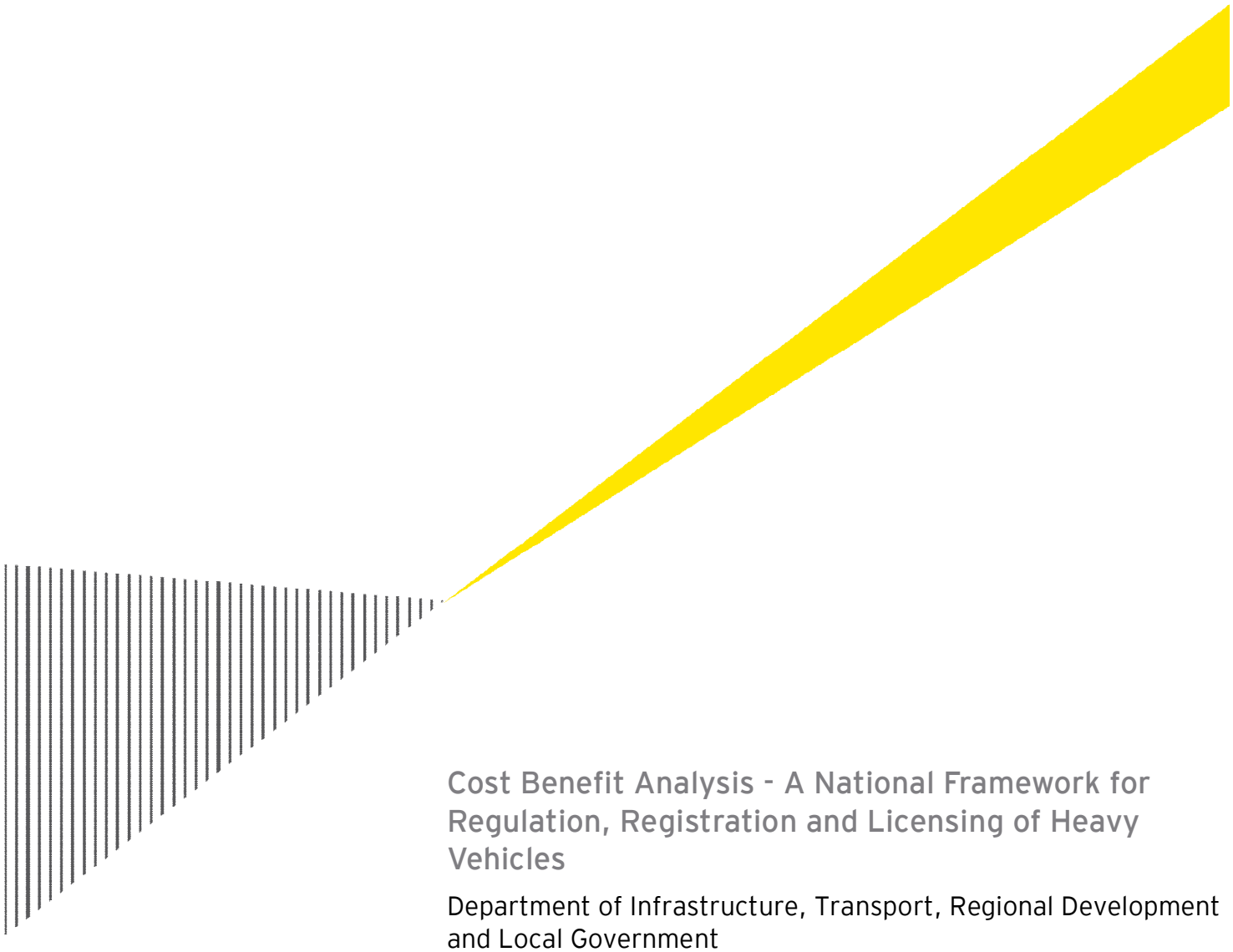

Cost Benefit Analysis - A National Framework for Regulation, Registration and Licensing of Heavy Vehicles

Department of Infrastructure, Transport, Regional Development and Local Government

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Contents

1. Executive Summary

1.1 Introduction

This report has been prepared in response a request from the National Transport Strategy Division of the Department of Infrastructure, Transport, Regional Development and Local Government (DITRDLG) for a Cost Benefit Analysis (CBA) to support the development of a Consultation Regulatory Impact Statement (RIS) on a single, national approach to heavy vehicle regulation, registration and licensing.

This report should be read in conjunction with the Consultation Regulatory Impact Statement "*A National Framework for Regulation, Registration and Licensing of Heavy Vehicles*", as the report does not repeat the complete content of the RIS that provides the context for this analysis.

1.2 The problem

In brief, the regulation of heavy vehicles is currently carried out by nine governments – the Commonwealth, six states and two territories. To date, attempts to produce a national approach to heavy vehicle regulation have largely involved the development of 'model' law and its application to individual jurisdictions. Differences in the adoption, application, interpretation and enforcement of these model laws and the use of jurisdiction-specific exemptions, permits, notices, business practices and guidelines has reduced the value of the national "model" law.

1.3 The options

In May 2008, the Australian Transport Council (ATC) agreed that Australians would like a national transport system that is safe, secure, efficient, reliable and integrated and that supports national social, economic and environmental prosperity. To achieve this objective, the RIS considers four options, including status quo. These are:

Option 1 is to retain the status quo, essentially the base case.

Option 2 presents a non-statutory body is being established to foster consistency in the administration of the current model laws as they apply in each jurisdiction.

Option 3 involves enacting uniform national heavy vehicle law in a 'host' jurisdiction and its adoption as 'template' legislation in other jurisdictions.

Option 4 implements the ATC agreed national framework. It would provide for uniform legislation administered by a single, national and statutory regulator.

This cost benefit analysis was undertaken on these four options.

1.4 Result of analysis

A cost benefit analysis usually compares the major costs and benefits of each option in monetary terms. In this way, the outcomes of each option can be compared in order to evaluate and make decisions about the preferred option. In this case, it has not been possible to extract (or arrive at) sound information upon which to base such a cost benefit analysis, particularly as the industry was unable to provide reliable data upon which the benefits could be quantified. Notwithstanding, industry's written submissions and consultations indicate there is a commitment to ongoing reform in order to assist productivity and efficiency and to simplify compliance.

Because of the above data issues, the approach taken in this cost benefit analysis is to measure the expected percentage cost increase (or decrease) of each option taking into account total government and industry costs. This is then assessed against available quantitative and qualitative benefits to establish if the expected increase in costs would be offset by the anticipated, but un-quantified, benefits. Essentially, the incremental cost of each option, on a net present value basis, is considered to be a measure of the required productivity and efficiency benefits in order for society to be better with the implementation of that proposed regulatory option.

The Net Present Value (NPV) cost of each option is set out below.

		Calculation	Option 2 ($'m)	Option 3 ($'m)	Option 4 ($'m)
A	Likely incremental cost of each option		503	567	480
B	Total government costs (option 1)		1,706	1,706	1,706
C	Total industry costs		121,567	121,567	121,567
D	Total costs	B + C = D	123,273	123,273	123,273
E	Likely cost increase associated with each option	E = A / D x 100%	0.41%	0.46%	0.39%

The costs associated with the implementation of option 4 are marginally less than the costs associated with the other options; however, as set out below the consultations indicate the benefits associated with this option are likely to be significant and industry considers that there is a higher likelihood of realisation of these benefits under option 4.

The benefits arising from the proposed change in the regulation of heavy vehicles primarily accrue to industry with likely indirect flow on effects to society. At this stage the monetary value associated with these benefits could not be established, due to a variety of reasons, including the view expressed in the industry consultations that the detail supporting the proposed regulatory models needs to be developed before benefits can be quantified.

During the consultations industry identified a range of benefits for each proposed regulatory option and provided an indication about the likely productivity and efficiency benefits that should accrue when the option is implemented. Some of these benefits should be achieved under the options 2, 3 and 4, however, the likelihood of achieving the benefits, including the productivity and efficiency improvements, are considered to be maximised in the regulatory model that involves uniform legislation administered by a single, national body (option 4). These benefits, which are likely to accrue directly to industry, are set out below:

- Reduction in operational costs and administrative effort required to obtain information and complete processes to ensure compliance with heavy vehicle laws and regulations – a single national regulator with uniform model law would lead to efficient business administration and information management within business operations.
- Reduction to industry in regulatory and operational burden relating to vehicle compliance - uniform heavy vehicle laws and regulation would enable the same standard for vehicle compliance to apply in all jurisdictions and this is expected to reduce barriers for industry participants to operate across jurisdictions.
- Reduction in the proportional costs of compliance associated with a compliance-focussed business model - the implementation of uniform model law and associated streamlining of administrative processes would allow business to adopt more flexible and responsive efficiency-based business models, compliant with uniform legislation.

- Centralisation of information and statistics leading to improvement in policy and decision making - a national regulator with sole jurisdiction for the administration of the regulation of heavy vehicles would likely result in better access, quality and consistency in collected heavy vehicle data, in turn, leading to better information available for more appropriate, targeted decision making. This should have a flow on benefit to industry.
- Consistent policy and interpretation of heavy vehicle legislation and regulation – the implementation of uniform national legislation of the same content, combined with consistent policy and interpretation, promoted by a national regulator, would lead to increased consistency and compliance for industry participants.

The consultations also identified that there are some benefits expected to accrue to both government and industry stakeholders. Although it may be possible to achieve some of these benefits set out below under option 2 and 3, the likelihood and impact of these benefits is considered to be maximised under option 4:

- Centralisation of approaches to, and streamlining of, heavy vehicle legislation – a single national regulator administering uniform model law would be able to ensure better alignment of heavy vehicle legislation with other overlapping legislation (e.g. occupational health and safety, environmental and fatigue laws, industrial award instruments, animal welfare etc).
- Improvements in responsiveness and flexibility of regulation - uniform regulation under a national regulatory regime could be more responsive to developments in technology as well as government and community agendas in relation to community concerns, such as safety and the environment.
- Improved stakeholder input into developing targeted legislation and outcomes – a single national regulator would improve the ability of industry and other stakeholders to provide input into the development of policy and regulations.

Finally, the consultations identified the following benefit, which could under option 2 or 4, accrue directly to government stakeholders with indirect benefit to industry.

- Creation of the centre of excellence for heavy vehicle matters - the creation of either the national regulator or non-statutory body could consolidate expertise from all state and territory jurisdictions creating a centre of excellence for heavy vehicle matters which could be focal point for consultation and interaction with heavy vehicle related industries and bodies.

As previously indicated, in arriving at the preferred option, the approach taken in this cost benefit analysis is to measure the expected percentage cost increase of each option and assess this against available qualitative and quantitative benefits to establish if the expected increase in costs would be offset by the anticipated, but un-quantified, benefits. Based on the information gathered over the course of this cost benefit analysis, it is considered that option 4 (a single national regulator) presents the preferred option. This option provides the highest likelihood of realising and maximising the identified benefits, hence the implementation of this option should maximise the productivity and efficiency benefits accruing to society. At the same time, this option currently presents the lowest cost increase to implement this change in regulatory models.

1.5 Methodology and data

To obtain the data required to undertake this cost benefit analysis, a number of activities were undertaken. Government departments and industry participants were approached to complete a survey template that sought to obtain consistently defined data on costs, revenues (government only) and other metrics. In addition to the surveys, over 40 meetings and interviews (in person and via telephone) and consultations were held with various government, industry peak bodies and representative groups, and industry operators.

In addition to the data obtained by through the surveys and meetings, further data was obtained from publicly available sources including the Bureau of Infrastructure, Transport and Regional Economic (BITRE) and the Australian Bureau of Statistics (ABS).

This data enabled the construction of a picture of the costs and benefits, firstly of the status quo (option 1 – the base case) and then of the changes under the other possible future state options. It is this view of the costs and benefits that has provided the basis for the comparison and analysis leading to the result detailed above.

1.6 Limitation of liability

This Cost Benefit Analysis - Heavy Vehicle Regulation (the "Report"), was prepared for the benefit of the Department of Infrastructure, Transport, Regional Development and Local Government pursuant to the Work Order dated 4 December 2008. Ernst & Young has acted in accordance with the instructions of the client and has not been engaged to act, and has not acted, as advisor to any other party. Accordingly, Ernst & Young makes no representations as to the appropriateness, accuracy or completeness of the Report for any other party's purposes and disclaims all liability to any party other than the client for any loss or liability that the other party may suffer or incur arising from or relating to the contents of the Report. Liability limited by a scheme approved under Professional Standards Legislation.

2. Background and Approach

This report has been prepared in response a request from the National Transport Strategy Division of the Department of Infrastructure, Transport, Regional Development and Local Government (DITRDLG) for a cost benefit analysis to support the development of a Regulatory Impact Statement (RIS) on a single, national approach to heavy vehicle regulation, registration and licensing.

2.1 Background on current regulation

The current Australian heavy vehicle regulation, registration and licensing systems vary across the states and territories. This has caused many complications for heavy vehicle operators and has impacted the efficiency of the industry to a certain level, especially for interstate operators.

Along with the development of the Australian economy, the demand for a more consistent approach to heavy vehicle regulation across the country has been increasing since the 1990's, which saw the first step of a reform with the establishment of the National Road Transport Commission (now National Transport Commission - "NTC"). The current move towards regulatory reform is a further response to this increasing demand.

