



COAG Road Freight Incremental Pricing Trials

Prospects for a more commercial focus in road reform

Prepared by Juturna Consulting for Infrastructure Australia
August 2011


Disclaimer

This report has been prepared by Juturna Consulting for Infrastructure Australia. The information in this report has been prepared by Juturna Consulting from open source material and from stakeholder consultation. All reasonable attempts have been made to ensure the accuracy of the information contained in this report, but Juturna Consulting reserves absolute discretion in updating or amending this document.

Comments and questions:

Luke Fraser
Principal, Juturna Consulting Pty Ltd
P 0437 146 274
E jurnaconsulting@gmail.com
W www.juturna.com.au



design by xmarx 

CONTENTS

1. Executive summary	3
2. Scope	4
3. Background: 'Incremental Pricing'	6
4. Summary of incremental pricing trial comes	7
5. Observations: technical and organisational aspects	7
6. Other road charging, access and investment reforms	8
7. Closing observations	22
8. Recommendations	28
9. Source documents	29
10. Endnotes	30

1. EXECUTIVE SUMMARY

This paper was commissioned by Infrastructure Australia to examine COAG's road freight incremental pricing (ie 'avoidable cost' pricing) trials. The trials themselves were commissioned to examine the potential for more productive road freight access. Trials were important for COAG road reform objectives, as they would test many of the asset management, administrative, technological and reinvestment mechanisms underpinning commercially-focussed road pricing and investment by Australia's road agencies.

The major road agencies already have considerable experience in negotiations where the private sector provides inputs, services and in some cases roads, for example toll roads. They also have experience in determining limits to heavy vehicle access, and in some cases 'exceptional purpose' access, but generally not in a commercial negotiation environment. This experience could be characterised as on the road 'supply side'. However, the idea behind the incremental pricing trials is a different matter – the responsiveness of roads and road agencies to freight demand in a commercial environment – a demand side matter.

A seminal report in 2006 suggested that incremental pricing warranted exhaustive testing, and in 2007 COAG requested a detailed review of the feasibility

of incremental pricing. In 2009 COAG noted that the process was slipping behind its timetable.

The trial process was embarked upon by four state jurisdictions. Two of these abandoned the trials at the methodology stage due to perceived legal barriers and the difficulty in assessing and pricing road freight routes for greater access. One state has embarked on three successful trials, but other requested trials in this state were similarly rejected due to the complexity of route assessment and upgrade. The remaining participating state has enacted one trial, on 750 metres of a local council's road; this trial took the commercial proponent 3 years of negotiation to secure with the road agency. There would appear to have been no significant national coordination or agreed and implemented national methodology guiding the trials or the publication of results and analysis. In all cases, trial compliance and administrative burdens were reported as significant in the field trials.

Irrespective of views about their 'success' in promoting freight efficiency, the trials are very instructive for future policy reform purposes. They indicate that Australia's major road agencies share characteristics of non-commercially oriented natural monopolies, and face difficulties in responding to market initiated use and reinvestment in roads. They operate as a price and asset setter. They can encroach into roles usually

undertaken by firms seeking to establish competitive advantage in highly contested market tasks, including product and technical innovation. Also, they have difficulty in delivering sufficient relevant information to facilitate productivity gains in the competitive firms that rely on their infrastructure. This problem is one of fundamental policy and agency design, and is in no way reflective of poor or hostile agency attitudes, which on the contrary, are characterised by goodwill and professionalism.

The paper recommends that this matter be viewed as a microeconomic reform opportunity of national significance, in the same vein as the structural monopoly reforms of the Australian rail sector in the 1990s. The paper offers some parallels with reform precedents in Australia's rail sector as a fruitful way forward for dealing with these issues.

The paper also reports on innovative alternative approaches to competitive heavy vehicle road access and investment being undertaken by South Australia. These approaches facilitate access to and private improvement of access roads for the mining sector. This is a practical development that is worthy of national exposure and broader replication, in the interests of encouraging private sector investment in roads and to assist the efficiency of mine site logistics nationwide.

2. SCOPE OF THIS REPORT

In pursuing its 2007 road reform agenda, the Council of Australian Governments (COAG) requested a *'detailed review, including trials (building on the Intelligent Access Program) to assess the impact and feasibility of incremental pricing schemes for higher mass and other innovative vehicles which allow access to parts of the road network from which they are currently excluded'*.

On 3 June 2011 Infrastructure Australia sought review and comment on the COAG Road Reform Review of Incremental Pricing Trials report, which itself was commissioned ' by the COAG Road Reform Project ('CRRP'). Independent advice was sought on:

'the extent to which trials met original industry expectations';

'the question of bridge restrictions impacting the trials';

'the comments (in the GHD paper) to the effect that road authority stakeholders raised concerns 'that incremental pricing could stymie innovation in vehicle design';

'how these outcomes might be relevant to matters identified in the National Land Freight Strategy discussion paper'.

'both the technical and organisational nature of the responses, given CRRP acknowledgement that part of the reform agenda is to 'drive' a more commercial focus into road provision and availability of access'.

This response addresses these issues specifically. In doing so, although it touches upon the implications of the incremental pricing trials for wider COAG Road Reform objectives, this paper is in no way an analysis or review of the CRRP process. Several stakeholders have been interviewed to clarify the paper's understanding of trial matters as well as alternative industry road access and investment approaches. By agreement, the trucking operators involved in the trials have not been interviewed, as these parties were already consulted - and their views on the trials recorded comprehensively - in the GHD report.



3. BACKGROUND: 'INCREMENTAL PRICING'

Australia's major road agencies have a long history of focusing on the supply of roads. In this they also have considerable experience in negotiating with the private sector on supply arrangements, for example tendering for design, construction or maintenance of public roads, and also in some states negotiation of commercial arrangements with private toll road operators. Also they have a long history of determining heavy vehicle access to particular roads, and of identifying or building - 'supplying' - roads capable of being used by certain heavy vehicle types.

Road pricing and investment reform aims to enhance national productivity by expanding on these characteristics, especially in relation to freight. Among the broad aims of road pricing and investment reform, one desirable outcome is the promotion of 'demand-side' (ie road freight and its customers') preferences for better (eg heavier payload) vehicle access to be accommodated 'at the margins' on routes most important to the freight market.

It was thought this might be achieved by an incremental increase to the truck's road user charge, so as to reflect the incremental increase in that vehicle's payload, which will cause some additional road wear. The additional weight would attract an incremental charge, to cover the cost of maintenance for the additional (ie. otherwise avoidable) cost

incurred. This is referred to by the CRRP as *incremental pricing*. This appears to equate more or less to avoidable cost pricing and theory as applied in other transport infrastructure sectors, like rail.

The National Transport Commission's Incremental Pricing Scheme Feasibility Paper notes that incremental pricing has implications for broader road reform efforts:

'(Successful incremental pricing) would be an important first step towards the potential development of a comprehensive mass-distance-locational charging scheme, which could replace the charges under the current charging scheme (that is, registration and fuel charges) with a charge for road use based on the mass of the truck as it travels, the distance travelled and the location of road use.'

Incremental pricing trials could test all of the mechanics - road and bridge asset assessment, access charge generation, compliance technology for heavier loads, pathways for commercial access requests, how industry innovation in access is responded to, access compliance technology and investment processes and legislation - which may be necessary for any Australian direct road pricing and investment scheme especially if it was to be demand responsive.

