Australian Government
Infrastructure Australia

Office of the National Infrastructure Coordinator

Submission to the Productivity Commission Inquiry into the National Access Regime

20 March 2013

Executive Summary

The **National Access Regime**, through its access undertaking dimension, is an important national policy resource for potential future regulation of Australia's road freight infrastructure. It could provide a consistent and effective national framework for investment in road freight infrastructure that is initiated and funded by users. This would add to the level of investment that is otherwise achievable, improve demand-responsiveness of the system and aid productivity.

Unlike infrastructure industries currently regulated under both the regime and comparable state and territory and industry regimes, **roads are different** in not being generally 'excludable' – toll roads aside – at the point of use. Current Council of Australian Governments - endorsed national policy is working to reduce the difference. The Heavy Vehicle Charging and Investment Reform aims in effect to 'unbundle' the services that roads provide, separating services delivered to a commercially-oriented heavy vehicle sector from those required by an essentially non-commercial light vehicle sector. Technological progress is also lessening the contrast with other industries, as the costs of monitoring – and hence 'excluding' vehicles – continue to fall through advances in Global Positioning System and related technology.

There also has been a view that all roads serve a social purpose, and therefore fundamentally differ from economic infrastructure such as railways and energy supply to which national access arrangements apply. Infrastructure Australia has recommended thorough **consideration of roads governance reform**, including along national competition policy themes and with options to more clearly differentiate between roads with a primary social purpose from roads with a primary economic purpose.

Australia has benefited from a six fold increase in **heavy vehicle productivity** (load carried per heavy vehicle) over the past 40 years. However, with the productivity impact of the introduction of the six axle semi-trailer and the B-double largely captured, future productivity growth is linked to increasing road access for larger, more productive vehicle types, such as the B-triple. This in turn requires additional facilitative infrastructure investment, for example pavement and bridge strengthening, larger heavy vehicle rest areas, additional overtaking lanes and town by-passes.

Several jurisdictions allow deed-type arrangements where parties can negotiate to upgrade and fund road improvements, notably connecting to mine sites. However, arrangements are not national, uniform, transparent or well known. In contrast, an **investment- access undertaking approach** under the National Access Regime would, as in the rail freight industry, offer a consistent legal right to negotiate on infrastructure investment, a built-in consultation mechanism and independent arbitration of disputes by the Australian Competition and Consumer Commission. This could encourage road freight operators and their customers to organise to propose and fund additional road investments, benefiting industry productivity.

The approach would **support existing national policy initiatives** by incentivising road infrastructure managers to provide improved and prompt information on road asset costs, condition and use. Commercial freight road users and their customers would need this information in considering both potential investments and any associated incremental road user pricing. Managers would similarly be required to quarantine investment funds raised and associated user charging revenues from mainstream funds.

Productivity gains under the investment-access type of approach could be additional to, and achieved faster than, those from more elaborate and complex national road reforms currently being developed. An investment-access regime could mitigate constraints on road investments for freight such as government balance sheet issues, non-identification of worthwhile projects, and the focus on road improvements for cars.

Investment-access undertakings would cover a **range of investment scenarios**. Some investments might be financially viable for a particular freight road user or organised group of users, in which case there would be no need to apply user charging to other road users. Other investments might require user charging of all freight road users, which might be managed through an Intelligent Access Program-style vehicle monitoring approach.

Access undertakings would in principle be limited to a **national road freight network**, that reflects the absolute and relative importance of freight vehicles and interconnectivity with major seaports, airports and freight generating areas. This would avoid raising concerns about such things as large trucks using residential streets in suburbs. However, following development of a Council of Australian Governments' endorsed model access undertaking, jurisdictions would be able to 'opt in', mandating their road infrastructure managers to apply it to an appropriate network of roads.

Three pilot studies currently underway – Chullora rail terminal access, Hume Highway high productivity vehicles, and National Roads Portfolio Manager – are identifying road reform issues that could be better addressed by investment-access undertakings than reforms currently being contemplated.

The Office of the National Infrastructure Coordinator intends to conduct further pilots to identify and resolve issues relating to the potential for an investment-access regime for roads.

It recommends that the Productivity Commission also explore this issue further in the context of the current review of the National Access Regime.

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1. Introduction

This submission argues for the potential importance of the National Access Regime in improving the efficiency of the Australian road freight industry and to propose the concept of heavy vehicle access to a national road freight network being governed by investment-access undertakings similar to those under the National Access Regime. The main purpose of these undertakings would be to promote private investment in the infrastructure that would enable improvements in freight efficiency. This regime would complement and sit alongside both the role of the National Heavy Vehicle Regulator and any future heavy vehicle charging regime that the Council of Australian Governments may decide to implement, on the basis of the current Heavy Vehicle Charging and Investment Reform national plan.

This submission:

- discusses the relevance of road freight to the National Access Regime;
- outlines the industry and policy context;
- discusses challenges in increasing freight-related investment in the roads sector;
- identifies possible scenarios for an investment-access undertaking approach under the National Access Regime;
- notes some issues identified in Infrastructure Australia's work on road 'pilots'; and
- addresses implementation issues, benefits and risks of the proposed approach.

  The appendix responds to questions in the Commission's discussion paper, as they relate to this submission.

2. Road freight and the access regime

The *Competition and Consumer Act 2010* outlines a national access regime that can give rise to rights of third parties to access certain infrastructure services and also for these parties to require facility owners to undertake works to enable them to access such services. It is an access regime that includes investment-access elements.

The Act defines a 'service' as 'the use of an infrastructure facility such as a road or a railway line' (ComLaw 2011). However, the roads sector, unlike other areas of transport, has not to this point been drawn into the National Access Regime, except in limited areas such as authorisations to permit cooperative behaviour, for example in coordinating a road freight-based stevedoring supply chain, that might otherwise breach the competition provisions of the legislation (ACCC 2010).

Roads differ from industries that have been regulated through the National Access Regime in that, toll roads aside, it has been assumed that they are not generally excludable at the point of use. However, this assumption is no longer valid. Technological progress is lessening the costs of monitoring and hence excluding vehicles through advances in Global Positioning System and related technology.