The uncertainty arising from multiple and different regulations, regulatory interpretations and approaches creates a range of issues for operators of heavy vehicles (vehicles with a gross vehicle mass of more than 4.5 tonnes). Among the issues are the difficulty of determining how it is possible to comply with the various different rules, the multiple administrations with separate processes result in duplication, and the upkeep of multiple slightly different processes for the same administrative requirement. This imposes a costly inefficiency and administrative burden on operators. In addition, operators and drivers face a range of penalties for breaches of the various regulations, and where it is difficult for operators and drivers to understand compliance requirements, it is similarly difficult for them to routinely comply with the required provisions.

2.2 Objective of reform

The reform aims to produce a national transport system that is safe, secure, efficient, reliable and integrated and that supports national social, economic and environmental prosperity. This implies a reduction in the differences in regulation to increase compliance (and hence increase safety) and a reduction in the compliance burden on industry.

The various options suggested by the RIS include methods that may also reduce government processes and where possible share processes, resources, or underlying legislation.

2.3 Options considered

The options considered in the cost benefit analysis are those set out in the RIS. The options include the base case which retains the status quo (option 1). The remaining options achieve part or all of the required reform objectives in different ways. The options are:

- Option 1 – Retain the status quo (the base case)
- Option 2 – A non-statutory body supported by jurisdictions, developing 'best practice' models and systems to achieve greater uniformity in the administration of law
- Option 3 – Uniform national law adopted by all jurisdictions
- Option 4 – Uniform national law administered by a single, national, statutory regulator

2.4 Cost benefit analysis

Consideration of a heavy vehicle regulation framework requires an understanding of the costs and benefits to those that are directly impacted (industry and governments) as well as the impacts on the wider community, which include social and environmental factors. The analysis set out in this report provides an understanding of the current costs of regulation identified as option 1 (the base case) and compares them to the benefits and costs that could arise from the implementation of the possible frameworks set out in the RIS (options 2 to 4).

The analysis contains a number of separate sections which include:

- Options, listing the options for consideration in the cost benefit analysis.
- Costs, discussing the cost elements included and providing the results of the cost analysis.
- Benefits, discussing the benefits identified and quantifying the benefits to the extent possible.
- Comparison, contrasting the expected increase in costs against the expected benefit of each option.
- Conclusion, which consolidates the results of the cost benefit analysis.
- A sensitivity analysis has been concluded as part of the process and has been included at Appendix E.

2.5 Approach

The approach used for this cost benefit analysis was to be based on the traditional methodology which:

- considers all the costs and benefits flowing to society at large from the proposed regulatory change;
- monetises the costs and benefits as far as possible for each option;
- projects the costs and benefits over the regulatory period (e.g. 10 years);
- discounts to present value terms; and
- calculates the net present value of each option. The option with the highest net present value is generally considered the preferred option and hence, most appropriate.

However, during the engagement it became apparent that there was insufficient sound data for this approach to be used. Thus, while the costs for governments have been quantifiable, the costs and benefits particularly from industry (and broader society) have been more difficult to quantify.

This lack of industry data has been partly caused by an insufficient number of responses during the data collection phase. In addition, most industry participants were not willing or able to reasonably state what benefits they will receive until the national regulatory system is defined. Nevertheless, some industry participants both within the surveys, interviews and wider consultations, have provided case studies and general indications of possible savings.

In dealing with costs and benefits that cannot easily be quantified, the Office of Best Practice Regulation (OBPR) guidance states:

> *"Some costs and benefits resist the assignment of dollar values. A CBA should nevertheless include all relevant information that can affect a decision in such cases. It should make explicit allowance for costs and benefits that cannot be valued."*

Therefore in accordance with the approach recommended by the Office of Best Practice Regulation guidance, this cost benefit analysis has focused on whether the monetised cost

of the proposed regulatory change is exceeded by the benefit, even if not monetised. This enables those affected to reasonably consider the value of the non-monetised benefit against the additional dollar or percentage cost increase and facilitates decision makers by identifying the relative limits they place on non-monetised benefits.

At the same time, a description of unquantifiable costs and benefits is provided, evaluating their strengths and weaknesses in relation to their impacts on the proposed regulatory change.

Further, as the regulatory frameworks are the subject of this RIS, rather than the content of the regulation this cost benefit is likely to be a first step in a number of heavy vehicle regulatory reforms. The lack of data provided is understandable given that it is difficult to quantify the benefits that can be realised as a result of regulatory framework change in isolation from change to regulatory content. This is especially the case for industry participants, who deal with the detail, content and application of the regulation and to whom the impact of the proposed regulatory frameworks will be apparent through the final content of the laws.

The analysis of costs, as well as benefits later in this report, is done over a 10-year regulatory period. In setting the time period for the analysis, it is important to balance the capture of all costs and benefits of regulation with the accuracy of the predictions in the later years of the forecast. Given the change considered by this analysis is the institution of a new regulator, a long-term period (e.g. 20 years) may be justified. However, given significant uncertainty over the forward-looking freight task, the costs of industry and regulation, as well as potential benefits, a more conservative 10-year period is used. It is believed that a 10-year period strikes a good balance between accuracy of forward predictions, and the dispersion of any up-front costs and benefits over the regulatory period.

2.5.1 Data collected

This cost benefit analysis included a data collection period and participants were requested to complete a data template. Participation was sought from government departments, national statutory agencies, truck industry operators through their peak bodies, as well as bus industry operators through their peak bodies. The data collected from government departments and agencies included total cost, revenue and key metric data, for each option outlined in the RIS, for one financial year.

The cost data collected from the government departments forms the basis for the analysis in section 4.1. The revenues and associated income resulting from government levied fees and charges for heavy vehicle regulation are considered merely distributional effects rather than costs or benefits and has not been incorporated in the cost benefit analysis. The revenues collected are shown below in the table below:

Revenue Area	$'m
Registration and Renewal of Registration	680.9
Heavy Vehicle Permit Fees	11.5
Heavy Vehicle Fines	24.4
Heavy Vehicle Driver's Licence Fees[1]	19.4
Accreditation Fees	4.0
Stamp Duty[2]	789.2
Compulsory Third Party Insurance[3]	264.0
Other Revenue	41.9
Total	**1,835.3**

Table 1: Summary of revenues collected by State and Territory jurisdictions (FY07/08 Dollars)

1 One jurisdiction did not provide Drivers License Fees for this figure.

2 Includes the total motor vehicle stamp duty collected for one jurisdiction.

3 One jurisdiction does not collect CTPI

The data above for Stamp Duty is inflated as one jurisdiction was unable to provide an estimate of the proportion of total motor vehicle stamp of stamp duty collected that related solely to heavy vehicles. Based on available data, the following table has been derived as an attempt to adjust for this data consistency. The data should only be taken as indicative.

Revenue Area	$'m
Registration and Renewal of Registration	680.9
Heavy Vehicle Permit Fees	11.5
Heavy Vehicle Fines	24.4
Heavy Vehicle Driver's Licence Fees[1]	19.4
Accreditation Fees	4.0
Stamp Duty[2]	260.0
Compulsory Third Party Insurance[3]	264.0
Other Revenue	41.9
Total	**1,306.0**

Table 2: Adjusted summary of revenues collected by State and Territory jurisdictions (FY07/08 Dollars)

1 One jurisdiction did not provide Drivers License Fees for this figure.

2 This figure has been adjusted using the average stamp duty cost be vehicle for all states and ABS data (Motor Vehicle Census 9309.0 31 March 2008. Figure only includes Heavy Rigid trucks, Articulated Trucks, Non-freight carrying trucks and Buses)

3 One jurisdiction does not collect CTPI

The above revenue data provides an indication of the quantum of revenue received currently by state and territories for heavy vehicles.

Similarly, truck and bus industry participants were sought out to participate in providing quantitative data to enable the calculation of the total industry costs and benefits. At the end of the period, only twenty companies were willing to provide quantitative data. Of these twenty responses, only eleven were fully completed (excluding transition costs) and a further nine partially completed (i.e. not all options were completed only base case and the operators preferred option or only provided cost data). The total number of survey responses represented 0.45% of the total heavy vehicle fleet[1] and were composed entirely of truck industry participants. No data was received from the bus industry. This was deemed to be insufficient to enable a whole of industry analysis. As a result of the lack of sound data, a modification to the approach costing heavy vehicle freight was developed and as discussed in section 2.5 above.

2.5.1.1 Submissions to the RIS

This CBA incorporated elements of information included in submissions provided to the Commonwealth through the RIS process. One of those submissions included a privately commissioned Cost Benefit Analysis, prepared by Castalia, an economic consultancy firm.

This report does not include or rely on data or financial analysis contained in Castalia's CBA. This CBA analysis was completed independently of Castalia's report and no access to Castalia's underlying data or methodology was provided at the time of writing. Although this report did not draw upon the Castalia report or analysis, it is noted that there are similarities in the findings between both reports.

[1] ABS Motor Vehicle Census 9309.0 31 March 2008. Figure only includes Heavy Rigid trucks, Articulated Trucks, Non-freight carrying trucks and Buses

3. Options Overview

As described in the RIS the four options for consideration are as follows.

- **Option 1** – Retain the status quo (The base case)

This option retains the (nine) current regulatory frameworks with the model law as the main mechanism for delivering a nationally consistent approach and future reform. Jurisdictions would continue to develop model law and supporting administrative guidelines collectively through the NTC/ATC process, and enact it to the extent required by the current Inter-Governmental Agreement (IGA) requirements. Jurisdictions remain responsible for implementing, administering and enforcing the legislation of their own jurisdiction. The Commonwealth would continue to administer Federal Interstate Registration Scheme (FIRS) under existing delivery arrangements with jurisdictions.

- **Option 2** – A non-statutory body supported by jurisdictions, developing 'best practice' models and systems to achieve greater uniformity in the administration of law

This option focuses on standardising and creating greater uniformity in the administration of the body of law operating in individual jurisdictions. The existing bodies of law within each jurisdiction and the Commonwealth will be retained, as well as the current system for developing a nationally consistent approach to regulation and reform; jurisdictions collectively developing model laws and supporting administrative guidelines through the NTC/ATC process and enacting them to the extent required by the current IGA. The proposed national body under this option is non-statutory, therefore is not referred to as a 'regulator' as in the other options.

- **Option 3** – Uniform national law adopted by all jurisdictions

In this option, the focus is on uniform 'black-letter' law throughout Australia. Operations would remain with individual jurisdictional agencies exercising powers under the law of the relevant jurisdiction. There would be no national heavy vehicle regulator or national practice improvement agency. As with the other options, issues of network access would stay with each jurisdiction. There would be no registration scheme established under Commonwealth law.

A new IGA would be needed to establish mechanisms for implementation of the law and measures that would ensure improvements on current arrangement are clarified and strengthened. The IGA would also contain a more detailed and effective mechanism by which the model law maintenance program would be undertaken by the NTC with ATC-approved outcomes feeding into the template law process.

The NTC would continue to develop new heavy vehicle law and review existing law for the purpose of recommending changes to the ATC. It would also continue to develop guidelines, business rules etc to support that legislation.

- **Option 4** – Uniform national law administered by a single, national, statutory regulator

This option represents the full implementation of the framework agreed by the ATC. It would involve the aggregation and consolidation of the existing heavy vehicle law (registration; vehicle standards; mass and loading; oversize and over mass vehicle standards; restricted vehicle access, higher mass limits; concessional mass limits; fatigue management; intelligent access program, heavy vehicle speeding and compliance and enforcement) with development of law making provision for variations that enhance local productivity, and over time (and with Council of Australian Governments (COAG)/ATC agreement), pricing and/or network access. It does not necessarily involve one piece of law or that the uniform national law would be enacted in one jurisdiction. It does involve, however, law of the same content that would apply across all jurisdictions being administered by one body.

The law would be administered by a statutory National Heavy Vehicle Regulator (NHVR). The NHVR would not be responsible for the development of heavy vehicle regulatory policy which would remain with the NTC. The NTC would continue to have a role in the formation and development of amendments to the uniform law by a process of consultation with jurisdictions and the industry and also with the NHVR.

4. Costs

This section considers the costs of moving from the status quo under option 1 (the base case) to implementing each of the options.

For each option the costs of heavy vehicle regulation comprise of:

- the total costs incurred by governments in regulating the industry. This data was gathered from consultation with the existing government agencies.
- the total costs incurred by industry including in complying with existing or proposed regulatory models. This data was estimated using publicly available information
- this cost to industry includes social and environmental aspects.

The aim of this cost analysis is to determine the net incremental quantifiable cost over the base case, which is the first step in the cost benefit analysis.

In calculating the cost incurred by government the analysis takes into account:

- state and territory governments' costs;
- independent statutory bodies, agencies and panels with a role in heavy vehicle matters and Commonwealth costs;
- new agency costs for relevant options; and
- transition costs.

4.1 Costs incurred by governments

4.1.1 State and territory jurisdictions

Regulation of heavy vehicles is currently carried out by nine governments – the Commonwealth, six states and the two territories. These jurisdictions were surveyed to identify the current cost of providing existing regulatory services and to estimate the change in costs over the base case (option 1) for each of the alternative options.