Expectations of incremental pricing's prospects in Australia

The COAG Road Reform Plan (CRRP) is overseeing assessment of the feasibility of direct pricing for heavy vehicle use of roads in Australia. Its board of management is made up of Australian state and territory road agency heads or senior executives, along with a representative from both the National Transport Commission and the Australian Local Government Association. A very recent CRRP publication suggests a degree of confidence that the building blocks of a more efficient charging and road investment system already exist: in its June 2011 publication *Preliminary Findings Consultation Paper* the CRRP indicated that:

*'Charging multi-combination vehicles and heavy truck trailers on the basis of a static measure of mass, actual distance travelled and location is both technically and economically feasible.'*³

The net benefits of introducing more direct road user charges and associated funding and expenditure reforms is considered significant by the CRRP: project modelling has suggested net benefits of up to \$5 billion in present value terms over the coming 30 years, if applied to Australia's trucking fleet.⁴ Given the perceived scale of efficiency on offer, and noting the significant shift that this would represent to current truck charging arrangements, the results of the COAG incremental pricing trials bear close inspection, in order to determine the practical justifications for the feasibility of incremental charging or other targeted road pricing and investment reform.

4. SUMMARY OF INCREMENTAL PRICING TRIAL OUTCOMES

In 2009, Queensland, South Australia, Victoria and New South Wales agreed to pursue trials with the heavy vehicle industry to determine whether and how incremental pricing might work. Of these jurisdictions, only NSW and VIC progressed to actual trial stage.

- In both **SA** and **QLD**, although methodologies were drafted with the intention of work being conducted, physical trials were not progressed; according to GHD interviews this was due primarily to legislative barriers (**SA**⁶) and the complexity of the route approval process that occurred once potential trucking industry participants had indicated their route preferences for trial purposes (**QLD**⁶). According to the GHD report, QLD also declared that the Intelligent Access Program (IAP) GPS-telematic tracking system proposed for the trials was withdrawn in order to encourage interest from industry as a result of the high costs of participation using this approach⁷.

- **NSW** proceeded with one trial, which involves the movement of slightly heavier-than-usually-permitted 40-foot refrigerated shipping containers 750 metres from a meat processing plant to its local rail head on a local government road in the city of Dubbo.
- **VIC** has in place a trial involving one operator transporting grain from near Geelong, 80kms *via* the Princes Highway to the port of Melbourne, on a vehicle which thanks to a slight increase in its gross mass, can transport two 20-foot shipping containers of grain instead of just one. Two other trials of a similar description are underway in regional Victoria.

5. REPORTED EFFICIENCY OF TRIAL OUTCOMES IN NSW AND VIC

- In **NSW** - The GHD report advises that the NSW trial yields a 15-18% productivity gain for the operator, in return for payment of 'approximately 92 cents per trip'. The additional freight weight available allows the refrigerated containers to be packed more efficiently for on-shipping by rail.
- In **VIC** - The Victorian trials using grain transport trucks have yielded very high efficiencies: for a *per journey* access fee of \$20, the operator claims to save \$450 in freight costs and reduce the number of overall trips by half; the high efficiency comes from allowing each truck to ship two 20-foot shipping containers at full shipping weight - previously only one such container could be carried per trip, due to weight restrictions. Two other similar trials have begun in this jurisdiction on a similar basis.
- Both jurisdictions' trials present intermodal benefits, as this road freight is on-shipped by rail.

6. OBSERVATIONS: TECHNICAL AND ORGANISATIONAL ASPECTS

Trials in QLD and SA did not proceed. Limited VIC and NSW trials have taken place. The scale of resulting trials is limited. All four participating jurisdictions appear to have struggled with this part of the COAG Road Reform Project.

Difficulties appear to have arisen firstly through a fragmentation of effort resulting from non-adoption of national methodology for these trials that would engage efficient effort and assistance from Australia's numerous national transport-related bodies, and secondly due to the very structure of Australia's road agencies themselves – at least insofar as these structures are forced to incorporate industry preference for more efficient road access and investment on their road networks.

The trials raise six key issues for consideration:

- A. Should such trials be progressed without national coordination?
- B. Does demand-responsive route assessment and road access pricing exist?
- C. Do current agency structures provide incentives to respond to demand based access preferences?
- D. Is there certainty in legal frameworks for incremental access pricing?
- E. Are technical compliance arrangements costly?
- F. Is there reinvestment of revenues as per normal access charging?

6A. Trials took place without clear methodology or clear national coordination

There appears to have been no dedicated national coordination of these jurisdictional trials or commitment to collation of reports and analysis post-trial, in a manner that would bring the expertise of all relevant parties to bear and create a coordinated and informed set of trial findings to drive productive reform.

Public statements suggest a number of national bodies are potentially relevant to such tests. However, they do not appear to have been involved in the process in a comprehensive, consistent way:

- The **Federal Department of Infrastructure and Transport** maintains a surface transport policy division. One of the department's stated key performance indicators is to ensure that *'targeted transport regulatory reform initiatives are developed and progressed through COAG'*; in 2009-10, the department's performance target for this activity (reported as achieved) was to ensure that the *'COAG national reform agenda is actively progressed in conjunction with all state and territory governments'*.

6. OBSERVATIONS: TECHNICAL AND ORGANISATIONAL ASPECTS CONTINUED

- The **National Transport Commission** was established in 1991 *'to develop and coordinate regulatory reform for nationally consistent road transport policies and laws'*.⁸ Following COAG's request for trials to be undertaken, the NTC prepared an *Incremental Pricing Scheme Feasibility* paper which included proposed guiding principles, feasibility issues and a methodology for such trials.⁹ It is unclear why this was not taken up as a national trial project framework by participating states.
- **Austroroads** is the association of Australian and New Zealand road transport and traffic authorities. It exists, amongst other reasons, *'to contribute to the achievement of improved Australian and New Zealand transport related outcomes by undertaking nationally strategic research on behalf of Australasian road agencies and communicating outcomes and facilitating collaboration between road agencies to avoid duplication'*.¹⁰ It is also the repository for much technical expertise surrounding road engineering assessment and the effects of truck road wear on road condition.
- The **Bureau of Infrastructure, Transport and**

Regional Economics was established *'to gather and analyse information about the transport industry, broad trends and problems in the provision and coordination of transport services'*.¹¹

- **Transport Certification Australia** is a public company established under the *Corporations Act* to administer the Intelligent Access Program (IAP) a program *'which provides heavy vehicles with access, or improved access, to the Australian road network in return for monitoring of compliance with specific access conditions by vehicle telematics solutions'*. This company's stated purpose is *'to contribute to a better managed and utilised Australian road network'*.¹²

While some of these institutions appear to have provided expertise on request, there was no plan or methodology for pooling resources, or for central oversight and expertise in support of all jurisdictional trials, nor was a national plan agreed for collating and publishing trial outcomes and findings.

It is unclear whether the trials drew on the experience of national access arrangements in other utility sectors, such as rail, including matters such as

formal 'access undertakings' which set out Australian Competition and Consumers Commission approved processes for dealing with commercial access requests.

Interviews with the two agencies that ran field trials (VICRoads and NSW RTA) support the view that the trials appear to have been conducted instead on a 'best intentions' basis by each agency, which no doubt juggled trial resources with many other competing priorities. From the beginning the jurisdictions had no single, agreed support structure or review and analysis mechanism through which to maximise their efforts.

Another implication of this lack of national coordination goes to the question of trial mandate: both NSW RTA and VICRoads may now find it hard to close the trials that they have begun. Conversely, if their trials remain open-ended, these agencies may encounter pressure from other truck operators and customers who were not involved in these trials, but who now wish to receive the same benefits as trial participants, raising equity issues if these trials are not expanded into more general schemes. In this respect, the field trials conducted could differ from the tentative or experimental nature of scientific trials (conducted in order to ascertain results).