A recent learning from the natural resource sphere is that institutional arrangements – including access regimes - matter and can make a difference. By enabling cooperation among users in specific areas, classic 'public good' problems, such as fostering a sustainable natural resource yield through preventing excessive or illegal harvesting, can be solved in ways that do not necessarily require government intervention (Ostrom 2009). This has implications for a road freight industry where the issue of 'free riders' looms large as a potential barrier to action that users may otherwise initiate to improve the road network. As discussed below, the National Access Regime has a record in the rail sector in enabling users to work both together and with the infrastructure manager for more efficient outcomes.

Current Council of Australian Governments' endorsed policy towards the road freight sector aims to increase efficiency through reforms which will make the sector more similar to other infrastructure industries. These reforms aim in effect to 'unbundle' the services that roads provide, separating services delivered to a commercially-oriented heavy vehicle sector from those required by an essentially non-commercial light vehicle sector. Application of access regime concepts to heavy vehicles and to certain roads is an important but unaddressed aspect of making road freight more similar to other infrastructure and freight industries.

Infrastructure Australia has previously raised the question of whether there would be merit in a national roads access regime to provide freight users with some ability to directly influence the condition and capacity of certain roads, and to create opportunities for freight priority (Infrastructure Australia 2011, 2012). Investment-access undertakings, offered by road authorities to industry via 'opt in' arrangements, are one way of improving the current situation.

3. Road freight infrastructure industry

3.1 Road freight task

Road freight is the key domestic transport mode for non-bulk (containerised, packaged or palletised) freight, hauling nearly 80 per cent of the annual task (BITRE 2012) and covering urban, regional and inter-capital routes. Rail freight handles most of the remainder, much of it on inter-capital routes. Road freight also handles some 15 per cent of the domestic bulk freight task, with rail and sea sharing the main part.

Over the past 40 years, with the introduction of first the six axle semi-trailer and second the B-double, productivity of heavy freight vehicles, in terms of load carried, has increased almost six fold (BITRE 2011). This strong productivity performance has helped to moderate the impact on the road system of a fast growing freight task, with heavy vehicle traffic (vehicle kilometres travelled) having increased only two and a half times over the period (BITRE 2012). With B-doubles now the dominant freight vehicle, future significant productivity growth depends on the extent of increased payload per vehicle – including network access for B-triples and any general increase in gross vehicle mass limits.

Governments face challenges in gaining community acceptance of larger heavy vehicles and in finding funding for facilitative road infrastructure improvements, particularly in the context of the need to service a larger overall and also growing light vehicle task.

3.2 Road freight infrastructure industry – profile and policy

The road sector is vertically separated in that vehicle operators – such as in the freight industry – do not own or control the infrastructure they use. Parts of other infrastructure sectors such as railways also are vertically separated.

The road freight industry is highly competitive with a large number of small and medium size businesses and a few larger companies.

Australia's road infrastructure is managed by the eight state and territory jurisdictions (road authorities or transport agencies), by 560 local governments and, in the case of certain key metropolitan roads (Sydney, Melbourne, Brisbane) by toll road companies. Unlike most other infrastructure industries, these organisations – apart from toll road companies – do not have commercial charters, face commercial imperatives, or receive revenues from their customers.

Part of the explanation for an absence of commercial influence is a pre-existing view that all public roads have a predominant social purpose. Current road reform efforts are continuing this type of approach (HVCI 2012).

However, the view that all roads need to be regarded as social infrastructure has been challenged, with a proposal for a 'competition policy' style review to ascertain whether some roads should be treated as economic infrastructure along the lines of the reform approach adopted in the rail sector since the 1990s (Juturna 2012). Infrastructure Australia has recommended thorough consideration of roads governance along these lines (Infrastructure Australia 2012).

Use of the road infrastructure is shared between motorised modes, with light vehicles the largest user type (74 per cent of vehicle kilometres travelled, BITRE 2012), followed by light commercial vehicles (17 per cent) and heavy vehicles (7 per cent).

National road freight industry policy initiatives are coordinated through the ministerial Standing Council on Transport and Infrastructure and the Council of Australian Governments , with key involvement of Austroads, the association of Australian and New Zealand road transport and traffic authorities, the National Transport Commission, with a role to develop national regulatory reform strategies and the National Heavy Vehicle Regulator.

3.3 Freight-intensive roads

Despite the small proportion of total road use at a national level, freight vehicles often comprise between a third and a half of the traffic stream at key non-urban locations, including inter-capital and major regional routes. Higher heavy vehicle traffic shares are generally associated with lower total traffic levels.

In urban locations, where total traffic levels are higher, heavy vehicle shares, with rare exceptions such as the Gateway Motorway in Brisbane, do not exceed 20 per cent on the available data. Heavy vehicle traffic shares on major urban port links are typically between 10 and 20 per cent. See Table 1. Many of these urban roads have multiple lanes and the total number of heavy vehicles and the amount of lane space they use is high.

Table 1 - Heavy vehicle traffic shares by location (2005)

Road type	Link	Annual average daily traffic	Heavy vehicle traffic	Heavy vehicle share (per cent)
Inter-capital and inter-regional	Hume Highway, Sturt Highway-	5,054	1,819	36.0
	Newell Highway, Narrabri-Moree	3,568	1,445	40.5
	Pacific Highway, Sydney-Newcastle Freeway-Bulahdelah	18,140	2,448	13.5
	Townsville-Cairns	6,435	1,017	15.8
	Adelaide-Perth, SA border-Norseman	339	152	44.9
Urban - port link	Brisbane, Gateway Motorway	63,220	25,920	41.0
	Sydney, General Holmes Drive, Foreshore Drive	81,436	7,899	9.7
	Melbourne, Footscray Road	22,735	4,547	20.0
	Adelaide, South Road	38,896	5,056	13.0
	Fremantle, Stirling Highway, Tydeman Road and Port Beach	22,483	2,113	9.4
Urban – other major arterial	Brisbane, Ipswich Motorway, Redland Sub-Arterial Road,	57,864	4,976	8.6
	Sydney, South-West Motorway	91,805	6,885	7.5
	Melbourne, Monash Freeway	70,938	7,874	11.1
	Adelaide, Salisbury Highway	35,413	3,895	11.0
	Perth, Roe Highway	29,690	3,123	11.7

Source BITRE 2009

3.4 Heavy vehicle access

There is a general right of use of public roads. However, the ability of heavy vehicles to use roads is restricted. Some approval is needed for the operation of particular types or classes of heavy vehicles on particular roads – this approval is known in the road freight industry as heavy vehicle 'access'. In the roads sector, access relates to the ability of particular vehicle types to use particular roads.