The data collected covered total cost, revenue and key metric data for each option for one financial year and covered the following areas:

Functional Area	Description
Policy maintenance and development	includes activities relating to legislative, regulatory and liaison functions for heavy vehicle matters
Registration and permits, including associated inspection regimes	includes activities relating to heavy vehicle registration and permits, including the associated inspection regimes for registration and permits.
Heavy vehicle driver licensing;	includes activities related to heavy vehicle drivers licensing
Compliance and enforcement;	includes activities relating to heavy vehicle compliance monitoring and enforcement including development of plans, reporting etc, excluding jurisdictional police forces.
Education and training	includes activities relating to education and training in heavy vehicle matters including information marketing and communication
Management and corporate administration	includes management, administration, corporate and IT support activity related to heavy vehicle activity
Other costs	includes any miscellaneous costs not covered in another functional area
Transition to option costs	includes any costs for activities (over and above) the current state to adjust the agency from the current state to the proposed future state (only applies to option 2, 3 and 4)

Table 3: Description of the government data template functional areas

To assist jurisdictions in considering the change to their base costs, a list of non-binding assumptions was created for options 2, 3 and 4 and circulated to them. This document was based on the Consultation RIS and outlined a scenario of change under each option. It included assumptions about the different bodies to be established, the activities and roles of those bodies, and the tasks likely to be required to implement and transition to each option. These assumptions were modified for the final analysis of jurisdictional costs to remove assumptions (and costs) that were excluded from the CBA. A final version of these assumptions is included in Appendix C.

The data received from the jurisdictions varied considerably in part to differences in:

- service delivery models;
- existing regulations; and
- interpretation of the RIS and the master list of assumptions.

In particular, jurisdictions made different assumptions about how the different options would operate and the likely impact on their cost structure. For some options, jurisdictions assumed an increase in activity over the status quo, for example in registration and inspection regimes. Whether this assumption is justified will depend on the final detail of any successful option.

Whilst every effort was made to ensure a reasonable comparison between jurisdictions, there are two significant factors which impact the costs incurred by government. These are the variability in existing regulatory regimes between each jurisdiction and the interpretation of how future options would operate within each jurisdiction. The data received was accepted after discussions with the jurisdictions and only double counting of costs were removed. For example, where jurisdictions provided costs for functions that were separately identified (such as the jurisdictional share of the cost of the NTC).

4.1.1.1 Future Information Technology Costs

The non-binding assumptions list contained a number of assumptions requesting jurisdictions to provide estimates regarding the cost of possible Information technology (IT) requirements (including interfaces with existing systems) under the future options.

Some jurisdictions provided qualified estimates whilst other jurisdictions did not provide any estimate. Accordingly, it was decided that no specific future IT costs should be included as in the CBA, as the functional requirements, scale and scope of these are still to be determined. Once these functional requirements are determined it would be possible to determine the costs the associated with IT. However, as future IT requirements may entail significant costs, a sensitivity analysis on an option with an arbitrary estimate of possible IT costs has been conducted and is contained in Appendix E.

4.1.2 Option 1 (The base case)

The costs of maintaining the status quo delivery of functions and services under option 1 for states and territories are shown in Table 4.

Functional Area	$ 'm
Policy	20.2
Registration and Permits (inc. Inspections)	50.8
Driver Licensing	8.7
Compliance Monitoring & Enforcement	109.0
Education and Information Provision	5.4
Management, Administration, Corporate and IT Support	20.8
Other	3.9
Total	**218.8**

Table 4: Summary of State and Territory Jurisdictions Heavy Vehicle Regulatory Costs under option 1 (base case) (FY07/08 dollars)

4.1.3 Option 2

The estimated costs of heavy vehicle regulation under option 2 are shown below in Table 5 and totals $284.2m, which is approximately a 30% increase over the base case. This cost increase is due to the interpretation taken by certain jurisdictions over how the "practice improvement agency" would impact the areas of Registration and Permits, Compliance Monitoring and Enforcement and to some extent policy and other functions.

These jurisdictions explained that the rise in cost was expected due to the additional burden of costs as consistency in the administration of the current model laws was put in place. It is difficult to see how the application of consistent business models, processes, procedures and guidelines could result in such a significant increase in costs; however, the data received from the jurisdictions has been accepted until there is further development of the operational model supporting option 2.

Functional Area	$'m
Policy	21.4
Registration and Permits (inc. Inspections)	83.1
Driver Licensing	8.8
Compliance Monitoring & Enforcement	135.0
Education and Information Provision	6.1
Management, Administration, Corporate and IT Support	24.4
Other	5.4
Total	**284.2**

Table 5: Summary of State and Territory Jurisdictions Heavy Vehicle Regulatory Costs under option 2 (FY07/08 dollars)

4.1.4 Option 3

The anticipated costs for option 3 are shown in Table 6 in FY07/08 and total $288.9m. This is approximately 32% over the base costs but is similar to the anticipated costs under the operation of option 2.

This increase in costs over the base case occurs in mostly the same areas as option 2, namely, Registration and Permits, Compliance Monitoring and Enforcement and other areas. These increases (compared to base case) were offset by a minor decrease in the costs associated with the Policy function, which reflects recognition from the jurisdictions that the proposed uniform law should reduce their requirement to maintain jurisdictional legislation.

Similar to option 2, the rise in costs compared to the base case was driven by an expectation by a minority of jurisdictions that they would incur additional costs in

administering the uniform law. These jurisdictions assumed the national uniform heavy vehicle law enacted under option 3 would not be identical to their current legislation.

Functional Area	$'m
Policy	20.1
Registration and Permits (inc. Inspections)	87.0
Driver Licensing	8.9
Compliance Monitoring & Enforcement	135.5
Education and Information Provision	6.1
Management, Administration, Corporate and IT Support	25.7
Other	5.6
Total	**288.9**

Table 6: Summary of State and Territory Jurisdictions Heavy Vehicle Regulatory Costs under option 3 (FY07/08 dollars)

4.1.5 Option 4

Under option 4 the cost of heavy vehicle regulation is expected to be around $270.4m (Table 7, below). There is still a cost increase (over the base case) associated with the implementation of an ATC agreed national framework and the administration of this framework by a single, national, statutory regulator. However, this option shows the lowest increase in costs over the base case.

Implementing option 4 is expected to increase heavy vehicle regulation costs by around 24% (over the base costs). Reductions are expected in the Policy, Drivers Licensing, Management and Corporate areas as jurisdictions expect that the national regulator would undertake these functions and the existing duplication of effort in these areas would be eliminated. Transfer of functions from the jurisdictions would not occur immediately and it is assumed that after a transition period of approximately 3 years, the following functions would transfer to the national regulator, with supporting service agreements with the jurisdictions as required:

- registration and permits, including associated inspection regimes;
- heavy vehicle driver licensing;
- compliance and enforcement; and
- education and training.

These costs are presented here for completeness of the estimates provided by the state and territory jurisdictions. Note that under the comparison of options outlined in Appendix D half these costs are transferred to the national regulator after 18 months with full cost assumed by the national regulator at end of an additional 18 months. The functions that transfer from the states and territories to the national regulator are identified by the asterisk (*) in the table below.

Functional Area	$'m
Policy	13.3
Registration and Permits (inc. Inspections)*	82.5
Driver Licensing*	8.3
Compliance Monitoring & Enforcement*	134.6
Education and Information Provision*	6.6
Management, Administration, Corporate and IT Support	19.9
Other	5.2
Total	270.4

Table 7: Summary of State and Territory Jurisdictions Heavy Vehicle Regulatory Costs collected during the survey period as the costs to be incurred under option 4 (FY07/08 dollars)

* These functions' costs are assumed to transfer to the national regulator after a transition period. These costs are incurred by the jurisdictions but will essentially be recovered and are only presented here for completeness

In a mature state of option 4, the costs assumed to be incurred by the state and territory jurisdictions, exclusive of the costs of delivery for functions identified above, is shown below:

Functional Area	$ 'm
Policy	13.3
Registration and Permits (inc. Inspections)*	0
Driver Licensing*	0
Compliance Monitoring & Enforcement*	0
Education and Information Provision*	0
Management, Administration, Corporate and IT Support	19.9
Other	5.2
Total	38.4

Table 8: Mature state summary of State and Territory Jurisdictions Heavy Vehicle Regulatory related Costs under option 4 (FY07/08 dollars)

* These functions' costs are assumed to transfer to the national regulator after a transition period and are paid for by the national regulator, therefore at an assumed zero cost to the state and territory jurisdictions

4.1.6 National Transport Commission, AustRoads, heavy vehicle panels and Commonwealth costs

The costs incurred by the National Transport Commission, AustRoads, the Heavy Vehicle Panels and certain divisions of the DITRDLG were collected for inclusion in the analysis.

For the National Transport Commission, the data includes the cost of the associated panels it is currently administering. The costs for NTC under options 2, 3 and 4 are based on the following assumptions:

- The costs of the Performance Based Standards Review Panel (PRS), Performance Based Standards (PBS) Panel and the Fatigue Panel have been identified and separated from the NTC base costs. These costs are considered to be separate and ongoing and may transfer to either the non-statutory body under option 2 or the National Regulator under option 4. For this analysis they have been assumed to be separate, static costs.
- There would be no change in the NTC's current heavy vehicle related functions other than the panels identified above, under any of the future options associated with the RIS.
- These assumptions are independent of the review of the functions of the NTC currently being completed.

Data for AustRoads was estimated based on publicly available information in their FY07/08 annual report. It was assumed that approximately 30% of AustRoads functions included a

heavy vehicle related impact and that there would be no change in the current functions and costs associated with AustRoads under any of the options put forward in the RIS.

The cost of the heavy vehicle functions undertaken by the DITRDLG on behalf of the Commonwealth for each option was sourced from DITRDLG. These costs remain broadly stable under each option with the exception of option 3 and option 4 which sees a reduction in the legislative and policy maintenance and administration of the Federal Interstate Registration Scheme (FIRS) as it is dismantled after a transition period.

Agency	Option 1 $'m	Option 2 $'m	Option 3 $'m	Option 4 $'m
NTC, AustRoads, Heavy Vehicle Panels and Commonwealth Costs	9.2	9.2	9.1	8.9

Table 9: Summary of NTC, AustRoads, Panel and Commonwealth Heavy Vehicle regulatory related costs under all options (FY07/08 dollars)

4.1.7 Non-statutory body – option 2

The cost associated in establishing a non-statutory body as outlined in the RIS under option 2 assumes that the body would operate as a separate agency based in Canberra with approximately 20 staff headed by a Senior Executive Service band 1. The salary and associated on cost of staff was determined using the DITRDLG's New Policy Proposal (NPP) tool, which estimated the total salary, superannuation and leave expense per annum to be approximately $2 million. Annual travel and other operating expenses were estimated to be less than $1.5 million per annum. As noted in section 4.1.1.1 IT costs were excluded as part of the non-statutory body.

The roles and activities of the non-statutory body were based on those outlined in the RIS. This includes but is not limited to the development of business rules and information sharing protocols between jurisdictions; managing the PBS Review, Driver Fatigue Panels and the National Heavy Vehicle Accreditation Scheme initiatives. It was assumed the NTC and this body were separate agencies with a complimentary relationship.

Agency	$'m
Non-Statutory Body – option 2	3.4

Table 10: Estimate of Non-Statutory body costs under option 2 (FY07/08 dollars)

4.1.8 Statutory regulator – option 4

Option 4 outlines the requirement for a national regulator to administer heavy vehicle regulation. The costs in establishing this regulator were estimated on a similar basis to the non-statutory body under option 2 using the DITRDLG's NPP tool to estimate staff salary and supplier costs. Based on information contained in the RIS, under option 4, it is assumed that the national regulator would have approximately 60 staff under the leadership of a Senior Executive Service band 2 equivalent. The estimated staff salary, superannuation and leave entitlements would be approximately $6 million per annum. The other operating costs include agency overhead, travel, suppliers, legal and other ongoing miscellaneous costs, and were estimated to be less than $8 million per annum. In addition, a board for the national regulator was estimated to cost approximately $0.5 million per annum.

As noted in section 4.1.1.1 IT costs were excluded as part of the non-statutory body.

The national heavy vehicle regulator will have the following main functions as identified in the RIS:

- Administer the national heavy vehicle registration scheme;
- Development of guidelines on decision making including the framework for local variations to enhance productivity;
- Facilitate the services to be delivered through agreements with state jurisdictions;
- Develop key business and operational strategies;

- Provide information dissemination for relevant stakeholders;
- Report to ATC on effectiveness and efficiency of legislative framework;
- Contribute to heavy vehicle policy development;
- Provide network access as set out in the RIS; and
- Build a heavy vehicle dataset based on statistical data.

It is assumed role of the national regulator and NTC would remain separate and complimentary.

Under option 4, the regulator is assumed to bears the cost of delivering the services for heavy vehicle regulation under a "service level" type agreement with the current state and territory jurisdictions (refer to discussion under option 4 in section 4.1.1). For the purposes of this cost analysis it is assumed that the costs transfer to the national regulator though the overall cost of regulation does not change, only the party who directly/indirectly incurs the cost.

The costs of the national regulator, exclusive of the costs of services delivered by the jurisdictions under a service agreement, are shown below in Table 11.

Agency	$'m
National Regulator- option 4	14.7

Table 11: Estimate of National Regulator costs, exclusive of the cost of service delivery, under option 4 (FY07/08 dollars)

In a mature state, the annual costs of the national regulator, inclusive of the costs of delivery for functions identified above (based on the costs provided by the state and territory jurisdictions) is shown below in Table 12.

