive road network.

5. Both the WA Government and Local Governments Would Benefit from More Assured Funding

Any road reform would also likely benefit the WA government and local governments by providing dedicated new revenue from heavy vehicle charges by redirecting those heavy vehicle charges that are currently collected by the Commonwealth.

Currently, the WA government spends approximately $1.8 billion on roads (2014/15 Budget) and local governments spend an additional approximately $750 million. Approximately $100 million is funded by the Commonwealth through direct grants to local government.[18] The remaining road expenditure is funded directly by the WA government and local governments from other revenue sources.

The heavy vehicle industry contributes about $260 million[19] each year in heavy vehicle charging revenue, of which about $36 million (14 per cent)[20] is collected by the Commonwealth through the road user charge.

The current system of heavy vehicle charges splits revenue between the WA government and Commonwealth. A WA heavy vehicle road fund provides the opportunity to reallocate those funds between the WA government and local governments to more appropriately reflect the expenditure undertaken by each government, and the relative use of the road network by the heavy vehicle industry.

An important part of any road reform should be to ensure that local governments are also directly funded on the basis of road use. This would provide a direct stream of revenue to local governments to support road maintenance and investments.

---

18 Page 616, 2014-15 WA Government Budget Papers.

19 Source: National Transport Commission, 2013, *PAYGO Model,* November.

20 Estimated as a share of road user charge revenue based on estimates of heavy vehicle kilometres travelled within WA.

6. Next Steps for the Reform

Delivering on any road infrastructure reform would be complex at a national level, given the diversity of arrangements currently operating in each jurisdiction. It is for this reason that consideration should be given to a state-based road infrastructure reform plan, which will allow WA to work through the practical reforms needed for implementation itself.

This would provide WA with significant scope to design a system that works well given its own circumstances, but which strives to achieve the objectives that would be consistent with a national reform.

Some of the high-level questions that would need to be worked through include (amongst others):

- What role should an independent umpire have in the development of expenditure plans and state-based heavy vehicle charges?
- How can the WA Heavy Vehicle Road Fund be credibly independent of governments?
- What expenditure decision making processes and relationships need to be put in place to make the fund effective?
- Who should bear forward-looking heavy vehicle revenue and expenditure risks?
- What are the practical challenges of shifting to a user pays charging regime, including the adoption of in-vehicle technology by industry?
- What role should the WA government have in contributing funds to the WA heavy vehicle road fund to acknowledge the community service obligations embedded within the current arrangements?

NERA
ECONOMIC CONSULTING

NERA Economic Consulting
Darling Park Tower 3
201 Sussex Street
Sydney NSW 2000
Tel: 61 2 8864 6500 Fax: 61 2 8864 6549
www.nera.com

NERA Australia Pty Ltd, ABN 34 092 959 665