6. OBSERVATIONS: TECHNICAL AND ORGANISATIONAL ASPECTS CONTINUED

Formal trial methodology

A basic stepwise methodology for any scientific trial is usually¹³:

- Establish the hypothesis to be tested;
- Agree operating parameters of the trial that will test the hypothesis;
- Establish efficacy under trial conditions;
- Close the trial and ensure results and analysis published to allow for peer review etc;
- Outcomes of the trial and its analysis informs and refines subsequent research
- In the broadest sense, the incremental pricing trials were about testing the capacity of the public sector, its planning, structures, data and technology to respond to unsolicited commercial freight intentions for the road network. The lack of a clear and formal commitment to coordinate the trials and publish their results compromised jurisdictional efforts in assessing whether such capacity exists and what may need to be done to generate it.

6B. Demand-responsive route assessment and road access pricing does not exist

The trials were for industry, market led – demand side - requests for route assessment and incremental pricing, as distinct from a predetermined menu of specific offerings from road agencies.

All jurisdictions found the process of assessing the routes requested by operators extremely challenging. QLD nominated this as the principle reason for not proceeding with trials:

'Queensland Transport and Main Roads stakeholders informed the (GHD) study team that the (operator-nominated) routes could not be approved either due to infrastructure vulnerability, bridges and pavement, or complexity in route assessment'¹⁴.

Infrastructure vulnerability is related to asset management uncertainty

Uncertainty in this area is related to asset planning. An issue underlying the difficulties in assessing routes appears to be a lack of ready asset plans, which also would create difficulties in pricing route access accurately. This is a threshold issue for successful access pricing.

Even where trial-related assessments did occur, commonplace features on most road networks - such as the presence of a bridge, or the passage of a state road network *via* a section of road that happens to be managed by a local government - confounded many assessment and pricing attempts: in VIC, the presence of bridges *'eliminated a number of the suggested*

possible routes'¹⁵; in NSW, the initial incremental pricing estimates did *'not take into account the costs associated with bridges'*.¹⁶ NSW went on to note that *'bridge capacity constraints' were 'a significant hurdle'* to approval of trials.¹⁷ Without clear and costed networks, pricing for incremental access is extremely time-consuming, complex and unresponsive to an otherwise highly efficient market for freight.

How lack of road asset access pricing information 'locks out' commercial influence

One of the only trials to proceed to the field shows how limiting this lack of clear and ready asset cost information can be: the NSW trial, for example, takes place on less than a single kilometre of local government road. Almost every road freight task in Australia is more complex than this trial in infrastructure terms. A significant question is whether this limited field trial reflects a lack of interest of industry in negotiating access, or whether it reflects limited information about avoidable costs of asset use in more complex routes. In the former case, industry interest is likely to depend on availability of information germane to potential operator gains. If the latter circumstances hold, much of the freight task would be locked out of access to any incremental pricing schemes and their benefits.

Any lack of asset planning information could have direct implications for the confidence in the technical and economic feasibility of mass distance locational charging of heavy vehicles, at least at present – a matter returned to in the observations and recommendations sections of this paper.

6. OBSERVATIONS: TECHNICAL AND ORGANISATIONAL ASPECTS CONTINUED

6C. Incentives and agency structures

The outcomes of the trials, and comments in the GHD report, indicate that the present organisational architecture of road agencies is not well suited to accommodating industry-led or demand side access requests on a significant scale.

Jurisdictional road agency structures and resource allocations have evolved over one hundred years or more. The way these structures plan and invest in roads is very different to the subject matter for the trials - a market-initiated access pricing regime for road freight. This has implications for how well agencies can respond to trial arrangements, given limited resources and an understandable ongoing focus on 'core' agency tasks. GHD interview feedback from VIC indicated that *'If hundreds of vehicles and multiple operators were participants, this system would be far too onerous (an) administrative burden on VicRoads'*¹⁸; this was supported by this paper's own interviews with this jurisdiction.

This statement suggests that commercially-driven road access arrangements are outside the current structural capacity and design of road agencies. However, it is possible that infrastructure owners in other sectors had similar issues and concerns when first facing the potential for access requests.

Confused role: road agencies also appear to be 'picking winners' in new freight technology

The trials also reveal that to some degree, the current architecture of road agencies and how they interact with commercial road access interests may have led agencies and national transport institutions into commercial activities, such as 'choosing' the 'next big thing' in freight technology – and then seeking to formalise these choices as the preferred outcomes for future higher productivity truck access purposes. This has the effect of putting at risk potential market-driven (ie commercial) breakthroughs that might be seen as inconsistent with agency plans and preferences.

The example of quad-axles: trials as a threat to agency-preferred freight technology

The GHD review reported that the incremental access process raised concerns within agencies that trial operators paying an extra charge for better access may put at risk the National Transport Commission's agreed Quad-Axle innovative trailer policy¹⁹:

'There are also concerns that there are conflicts with (trials in which vehicles use tri-axle trailers already fitted as standard across the industry) and the introduction of quad axles; (the latter) is considered a better long term option than adding a few tonnes to a tri-axle.'

Quad-axle technology – a grouping of four axles underneath a trailer, rather than the standard 'tri-axle' grouping - is relatively recent²⁰. The great bulk of Australia's trucking fleet have not fitted their trailers with quad axles- that is, the 'tri-axle' remains the

accepted industry standard. This paper understands that the incremental trials operating in VIC derive the extra productivity from their trial route journeys from existing tri-axle trailer technology, modified with uprated suspension arrangements. In other words, these trial operators are taking advantage of incremental access pricing to squeeze more efficiency out of 'bought and paid for' existing equipment, paying marginally more for road access in return. But according to feedback provided to the GHD report, at least some road agency stakeholders feel this puts at risk agency-agreed preferences for how and at what pace road freight technology should evolve. It is notable that current agency structures would lead road agency officials to consider that their preferences for efficient innovation would or should take precedence over market-generated access solutions.

The road agency and innovation compared to other economic infrastructure examples: rail

The quad-axle issue may appear a small matter, but it illustrates an important distinction that exists between road agency approaches to access pricing and the commonplace arrangements of all other economic infrastructure sectors which have been subjected to competition policy and structural monopoly reforms.

In other sectors, structural monopolies have been reformed: rail freight regulatory functions (ensuring use of the rail network is paid for by users, ensuring the safety of rail users and the community) have been separated from commercial functions (such as developing more efficient locomotive and wagon technology to use on the rail lines) further under vertical separation.

6. OBSERVATIONS: TECHNICAL AND ORGANISATIONAL ASPECTS CONTINUED

Vertically-separated issues in road agencies



In the rail sector, activities are divided clearly between asset manager and train operator. The train operator pays for improved access, *via* application to the asset manager. The asset manager's role is not to 'pick winners' in future freight technology and mandate them to industry. The rail asset manager has a

narrower role: to consider all industry applications for new vehicle designs in reference to *current, in-use design as the reference standard*. This is because in the rail sector, innovation in efficient freight design is appropriately seen as a commercial function of the market for locomotive and rolling stock research and development, usually carried out globally by locomotive and rolling stock manufacturers, who then warrant their products to the market. The asset custodian allows (rather than regulates) access on the basis of the technical capacity of the asset to accommodate the new vehicle, judged against *existing* industry norms and standards.