Functional Area	$'m
National Regulator – option 4	14.7
Registration and Permits (inc. Inspections)	82.5
Driver Licensing	8.3
Compliance Monitoring & Enforcement	134.6
Education and Information Provision	6.6
Total	246.7

Table 12: Mature state summary of cost of the National Regulator, inclusive of the costs of service delivery under option 4 (FY07/08 dollars)

4.1.9 Transition costs

Transition costs, including implementation costs, were estimated by each jurisdiction and varied considerably. This appears to be due to differences in jurisdiction size and current regulatory regimes and the interpretation of the scope of the transition required. The broad assumptions provided requested the each jurisdiction consider the one-off personnel and operating costs to transition between option 1 (the base case) and the relevant option. These assumptions, exclusive of IT cost assumptions are included in the table below:

Option	Assumptions
Option 1 (base case)	► No transition costs assumptions
Option 2	► Cost of negotiating an Inter-Governmental Agreement
Option 3	► Cost of negotiating an Inter-Governmental Agreement ► Cost of legislative transition ► Cost of legislative gap review
Option 4	► Cost of negotiating an Inter-Governmental Agreement ► Cost of legislative transition ► Cost of legislative gap review ► Cost of negotiating a Service Level type agreement (SLA) ► Cost of assessing current jurisdictional service levels for SLA

Table 13: Summary of key transition cost assumptions (excludes IT transition assumptions) under all options

The transition timeframe for option 2 was assumed by a majority of jurisdictions to be approximately 12 months. Whereas, the transition timeframe for option 3 and option 4 had a wide range of estimates by individual jurisdictions, ranging from 12 months to 3 years. Option 4 includes the transition costs for a Commonwealth project team to assist in the 18 months prior to the start of the national regulator.

Option	Year 1 $ 'm	Year 2 $'m	Year 3 $'m	Total $'m
Option 1	0	0	0	**0**
Option 2	1.9	0.04	0	**1.9**
Option 3	5.8	1.8	1.8	**9.4**
Option 4	12.9	4.4	1.4	**18.7**

Table 14: Summary of Transition costs under all options (FY07/08 dollars)

4.1.10 Total government costs

Using the available data and assumptions provided the costs for state and territory jurisdictions, the NTC, AustRoads, the Commonwealth, the panel and transition costs were extrapolated over a ten year period for each option.

To project the growth in total cost over the ten year period, the Consumer Price Index (CPI) rate of 3.70% was utilised[2]. This rate was deemed the most appropriate as it is a generally accepted growth index. These costs were then discounted back using a 9.675% nominal discount rate[3], based on OBPR guidance, to determine the Net Present Value (NPV) of the total government cost over the 10-year period. The details of these calculations are included in Appendix D.

4.1.11 Total incremental government costs

The total incremental government cost represents the difference between the NPV for each option compared to the base case.

This represents the net incremental cost in government regulatory costs compared to the status quo, based on assumptions and data provided and is summarised in the following table:

[2] 6401.0 - Consumer Price Index, Australia, Dec 2008

[3] The OBPR real discount rate is 7% and an assumed long term inflation target rate is 2.5%. The RBA targets inflation at between 2% and 3% so 2.5% is usually used as a long term average. Therefore the nominal discount rate equals ((1+real rate) x (1+inflation))-1 which equals a rate of approximately 9.675%

Option	NPV cost over 10 years ($'m)	Difference between base case and option ($'m)
Base Case	1,706	0
Option 2	2,208	503
Option 3	2,273	567
Option 4	2,185	480

Table 15: Summary of incremental Government costs over 10 year period

These costs represent the net additional cost that need to be offset by the benefits to be delivered under each option. Under a CBA, the move from the status quo (option 1) to another model of heavy vehicle regulation must ensure a positive net benefit is achieved.

This data, combined with the total industry cost, enables the calculation of the net percentage increase in the cost of regulation as outlined in Section 4.3.

4.2 Total industry costs

The incremental government cost of each of the options is to be considered relative to the total cost of road freight (that is, the total industry costs). This allows the total costs (including the increased cost of regulation) to be contrasted against quantifiable and non-quantifiable benefits.

For example, if a non-quantifiable benefit is expected to have a major impact on industry costs, even though it cannot be quantified, it may be contrasted against the expected cost increase. For a small cost increase, this benefit may justify an option, while if it cannot be shown this benefit is sufficient to cover a high cost increase, other benefits may be needed or alternatively the option is not preferred to the base case.

To determine the percentage increase in freight cost under each option, the base case cost of road freight needs to be calculated. This cost is made up of direct economic/financial cost of road freight, and the associated externalities, both in terms of environmental and social costs. Similarly, possible benefits of regulatory change can include economic, environmental and social benefits.

As noted in 2.5.1 part of the data collection period, truck and bus industry participants were sought out to participate in providing quantitative data to enable the calculation of the total industry costs and benefits. This data sought covered the following areas:

- Organisation Metrics (number of vehicles, personnel, kilometres travelled etc.);
- Organisation Administration costs and metrics;
- Organisation Registration & Permits costs and metrics;
- Organisation Route & Configuration costs and metrics;
- Organisation Maintenance & Modification costs and metrics;
- Organisation Compliance costs and metrics;
- Organisation Enforcement costs and metrics;
- Other organisation costs and metrics; and
- Transition to option 2, 3, and 4.

As noted in section 2.5.1, after a three months survey period, only twenty companies were willing (or able) to provide quantitative data representing 0.45% of the total heavy vehicle fleet[4] and an alternate approach was utilised.

In short, the methodology for arriving at the total cost of heavy vehicle freight is derived by determining unit heavy vehicle freight costs (here in cents per net tonne kilometre terms),

[4] ABS Motor Vehicle Census 9309.0 31 March 2008. Figure only includes Heavy Rigid trucks, Articulated Trucks, Non-freight carrying trucks and Buses.

and multiplying the total cost by the total heavy vehicle freight task (i.e. total number of net tonne kilometres). The costs considered are:

- direct industry costs;
- environmental costs; and
- social Costs.

The two latter costs are externalities of the heavy vehicle road freight industry, but are cost to Australian society, and should therefore be counted as total costs.

4.2.1 Direct industry costs

The RIS states the market structure of the Australian trucking industry is highly competitive and competition within this industry delivers efficient transport pricing outcomes to the Australian economy as well as innovation and supply chain efficiency. Therefore, it is assumed that each market participant has structured its business so that interstate heavy vehicle operators understand and comply with up to nine sets of laws and rules and these costs are reflected in the industry's costs.

Therefore the next step in quantifying the costs of heavy vehicle regulation is to understand the costs of the heavy vehicle industry. Quantifying these costs is extremely difficult, given the large numbers of diverse operators, varying by size, type of freight carried, location, and associated regulation. Information on the average unit cost of the heavy vehicle industry is not available and road freight was considered to the closest industry/cost classification.

The cost of heavy vehicle (or road) freight was sought from alternative studies and the most relevant study found was the BITRE Information Sheet 28, *Freight Rates in Australia 1964-65 to 2007-08*. This study reports the most recently available non-bulk freight charges in Australia, at 7.53 cents per net tonne kilometre (cents/ntkm)[5], and was assumed to be a useful starting point in estimating the economic cost of heavy vehicle freight.

As the above estimate relates to non-bulk freight, and lighter vehicle fright may be included in the average cost calculation, it is possible that the average cost of heavy vehicle freight may be lower. To check the validity of using the non-bulk freight charges in this analysis and as an average cost figure, the data collected from the twenty survey participants was reviewed to see if the 7.53 cents per net tonne kilometre is a reasonable estimation for this cost analysis. It is recognised that there are limitations with using the data from the diverse range of survey participants; however, their data provides some confirmation if the BITRE non-bulk freight charges could be indicative of the unit cost of the heavy vehicle industry. As expected, the survey data provided varied unit costs which were both higher and lower than the BITRE data however, the average cost per kilometre calculated was around 8.33 cents/ntkm. Therefore, based on a comparison with the available survey data, the assumption of 7.53 cents/ntkm appears reasonable and can be used as indicative costs of one element of industry costs.

To ensure only heavy vehicle cost are included, the average cost indicated above will only be applied to heavy vehicle traffic (see section 4.2.4)

4.2.2 Environmental costs

Externality costs, essentially environmental costs, resulting from road freight are largely additional to the direct costs as the industry is not (at least currently) fully taxed on the environmental effects of traffic. While some of the environmental costs are "internalised" through taxes aimed at addressing the specific problem (and as such would be included in the economic/financial cost identified above), the externalities of environmental cost are those proportions of environmental costs that have not been accounted for.

[5] BITRE used an externally sourced rate index to update their long-term series on road freight charges. The associated cost index allied to that rate index includes driver and administrative costs, fuel, oil and tyre costs, vehicle capital and maintenance costs and vehicle registration and insurance costs. BITRE were unable to confirm if the rate index used also incorporated these factors, however, noted that it was highly likely.

Consequently, in considering the total cost of road freight, a consideration of the costs of externalities, such as environmental, must be considered.

The externalities of road freight, as well as other forms of road traffic, include:

- air pollution;
- greenhouse/climate change;
- noise;
- water;
- nature and landscape; and
- urban separation.

These effects are currently not priced into the industry costs, as estimated using the BITRE cost of road freight. While this may change, at least to an extent, under the future Carbon Pollution Reduction Scheme (CPRS), as the environmental externalities are outside the pricing system it is currently very difficult to estimate their cost to Australia. However, various techniques (e.g. hedonic pricing, contingent valuation etc), have been developed and are utilised in this analysis to value the cost of such externalities. While these techniques are imperfect and uncertain, they have been applied in various similar settings and research and are designed to provide a reasonable estimate of the cost of externalities to the regulation of heavy vehicles.

In developing its National Guidelines for Transport System Management in Australia, the Australian Transport Council (ATC) has utilised a number of externality studies, to quantify the above environmental costs.[6] The various studies considered utilised the techniques identified above.

The guidelines express the costs of externalities in per net tonne kilometre (ntkm) basis, and draw data from a variety of sources. These sources, the methodologies applied to calculate the cost of externalities, and any adaptations of these methodologies by the ATC are outlined in Volume 5 of the guidelines.[7]

The ATC breaks down the externalities of road freight to light, medium and heavy vehicles. These are identified as:

- light vehicles – less than 3.5 tonnes;
- medium vehicles – between 3.5 and 12 tonnes; and
- heavy vehicles – above 12 tonnes.

Given heavy vehicle regulation applies to those vehicles above 4.5 tonnes, only medium and heavy vehicle externalities are relevant. However, data for medium vehicles is only available for two of the six externalities identified above. To approximate the other four parameters (for medium vehicles), the ratios of medium-to-heavy vehicle externalities were calculated from the two externalities which specifically provided medium and heavy vehicles data. This ratio was applied to the four externalities which did not specifically cover medium vehicles in order to arrive at required externalities data. It should be noted that the known data accounts for over half of the unit externality cost.

Furthermore, the ATC externality data is disaggregated between urban and rural areas as the vehicles affect the areas differently and to a dissimilar extent. For example, while urban separation externality will affect urban areas, it will not significantly affect rural areas. Further, air pollution or noise externality is much greater where the population density is greater, so that it is much larger in urban, rather than rural areas. In this analysis, the environmental costs between rural and urban areas is disaggregated, following the ATC guidance.

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[6] Australian Transport Council, *National Guidelines for Transport System Management in Australia, Volume 3*, 2006

[7] Australian Transport Council, *National Guidelines for Transport System Management in Australia, Volume 5*, 2006, section 2.9

Further, following ATC's methodology, the externalities are disaggregated over "medium freight vehicles" and "heavy freight vehicle". While these are separated into two classes by the ATC (and ABS, whose data is also used in this analysis), they both fall under heavy vehicle regulation considered here. The reason for this disaggregation is that externalities of these two classes of heavy vehicles will be different on a per net tonne kilometre basis. This is because while heavy freight vehicles may result in a higher externality on a per kilometre basis, their significantly greater carrying capacity means that they result in a lower externality on a per tonne kilometre basis.

4.2.2.1 Air pollution

Air pollution increases resulting from road traffic have been indentified as contributors to a number of negative effects on the society. These include negative effects on:

- human health (such as impact of air pollution on respiratory problems);
- building structures (e.g. effect of air pollution on building facades);
- flora (e.g. through absorption of air pollution by plant life);
- fauna (similar effects on fauna to those on humans and consequential effects of impacted flora); and
- soil pollution (e.g. through absorption of air toxins into soil).

The pollutants relevant to Australia, and causing the above effects, include:

- carbon monoxide;
- various nitrogen oxides;
- particulate matter; and
- total hydrocarbons.

The air pollution externality was determined by the ATC[8] to be:

	Medium freight vehicles (cents/ntkm)	Heavy freight vehicles (cents/ntkm)
Urban	4.68	0.97
Rural	0.05	0.01

Table 16: Cost per net tonne kilometre of air pollution

4.2.2.2 Greenhouse gas emissions/climate change

Greenhouse gas emissions and the consequent climate change have been recognised as a negative externality of a number of production processes, as well as of burning fuel, to the extent that the Australian Government is moving towards the introduction of the Carbon Pollution Reduction Scheme (CPRS), which will internalise a large portion of the externalities currently produced. Further, the cost of greenhouse gas emission will be able to be determined through market forces.