Each state and territory and local government jurisdiction has processes in place to consider access to their roads by larger heavy vehicles. Under the Higher Mass Limits scheme, operators of standard six-axle semi-trailers, B-doubles and road trains are able to add up to 12 per cent mass, subject to requirements such as 'road friendly' suspension and enrolment in the Intelligent Access Program. This is an initiative which uses the Global Navigation Satellite System to monitor operators' compliance with permit conditions relating to the vehicle and the road links it is allowed to use (IAP 2013). Operators apply for a permit to use designated state and territory Higher Mass Limits road networks and can also apply for roads not currently included on the network to be assessed.

The access process for Performance Based Standards vehicles, i.e. innovative, customised higher productivity vehicles, involves, firstly, approval by the National Heavy Vehicle Regulator (previously the National Transport Commission) of the vehicle design and, secondly, consideration by the infrastructure manager of allowing operation of the vehicle on specific requested routes.

When the Heavy Vehicle National Law is in place, planned for later in 2013, the National Heavy Vehicle Regulator will coordinate Performance Based Standards access applications, facilitating multi-jurisdictional applications and also providing assistance to local governments in their route assessments. However, the National Heavy Vehicle Regulator will not make decisions on road access; these will remain with road authorities.

Progress to date with access has been slow and uneven. This appears to be due to a range of factors: infrastructure condition (road and bridge strength constraints); a range of jurisdictional issues, including poor incentive alignment, with local governments finding limited benefit in providing extra access for 'through traffic'; claimed legislative inability to charge users for additional access; limited expertise in assessing routes (GHD 2011; TfNSW 2012).

There are also infrastructure manager institutional and cultural issues in adjusting to a more demand-led approach, including the view that roads have a 'social purpose' and that access is therefore a matter for social considerations eg. amenity, community opinions, rather than economic or commercial priorities (Juturna 2011, 2012).

3.5 Heavy vehicle road user pricing

Heavy vehicle charges comprise registration charges levied by states and territories and a fuel excise-based Road User Charge levied by the Australian Government. Charges are set by ministers through the Standing Council on Transport and Infrastructure. This follows recommendations that are based on analysis, undertaken through the National Transport Commission's Determination process, of road use and expenditure trends and allocation between different vehicle classes. Expenditure allocation in particular is complex, with light vehicles determining most capacity (road width, number of lanes etc.) requirements and heavy vehicles driving pavement strength and responsible for most road wear (Gomez-Ibanez 1999).

The shortcomings of the existing 'national average' arrangements are well established (Productivity Commission 2006). With no direct relationship between infrastructure manager and operator, the charges provide limited signalling, on the one hand, to operators for efficient vehicle choice and route choice and, on the other, to infrastructure managers for efficient investment and maintenance. Consistent information on national road use and costs by location – needed for more differentiated pricing and for investment – is also very limited (CRRP 2011).

In July 2012 the Council of Australian Governments endorsed the recommendations of the Road Reform Plan Feasibility Study (CRRP 2011) and agreed to development of some new arrangements. A number of reform models are under consideration, involving incentives to improve re-investment decision-making, independent economic regulation of the charge setting process, replacing the current process of determinations by the National Transport Commission, with charges based on a forward looking cost base approach.

Options being considered include averaging of heavy vehicle related costs and therefore charges on the basis of road types, rather than specific charges for specific network segments or road locations (HVCI 2012). Options also may assume that some road costs will be attributed to light vehicles which would be covered by governments. The options are to be tested through a regulatory impact statement in 2013 before consideration for implementation by the Council of Australian Governments.

The Council of Australian Governments' Road Reform Plan project also included 'incremental pricing trials' under which access for higher productivity vehicles was provided for applications considered eligible in return for an administrative/route assessment fee. See sections 3.6 and 3.7 below.

3.6 Road freight infrastructure investment

Road infrastructure investment is undertaken by states/territories' road authorities and local governments, largely using funds sourced through the annual budget and increasingly involving some prior consultation with freight users, e.g. through state and territory freight consultative forums.

Government road investments are usually conceived to deal with both light and heavy vehicles and with mixed traffic streams. In many cases, particularly in urban areas, most of the expected benefits of these road improvements are for light vehicles. In some cases investments and projects are not designed for increased heavy vehicle access.

There is no guarantee that these investments are worthwhile from the freight perspective even though expenditures allocated to heavy vehicles are recovered over time. There is no development of a portfolio of investment opportunities, no formalised process of industry consultation or agreement to expenditure proposals and no ranking of proposals in terms of net benefits. It is possible that particular projects could create a net disbenefit to industry, for example if expenditures allocated to heavy vehicles outweigh heavy vehicle benefits.

Toll roads under a public private partnership model offer a source of additional investment funds. However, freight-only toll roads are yet to eventuate in Australia and charging of all road users can be unpalatable where consumers perceive they are paying twice, i.e. once through road-related taxes and once through the toll (IFWG 2012). Government policy positions also constrain the practical scope for toll roads, with either general opposition in some jurisdictions (South Australia, Western Australia), or a requirement that there is a toll-free alternative (New South Wales, Victoria, Queensland).

In South Australia, under a deed arrangement with the Commissioner of Highways, mine owners are able to negotiate to upgrade public roads where greater heavy vehicle access is needed to and from certain mine sites (Bisits 2012, Juturna 2012). Similar deed-type arrangements are feasible in certain circumstances in Western Australia, Northern Territory and New South Wales (Bisits 2012, GHD 2011). However, in overall terms, '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' (Juturna 2011).