In this context, the quad-axle comments found in the GHD report represent an approach to innovation and access regulation at odds with a market-based regime. It suggests structural issues. This theme is returned to in the *Observations and Recommendations* sections that follow.

How many 'increments' of more productive access is incremental pricing *allowed* to deliver?

The issue of how much extra weight (ie additional freight productivity) could be purchased through incremental access pricing was also dealt with differently by different jurisdictions.

In the VIC trial, the road agency announced pre-trial¹¹ that the practical upper limit that would be allowable for incremental access arrangements would be 70.5 tonnes (gross weight) for a B-double vehicle or equivalent – this is a marginal improvement on the usual 68.5 tonnes maximum allowable in that jurisdiction, but considerably less than the manufacturer's warranted safe gross mass for such a vehicle, which is generally closer to 80 tonnes. Similarly, SA nominated a maximum increase for incremental access that appears to be below the nominal maximum that the vehicle's manufacturer would warrant as a safe loading weight. Yet elsewhere, NSW simply applied the vehicle manufacturer's warranted upper limit for vehicle loading as the maximum permissible, while QLD proposed that a maximum loading level would in fact be '*allowed to go above the limits agreed by the Austroads Pavement Review Panel on the basis of an assessment of the capability of the roads that would be used for the trials*'¹².

6. OBSERVATIONS: TECHNICAL AND ORGANISATIONAL ASPECTS CONTINUED

Australia's rail sector has a clearer approach to managing new access requests from industry .



By comparison, the common approach to access pricing in rail infrastructure would see any decision on increased weight based on a technical and safety-based examination of the nominated route. Assuming safety aspects could be accommodated, the additional wear incurred on the asset would be calculated by the asset owner, and the additional impact of requested extra weight would be reflected in a price, making it relatively easy for the market to determine its appetite (its demand inelasticity, in an economic sense) for accessing the infrastructure with any given amount of

additional extra weight. Such a price would include all relevant costs, including potential capital improvement costs associated with bridges on that line. This price would therefore stand as a transparent indication to both the market and to governments of the cost of trains becoming more productive on that network.

Mass distance locational reference prices for main segments, such as posted in the ARTC's access undertaken, provide a starting point for negotiations.

The Productivity Commission noted the greater efficiency on offer from such arrangements:

'Because of its commercialisation, rail infrastructure pricing, maintenance and investment decisions are more directly linked than road infrastructure investment and pricing. Revenues that infrastructure managers earn from rail freight operators' use of the network (flagfall and variable charges) generally are directly negotiated with users'.²³

The incremental road trial project makes clear that this approach has not been implemented in roads. It is very likely that this stems from the threshold issue of a lack of costed infrastructure asset plans for the network. Without up to date, costed asset plans across the network – or at least those parts of the network of most interest to freight – it is impossible to derive an incremental access charge easily. This in turn reduces the flexibility of the road freight market to respond to new technology opportunities and usage patterns in freight vehicles and freight routes.

Agency reluctance to use market preference as a guide for future network investment?

In the course of its interviews, the GHD report noted on more than one occasion that jurisdictions were concerned that incremental access pricing would lead to *'messy, ad hoc networks arising'*²⁴ from truck operator's being able to choose which networks they would prefer to use more intensively in future. This sentiment suggests that changing the future investment patterns on roads to better accommodate future market access preferences – even under conditions where industry itself might pay directly for the additional productivity through incremental (ie avoidable cost) pricing - is an unwelcome arrangement for road jurisdictions: the implication is that future access planning and investment is a role best left solely to road agencies. Once again, this sentiment serves to distinguish road infrastructure investment and planning arrangements from other economic infrastructure sectors, where commercial intent is encouraged to participate in shaping and investing in a preferred, customer-responsive network, suitably regulated.

Given some apparent road agency discomfort with this approach, some jurisdictions made their own choices about what discrete 'networks' within the wider road network might be most appropriate for entertaining incremental pricing trials: SA for example felt that as it already had a sense of the main routes where additional mass would be likely to be sought by the industry, detailed route assessments on other parts of the network could be limited to only *'truly exceptional high mass requests'*²⁵.

6. OBSERVATIONS: TECHNICAL AND ORGANISATIONAL ASPECTS CONTINUED

NSW chose to limit expressions of interest for involvement in the trials to *'operators who had previously expressed interest in higher mass limit operations, who had a good compliance record'*, and who had, in the jurisdiction's own opinion *'a freight task with a nature and location that is suited to incremental pricing application, including being restricted to operations on state-owned roads to minimise the need for local councils to assess and approve their roads'*⁶⁶.

From the trial, road agencies appear confident that, as both supplier and access manager of road infrastructure, they also know best what the freight market wants in regards to *future* competitive freight infrastructure investment. It follows that for these agencies, the preferred role of the road freight market itself in shaping that network is something that perhaps would be quite limited, or better dealt with through public consultation forums and industry surveys than through incremental access pricing requests.

6D. Legal frameworks for incremental access pricing of road freight are uncertain

VIC considered that the trials should operate under a permit arrangement, while NSW amended its heavy vehicle charging legislation to accommodate the pricing regime, which allows for the making of regulations for incremental pricing, although the GHD report also noted that at time of writing (May 2011) the regulations were not yet in place. In its proposed methodology QLD indicated that in principle it could levy additional payments for additional road wear incurred through higher loads through existing regulations. SA indicated that their preferred methodology would see trials operating under permit, but that this would require new laws, as current state legislation and regulations do not allow for charging for road use under permit.

What is clear from the responses is that there is no easy or consistent legal basis in place for incremental access pricing. Further expert analysis would be required to understand the true depth of these difficulties – and it is clear that agencies experienced difficulties in this area - but it is unclear to this report why, at least at the principles level, a legal entity such as a state road agency charging to recover the cost on and of capital invested in roads would be considered *ultra vires*.

Again, this is a threshold issue for access pricing, one which places road infrastructure access arrangements at odds with wider accepted practice for user charging, such as occurs in other economic infrastructure sectors.

6E. Technical compliance arrangements appear costly and confusing

A consistent theme of the GHD report was that the compliance arrangements either proposed for trials (in the case of QLD and SA, which did not proceed) or applied to trial participants (VIC and NSW) were very considerable. Typically, they involved uprating suspension gear on the trial vehicles, in some cases fitting Electronic Stability Control to the vehicle and/or mandating accreditation with an audited vehicle mass maintenance scheme, as well as fitting of GPS telematics transponders to monitor actual movements of the trial vehicles, in addition to self-reporting of vehicle mass and distance travelled supported by a weighbridge certificate where available. Paper records of journeys were required in addition to electronic systems.

6. OBSERVATIONS: TECHNICAL AND ORGANISATIONAL ASPECTS CONTINUED

IAP may not always be the most efficient compliance solution, judging from trial outcomes

The Intelligent Access Program (IAP) which employs GPS tracking of vehicle telemetry and central reporting of the data to agencies for compliance, has for some time been heralded as the preferred solution to all compliance for future heavy vehicle access and pricing issues. Interestingly, IAP was not universally embraced by jurisdictions as the cornerstone compliance mechanism for all trials. NSW indicated that IAP *'might be used for route compliance* (in the end, the only successful trial operator already had IAP installed in their trucks, rendering this issue moot)²⁷. VIC trial methodology indicated that formal IAP technology could be substituted with a commercially-

accredited GPS telematics system (which did not report electronically to the road agency, but which was tamper-proof and would record off-network, non-compliant travel). All GPS telematics monitoring systems cost money: the QLD jurisdiction abandoned the IAP requirement altogether. According to GHD, *'... this requirement (IAP as a prerequisite for incremental pricing trials) was withdrawn in order to encourage interest from industry as a result of the high costs of participation using this approach'*.