However, until that is process is complete, and for the purpose of this analysis, greenhouse gas emissions from road freight transport are treated as externalities, and assumptions around the cost of carbon need to be made. In assessing the cost of greenhouse gas emissions, estimating the cost of emission permits under the CPRS allows for the quantification of the externality. The ATC has based its estimate of this cost at $10/tonne of CO2 equivalent (C02-e).

This results in the following greenhouse gas emission/climate change externality:

[8] Australian Transport Council National Guidelines for Transport System Management in Australia, 2006, Appendix C, page 101

	Medium freight vehicles (cents/ntkm)	Heavy freight vehicles (cents/ntkm)
Urban	0.20	0.07
Rural	0.20	0.07

Table 17: Cost per net tonne kilometre of greenhouse gas emissions

However, a number of recent studies have indicated that a cost of an emission permit is expected to be much greater than $10/tonne of C02-e. Until further data is available, the ATC data is used in this analysis noting that the cost of this externality may be understated.

4.2.2.3 Noise

Noise pollution associated with heavy vehicles is an externality in that the noise inconveniences society, and can result in some health issues (such as insomnia). The cost of noise pollution externality has been determined through a variety of methods. Most commonly, hedonic pricing has been applied through determining the relationship between value of a property and the traffic noise. Alternate methods could be used and could include willingness-to-pay studies, health cost studies, and consideration of costs of noise-reducing initiatives.

Using Austroads studies[9], the ATC has set a cost associated with noise pollution for heavy vehicles. The medium freight vehicles' noise pollution cost was calculated using the ratio methodology previously set out.

	Medium freight vehicles (cents/ntkm)	Heavy freight vehicles (cents/ntkm)
Urban	1.25	0.26
Rural	0.13	0.03

Table 18: Cost per net tonne kilometre of noise pollution

4.2.2.4 Water

Water pollution associated with freight traffic results from organic waste and road runoff from vehicles, such as engine oil leakage and disposal, road surface, tyre degradation, and particulate matter and other air pollutants dissolving in water. The costs calculated in the ATC report are identified as non-exhaustive (and therefore reflect only a partial cost of damage from transport), and depend on rainfall intensity, type of road, drainage path etc.

The costs of water pollution have been calculated as:

	Medium freight vehicles (cents/ntkm)	Heavy freight vehicles (cents/ntkm)
Urban	0.48	0.10
Rural	0.29	0.06

Table 19: Cost per net tonne kilometre of water pollution

The heavy freight vehicle rate was taken from the ATC study and again, the medium freight vehicles' water pollution cost was derived using the ratio methodology previously noted.

4.2.2.5 Nature and landscape

The nature and landscape externality cost reflects the loss of natural areas, ecological impacts, and reductions in the quality of landscape. The costing of this externality is based on the cost of repair and compensation measures and is based on the costs quantified by the ATC. They are:

[9] *Ibid*

	Medium freight vehicles (cents/ntkm)	Heavy freight vehicles (cents/ntkm)
Urban	1.25	0.26
Rural	0.53	0.11

Table 20: Cost per net tonne kilometre of nature and landscape

As previously noted, the medium freight vehicles' nature and landscape cost was calculated was derived using the ratio methodology previously described.

4.2.2.6 Urban separation

Urban separation costs are generally costs of incursion of traffic into urban areas and are measured through considering the effect of road traffic in restricting the mobility of pedestrians. The ATC's Austroads-based estimate of the urban separation cost is:

	Medium freight vehicles (cents/ntkm)	Heavy freight vehicles (cents/ntkm)
Urban	1.06	0.22
Rural	-	-

Table 21: Cost per net tonne kilometre of urban separation

Urban separation cost is not considered a significant problem in the rural areas. As with previous externalities, the medium freight vehicles' urban separation cost was derived using the ratio methodology previously described.

4.2.2.7 Total externality cost

The total of the above externalities costs is set out in the following table and is used to calculate the externality cost of road freight on a per tonne kilometre basis:

	Medium freight vehicles (cents/ntkm)		Heavy freight vehicles (cents/ntkm)	
	Rural	Urban	Rural	Urban
Air pollution	0.05	4.68	0.01	0.97
Greenhouse/climate change	0.20	0.20	0.07	0.07
Noise	0.13	1.25	0.03	0.26
Water	0.29	0.48	0.06	0.10
Nature and landscape	0.53	1.25	0.11	0.26
Urban Separation	0.00	1.06	0.00	0.22
Total	1.20	8.93	0.28	1.88

Table 22: Cost per net tonne kilometre of total externality

As environmental externalities of heavy vehicle freight are a cost to the Australian society as much as direct costs, this data can be included with the direct industry cost to enable the calculation of the total cost of the heavy vehicle industry.

4.2.3 Social cost

The major social cost of the heavy vehicle industry is the cost of accidents involving trucks. However, studies on the accident costs of road freight are quite varied, in terms of quantification and units costs reported. The most comprehensive examination of road freight accident cost studies, and the reporting of these costs on a per net tonne kilometre basis, identified was completed by Philip Laird in 2005.[10]

In his original, 2001 study, Laird estimated the average cost of road crashes (for 1997/98) at approximately 0.5 cents/ntkm. This estimation was based on numbers of fatal injuries and injuries requiring hospitalisation, and the estimates of costs of these injuries.

His revised, 2005, study reported a number of other quantifications of accident costs, which when converted to per ntkm costs ranged from 0.32 cents/ntkm to 1.558 cents/ntkm. The revised study recommends a road freight accident cost of 0.6 cents/ntkm.

To be conservative, this report adopts the earlier, lower, 0.5 cent/ntkm accident cost.

This data can be included with the total industry and externality costs to enable the calculation of the total cost to society of the heavy vehicle industry.

4.2.4 Estimate of total industry costs

The above analysis consider all costs of heavy vehicle road freight, including costs to the industry, and costs to the wider society resulting from environmental and social externalities. The costs are all presented in cents/ntkm terms.

The data in the following table is a summary of these total costs, and is broken down by type of vehicle and region of operation. This data, together with disaggregated traffic data provided, enables a determination of the total cost of road freight (industry costs). Subsequently, a percent increase in total cost, resulting from various regulatory options, can be estimated.

For regulatory options to be preferred to the base case, the benefit of the option should be greater than the associated cost increase.

Total unit costs of road heavy vehicle road freight are:

	Medium freight vehicles (cents/ntkm)		Heavy freight vehicles (cents/ntkm)	
	Rural	Urban	Rural	Urban
Economic freight costs	7.53	7.53	7.53	7.53
Environmental costs	1.20	8.93	0.28	1.88
Social costs	0.50	0.50	0.50	0.50
Total costs	9.23	16.96	8.31	9.91

Table 23: Cost per net tonne kilometre of total industry

ABS data also indicates the following break-down of traffic across rural and urban areas, enabling the calculation of average total unit cost for the two classes of heavy vehicles[11]:

[10] Laird, *Revised Land Freight External Costs in Australia*, Paper for the 28th Australasian Transport Research Forum

[11] ABS, *Survey of Motor Vehicle use - 9208.0 – 12 Months ended 31 October 2007*

	Urban	Non-urban
Medium freight vehicles (Rigid trucks)	66.07%	33.93%
Heavy freight vehicles (Articulated trucks)	26.83%	73.17%

Table 24: Break-down of traffic across rural and urban areas

The average total unit costs for the two classes of heavy vehicles are then combined with the annual heavy vehicle traffic[12] to determine the total annual cost of heavy vehicle freight.

	Medium freight vehicles	Heavy freight vehicles
Total unit cost (cents/ntkm)	14.34	8.74
Total traffic (million ntkm)	33,873	143,601
Total industry cost (million)	$4,857	$12,545
Total industry cost (million)	$17,402	

Table 25: Total annual cost of heavy vehicle freight

The above table estimates the annual total industry cost to be approximately $17,402 million. Whilst this figure relates to FY07/08 data, it is conservatively assumed that there is no change for the FY08/09 period.

To project the total cost over the ten year period, an assumed annual growth in the cost of 3% was utilised. Again, this is considered to a conservative estimate given the NTC's expected annual road freight growth of 3.89%[13], and the expected rise in unit freight cost due to a number of factors, including rising petrol prices. The use of this lower growth figure produces a lower total industry cost figure.

A 9.675% nominal discount rate[14] was used to determine the NPV of the industry cost over the 10-year period based on OBPR recommendation.

The industry cost of freight over the 10-year period, under the parameters discussed above equals approximately $121.567 billion.

This total cost of the heavy vehicle industry, combined with the government's cost of regulation this industry enables the calculation of net percentage increase in the costs under each proposed option, which will then be used in the comparison of possible realisable benefits under each option (refer to section 4.3).

4.3 The incremental costs

The above analysis completes the information required to approximate the cost increase associated with each option. The following table illustrates the percentage cost increase to society from implementation of the proposed options. This percentage cost increase equals the percent cost saving, or percent benefit, that needs to result from these options, in order for the options to be considered preferable to the base case (option 1).

To calculate the percent cost increase of each of the option, the incremental cost of the options is determined. This is cost is in row A and was derived in section 4.1.11. Second, the total current cost of heavy vehicle transport, row D – is set by adding the current government cost of regulation to the total industry cost – rows B and C. The percent cost increase that needs to be offset by a benefit, or a cost saving (these are discussed in Section 5 below) is presented in row E and is calculated as a percent cost increase.

[12] *Ibid*
[13] NTC, *"Twice the Task" A review of Australia's freight transport tasks*, 2006
[14] See footnote 3.

		Calculation	Option 2 ($'m)	Option 3 ($'m)	Option 4 ($'m)
A	Likely incremental cost of each option		503	567	480
B	Total Government costs (option 1)		1,706	1,706	1,706
C	Total industry costs		121,567	121,567	121,567
D	Total costs	B + C = D	123,273	123,273	123,273
E	Likely cost increase associated with each option	E = A / D x 100%	0.41%	0.46%	0.39%

Table 26: Summary of the cost increase of the proposed option under each option (FY07/08 dollars)

For this cost benefit analysis the key assessment to be made is whether the percentage increase in costs, identified above, is likely to be acceptable to government and industry participants if the benefits that may be derived from the industry (at least) offset the increased cost from changing the status quo regulatory framework.

Category	Option 2	Option 3	Option 4
Costs			
Percentage increase in costs (%)	0.41%	0.46	0.39%

Table 27: Identified cost increase of the proposed option under each option (FY07/08 dollars)

The "cost increase percentage" represents the incremental increase in cost under the various options as a percentage of the total cost to society. Against these cost increases, it is important to contrast the expectation of potential value of the qualitative benefits. If benefits are assessed as being in excess of the cost increase then the option that maximises the benefit and minimises the cost of regulation should be preferred. At this stage, it appears that option 4 provides the lowest increase in costs. The review of quantifiable and qualitative benefits will assist in determining the preferred option for regulating heavy vehicles.

The above analysis only assumes an incremental increase in the government costs of regulation, as industry impacts were unable to be estimated. It is noted that any change to industry costs would have an impact on the above assessment that should be examined as further detail emerges. Any such changes in industry costs can be considered as industry benefits, or benefit offsets, as discussed in sections 5.1,5.2,5.3, and 5.4 of this report.

5. Benefits

This section considers the benefits associated with implementing each of the options considered by the RIS. Benefits have been identified from consultation with industry participants and representative groups, government agencies, the data surveys, public submissions and the public consultations hosted by DITRDLG.

The benefits considered here are net incremental benefits resulting from the regulatory change options discussed, over the base case. The benefits are attributed to all relevant options, with additional information provided where benefits are expected to be greater under one option than others.

The approach adopted in this analysis is to assess whether the monetised cost of the proposed regulatory change is exceeded by the benefit of the proposal, even if such benefits can not, at this stage, be fully monetised.

This methodology is adopted because majority of the benefits, or potential benefits, are not quantifiable at this stage, and therefore cannot be directly compared to the incremental cost of various options. Although a number of benefits cannot be quantified, it is expected that they will accrue to a varying degree under the considered options. Therefore, even non-quantified benefits can be compared between these options. Finally, determining non-quantifiable, possible benefits will aid in the assessment of the preference of one option versus another and as opposed to the base case.

In line with the guidance from OBPR in such circumstances, the benefits that have been identified have been considered as:

- monetised;
- quantifiable, but not monetised; and
- qualitative, but not quantifiable or monetised.

The regulatory change considered here is a change in the nature of regulation, and not a change in legislation; as a result, it is not appropriate to speculate about specific environmental and social benefits that could be derived from any change in legislation. However, such benefits are expected to flow from any change in laws and regulations and the options discussed here are considered to be a necessary first step in order to lead to any environmental and social benefits.

Therefore, while not directly considered and calculated, environmental and social benefits must be recognised as potential, if not probable, benefits of change in the nature of regulation. The specific benefits would be quantified as a part of any future cost benefit analyses, dealing with substantive legislative change, should this change be made possible through implementation of some options discussed in this analysis.

Where possible, case studies have been used to demonstrate the monetised value of identified benefits. The data that provides the case studies is sufficient for this purpose, but is not adequate to extrapolate across the whole of the industry to determine a full financial value of these benefits.

In addition, where case studies have been provided, the benefits identified in the case studies are net of any identified transition cost associated with implementation of the options. As noted in section 2.5.1, the revenues and associated income resulting from government levied fees and charges for heavy vehicle regulation are considered merely distributional effects rather than costs or benefits.