Road maintenance spending has also not matched the recent growth in new investment spending (BIS Shrapnel 2012, cited in HVCI 2012), creating reported risks of both significant road reconstruction costs within a decade and a potential need, if road maintenance spending is not increased, to restrict existing heavy vehicle access still earlier, on precautionary grounds. Concern about existing infrastructure condition (both roads and bridges) was a major reason for the low rate of participation by jurisdictions and low rate of acceptance of applications from industry in the recent the Council of Australian Governments' Road Reform Plan incremental pricing trials (GHD 2011).

3.7 Benefits of additional heavy vehicle access

The original cost-benefit analysis more than a decade ago suggested that Higher Mass Limits had potential to reduce road freight costs by $0.5 billion per year, through fewer trips operating at a higher payload. There was a small ($75m) offset to this benefit from the cost of fitting road-friendly suspension to vehicles, accelerated bridge upgrades and other costs (NTC 2011).

Consistent with this, available current case studies suggest significant economic impact from liberalising heavy vehicle access to key routes. The estimates are based solely on the impact on transport operations and do not consider the flow-on impact on end user firms. Due to the existence of scale economies in many if not all of these industries, the flow-on impact is likely to be larger than the transport impact. Evidence of shippers placing a value on on-time reliability in urban freight distribution that is three times the value assessed by transport operators (Hensher 2011) is suggestive of this effect.

There are examples of benefits that would arise from increased heavy vehicles access to regional areas, in urban areas and on highways.

In the regional situation, in 2009 a transport operator, as part of the Council of Australian Governments' Road Reform Plan incremental pricing trials, was approved to run containerised grain on B-doubles from regional Victoria to the Port of Melbourne, a distance of around 80 kilometres. The trial involved an approved load limit of 70.5 tonnes, compared with a standard 68 tonne HML limit. The operator indicated that the trial resulted in reduced total trips to the port and a saving of $450 per trip, compared with administrative fee of $20 per trip (GHD 2011).

Similarly, a trial in NSW allowed an operator a mass limit increase from 50 to 55 tonnes on a 750 metre stretch of road from the business to a private rail head. With the reduced handling costs from the ability to use a single 40 foot container, rather than two 20 foot containers, the estimated productivity gain was 16-18 per cent (GHD 2011).

The Office of the National Infrastructure Coordinator has initiated a number of pilot studies (5.3 below) along the lines of incremental pricing for situations where economic or commercial considerations are likely to be relatively important, and where increased access could yield commercial and economic gains.

In the urban sphere the Chullora interstate rail freight terminal in Western Sydney is currently not accessible by Higher Mass Limits trucks. These vehicles can operate on state roads, but the final few hundred metres of access road is controlled by the Bankstown City Council and requires minor upgrade to be fully suitable for the larger vehicles. The impact of the restriction is that shipping containers must be railed to and from points as distant as Perth at less than efficient weights. Total estimated losses exceed $22m since 2008 (Juturna 2012).

In the intercapital context, the impact of B-triple access to the Hume Highway not having been permitted since 1998[1], when the combination was first trialled, has been estimated at $320m (Juturna 2012).

4. Infrastructure investment challenges

4.1 Pricing reform and additional investment are both important

The Heavy Vehicle Charging and Investment Reform plan aims to improve the efficiency of both road use and road investment, by establishing a direct charging relationship between heavy vehicle operator and road infrastructure manager. Through this process, infrastructure managers should capture some financial savings for re-investment and funds should be better directed to higher value purposes than is feasible at present.

Reform options also include establishment of heavy vehicle investment funds in each state and territory. These funds would not only provide better funding certainty for freight-related improvements, including maintenance, than currently exists but may enable infrastructure owners to propose road improvements and seek to recover some of the costs of such improvements from various freight operations.

However, in some reform options it is likely that reliance on government funding of road improvements may remain, for example for the light vehicle 'components'.

[1] Transport for NSW is currently developing a detailed business case for a trial of higher productivity vehicles on the Hume Highway . See http://freightandportsstrategy.transport.nsw.gov.au/the-strategy/strategic-action-areas/strategic-action-area-1-network-efficiency/action-1d-improve-productivity-of-the-road-freight-network/ .

In these cases the initiation of improvements that benefit heavy vehicles may still be constrained by factors such as government budgetary considerations, and the 'need' for designs that maximise benefits for cars.

A further issue that reform options need to address is the possibility that benefits to heavy vehicle operators on particular roads may be less than the costs allocated to them.

Beyond these aspects, however, the reform process is unlikely to generate significant additional funds to improve the road system for freight users. This is concerning, in light of the indications (GHD 2011, Juturna 2011, TfNSW 2012) that infrastructure condition and capacity is a key constraint in providing additional access for larger, more productive vehicles. Additional funds for investment are needed, desirably not limited to toll road options, along with pricing and institutional reform. Freight-related infrastructure investment could potentially involve pavement and bridge strengthening, larger heavy vehicle rest areas, additional overtaking lanes, or town by-passes.

4.2 Incentivising better road use and cost information

There is currently a lack of consistent and comprehensive information on national road use and costs by location, which is important in fostering more efficient pricing and investment. This has been linked to a range of institutional factors, including a lack of long term funding certainty and poor investment signals flowing from user demand (CRRP 2011). In the incremental pricing trials, there was some industry frustration at the cost of the trial and the perception that some suggested routes were too difficult to determine a price for. This difficulty is traceable to infrastructure capacity and condition issues and ownership complexity, with ownership of roads by multiple local governments and a wide range of funding sources (GHD 2011, TfNSW 2012).

The prospect of additional investment, if this can be put in place, should provide a strong incentive for infrastructure managers to develop and maintain asset and cost information in a consistent form, suitable for providing to commercial users and their customers to inform potential investment decisions. It also provides an incentive for lead infrastructure managers, whether state/territory or local, to manage the application across multiple jurisdictions and to access the necessary expertise to do this quickly and efficiently.