Compliance and governance processes for trials remain uncertain and paper-intensive

On top of electronic tracking compliance, the paperwork compliance appeared to be a burden for agency and operator alike: at time of publication, the

VIC road agency had not yet established *'how the data on trips is to be collected'* and *'how to verify the accuracy of the data'*²⁸. GHD reported that *'the NSW (road agency) had significant concerns with the administrative complexity involved with incremental pricing in the medium to long term'*²⁹.

This report also noted that the compliance burden in NSW was significant for the operator. The operator involved in this trial (on 750 meters of road) told GHD that the process from identification of their proposed incremental pricing route to agreement and analysis of an appropriate extra charge for access to this road took 3 years to complete³⁰.

6. OBSERVATIONS: TECHNICAL AND ORGANISATIONAL ASPECTS CONTINUED

6F. Targeted reinvestment processes for access charges are not agreed across jurisdictions

Incremental access (or avoidable cost) policy would dictate that once paid by the truck operator, additional funds paid for additional road use enjoyed must be returned to the piece of road in question in a reliable, timely and transparent way. This feature is vital to incremental pricing: as with avoidable cost pricing in rail, the incremental charge represents the additional asset wear incurred; if the charges paid by that vehicle are not returned to that road, the road degrades and the incremental pricing system loses all utility: in essence what is left is just the broken road charging and funding system that Australia already has, where charges are not hypothecated back to roads, but instead are collected from fuel excise and registration and then placed in consolidated revenue. From here, these funds are distributed by agencies primarily according to political and bureaucratic priorities across the whole transport network, rather than being sent back for reinvestment in response to very precise commercial road freight demand signals.

In some cases it is conceivable that an asset ought be improved to facilitate its use by heavier vehicles, but

this to occur it is essential that prospective revenues are 'earmarked' for that asset.

According to the GHD report, each jurisdiction took different approaches to the challenge of returning the charge to the road:

SA methodology suggested that *'the state government will initially receive the funds'* but that a detailed methodology for returning the incremental charges to the roads they were generated on had not been developed.³¹

QLD methodology similarly suggested that the money would be sent to state or local governments as relevant, but no clear mechanism for reinvestment on specific roads was advanced.³²

NSW indicated to GHD that funds were *'to be held in a separate road fund, which would be spent on road and bridge infrastructure maintenance under the incremental pricing trials'*.³³

VIC made clear to GHD that the incremental access charges received would be placed in a separate fund and *'used to fund additional maintenance on the routes using the trial'*.³⁴

The last two approaches are in keeping with the economic infrastructure access pricing and investment conventions that operate in other sectors. Commercial interests will be prepared to pay more only where commercial gain sufficiently outweighs the charges outlay. But for that commercial gain to be sustained, additional access payments must be re-invested directly in the infrastructure in question. Without this arrangement, network investment patterns will not necessarily reflect industry activity or access preferences – leaving the more heavily accessed networks to deteriorate over time, despite industry paying relatively more for their continued upkeep.



OVERSIZE

OVERSIZE

6. OBSERVATIONS: TECHNICAL AND ORGANISATIONAL ASPECTS CONTINUED

Other relevant road charging, access and investment models in Australia

Even if done well, it is generally agreed that incremental pricing will be unlikely to provide the 'whole solution' to road pricing and investment reform. The Productivity Commission's *Inquiry into Road and Rail Infrastructure Pricing* in 2006³⁸ was clear about this: it suggested that incremental pricing warranted exhaustive testing to ensure that the benefits of such arrangements outweighed the costs, but it also recognised a limited role for this approach across the whole network. To quote at length from this inquiry's findings:

'Although incremental pricing could provide valuable information about the economic feasibility of location-based pricing systems, and build acceptance of these technologies among truck operators, extension of location-based charges to the entire PAYGO base could not be undertaken on a voluntary basis.'

'More fundamentally, any extension of direct road pricing would require thorough feasibility studies to assess the impacts and net benefits of specific options, drawing on lessons that emerge

from incremental pricing...one option would be to limit location-based charges to specific parts of the network such as major freight routes (while continuing to 'tax' freight operators' use of other parts).'

Under these circumstances it is worthwhile to consider recent alternatives that may be available to drive more commercial outcomes on Australian roads off major highway networks. They show promise for moving beyond the Productivity Commission's suggestion that areas not priced and invested in by incremental pricing arrangements might get by through just 'taxing' road users.

Deed-based private investment and access arrangements on public roads

Some of Australia's state road agencies have been pursuing practical private investment outcomes through deed arrangements. These arrangements are typically between the state road agency (the road owner) and mine sites, where mining interests want to use old rural roads far more intensively. South Australia is prominent in adopting these approaches.

Taking up the Productivity Commission's challenge: what about remote road networks? Is a flat tax the only way to fund such roads?

It seems that some road agencies have systems available that are of merit as at least a part-solution to the problem identified by the Productivity Commission: namely, if incremental pricing may in the end only prove useful to core heavy freight networks, how should reformers address the regional and rural road networks that need upgrade but which are unlikely to attract funding, or be priced by incremental access arrangements? How do remote, rural and regional roads attract the money to cope with fast-growing logistics needs?

This matter is of particular relevance to the many parts of regional and remote Australia which have public roads affected by a rapidly expanding mining sector.

An alternative road access model, useful where lack of funding is the main barrier to upgrade

The following chronology describes what is beginning to happen in remote and rural areas where commercial enterprises need better public roads to drive their own freight efficiencies. The consistent theme in these scenarios is that the major barrier to the road upgrade is not community or environmental concern over the upgrade occurring, but simply a lack of available public revenue for funding these roads from traditional sources.

6. OBSERVATIONS: TECHNICAL AND ORGANISATIONAL ASPECTS CONTINUED

Typical chronology of a remote/rural, public/private road upgrade by deed arrangement

1. Historically, remote roads with low traffic levels attracted little expenditure:

Understandably, local and state governments own and maintain many secondary roads to only a low standard in rural and remote areas. Funds are not available to do more, and historically there has been little or no demand for major upgrades to these roads.

2. Demand for these roads changes instantly with new mine activity:

Many of these roads suddenly become vital to mining interests, which need to use them far more intensively as 'haul roads' in and out of their sites.

3. Dilemma: no public funds, but also no private right to upgrade the road:

The local/state government does not have spare funds to upgrade the roads to the miner's preferred standards, but neither can the miner

improve the road without permission, as it remains a public asset, and attracts public liability risk for unauthorised engineering alterations.

4. Deed arrangements backed by public liability insurance break deadlocks:

Government and mine owner enter into a deed-based arrangement for private upgrade of the road, to public specifications. Both parties agree on a sum covering building and maintenance costs for the new road standard, for an agreed period, with remediation costs also paid for at end of life by the private improver, thereby avoiding burdening the taxpayer with ongoing maintenance of a redundant road asset. In an approach similar to rail access undertakings, the miner agrees to take out public liability insurance to ensure no unexpected costs or actions associated with their road construction and use expose the taxpayer to risk.