All of the identified incremental benefits over the base case have been evaluated against the three possible future options. The degree to which each option will realise the benefit assessed is show using the legend described in the table below.

Legend	Description
×	Benefit does not apply to this option
✓	Benefit applies to this option
✓✓	Benefit is considered to be maximised (in terms of efficiency or productivity) under this option

5.1 Monetised benefits

Monetised benefits are quantitative benefits where a dollar value can be attached to the estimated benefit. Through the responses submitted, a series of monetised benefits have been identified and case studies showing the potential value have been prepared, where appropriate.

The case studies were derived from the consultations with industry or surveys completed by industry and represent the indicative impact that individual respondents have assessed on their business. As previously indicated, the responses were limited and the case studies are provided as illustrations of the possible range of monetised benefits, noting that there are substantial variations in the responses. Further data from industry would be required to draw industry-wide conclusions, other than those illustrated here.

5.1.1 Benefit 1 - Reduction in operational costs and administrative effort required to obtain information and complete processes to ensure compliance with heavy vehicle laws and regulations

Under options 2, 3 and 4, industry participants have indicated a likely reduction in operational costs and administrative effort. These reductions are associated with costs and effort to obtain information and complete processes to ensure compliance with local and inter-jurisdictional regulatory requirements. Industry participants expect these reduced costs will manifest in their day to day operations through reductions in:

- the number of forms they are required to complete;
- the number of applications they are required to make;
- the number of information sources they are required to consult to determine compliance requirements;
- the number of records that need to be kept in different formats to comply with government requirements;
- the requirement for training staff in regulatory practices of multiple jurisdictions; and
- the number of staff devoted to compliance activities.

Of these, the final two points are of note. Under option 3 and 4, industry participants identified training as a particular area for cost and time reduction, in addition to the reduced burden of staying up to date with regulatory change in one rather than eight jurisdictions. In addition, industry participants further expect to be able to increase productivity by redeploying staff from duplicated regulatory-related administrative functions into higher value activities. This should lead to more efficient administration and information management within business operations. Industry expects this benefit to be maximised under option 4, with the jurisdictional administrative functions streamlined into one, centralised agency from eight.

These administrative effort benefits are also expected to accrue under options 2 and 3, but to a lesser extent. Under option 2, this benefit is expected to be realised to the extent that the non-statutory body is able to streamline the administrative functions of jurisdictions. Under option 3, this benefit is expected to be realised only to the extent that each jurisdiction, in retaining its own administrative arrangements, will be able to streamline some of the information and requirements as a result of uniform law.

Option	Expected Benefit
Option 2	✓
Option 3	✓
Option 4	✓✓

Case Study 1:

A medium size trucking company (operating less than 100 vehicles) in NSW indicated an efficiency saving from a reduction in Full Time Equivalents (FTE) completing regulatory activities associated with obtaining permits, locating information on government websites, copying the information to be carried in every vehicle in the fleet, etc. This operator indicated that the degree of anticipated annual savings will vary between options, from 0.17% in option 2 and option 3 to 1.3% in option 4 in their total direct costs.

For this business, this equates to a saving of approximately 0.13% of their total costs (including both direct, indirect as well as associated externalities) under Option 2 and 3 over a ten year period. Under option 4, there is an estimated saving of 1.01% of their total cost over a 10 year period.

Case Study 2:

A large national company (operating over 100 vehicles) operating across Australia indicated an efficiency saving (FTE redeployment) from completing regulatory activities associated with obtaining permits, locating information on government websites, copying the information to be carried in every vehicle in the fleet, etc. This operator indicated that the degree of anticipated annual savings in their total direct costs will vary between options, from 0% in option 2 and 3 to 1.3% in option 4.

For this business, efficiency is only achieved under option 4 and the saving is approximately 2.5% of their total cost (including both direct, indirect as well as associated externalities) over 10 years. Options 2 and 3 do not represent any saving for this business over a 10 year period (0%).

Case Study 3

A large trucking company (operating over 100 vehicles) offering specialised transport services throughout Australia. This operator indicated that the degree of anticipated annual savings in their total direct costs will vary between options, from 4.97% in option 2 and 3 to 11.81% in option 4.

It has identified that if either option 2, 3 or 4 are adopted, a saving of 3.82% under option 2 and 3, or 9.08% under option 4, will be made on their total cost over 10 years. This estimate of potential savings is made on assumption that productivity will be increased under each of the various options to varying degrees. At the same time, a proportion of administration staff time could be saved to perform activities that will enhance their efficiency in day to day operations.

The above case studies illustrate that the benefit associated with a reduction in administrative effort, is expected to exist for different size operators and the quantum of savings will depend on the each participants business structure and processes. These case studies also indicate that the benefits to be realised under option 2 and 3 are of the same magnitude and that option 4 maximises the likely benefit associated with a reduction in administrative effort.

5.1.2 Benefit 2 - Reduction to industry in regulatory and operational burden relating to vehicle compliance

For option 3 and 4, industry participants identified that uniform heavy vehicle laws and regulation would enable the same standard for vehicle compliance to apply in all jurisdictions. Industry anticipates that fully realised, this would result in a vehicle that is compliant in one jurisdiction, automatically being compliant in all other jurisdictions. This is expected to reduce barriers for industry participants to operate across jurisdictions.

A reduction in these barriers would likely increase the productivity of existing heavy vehicles by allowing existing heavy vehicles to operate outside their current range of compliance, subject to any transition costs. Even the partial alignment of heavy vehicle requirements, resulting from uniform law, is expected to provide a net benefit, albeit a lesser benefit. This benefit accrues to both interstate and intrastate operators directly.

For example, an alignment would potentially decrease fleet set-up costs, where operators are currently running multiple heavy vehicle types and configurations in order to operate in more than one jurisdiction. Alternatively, an alignment would decrease the requirement to interrupt operations in order to reconfigure or reload a vehicle to ensure compliance.

This benefit would be maximised under a single national regulator administering uniform law, as outlined in option 4. The benefit is expected to be realised, to a lesser extent, under option 3 with the introduction of national uniform law only. This benefit is less likely to be realised under option 2 as there is no requirement for legislative change.

Option	Expected Benefit
Option 2	×
Option 3	✓
Option 4	✓✓

The following case study, albeit for a small operator, illustrates that the cost associated with compliance with existing regulations appears to be significant. This case study also shows that the likely benefit associated with the transition to option 4 is also significant in terms of this industry participant's cost structure. The consultations indicated that this benefit, particularly under option 4, should translate to cost savings for participants. However, at this stage the quantum can not be extrapolated from the data provided by industry participants.

Case Study 4:

A small trucking company (operating less than 10 vehicles) in the southeast region of Australia, has spent approximately $250,000 in one-off capital costs over the past year to adjust all their equipment, including purchasing new trucks to comply with the regulations of the various jurisdiction that they operate in. This one-off vehicle compliance cost was equivalent to approximately 24% of that company's total annual direct operating cost for that year.

This small operator also indicated an anticipated 60% saving on their total direct costs under option 4. They did not provide a similar estimate of savings under option 2 or 3.

5.1.3 Benefit 3 – Reduction in the proportional costs of compliance associated with a compliance-focussed business model

Industry participants indicated that in practice, most business models currently focus heavily on compliance, rather than business opportunity. Because existing business models are tailored around compliance, industry participants identified that the heavy vehicle industry carries a disproportionate cost of compliance in comparison to other industries.

The move to uniform model law is expected to reduce this proportion of cost associated with compliance.

This is a particularly onerous burden for interstate operators, as compliance is a prevailing business requirement of their operating models given they operate under multiple jurisdictions.

Under option 3 and 4, the implementation of uniform model law and associated streamlining of jurisdictional administrative processes would allow businesses, in particular interstate operators, to adopt more flexible and responsive efficiency-based business models, that are compliant with uniform legislation.

This benefit is different from benefit 2 (section 5.1.2) in that it is creates benefits directly as a result of businesses being able to adapt their business models to maximise their operational efficiency in complying with one jurisdiction's uniform model law versus multiple jurisdictions with varying interpretations of model law.

It is likely that this is benefit would be maximised under option 4 with a single national regulator. It would also be realised in option 3 with the extent depending on the final content of the "black letter" uniform law. It is not likely to be realised to a significant extent under option 2 because there is no certainty of any change to existing legislation and regulation.

Option	Expected Benefit
Option 2	×
Option 3	✓
Option 4	✓✓

The following case study demonstrates industry participant views that there is a benefit associated with the shift from a compliance focused business model and the benefit is likely to be maximised under option 4.

Case Study 5:

A large trucking company (owning over 100 vehicles) operating across Victorian state borders indicated an anticipated annual saving on compliance functions alone of 4% for option 2, 16% for option 3 and 20% for option 4 of their total compliance costs.

These compliance savings are part of the company's wider estimated annual savings of 2.82% and 11.29% and 14.11% of total direct costs under option 2, 3 and 4 respectively.

For this business, this equates to a saving of approximately 1.94 % of their total costs (including both direct, indirect as well as associated externalities) under Option 2 and a 7.77% total cost saving under option 3, over a ten year period. Under option 4, there is an estimated saving of 9.71% of their total cost over a 10 year period.

5.1.4 Summary of Case Studies

The following table is a summary of the case studies used in this analysis. This summary shows that the saving for each option varies by case study, however, on a line by line basis, option 4 appears to consistently generate the greatest saving irrespective the size of the participant or the basis of the analysis.

Category	Company Size (Number of Heavy Vehicles)	Base	Option 2	Option 3	Option 4
Quantified Benefits					
Case Study 1 (in % savings)	Medium (<100)	10 years total cost*	0.13%	0.13%	1.01%
Case Study 2 (in % savings)	Large (>100)	10 years total cost*	0%	0%	2.5%
Case Study 3 (in % savings)	Large (>100)	10 years total cost*	3.82%	3.82%	9.08%
Case Study 4 (in % savings)	Small (<10)	Total direct cost	N/A	N/A	60%
Case Study 5 (in % savings)	Large (>100)	10 years total cost*	1.94%	7.77%	9.71%

Table 28: Summary of identified percentage savings from indicative case studies by company size

*** The total cost over 10 years includes direct, indirect and associated externalities**

5.2 Quantifiable, but not monetised benefits

No benefits were characterised as quantifiable but not monetised. This was because the information provided through the data collection period was either monetised or not quantifiable.

5.3 Qualitative, but not quantifiable or monetised possible benefits

The following benefits are qualitative in nature, but can not be quantified or monetised at this point in time. It is possible these benefits would be able to monetised or quantified once further detail on the form, content or scope of the regulatory reform is developed through further evaluation.

5.3.1 Benefit 4 – Centralisation of information and statistics leading to improvement in policy and decision making

Under option 4, the creation of a national regulator with sole jurisdiction for the administration of the regulation of heavy vehicles could enable increased administrative efficiency in information collection and data management from a national perspective. This would likely result in better access, quality and consistency in collected heavy vehicle data. As a result it is likely that better information would be available for more appropriate, targeted decision making. For example, industry participants indicate that the potential currently exists for participants to avoid penalties by operating between the demarcations of existing jurisdictional regulatory arrangements as some operators exploit limitations in data sharing and availability. This would curbed by the presence of centralised information and statistics.

It is possible that some level of this benefit may be achieved by option 2 with a non-statutory body collecting data from jurisdictions, although this would be realised to a lesser extent than under option 4 given the non-statutory nature of the body under option 2. The benefit is expected to be maximised under option 4 as the national regulator would have the administrative requirement to collect this centralised data and statistics. It is not anticipated that there will be a significant benefit of this type under option 3 in comparison with the base case.

Option	Expected Benefit
Option 2	✓
Option 3	×
Option 4	✓✓

5.3.2 Benefit 5 – Consistent policy and interpretation of heavy vehicle legislation and regulation

Industry participants identified the implementation of uniform national legislation of the same content, combined with consistent policy and interpretation, promoted by a national regulator, could lead to increased consistency and increased compliance. This would have a benefit of providing increased certainty of outcomes for industry participants. This is a result of possible decreases in 'accidental' non-compliance related to a lack of awareness or misinterpretation from participants operating under similar regulation and legislation across multiple jurisdictions. Any new compliance regimes related to uniform law are likely to result in improved safety outcomes, while decreasing enforcement and legal costs due to the certainty around the results of non-compliance across jurisdictions.

Under option 2 the benefit is expected to be realised depending on the extent to which the non-statutory agency is able to promote harmonisation of law, administration and interpretation between jurisdictions. Under option 3 this benefit could be realisable, as the "black letter" law would be the same in all jurisdictions, however the exact detail of the law would impact the degree of flexibility in administration and interpretation open to the individual jurisdictions. Under option 4 this benefit is expected to be maximised as the single national regulator will be the sole body administering uniform national law.

Option	Expected Benefit
Option 2	✓
Option 3	✓
Option 4	✓✓

5.3.3 Benefit 6 - Centralisation of approaches to, and streamlining of, heavy vehicle legislation

Industry participants identified that the centralisation of approaches to, and streamlining of, heavy vehicle legislation could enable better alignment of specific heavy vehicle legislation and regulation with other overlapping legislation (e.g. occupational health and safety, environmental and fatigue laws, industrial award instruments, animal welfare etc). This may improve the process for incorporating and realising outcome-focussed elements within legislation resulting in an overall improvement in productivity and safety in comparison to the base case. Where these result in greater consistency of multiple legislative instruments, industry participants suggest compliance will be easier to understand and achieve, offering similar flow-on effects in safety and productivity, from an industry perspective. Further benefits may be obtained if within legislation consideration is given to the treatment of operating buses versus trucks. Industry participants suggest such separation in legislation would achieve greater efficiency, safety as well as increased ability to comply.