4.3 A legal negotiating framework may bring system benefits

There are schemes in place in Queensland, Western Australia, the Northern Territory and New South Wales under which increased vehicle access can be provided in return for payment (GHD 2011). However, schemes are not well known, in particular by local government, terms and conditions are not transparent and they are not nationally consistent.

This is not a setting in which users or customers in general are likely to be incentivised to organise themselves sufficiently in order to propose and offer to fund investments from which they will benefit. In contrast, an environment, as in the rail industry (see Box 1), where users and customers have a legal right to negotiate with the infrastructure manager, even a vertically separated infrastructure manager, which includes a right to propose and fund investments, with built-in consultation mechanisms and access to a neutral third party for arbitration in the event of disputes, is much more likely to provide these incentives.

A formalised approach would also provide a mechanism to recover costs faced by local governments in providing information and undertaking assessments from investors, adding to existing plans for the National Heavy Vehicle Regulator to assist local governments.

Box 1 - Rail access undertakings under the National Access Regime

Access undertakings provide industry users and customers with a legal right to negotiate, backed up by arbitration by the Australian Competition and Consumer Commission if commercial negotiations are unsuccessful. Access undertakings have become a key means to provide for competition in the rail industry and to improve economic efficiency. In both the interstate rail market and the Hunter Valley coal rail context, the Australian Rail Track Corporation's undertakings under Part IIIA of the Competition and Consumer Act provide certainty over access terms and conditions for above-rail operators and provide a definite, well-understood negotiating framework between infrastructure provider and user.

In the Hunter Valley Coal Network Undertaking (ARTC 2012), setting of an appropriate rate of return target as a basis for pricing has been a key element of the undertaking. However, the undertaking also includes a mechanism to encourage ARTC to extend its infrastructure network in response to demand. Under the undertaking, investment proposals may be initiated by ARTC, the Hunter Valley Coal Chain Coordinator Ltd, which encompasses both coal producers and service providers or by individual users. User endorsement, via a consultative forum, is necessary for proposals to proceed.

Where users propose an investment that ARTC is unwilling to fund, the undertaking sets out a 'user funding' process by which users can pay for the project to be undertaken by ARTC, subject to safety and technical requirements. This option seeks to 'avoid the possibility of hold-up by a monopoly infrastructure owner not investing in new capacity. It also facilitates private investment in the rail network and reduces the risk to ARTC' (Bordignon and Littlechild cited in ACCC 2013).

ARTC's interstate access undertaking (ARTC 2008) is very similar, but with the consultation process implicit rather than explicit. It states that ARTC will, as part of the negotiating process, consider both connections to the network by owners of track not part of the network and any requests by applicants for additional capacity. ARTC will agree to provide the additional capacity if:

provision is commercially viable for ARTC; or

if the applicant agrees to meet the cost; and

subject to conditions including technical and economic feasibility and consistency with the safe and reliable operation of the network.

4.4 User charging may not itself assure additional investment

Governments are often reluctant to take on additional borrowings for infrastructure development, as increases in net debt positions will generally have a negative impact on their ability to maintain AAA credit ratings (IFWG 2012). In cases where an infrastructure manager's investment is backed by future user charges, there is still potential for the investment to be held up on grounds of the threat to a jurisdiction's balance sheet strength that results from the 'patronage risk' attached to the user charges. Patronage risk may be greater or less, depending on the extent to which there is competition from alternative routes, diversity of industry users and other factors. This budget-related challenge points to the particular value of direct user, customer or investor funding, where this is feasible.

4.5 Defined network aids community, management challenges

The existence of a defined network where the freight user's right to negotiate applies, as is the case with rail access undertakings, can help manage the challenge of community unease over larger, heavy vehicles. The limits of the network will make clear to everyone those roads where the commercial approach will not apply. This will avoid raising concerns such as about large trucks moving through residential streets in suburbs.

This approach also would enable infrastructure managers to focus their change efforts (including asset valuation, investment costing, negotiating arrangements) on particular roads rather than all roads, with beneficial result.

5. Investment - access undertakings for road freight

An investment-access undertaking approach such as under the National Access Regime could be flexibly tailored to the particular circumstances of the road freight industry. Flexibility is important given (a) the evolving nature of roads sector pricing and institutional reform and (b) the particular interest in focusing on incremental investment in freight-intensive roads and ensuring that that these arrangements mesh comfortably both with existing arrangements and potential future arrangements that the Council of Australian Governments may agree to, on the basis of the Heavy Vehicle Charging and Investment Reform plan.

The proposal focuses on putting in place investment-access undertakings for a specified road network or networks, providing for a right for commercial users to be consulted on investment proposals and to negotiate and fund infrastructure, subject to safety, environmental, public amenity and cost-benefit tests. The Australian Competition and Consumer Commission would arbitrate disputes, in the event satisfactory commercial outcomes are not achieved.

5.1 Infrastructure investment scenarios

Under scenario 1 (see Table 2), an investment, for example a town bypass with a single lane each way, might be financially worthwhile for a particular freight operator or organised group of freight operators. In this scenario, the user group is willing to fund the investment without recouping costs from all users through user charging, so funds are provided upfront to the road infrastructure manager with no implications for road user charging, other than to ensure that the costs of the investment are not included in the infrastructure cost base for purposes of general user charging.

Under scenario 2, an investment would be financially worthwhile on the basis that all freight operators using it contribute to the cost. Depending on the number of users, it may be possible for a lead user or investor to put in place 'take or pay' contracts with each user, so that the investor is able to recoup the full financial cost, together with an appropriate return. If the number of users is too large for this approach, the Intelligent Access Program (IAP) or similar solution could be used for those users not directly funding the asset.

Under the first 'user take or pay contract' approach, it is possible that all costs would be borne by the private sector throughout the process. Under the second approach, the infrastructure manager will fund part of the investment initially, with this cost needing to be recouped through user charges. This introduces a patronage risk aspect, with possible balance sheet and borrowing limit implications for the state or territory, which may serve to discourage use of the approach.