5. Public and (multi-party) private road access can coexist under deed arrangements:

Vehicles other than those associated with the mine can still access the public road. If a second

or third mining interest seeks to use the road that the first mine has upgraded, access to these parties can be agreed under the terms of the deed, which typically would ask the first miner to negotiate a reasonable access contribution with subsequent players. The state road agency that drafted the deed arrangement with the first miner could act as independent arbiter of access disputes, where access negotiations between different miners were to fail.³⁶

Deed-based access arrangements are growing in popularity, but differ from state to state

The popularity of this arrangement is growing, particularly in states with heavy exposure to new mine development and a corresponding lack of funds for public road upgrades to these sites. However these approaches are not uniform at present. There are no national standards or procedures to harmonise such ventures, nor is there comprehensive information available to the market for such investments. Many local governments in particular are unaware of these arrangements.

6. OBSERVATIONS: TECHNICAL AND ORGANISATIONAL ASPECTS CONTINUED

Privately funded road improvements and upgrades to public roads in SA³⁷

Example #1

What: Underpasses for mine haul roads to allow operations to pass under a major public highway without damaging it or disrupting highway traffic

Where: 3 sites - Prominent Hill; Peculiar Knob; Culcairn Hill - on Stuart Hwy, SA

Why and how – the miners need road access but their mine haul roads each cross the Stuart highway - a road which would not permit access by all heavy mine vehicles, as the presence of such vehicles could create unacceptable safety risks and road wear. The miners at all sites negotiated to build and maintain their own highway underpasses to standards overseen and agreed by Transport and Main Roads SA, on the undertaking that the miners also pay for remediation of these improvements at end of useful life (ie thereby not leaving three worthless underpasses for the taxpayer to fund *ad infinitum*).

Example #2

What: Extension of hard shoulders, installation of specialised road signage on a 270km stretch of public highway

Where: Olympic Dam SA

Why and how: The Olympic Dam mine site is soon to be the largest open-cut mine in the world, with significant and frequent requirements for critical oversize mining equipment to be transported to and from the site by road. Some of the loads to be carried weigh over 350 tonnes and may be over 15 metres wide. The miner estimates 11,000 oversize or heavy road movements to be required in the coming decade. To allow this to happen, the highway's bitumen shoulders need to be widened and strengthened and special 'lay flat' signage needs to be constructed to allow the safe passage of very low, wide trailers under controlled circumstances. The miner is in the process of finalising the deed arrangement where it agrees to fund the construction and maintenance of the widened hard shoulders and special signage, with all design standards and maintenance and remediation of the work to be agreed with Transport SA.

Example #3

What: Upgrading a low-standard remote public road to a high-intensity mine haul road

Where: Honeymoon uranium mine, north of Barrier Highway, north-west SA

What and how: The miner requires what was an unmade road servicing remote stations to be upgraded as an all-weather, high-intensity haul road. SA Transport engineers and the miner both take footage of the pre-upgrade road to serve as a reference for the agreed remediation standard on closure of the mine. The mine owner then commits around \$2 million to upgrade the road, with all work supervised and approved by Transport SA. The entire process is governed by a deed arrangement signed by the SA government and the miner.



7. CLOSING OBSERVATIONS

COAG's heavy vehicle incremental trial process cannot be considered a success at this time. Commissioned in 2008, the trials have foundered, with half of the jurisdictions unable even to proceed to field trial stage; there was little or no effective national coordination of this important trial. In 2009, noting the failure to meet trial completion deadlines, COAG noted that:

'To date, no jurisdiction has been successful in commencing a trial (as required under Phase I of the COAG Road Reform Plan) due to various legal and infrastructure constraints and measurement issues'.³⁸

In 2011, this situation has not progressed significantly, with only one state operating multiple trials. However, these shortcomings themselves are instructive outcomes for road infrastructure reformers to consider.

What can be learned? Notwithstanding the evident goodwill towards the industry from road agencies throughout the trial process, when the trials were set against the current architecture of public sector road agencies (in terms of asset management, planning and investment), this architecture showed itself to be very poorly structured to facilitate successful demand-led outcomes. As it has been since Federation and perhaps earlier, Australia's road infrastructure planning and investment processes remain dominated

by supply-side (ie public sector) structures that do not respond at all easily to more commercial, user-oriented *forward investment* intentions. In this sense, the trials illustrate that Australia's road agencies remain natural monopolies. But while notionally in a vertically-separated sector, these agencies also engage in some activities usually conducted in competitive markets or *via* regulatory authorities.

Natural monopoly: roads the 'odd man out' of Australia's economic infrastructure

In this sense road infrastructure is in a very different position from other economic infrastructure in Australia, all of which has to varying degrees already embraced formal competition principles and redesigned its public sector structures to accommodate accurate and timely access pricing and third-party involvement in network planning and investment in at least certain 'core' or 'essential facility' networks. In these other sectors, regulatory and commercial functions have been split - and where industry sees an opportunity for new efficiency, it can seek to achieve it by paying a transparently-generated price for it, subject to independent regulation; indeed the *raison d'être* of vertical separation of some of these networks - such as lightly-used rail networks - is too facilitate such access. In contrast, *pace* a few toll roads

operated under concession, roads and their agencies have not been restructured in this way.

Lack of funds, lack of access and lack of transparency: the road agency's dilemma

The problem of road agencies as unreformed structural monopolies is compounded by the fact that the road asset itself is often in poor condition. Many of the roads where more efficient vehicle access may be desirable may already be some way through their useful lifespan. On some of these roads, a gap may be opening up between the funds received for ongoing maintenance and the amount of money needed to truly maintain the road to current safe conditions. This is known as a 'life-cycle funding gap' and, anecdotally, it is common enough across much of Australia's ageing road assets.

The trials bring attention to the dilemma road agencies face in this situation: agencies control both road and bridge access and road and bridge maintenance decisions, but they lack a funding system that delivers funds directly to the roads and bridges that most need them. Incremental pricing only compounds this dilemma: if many roads and bridges are already failing to maintain their condition with *current* (ie baseline) vehicle weights and access arrangements, why would road agencies - the very bodies which must maintain

7. CLOSING OBSERVATIONS CONTINUED

the network with limited funds – want to compromise road condition even further by allowing even heavier vehicles to access these networks? The higher incremental price paid by the heavier truck might meet the extra cost of its own journey, but if the road was already seriously underfunded and under-maintained, the incremental access price will do nothing to bridge the underlying life-cycle funding gap that this road faces.

Under such circumstances, road agencies may simply refuse the incremental access request, erring on the side of caution. This response appears commonplace; it was raised as a very real dilemma in this paper's interviews with some jurisdictional executives. But while it is an understandable response to a difficult situation (too many roads, too many access demands, not enough funds to fix the problems) it is a non-transparent way of doing business that both frustrates commercial intentions for the network while doing nothing to raise the underlying infrastructure shortcomings to higher attention. In this sense, it is a dilemma which bears some similarities to the pre-competition reform era of Australia's rail freight sector. In the early 1990s, Australia's Special Premiers

taskforces were asked to examine how government-owned enterprises like rail could be reformed. Their 1991 report³⁹ recommended seven principles which hold direct relevance for road freight agency reform today:

- Clear and non-conflicting objectives;
- Managerial responsibility, authority and autonomy;
- Effective performance monitoring by the owner government;
- Effective rewards and sanctions related to performance;
- Attaining competitive neutrality in input markets;
- Attaining competitive neutrality in output markets; and
- Effective national monopoly regulation;

One acknowledged solution to this problem is independent road portfolio management

The best way to avoid this dilemma in future is to build a road asset assessment function that is independent of road jurisdictions, which in turn would price the asset accordingly, on the basis of generating sufficient funds to keep the asset maintained to some agreed service level, and which could respond transparently to commercial access requests (as does the 'one-stop shop' for access over rail networks – sending signals to both the market and the government about the true underlying state of the asset and the true cost of market intentions for greater access to the network.