It is likely that this benefit would be maximised under option 4, owing to the role of the national regulator in assisting existing bodies such as the NTC to centralise approaches to legislative development. This benefit is expected to be realised under option 2 to the extent the non-statutory body can facilitate similar cooperation with existing parties. Similarly, this benefit may be realised under option 3, depending on the final content of the "black letter" law and the effectiveness of existing and proposed mechanisms for amending that law once in place.

Option	Expected Benefit
Option 2	✓
Option 3	✓
Option 4	✓✓

5.3.4 Benefit 7 – Improvements in responsiveness and flexibility of regulation

Industry participants anticipate that uniform regulation under a national regulatory regime will be more responsive to developments in technology as well as government and community agendas in relation to community concerns, such as safety and the environment. Government and industry participants anticipate that heavy vehicle legislation and regulation would be updated in a faster and less costly manner. This benefit is expected to improve outcomes for productivity, safety, environmental protection and social effects.

This benefit is expected to be maximised under option 4 as the national regulator will be able to respond in a timely manner to progress required legislative development using existing mechanisms, as opposed to the base case. This benefit can be realised under option 3, through the consistency of "black letter" law and the mechanisms outlined to update the legislation in the RIS, however probably not to the same extent as option 4. This benefit is not likely to be realised to a significant extent under option 2. This is a result of jurisdictions maintaining their own body of legislation so that a consistent, timely response to amend legislation would require full participation from each jurisdiction to achieve consistent change.

Option	Expected Benefit
Option 2	×
Option 3	✓
Option 4	✓✓

5.3.5 Benefit 8 – Improved stakeholder input into developing targeted legislation and outcomes

Industry participants identify that a single national regulator would improve the ability of industry and other stakeholders to provide input into the development of policy and regulations. In addition, the composition of the board of the national regulator which may include industry representation would likely increase the voice of industry in the administration of heavy vehicle regulation. Industry participants anticipate these changes may lead to focussed regulator advice targeting areas of industry concern. There is an expectation that such an increase in industry's input to safety, environmental and productivity decision-making would produce outcomes that are easier, less costly or less resource intensive for industry to comply with while the intended benefit. Industry participants consider that this benefit is only realisable under option 4 with the creation of the national regulator and its board.

Option	Expected Benefit
Option 2	×
Option 3	×
Option 4	✓

5.3.6 Benefit 9 – Creation of centres of excellence for heavy vehicle matters

The creation of either the national regulator or non-statutory body could consolidate expertise from all state and territory jurisdictions creating a centre of excellence for heavy vehicle matters. This could also operate as a focal point for consultation and interaction with heavy vehicle related industries and bodies. The pooling of heavy vehicle expertise and knowledge in such a body would result in increased efficiency in addressing heavy vehicle issues leading to improvements in regulatory responses, taking into account industry perspectives.

This benefit would be maximised under option 4 with the creation of the national regulator as the centre of excellence as it would reduce the number of heavy vehicle regulators from nine to one. Under option 2, this benefit will likely be achieved in however, to a lesser extent as the non-statutory body's effectiveness is determined through its final activities. The absence of a national co-ordinating body with a specific regulatory role reduces the effectiveness of option 3 in realising this benefit.

Option	Expected Benefit
Option 2	✓
Option 3	×
Option 4	✓✓

5.3.7 Summary of unquantifiable benefits

The following table summarises the unquantifiable benefit raised from the CBA. From this summary it is evident that implementation of options 2 and 3 have the potential to realise some of the benefits identified during the consultations. However, option 4 is considered to have the potential to realise all of the identified monetised and qualitative benefits and under the implementation of this option, the benefit is likely to be maximised, particularly in terms of efficiency and productivity.

Category	Option 2	Option 3	Option 4
Unquantifiable Benefits			
Benefit 1	✓	✓	✓✓
Benefit 2	×	✓	✓✓
Benefit 3	×	✓	✓✓
Benefit 4	✓	×	✓✓
Benefit 5	✓	✓	✓✓
Benefit 6	✓	✓	✓✓
Benefit 7	×	✓	✓✓
Benefit 8	×	×	✓
Benefit 9	✓	×	✓✓

Table 29: Summary of identified unquantifiable benefits

5.3.8 Other benefits

It should be noted that any change in the regulatory model could impact road usage. This potential benefit is not specifically covered in this CBA as further details of the operating models would be required prior to make a more informed assessment as to the magnitude and impact of the potential benefit.

A change in the regulatory model could also impact on road safety manifesting in positive benefits. These potential benefits are not specifically covered in this CBA as they would only be assessable once the final content of the uniform model law and the power of the national regulator are better defined.

5.4 Unquantifiable benefit offsets

Throughout the course of the data collection period some unquantifiable benefit offsets were identified. These offsets were not able to be either monetised or quantified at present but were considered in the assessment of the net benefits.

The following summarises the key offsets raised by industry participants including:

- Loss of local variations, concessions, seasonal measures, exemptions etc, for interstate and intrastate operators;
- An additional layer of bureaucracy under option 2 and 4 for inter and intrastate operators;
- National uniform law may reduce the flexibility and responsiveness of the regulator and legislation and actually result in limited access to regulators for peak bodies, representative groups, and intrastate operators; and
- National law may unevenly affect certain industry sectors and jurisdictions where the majority of heavy vehicle operations are intrastate.

It is noted that some of these issues were raised in the jurisdictional submissions to the RIS. Most considered that these issues could be addressed in the final detail of any regulatory change. As such, it is recognised in most jurisdictional submissions that these issues are negotiable. The industry submissions presented a very broad range of views with a number of intrastate operators and representative bodies highlighting the potential for these offsets to impact their operations should the reforms proposed in the RIS proceed.

In the development of the operating model supporting any of the options, these offsets should be contrasted against the likely positive, qualitative benefits in considering the value and likelihood of each benefit.

6. Comparison

In any CBA, the option with the highest net benefit should be the preferred option. The determination of the highest net benefit is based on an assessment of the costs, benefits and likelihood of realising either. In this CBA, the assessment of the highest net benefit is based on a combination of the lowest cost option and the greatest quantifiable benefit, taking into consideration the likelihood of achieving identified qualitative benefits.

As there is no identifiable net increase in the costs or benefits for the base case (option 1), this option is not considered here in the comparative analysis.

6.1 Illustrative option comparison

The following case study provides an example of the effect of the estimated percentage increase in costs is offset against over the base case.

Case Study 3 - Revisited:

A large trucking company (operating over 100 vehicles) offers refrigerated transport throughout Australia. It has identified that if either option 2, 3 or 4 are adopted, a net saving of 4.56%, 4.51% or 11.42%, respectively, will be made on their total current direct cost. This estimate of potential savings is made on assumption that productivity will be increased under each of the various options to varying degrees. At the same time, a proportion of administration staff time could be saved to perform activities that will enhance their efficiency in day to day operations.

This is only an indicative scenario based on survey data and provides a useful insight into the potential net benefit from the implementation each option in an industry participant context. It identifies that, after accounting for both transitional and additional costs of regulation under the various options, option 4, is likely to provide the greatest net benefit for this company, based on their data and assumptions.

6.2 Comparison of costs and benefits

6.2.1 Costs

Section 4.3 contains a summary of the incremental costs associated with each option in comparison to the base case. The summary of the percentage increase in costs as outlined in Table 27 demonstrates that amongst all options in comparison to the base case, option 4 at 0.39% increase in costs over the base case, represents the smallest percentage increase in costs over the base case compared to option 2 and 3. This represents the lowest threshold that quantified and unquantifiable benefits would have to exceed in order to demonstrate that Option 4 represented the preferred option.

6.2.2 Quantifiable Benefits – Case Studies

Section 5.1.4 summarises the percentage savings derived from each of the case studies and is presented in Table 28. This table illustrates that, irrespective of company size, Option 4 is likely to provide the estimated greatest percentage savings against the base case, in comparison to Option 2 and 3. These case studies exemplify the change estimated by industry survey respondents relative to their business operations and serve as an example of possible percentage savings possible across industry participants of various sizes.

6.2.3 Unquantifiable Benefits

Section 5.3.7 provides a summary of unquantifiable benefits. The table included in this section is presented to show on a line by line basis the comparison of each item with its

alternative option to enable an assessment of the relative comparative significance of each individual line item, by option, in comparison to the base case.

On a line by line basis, it appears that under Option 4 the benefits are maximised (efficiency and productivity) in comparison to the base case.

6.2.4 Summary

Based on the information provided, option 4 appears to be the preferred option in comparison to the base case. Option 4 has the lowest incremental cost increase and the greatest identified quantifiable and qualitative benefits taking into consideration the likelihood of achieving those benefits.

7. Conclusion

The analysis in the preceding sections of this report, indicates that the preferred option for future heavy vehicle regulation, registration and licensing is option 4. This option is expected to involve the aggregation and consolidation of the existing heavy vehicle law with development of law making provision for variations that enhance local productivity, and over time, pricing and/or network access. Under option 4, the law would be administered by a statutory National Heavy Vehicle Regulator, while the responsibility for the regulatory policy, and development of amendments to uniform law, would remain with the NTC. Option 4 is described as retaining the existing government frameworks for input from jurisdictions through the Australian Transport Council.

Option 4 is preferred amongst all options to the base case for a number of reasons. First, although the cost analysis indicates all options are likely to result in an increase in costs (compared to the base case), option 4 is expected to be the least costly to implement and maintain. This conclusion was drawn through quantification of incremental costs of the options carried out via the consultation process.

Secondly and more importantly, the benefits of a change to heavy vehicle regulation are expected to be maximised under option 4, as opposed to all other options and to the base case (status quo). With regard to quantifiable benefits, the consultation process provided some case studies that indicate option 4 is likely to result in the greatest net saving/net benefit to the industry. In addition, for non-quantifiable possible benefits, option 4 is again expected to result in the greatest benefit, and the greatest likelihood of achieving the identified benefits.

The varied responses (due to businesses being geared differently to address current heavy vehicle regulation), and the nature of the industry (i.e. a large number of respondents still represent only a small fraction of the total industry) meant that no single figure could be extrapolated to quantify the benefit to the whole industry. As illustrated by the case studies, when compared to the industry cost increase, incremental savings expected to result from adaptation of option 4 are expected to outweigh the incremental cost of the option.

When combined with the numerous non-quantifiable, and possible future benefits, the weight of evidence points to adaptation of option 4 resulting in a significant net benefit over the base case. This net benefit identified is to Australia as a whole. Given the diverse range of operators across the country, the varying current legislation, and uncertainty over the exact make-up of future legislation, the distribution of the benefit across various jurisdictions is not possible at this point in time.

Appendix A Methodology

In approaching the cost benefit analysis, the following methodology was applied.

1. Project Inception - confirm the scope and expectations and develop a clear, consistent understanding of the background and work to date.
2. Initial Data Collection –confirm data requirements and design data collection template in conjunction with DITRDLG with input from a jurisdictional representative and an industry peak body representatives. Release data collection template via the collection methods approved by DITRDLG to streamline the collection process and commence actual collection as early as possible, to meet the timeframes for this engagement.
3. Site Visits, Research and Interviews - obtain first-hand information in person from relevant government and industry parties in the states and territories, enabling the engagement to obtain a deeper understanding of costs, issues, concerns and hurdles, and also benefits and opportunities from the industry and state/territory perspective (as well as the NTC). Research to obtain other relevant data required for cost and benefit assessment.
4. Costing and Data Analysis - analysis of all the information obtained, quality control, data queries and assessment of the fully developed current cost picture for industry and government.
5. Cost Benefit Analysis - analysis to identify and quantify the anticipated costs, savings and benefits from operating a single national regulator, including the costing of the single national regulator. Comparative assessment of the options from a cost/benefit perspective.
6. Project Conclusion – reporting and presentation of results.