With scenario 3, an investment would be financially worthwhile to the totality of freight operators and passenger users, when all are considered together. Here the investment could not proceed until or unless full public funding is available for the passenger element of the investment. Patronage risk considerations would apply to that part of the freight investment that is not-pre-funded by users.

5.2 Assessing the scenarios

Notwithstanding the constraints of infrastructure manager patronage risk and a need to implement quasi-tolling under scenarios 2 and 3, each scenario potentially results in more private investment funds being made available than is currently feasible. All should be feasible opportunities under an access undertaking approach.

Table 2 - Scenarios and investment-access undertaking requirements

Scenario	Road freight infrastructure investment-access undertaking requirements
1. Investment is financially worthwhile for a particular freight operator or organised group of freight operators, or their customers	The undertaking should provide a framework for the proposal to be incorporated in the infrastructure manager's investment program, subject to safety, environmental, public amenity and cost-benefit tests as appropriate. User funding to be coordinated and applied to the investment, with the investment excluded from the cost base for national heavy vehicle road user charging.
2. Investment would be financially worthwhile on the basis that all freight operators using it contribute	The undertaking should provide a framework for the proposal to be incorporated in the infrastructure manager's investment program, subject to safety, environmental, public amenity and cost-benefit tests as appropriate. User funding to be coordinated and applied to the investment, with the investment excluded from the cost base for national heavy vehicle road user charging. Freight road user incremental charging would be required, through 'take or pay' contracts, Intelligent Access Program-style approach, or other means.
3. Investment would be financially worthwhile to all freight operators using it and also passenger users when considered together	The undertaking should provide a framework for the proposal to be incorporated in the infrastructure manager's investment program, subject to safety, environmental, public amenity and cost-benefit tests as appropriate. A combination of user and government funding would be required, with the user-funded investment excluded from the cost base for national heavy vehicle road user charging. Freight road user incremental charging for freight users would be required, through Intelligent Access Program-style approach, or other targeted means (unless tolling is applied to all traffic).

5.3 Infrastructure Australia's road 'pilot' studies

A key issue with incremental pricing is that although trials were intended to be an important part of the Council of Australian Governments' Road Reform Plan, actual trials were extremely limited with only two minor trials reported. It appears that road owners lacked enthusiasm for trials (Juturna 2012, Infrastructure Australia 2012).

In its 2012 report to the Council of Australian Governments Infrastructure Australia recommended two sites to test road reform principles and incremental pricing: the roads to the Chullora rail terminal in Sydney; high productivity vehicle access to the Hume Highway. These pilots are currently in development. It also identified the potential of a national roads portfolio manager that would use commercial mechanisms to identify and address road deficiencies in regional areas.

The Chullora issue involves an inability of higher mass limit trucks to use a short section of road to a major rail terminal in an established industrial area, near key road freight routes in Sydney. There are no amenity concerns.

The ability to use the most efficient trucks on roads to rail terminals should be among the highest priorities in any freight policy.

In a well-functioning freight infrastructure market, problems with limited truck access to rail terminals would resolve themselves. The impediments at Chullora appear to reflect the lack of a recognised process to allow freight customers to initiate commercial negotiations with relevant parties – rail companies, truck operators, road owners and jurisdictional governments.

It is unclear whether reform processes currently in train would be capable of addressing the issues at Chullora. An investment-access undertaking applied with reference to nationally significant infrastructure facilities, such as the rail terminal, may be needed.

Once access to Chullora is resolved, the Office of the National Infrastructure Coordinator will publish a report on the matter.

High productivity vehicle access to the Hume Highway has been on the national freight agenda for a number of years. Very substantial sums of grant funding have been spent over the last decades in improving the highway. Reflecting the averaging system for heavy vehicle charges, allocated expenditures on the Hume are recovered from heavy vehicles generally, not merely those using the road.

At present, officers from Infrastructure Australia, with NSW and Victorian officials, are developing parameters for a 'trial' and 'business case' for high productivity vehicles on the highway. Among the issues identified to date are: the potential need for investment in parts of the road and adjacent related facilities such as rest areas, beak-up points and ramps; different infrastructure requirements for truck sizes and truck weights; risk sharing arrangements; whether particular works are for all trucks or only for some operators; the location of business in relation to the highway; confidence over efficient cost estimates; monitoring; community consultation; criteria for success in a trial.

To the extent that further investment in the highway etc. – beyond works already completed – are required to facilitate high productivity vehicle access, the improvement program to date has not been optimal from either a commercial or transport perspective.

Many of these issues will involve iteration and negotiation among parties. Existing reform processes, especially those that continue averaging of expenditures across roads, are incapable of establishing a framework for optimising the highway for freight. A road investment-access undertaking could have addressed most issues.

The Office of the National Infrastructure Coordinator intends to provide relevant advice to the Minister in May on the conduction of a potential Hume Highway trial.

The National Roads Portfolio Manager idea is similar to that of portfolio managers in the property sector. The manager would gather and assess information relating to potential investment opportunities across a geographically spread range of roads and provide advice on where, when and what investments are likely to generate the highest returns.

For the road freight industry, the view of a range of roads is especially important for rural regions, given the potential for multiple routes and given that freight vehicles usually need to traverse several local government areas. Outcomes can be vital to rural communities, especially those whose produce needs to compete in international markets.

Key issues in portfolio management include identification of current and likely future 'base case' condition of assets, commercial or economic value of upgrades.

To address these matters it is essential to gain information regarding road asset management plans, prospective freight tasks, and possible changes in cost structures due to vehicle operations, inventory, outages/supply discontinuities etc. across local government areas. It had been suggested that such information is not available in the form of a disaggregated data set (PC 2006).

Juturna Consulting, under engagement from the Office of the National Infrastructure Coordinator, has been working with local governments and some agricultural businesses in the north west of NSW and south west Queensland to assess the potential for a portfolio manager, including the availability of information, and the willingness of parties to participate in such an initiative.

It advises that most of the information needed by a portfolio manager is available, relevant parties are cooperative in providing necessary information, and results can be readily assembled into an appropriate data set. It also advises that there appear to be simple opportunities to improve the commercial and economic performance of the region by adopting this type of approach.