This type of arrangement is found in Australia's vertically-separated rail network, where a picture is maintained of the actual condition of the asset, and what funds are needed to keep it in safe working order. This is also consistent with the logic of a single national road asset manager that Infrastructure Australia recently espoused to COAG in the road freight section of its 2011 COAG report *Communicating the Imperative for Action*.⁴⁰

7. CLOSING OBSERVATIONS CONTINUED

Context: OECD notes a lack of targeted and efficient use of Australian infrastructure

In its 2010 review of Australia's regulatory reform climate, the Organisation for Economic Cooperation and Development (OECD) made the point that *'as traditional barriers to trade have fallen, the impact of domestic regulations on international trade and investment has become more apparent than ever before'*.⁴¹ In this sense the shortcomings in road agency architecture evidenced by the incremental pricing trials have relevance in the most strategic sense: Australia needs to find ways to target investment and produce greater demand-driven efficiency from its road infrastructure, but in roads, the mechanisms to achieve this remain unavailable.

The OECD's *Economic Survey of Australia* 2010 also drew attention to Australia's failure to target infrastructure investments in more efficient ways, instead tending to produce 'wish lists' and 'pipelines' of large new projects for future public sector investment:

'Current estimates of (Australia's) unmet infrastructure needs vary and tend to be unreliable, as they are based on cumulative costs of multiple capital investment projects...instead of detailed needs assessments, and do not consider making better use of the existing stock of equipment'.⁴²

This situation is compounded in the Australian road sector, where independent asset management and advice on access and improvement to the infrastructure is not readily available.

Threshold question: should competition principles apply to road freight access, or not?

Moving to address the problems evidenced by the trials would entail significant reform to current road agency architecture. Is such reform considered worthwhile?

If the answer to this reform challenge is 'no', Australian governments would (consciously or otherwise) be conceding that unlike the rest of the nation's core economic infrastructure, there is no significant place for commercial investment and innovation intentions in shaping road freight infrastructure, and little cause for reforming the natural monopoly aspects of road agencies. If this choice is taken, the progress of Australia's road network will almost certainly continue to be determined overwhelmingly by the supply side: road agency public servants and engineers will make their own priorities and choices about use of the historical asset, assumedly involving industry mostly through various consultation and public sector research and analysis processes, rather than clear and market-friendly access pricing arrangements. On top of the

state and territory road jurisdictions, public, national institutions that lay claim to a role in the road sector may continue to be funded, but there are scant grounds for optimism that their combined efforts will achieve more commercial outcomes for road use. In summary, road infrastructure may well continue to be guided by the best public-sector intentions, but self-evidently that would not be a process influenced by commercial intentions and therefore queries would remain as to its efficiency.

As a result of such a choice, Australia's roads would most likely also continue to be overwhelmingly reliant on tax revenue for future funding – private investment is unlikely to be attracted to road investment opportunities that are wholly conceived by the public sector. Rather, private investment would be limited to only those roads on which tolling rights are offered as a concession. This is a matter worthy of serious consideration. Many of Australia's road assets are already well-advanced into their useful life. It is not clear to this report how an unreformed road agency environment would attract the necessary capital injections into future road budgets to deal with large scale road asset replacements, to say nothing of new road investments.

7. CLOSING OBSERVATIONS CONTINUED

A fresh approach is possible

If there is an appetite to explore reforms that would drive a more commercial focus into future road network planning and investment, there are grounds for some optimism: deed-based road access arrangements appear to hold particular merit for access problems where the predominant challenge is not community concern over the road improvement going ahead, but merely a lack of available public funds to produce this result. The great amount of mineral and gas project infrastructure that is being invested in across the country seems to be a direct beneficiary of this form of access pricing. The models to achieve this sort of private investment in road infrastructure appear ready to be exploited on a greater scale.

Bite the bullet: reform means reviewing structural impediments to more efficient road freight access

This paper recommends in the following section that there should be an examination of institutional reform

of road agencies to overcome the limitations that were evident in the incremental access pricing trials. It does so employing the same rationale established by the *Report into National Competition Policy* in 1993 ('The Hilmer Report'), which discussed Australia's regulatory restrictions on competition in terms that are of direct relevance to what has been observed in the road freight incremental pricing trials. It is worth quoting this report at length on this matter:

'Government regulation will continue to be an important feature of our society, and there is wide community support for regulation to protect consumers, public health and safety, the environment and other significant interests. However...existing regulation (was often) put in place when there was greater confidence in regulation and less appreciation of its costs...Beneficiaries of (regulatory restrictions) usually have powerful incentives to resist reform, with those advocating change bearing the burden of establishing the existing restrictions are not justified'.

'The Committee believes that the time has come to progress regulatory reform...by reversing the onus

*of proof in considering the desirability of reforming particular regulation...the Committee considers that there should be no regulatory restriction on competition unless clearly demonstrated to be in the public interest'.*⁴³

The COAG road freight incremental pricing trials to date suggest that the current road agency rules and regulations are retarding competitive behaviour in the market for road freight, where truck operators and their customers are willing in principle to upgrade essential facilities and nationally-significant road networks in return for paying additional charges, in order to receive a return on freight efficiency. The trials suggest that current road agency structures are also serving to mask uncertainty over the true state of the road and bridge asset and this in turn leads to less than efficient and informed investment decisions – whether from the public or private sector. It also means Australians are not necessarily capable of having a sufficiently clear and open discussion about the true state of the road network, and where real improvements are needed in that network, and what this might cost.

7. CLOSING OBSERVATIONS CONTINUED

The fundamental design of road agencies - their lack of distinction between truly competitive and regulatory functions in road freight infrastructure - means that commercial road freight access outcomes are unlikely to appear on any broad scale; this relates to the ability of the market to negotiate commercial access and is not a matter of safety or amenity: in all the applications submitted by the market for incremental pricing trials, it would seem that nowhere was a trial refused on the basis of protecting the public interest. Instead, the failure to create more viable incremental access pricing outcomes on more road freight networks appears first and foremost to be a failure of organisational design: the trials and even the abandoned trial proposals reveal that comprehensive road asset valuations were not generated on demand by road agencies. The presence of bridges was held to confound access pricing attempts; the crossing of jurisdictions by a proposed access road network makes

granting access and generating access prices far too difficult; user preferences for network access were second-guessed by infrastructure owners, and there was a reluctance to accept innovations based on the proven vehicle technology proposed by some users.

Resolving these issues would pose a great challenge, but it may not be beyond the capability of a transport regime that has been reformed in line with Australian competition principles, as can be seen clearly in the current rail access pricing and asset management system. Whatever problems may still beset the rail sector, significant confusion over the role of the regulator and the market is probably not among them.

Viewed in this light, and following on from other sectors of economic infrastructure, freight-intensive roads seem to present a compelling case for competition reform.

Linking reforms to a core freight access network: National Port and Land Freight Strategies

Finally, the recent COAG agreement to a *National Ports Strategy* and progress of the *National Land Freight Strategy* discussion paper offers strategic direction to future commercial freight network development: this can help to align road freight customer and operator access intentions on an essential national freight network that Australia can plan for and protect over the long term. In any case, underlying road agency reform would be a necessity for third-party (private user) investment in and operation of core freight and port networks. Implicitly, it does consider the application of many competition principles to the most nationally-significant road networks.