Among the implications for an investment-access undertaking is that such an initiative is unlikely to be inhibited by a lack of information, since the information for local roads is likely to be less detailed and robust than for Australia's most significant freight roads. A report will be released in the near future.

Each of these pilot studies was identified by Infrastructure Australia in consultation with the freight industry and its customers. This supports the view that there should be some mechanism for parties other than road owners to be able to identify and proposed road investments.

6. Issues in implementation

6.1 Identifying a national road freight network

Infrastructure Australia has proposed a national land freight network with criteria for inclusion reflecting the absolute and relative importance of freight vehicles and interconnectivity of the major seaports, airports and freight generating areas (see Figure 1). Focus on a national road freight network will be important to meet the nationally significant infrastructure threshold of the National Access Regime. This will also have the benefit of ensuring that the majority of local roads are explicitly excluded from commercial impact, allaying community concerns.

At the same time, there may be scope to include connecting 'off-network' roads, either specifically nominated or as a general category, given their importance to the freight task and in view of what is often a critical upgrading need. Existing jurisdictional Higher Mass Limits networks provide a potential basis.

Figure 1 - Indicative map of a national land freight network

Source: IA 2012

6.2 'Bolt-on' to mainstream arrangements

Road freight access undertakings under the National Access Regime would need to be compatible both with existing heavy vehicle road user charging and related policy settings and also with future reformed settings, as determined by the Council of Australian Governments.

Key requirements to achieve this include:

- quarantining from the national heavy vehicle road user charging cost base of all investment funds provided directly by users;
- similar quarantining of user charging revenue resulting from infrastructure investment initiated by users, but undertaken and initially funded by infrastructure managers;
- appropriate audit arrangements, particularly where revenues are to be redirected for investment in and maintenance of particular roads; and
- ensuring availability and transparency of information on road use, asset and investment costs for roads covered by access undertakings, as a precondition of user investment and user charging.

  Clearly these requirements will be the easier to achieve, the more closely they resemble the evolving mainstream arrangements.

6.3 Opt-in approach

With development of the Council of Australian Governments' endorsed model access undertaking, jurisdictions could direct their road infrastructure managers to apply it to an appropriate road network within their own jurisdiction.

This 'opt-in' approach is not dissimilar to arrangements for the National Ports Strategy. The Council of Australian Governments has endorsed this strategy as part of a collaborative approach to the future

development and planning of Australia's port and freight infrastructure and specific actions are at jurisdictions' initiative.

While access undertakings can in principle be entered into voluntarily, in particular to avoid the risk of infrastructure being declared under the National Access Regime, all undertakings to date have been motivated by some form of compulsion by government (Sims 2012). For example, the Australian Rail Track Corporation provided an undertaking relating to the Hunter Valley rail network pursuant to an obligation in the lease of the network between the corporation and the New South Wales government. Thus government action to mandate development of an access undertaking would be important.

7. Benefits and risks

7.1 Benefits

The proposal would result in a more demand-responsive road system, due to the clear capacity for the freight industry and their customers to propose and fund investments, over and above reforms planned for the Council of Australian Governments consideration under the Heavy Vehicle Charging Initiative.

Additional funding would thereby be secured for investment, with the further benefit that this would not necessarily requiring recourse to tolling, with the cost and question mark over community acceptance this can bring.

The proposal would generate improved road freight productivity, through additional road access for higher productivity and other vehicles.

With the focus on a priority network, certain roads (and possibly the great majority) would be clearly excluded, thereby helping to pre-empt community concerns.

Responsibility for improving the priority road network would be shared with users to a greater extent than currently. While the private sector is currently engaged through toll road PPPs, this would represent a significant further step in private sector engagement.

7.2 Risks

With the size of the road network, there is a risk of multiple access undertakings resulting, put forward by different infrastructure managers and with differences in conditions that create 'break of gauge' and harmonisation costs for users. Early identification of this risk, development of standardised access undertaking templates and desirably approval of 'national' undertakings by the Australian Competition and Consumer Commission – which could serve as a model for any undertakings that might be submitted to state and territory-based regulators – are important mitigators.

Users may be reluctant or slow to take advantage of the legal right to negotiate under an access undertaking. Improved availability of information on successful instances of user-funded investment, even if outside an access undertaking framework, may be helpful.

Where low participation reflects 'free rider' concerns, related to the 'non-excludability' of roads in the absence of tolling, it will be important for governments to ensure that there are no inappropriate barriers to industry players cooperating in order to fund investments and to arrange tolling alternatives, e.g. 'take or pay' contracts. Authorisations by the Australian Competition and Consumer Commission to avoid potential breach of Part IIIA of the Competition and Consumer Act may be appropriate.

8. Conclusion and way forward

Roads differ from other industries in the current ambit of the National Access Regime in that, toll roads aside, they are not generally excludable at the point of use. However, technological progress is lessening the contrast, as the costs of monitoring (and hence excluding) vehicles continue to fall through Global Positioning System and related technology. In addition, policy towards the road freight sector aims to increase efficiency through reforms which will make the sector more similar to other infrastructure industries, such as electricity and communications.

There also has been a view that all roads serve a social purpose, and therefore fundamentally differ from economic infrastructure such as railways and energy supply to which national access arrangements apply. Infrastructure Australia has recommended there be thorough consideration of roads governance reform, including along national competition policy themes and with options to more clearly differentiate between roads with a primary social purpose from roads with a primary economic purpose.

While current road policy reform sits outside the National Access Regime framework, the regime, with its core features of a right to negotiate on access and investment, built-in consultation and independent arbitration of disputes, is an important policy asset for the road freight industry for the future, complementing current initiatives.

An investment-access undertaking approach would offer a consistent, standardised national approach to negotiation between user and infrastructure manager on incremental access and investment. This would provide a strong signal and clear encouragement to the road freight industry that infrastructure managers were ‘open for business’ in this area. It would address some significant practical and efficiency issues that currently contemplated reforms do not appear to cover.

Operating over a defined network, an investment- access undertaking would offer potential to increase user-funded investment, lifting freight productivity and also helping to improve the demand-responsiveness of the system as a whole.