8. RECOMMENDATIONS

1. Incremental pricing is a foundation element of the road reform productivity gains advanced by the COAG Road Reform Plan (CRRP); many of the mechanisms tested by incremental pricing remain valid for the direct and marginal cost pricing arrangements apparently being closely considered by CRRP. There should be some clarification of the CRRP's preliminary finding that *'mass distance locational charging of heavy vehicles is both technically and economically feasible'*;
2. A more thorough incremental trial process, at least for the purposes outlined by the Productivity Commission should be attempted, but it should include prior development of a detailed and nationally-agreed trial methodology it should extend subject matter of trials beyond increases in truck weights at least on nationally-significant roads. It should draw on appropriate support and resources from all of the national road institutions that are of relevance for future freight reform. Most importantly, such a trial would benefit greatly from having a steering committee or board who have demonstrated expertise in rail access pricing and competition policy reform in Australia. The results of the trial would warrant publication and analysis to better inform policy makers on the true challenges facing commercially-oriented road reform.
3. Independent of a further proper trial process, a structural reform path for road agencies should be considered to promote a more commercial focus in forward planning and investment, drawing strongly upon existing Australian rail sector structures and wider competition principles and anticipating eventual robust processes for third-party access to essential nationally-significant road freight networks; and
4. As an immediate complement to competition policy thematic reform of public road infrastructure, a national standard for the more widespread use of deed-based road access improvements should be developed, with particular focus on its utility as a road infrastructure productivity measure for the Australian minerals and resources sector and the ongoing road funding and access needs of this part of the national economy.

9. SOURCE DOCUMENTS

- COAG Road Reform Plan: (GHD) *Report for Review of Incremental Pricing Trials* 2011
- COAG Road Reform Plan: *Evaluation of Options draft paper* July 2011
- COAG Road Reform Plan: *Preliminary Findings Consultation Paper* June 2011
- OECD: *Economic Survey of Australia* (Infrastructure Reform Annex) 2010
- COAG Road Reform Plan: *Funding and Implementation Issues Paper* 2010
- COAG Road Reform Plan and NTC *Heavy Vehicle Pricing Options Framework* 2010
- COAG Road Reform Plan: *Feasibility Study and Local Government* 2010
- Medicines Australia: *Principles on Conduct of Clinical Trials and Communication of Clinical Trial Results* 2010
- COAG Road Reform Plan: *Evaluation Framework Reference Guide* 2009
- COAG Road Reform Phase One 2009
- COAG Road Reform Plan: *Policy Framework Reference Guide* 2009
- National Transport Commission: *Incremental Pricing Scheme Feasibility Paper* Jan 2009
- Productivity Commission: *Inquiry into Road and Rail Infrastructure Pricing* 2007
- National Transport Commission: *Adoption of More General Use of Quad-Axle Groups in Semi-Trailers and B-Doubles* Policy Paper 2007
- Hilmer, F, Rayner, M and Taperell, G: *National Competition Policy Report* August 1993
- Industry Commission *Inquiry into Rail Transport* Report No.13 1991

10. ENDNOTES

1. GHD report
2. NTC *Incremental Pricing Scheme Feasibility Paper* January 2009 Summary
3. COAG Road Reform Plan *Preliminary Findings Consultation Paper* 27 June 2011, p. v
4. COAG Road Reform Plan *Evaluation of Options Draft* 26 July 2011 p. 70 Figure 35 Benefits from charging options by vehicle segmentation Figure A.1
5. GHD report p. 14
6. GHD report p.16
7. Department of Infrastructure, Transport, Regional Development and Local Government Annual Report 2009-10 Summary of Performance, p.46
8. From National Transport Commission website 'About Us' NTC *Incremental Pricing Scheme Feasibility Paper* January 2009 See the *Summary* section, which nominates guiding principles and options for an incremental pricing scheme, charts NTC surveys of industry interest in same, offers discrete components of a scheme and examines the feasibility of different approaches, including an identification of key issues requiring further research or resolution to progress successful incremental pricing work. The body of the paper expands on these elements.
9. From Austroads website 'About Us'
10. From Bureau of Infrastructure, Transport and Regional Economics website 'About BITRE'
11. From Transport Certification Australia website 'About IAP' and 'Corporate Statement'
12. This is one simplified summary of general scientific principles for conducting trials. A more thorough discussion of trial methodology – and particularly the commitment to publishing results to promote subsequent research and refinement of hypotheses – is provided in the Medicines Australia's *Principles on Conduct of Clinical Trials and Communication of Clinical Trial Results*, available online at: <http://medicinesaustralia.com.au/files/2010/09/Clinical-Trials-Principles.pdf>
13. GHD report p.16
14. GHD report p.6
15. GHD report p.10 The report goes on to state that bridge costs 'will be considered in the next phase of the costing work'.
16. GHD report p.11
17. GHD report, p 8
18. GHD report p. 9
19. The quad-axle policy was developed in response to COAG direction to permit more general use of quad-axle groups in semi-trailers. The relevant policy document was developed by the National Transport Commission: *Adoption of More General Use of Quad-Axle Groups in Semi-Trailers and B-Doubles Policy Paper* March 2007.
20. *While there is no set limit per se and each application is assessed upon merit, Vicroads informed the study team that the general intention was the maximum mass would be within approximately 3 tonnes of the standard 68 tonne HML limit'* GHD report p. 7
21. GHD report p. 15
22. *Productivity Commission Inquiry into Road and Rail Infrastructure Pricing* April 2007, Report No 44, p. 43
23. *'In a broader sense, the VicRoads Bridge Department is concerned that schemes such as incremental pricing assessed on a case by case basis will create a lot of ad hoc networks; a messy and inconsistent approach'* GHD report p. 9.
24. GHD report p.13
25. GHD report p.9
26. GHD report p.11
27. GHD report p. 8
28. GHD report p. 12
29. GHD report p.12
30. GHD report p.14
31. GHD report p.16
32. The GHD report suggested that this jurisdiction qualified that comment by adding that *'However, revenue will not be tied to a specific route'*. However this paper's own inquiry to this jurisdiction confirmed that incremental access charges would indeed be allocated to the local government in question, which would be asked to demonstrate proper acquittal of these funds on the road in question.
33. GHD report p.7
34. *Productivity Commission Inquiry into Road and Rail Infrastructure Pricing* April 2007, Report No 44, p.xlv: *'Closing the circle: location-based charges and more commercially-oriented road provision'*.
35. Possible arbitration arrangements as set out here were based on interviews with the SA Transport staff responsible for drafting multi-party deed access arrangements.
36. Based on our interviews with several relevant jurisdictions.
37. **NB:** In SA, responsibility of the road network in most of the remote areas of the state falls to the State government rather than to local governments. However it may be feasible in future for local governments - suitably supported by state road engineers and standards - to enter into such arrangements with mine sites and any other stakeholders seeking improvements to their remote and rural road networks.
38. COAG Road Reform Council Report March 2009 p. 29
39. Specifically, the report and discussion paper of the Special Premiers' Conference *Taskforce on Other Issues in the Reform of Government Trading Enterprises* 1991. This material is discussed in detail in the Industry Commission Review of the Rail Industry Report No.13 1991
40. Infrastructure Australia 2011 Report to COAG *Communicating the Imperative for Action* Pp. 55-56
41. Organisation for Economic Cooperation and Development – *Review of Regulatory Reform*, Australia p. 185
42. Organisation for Economic Cooperation and Development – *Economic Survey of Australia 2010*, Annex 1.A1 p.95
43. Hilmer, F, Rayner, M and Taperell, G *National Competition Policy Report* August 1993 p. 189-190 <http://ncp.ncc.gov.au/docs/Hilmer-001.pdf>