While available to all jurisdictions on an opt-in basis, government action would be necessary to direct infrastructure managers to develop access undertakings.

Once the existing pilot projects for Chullora, Hume Highway and National Roads Portfolio Manager, are completed, the Office of the National Infrastructure Coordinator intends to conduct further pilots to identify and resolve issues relating to the potential for an investment-access regime for roads.

It recommends that the Productivity Commission also explore this issue further in the context of the current review of the National Access Regime.

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Appendix – Response to the Issues Paper

This appendix responds to questions in the Commission's discussion paper, as they relate to the content of this submission.

Role of the National Access Regime

The National Access Regime provides vital overarching framework for state and territory access regimes and fosters and ensures consistency among these. This has been very important in improving the efficiency of rail over the past 15 years, where there is a combination of regimes and undertakings under both the National Access Regime and state and territory regimes, with the NAR particularly important in respect of interstate rail and the Hunter Valley coal chain.

Rail and road together transport three quarters of a national freight task that exceeds 500 billion tonne-kilometres. Road freight undertakes nearly 80 per cent of non-bulk (intermodal) freight and rail is responsible for half of the bulk task, with coastal shipping and road in that order handling the remainder (BITRE 2012). There are important differences in access between the two modes that influence access arrangements: toll roads aside, roads are currently non-excludable at the point of use and, relatedly, pricing (fuel excise charge and a vehicle class-based annual registration charge) is not directly related to the specific infrastructure being used. Nevertheless, with policy and technology both moving to lessen the contrast between road and rail (and other infrastructure industries) and as discussed below, the National Access Regime is an important policy asset that can potentially be applied in the roads sector in the future.

Planning processes complement the National Access Regime but do not replace its role in ensuring efficient use, operation of and investment in monopoly infrastructure.

Significance of the problem

Ensuring efficient operation of, use of and investment in Australia's monopoly economic infrastructure is critical to economic growth and performance and in that sense is a continuing significant problem. The rail industry is critical to bulk product and other export supply chains and to intercapital transport of manufactured and other goods transports. Competition issues are managed through access undertakings under the National Access Regime and state and territory access regimes which are largely certified under the National Access Regime.

The National Access Regime could also potentially be applied to the roads sector, for example through mandatory undertakings as with interstate rail and Hunter Valley rail. Australia, with Canada, has led the world in freight vehicle productivity, particularly with the widespread introduction of B-double trucks over the past 20 years. However, use of the next generation of trucks, high productivity vehicles including B-triples, is currently very restricted. Without significantly increased access productivity growth will slow and may stall. While the new National Heavy Vehicle Regulator has been tasked with working with local governments to facilitate improved access, existing policy measures will not provide a framework within which road infrastructure managers and industry can negotiate on the additional investment needed for such access, with industry either directly funding the investment or agreeing to pay for such investment through additional charges.

Establishing an institutional framework in which road infrastructure managers can be more responsive to economic demand signals is potentially very important for the Australian economy. The losses that restrictions on optimal vehicle choice cause are not always well understood, but can be substantial, as indicated, for example, by the original estimates of the economic impact of network access by Higher Mass Limits vehicles - $0.5 billion a year in 1999 prices (NTC 2011). Like rail, roads are a vertically

separated natural monopoly industry and it is most important that the National Access Regime remains available as a potential resource to help improve the industry's efficiency.

Objectives of the National Access Regime

Infrastructure Australia supports the objectives of the National Access Regime and considers that economic efficiency should remain the primary objective. Each of the two parts of the objects clause, firstly, promotion of economically efficient infrastructure operation, use and investment and secondly, a framework and guiding principles to encourage a consistent approach to access regulation have been important to the reform and growth of the rail sector in recent times.

In future, these objectives may be similarly important in the roads sector. Features of the road system which run counter to economically efficient outcomes and which National Access Regime processes could potentially address include:

- Absence of consultation with the freight sector on investment choices and decisions;
- No general right to propose or initiate investments which could result in improved access for more productive freight vehicles;
- No clear and transparent process for user funding of investments;
- Lack of transparent information on asset management condition and infrastructure costs and on road use by vehicle type, to inform potential investments; and
- Absence of specification of a priority road network to which the NAR should apply.

Declaration

Infrastructure Australia is broadly supportive of the existing criteria for declaration. Declaration is yet to be applied in the roads sector and as an access pathway may be especially relevant to vertically integrated industry situations – i.e.in the land transport context, in parts of the rail sector, but not the roads sector. While unlikely to have been responsible for this outcome, it is notable that the promotion of competition test (criterion (a)) would likely represent an unreasonably high barrier in the road freight sector. With 42,000 industry operators and no one company holding more than a four per cent market share, the industry is archetypally competitive. It may therefore be difficult for any access decision to demonstrate a material increase in competition in a market. Nevertheless access restrictions on use of larger vehicles increase costs for road freight operators and their industry customers, impact their ability to enter or expand in export markets and achieve economies of scale. Thus significant end user benefits may eventuate without necessarily a material increase in competition.

Access undertakings

Access undertakings provide industry users with a legal right to negotiate, backed up by arbitration by the Australian Competition and Consumer Commission if commercial negotiations are unsuccessful. This appears to be a very effective framework for facilitating competition and economic efficiency in industries using monopoly infrastructure.

Access undertakings have become a key means to provide for competition in the rail industry. In both the interstate rail market and the Hunter Valley coal rail context, the Australian Rail Track Corporation's undertakings under Part IIIA provide certainty over access terms and conditions for above-rail operators and provide a definite, well-understood negotiating framework between infrastructure provider and user.

Pricing principles

The pricing principles set out in Part IIIA for regulating access prices appear to provide a sound basis in providing certainty for both access seekers and service providers.

In order to apply the principles in the road sector, it would be necessary to first value the relevant asset base, as a basis for moving to setting allowable rates of return. There is currently a lack of consistent and comprehensive information on national road use and costs, which has been linked to a range of institutional factors, including a lack of long term funding certainty and poor investment signals flowing from user demand (CRRP 2011).