The timeline for this project is as follows:

		Start/End	Start/End	Start	Start	End	End
		1/12/2008	15/12/2008	2/03/2009	16/03/2009		
Phase		8/12/2008	23/02/2009			23/03/2009	6/04/2009
1	Project Inception						
2	Data Capture						
3	Site Visits						
4	Cost & Data Analysis						
5	Costing Benefit Analysis						
6	Project Conclusion						

Appendix B Data Sources

Table 1:

Source	Instrument	Data Type
State and Territory governments	► Survey using standard data collection template. ► Workshop to consider assumptions to underpin the data. ► Jurisdiction-by-Jurisdiction site visits/teleconferences and support to complete the templates. ► Submissions. ► DITRDLG and all state and territory government agency websites.	► Current cost of development and maintenance of regulation, service provision, enforcement and related corporate support and associated costs. ► Estimated change in costs under each of the potential future state options (2, 3 and 4). ► Assumptions, qualifications and limitations relating to all data. ► Benefit/challenge information.
Truck Industry via: ► the DITRDLG website; ► peak bodies and representative groups	► Survey using standard data collection template. ► Workshops with representative groups to collect data, case studies, benefits, challenges and other relevant information. ► Individual phone calls and visits to operators to collect data, case studies, benefits, challenges and other relevant information. ► Submissions. ► DITRDLG Consultation Sessions. ► ATA, NatRoad, Owner Drivers Association websites. ► Peak bodies and representative groups.	► Current cost of operation specifying the total and incremental costs associated with compliance, maintenance/modification, enforcement, administration, etc and related corporate support and associated costs. ► Estimated change in costs under each of the potential future state options (2, 3 and 4). ► Assumptions, qualifications and limitations relating to all data. ► Benefit/challenge information.
Bus Industry via: ► the DITRDLG website; ► peak bodies and representative groups	► Survey using standard data collection template. ► Workshops with representative groups to collect data, case studies, benefits, challenges and other relevant information. ► Individual phone calls and visits to operators to collect data, case studies, benefits, challenges and other relevant information. ► Submissions. ► DITRDLG Consultation Sessions. ► peak bodies and representative groups.	► Current cost of operation specifying the total and incremental costs associated with compliance, maintenance/modification, enforcement, administration, etc and related corporate support and associated costs. ► Estimated change in costs under each of the potential future state options (2, 3 and 4). ► Assumptions, qualifications and limitations relating to all data. ► Benefit/challenge information.
Other Groups	► Submissions. ► DITRDLG Consultation Sessions.	► Benefit/challenge/case study information.
Other Sources	► ABS, BITRE	► Cost and volume information and statistics

Appendix C Non-Binding Master Assumptions List

NOTE: These assumptions have been modified to remove the assumptions that were not included in the final analysis and hence, the costing exercise undertaken by the jurisdictions.

Option 2

The assumptions detailed in this option are based on a scenario that envisages the maximum change to the existing environment to ensure that all possible costs are covered. These assumptions have been derived by Ernst & Young from available sources of information, including the RIS, for the purpose of informing the RIS Cost-Benefit Analysis.

Definition of option : A 'non-statutory' national body supported by jurisdictions, developing 'best-practice' models and systems to achieve greater uniformity in the administration of law. This option focuses on greater uniformity in the administration of the body of law operating in individual jurisdictions.

RIS Assumptions

Law

- Existing bodies of law will remain in place;
- Administration will continue to be undertaken by jurisdictions; and
- Improvement in administration and bodies of law through an IGA. Programs undertaken by NTC and possible ATC-approved outcomes implemented by jurisdictions under the model law process.

Non Statutory National Body - 'National Heavy Vehicle Practice Improvement Agency'

- Assume new non-statutory body established;
- New non-statutory body to assist jurisdictions in development of standard procedures, systems and models to administer laws ;
- Activities include manage PBS Review Panel, National Heavy Vehicle Accreditation Scheme initiatives and fatigue panel and dangerous good panels;
- Agency would collect and analyse heavy vehicle data on a national basis to facilitate more effective national approaches including approaches to compliance and enforcement;
- Agency would develop nationally applicable standards in consultation with jurisdictions to enhance consistency of administration of heavy vehicle laws across jurisdictions including handling and application process of access permits and formulation of conditions for exemption notices;
- Agency would be one-stop shop for access permits and other co-ordinating administrative functions across borders in conjunction with asset owners;
- Agency would undertake research into heavy vehicle trends, business process models and legislative reviews to inform regulators;
- Agency would provide central reference point for information to industry, jurisdictions and other stakeholders including integrated information about legislation, approved access routes and information about differences in law and administrative practices across jurisdictions;
- Agency would provide general information and assistance including liaison and stakeholder communication (including to policy development and review bodies such as NTC);

- Specific Projects as agreed by jurisdictions (examples in RIS).

Additional assumptions required assuming a maximum change scenario

- Assume Non-statutory agency would undertake all activities listed above as identified in the RIS;
- Assume an Inter-Governmental Agreement (IGA) is agreed which sets out the particular provisions and operation of the non-statutory agency (such as, role and responsibilities and funding support required);
- Assume the National Regulator has an upper limit of 20 staff and associated operating and personnel budget;
- Assume that each jurisdiction will provide the required information to the non-statutory body in order for the body to undertake its identified activities;
- Assume the cost of each jurisdiction's IT systems will be borne by each jurisdiction (including registration, licensing systems as well as any compliance, inspection and enforcement databases);
- Assume the compliance and enforcement regimes in each jurisdiction are still maintained by each jurisdiction;
- Assume the registration and licensing regimes in each jurisdiction are still maintained by each jurisdiction.

Option 3

NOTE: These assumptions have been modified to remove the assumptions that were not included in the final analysis and hence, the costing exercise undertaken by the jurisdictions.

The assumptions detailed in this option are based on a scenario that envisages the maximum change to the existing environment to ensure that all possible costs are covered. These assumptions have been derived by Ernst & Young from available sources of information, including the RIS, for the purpose of informing the RIS Cost-Benefit Analysis.

Definition of option: Uniform national law adopted by all jurisdictions.

RIS Assumptions

Law

- Implementation of uniform 'black letter law' throughout jurisdictions;
- Operation to be undertaken by individual jurisdictional agencies exercising powers under the law of the relevant jurisdiction;
- Network access to stay with each jurisdiction;
- No registration scheme established under Commonwealth Law;
- Issue of registration to be decided (existing initiatives and revenues);
- Issue of licensing to be decided (existing initiatives); and
- Each jurisdiction would retain responsibility for the administration of the law in each jurisdiction.

Non Statutory National Body - 'National Heavy Vehicle Practice Improvement Agency'

- Aggregation and consolidation of existing heavy vehicle law covering:
  - registration
  - vehicle standards
  - mass and loading
  - oversize and over-mass vehicles
  - restricted access vehicles
  - higher mass limits
  - concessional mass limits
  - fatigue management
  - heavy vehicle speeding
  - intelligent access program
  - compliance and enforcement
- Assume template law enacted by one host jurisdiction, then applied as it is in other jurisdictions;
- Assume complementary laws and reference of powers mechanisms are not applicable as no Commonwealth legislation will be enacted;
- Assume legislative timetables to be addressed through existing processes and procedures;
- Assume Ministers would agree to content of agreed national law through the Australian Transport Council (ATC) process and would be responsible to their Parliament and communities for enforcement and compliance as well as funding for administration and operation of law within their jurisdiction;
- An Inter-Governmental Agreement (IGA) is agreed which sets out particular provisions (such as, legal and operational definitions, authority of relevant courts, procedures for uniform law amendments and associated timeframes);
- Assume agreement of amendments to model law as set out by the IGA to be decided at the ATC;
- Assume local productivity provisions will be provided for, with sunset clause, and the framework for deciding local productivity provisions would be set out in the IGA;

Additional assumptions required assuming a maximum change scenario

Law

- Assume an initial stock-take of gaps in laws and regulations would be undertaken by each jurisdiction once final content of agreed national law is decided.

Regulator

- No new non-statutory body or National regulator.

Legislative and Policy Assumptions

- Assume NTC and input to policy development work will be conducted by jurisdictions on the 'current basis'; and
- Assume jurisdictions are responsible for implementing the required legislative changes to implement the agreed, uniform law.

Systems Administration and Service Delivery

- Assume the cost of implementing any changes to a jurisdiction's IT systems will be borne by each jurisdiction (including changes to registration, licensing systems as well as any compliance, inspection and enforcement databases);
- Assume service delivery would be through existing state agency mechanism and shopfront/front counter interfaces and the costs of these would be borne by each jurisdiction.

Compliance and Enforcement

- Assume compliance and enforcement laws are uniform across all jurisdictions;
- Assume existing police roles and arrangements in enforcing heavy vehicle laws.

Other Costs and Questions

- Assume education and training costs regarding the transition to uniform laws would borne by each jurisdiction.

Option 4

NOTE: These assumptions have been modified to remove the assumptions that were not included in the final analysis and hence, the costing exercise undertaken by the jurisdictions.

The assumptions detailed in this option are based on a scenario that envisages the maximum change to the existing environment to ensure that all possible costs are covered. These assumptions have been derived by Ernst & Young from available sources of information, including the RIS, for the purpose of informing the RIS Cost-Benefit Analysis.

Definition of option: Uniform national law administered by a single, national statutory regulator.

RIS Assumptions

Overview

Full implementation of the framework agreed by the ATC

- This would involve the aggregation and consolidation of the existing heavy vehicle law, including registration; vehicle standards; mass and loading; oversize and over-mass vehicle standards; restricted access vehicles, higher mass limits; concessional mass limits; fatigue management; intelligent access program, heavy vehicle speeding and compliance and enforcement;
- Development of provisions for variations that enhance local productivity, and over time (and with COAG/ATC agreement), pricing and/or network access;
- Law of the same content would apply across all jurisdictions being administered by one body;
- An Inter-Governmental Agreement (IGA) is agreed which sets out particular provisions (such as, requirements for general governance/oversight of the National Regulator, the role of resources such as state police in compliance and enforcement roles and/or setting out the framework for any Local Productivity provisions).

Mechanisms for achieving Uniform National Law

- Assume a reference of powers as the mechanism for achieving:
  - uniform national laws;
  - Commonwealth registration regulation; and
  - remaining heavy vehicle laws.
- Assume registration charges collected under Commonwealth legislation would go to Commonwealth. As required by the ATC decision, these would be distributed to jurisdictions on the 'current basis'.

Mechanisms for National Heavy Vehicle Regulator

- Assume legislation enacted by Commonwealth to establish the National Heavy Vehicle Regulator with a reference of powers for other laws.
- Assume the national regulator would have appropriate powers and functions conferred by national heavy vehicle law applying in each jurisdiction, including registration (given constitutional issues associated with alternative options).
- Assume state jurisdictions would have delegated powers for administration of heavy vehicle law.
- Assume police and transport inspectors would exercise powers for enforcement and compliance in each jurisdiction, and laws would be enforced in the courts of each jurisdiction. Assume the changes would provide for seamless appearance of law and regulation to industry participants across all jurisdictions.

Law

- Assume aggregation and consolidation of existing heavy vehicle law covering:
  - registration
  - vehicle standards
  - mass and loading
  - oversize and over-mass vehicles
  - restricted access vehicles
  - higher mass limits
  - concessional mass limits
  - fatigue management
  - heavy vehicle speeding
  - intelligent access program
  - compliance and enforcement
- Assume uniform business rules and regulations for administration of law.

National Regulator

- Assume the establishment of a National Regulator with:
  - an upper limit of 60 staff;
  - a Board comprised of a diverse number of stakeholders (including a jurisdictional representative, a representative from relevant industries, the business and commercial sector and/or unions);
  - development of 'service-level' type agreements (SLAs) between the regulator and each jurisdictional agency covering regulatory outcomes, resourcing and service levels;
  - the development of the relationships with enforcement and compliance resources (including state police services) to be agreed in the IGA and SLA; and
  - likely differences in the individual agreements between the national regulator and each state and territory agency.
- Assume the National Regulator would:
  - administer the national heavy vehicle registration scheme;
  - development of guidelines on decision making including the framework for local variations to enhance productivity;
  - facilitate the services to be delivered through agreements with state jurisdictions;
  - develop key business and operational strategies;
  - provide information dissemination through a single web portal/presence for relevant stakeholders;
  - report to ATC on effectiveness and efficiency of legislative framework;
  - contribute to heavy vehicle policy development;
  - provide network access as set out in the RIS; and
  - build a heavy vehicle dataset based on statistical data.

Additional assumptions required assuming a maximum change scenario

National Regulator

- Assume any SLA between the National Heavy Vehicle Regulator and each state and territory agency would require a description of service level agreement (SLA) for resourcing and service levels and jurisdictions would be required to provide this description.
- Assume the National Regulator has an upper limit of 60 staff (excluding any board costs) and associated operating and personnel budget.
- Assume in the short term existing IT systems in each jurisdiction will be utilised and required to provide relevant information to the National Regulator.
- Assume the funding for each jurisdiction's service level agreements would be based on existing service levels and operating costs in the short term.
- Assume over the longer term there would be some efficiency gained in standardised business processes and administration for heavy vehicles regulation and administration.

Legislative and Policy Assumptions

- Assume local productivity variation decisions will be issued by the National Regulator with asset owner input.
- Assume NTC and input to policy development work will be conducted by jurisdictions on the 'current basis'.

Systems Administration and Service Delivery

- Assume there will be a National Registration Scheme and associated IT system in the longer term.
- Assume there would be a National Permit System and associated IT system in the longer term.
- Assume in the short term service delivery would be through existing state agency mechanisms and shopfront/front counter interfaces.
- Assume the National Regulator would under a national system issue decisions on registration and permits and there would be some involvement of asset owners in the permit decision process.
- Assume there would be a National Heavy Vehicle Inspection System and associated IT system in the longer term.
- Assume there would be harmonisation of inspection regimes.
- Assume there would be a national heavy vehicle fee regime for inspections
- Assume other revenues collected at registration (Rural Fire-Fighting Levy, Ambulance Service levies and Stamp Duty) stay with jurisdictions (recognising this issue is still to be resolved in another forum)
- Assume there would be a National Licensing System and associated IT system in the longer term
- Assume there would be a national heavy vehicle licence based on existing products;
- Assume there would be a standard national fee for a heavy vehicle licence.
- Assume the licence would be a smart card or digital card product in the longer term (leveraged off existing initiatives such as Smart Card Licence Interoperability Protocol and QLD's current smart card Driver Licence project)
- Assume there would be harmonisation of heavy vehicle licence assessment and eligibility assessment processes nationally

Compliance and Enforcement

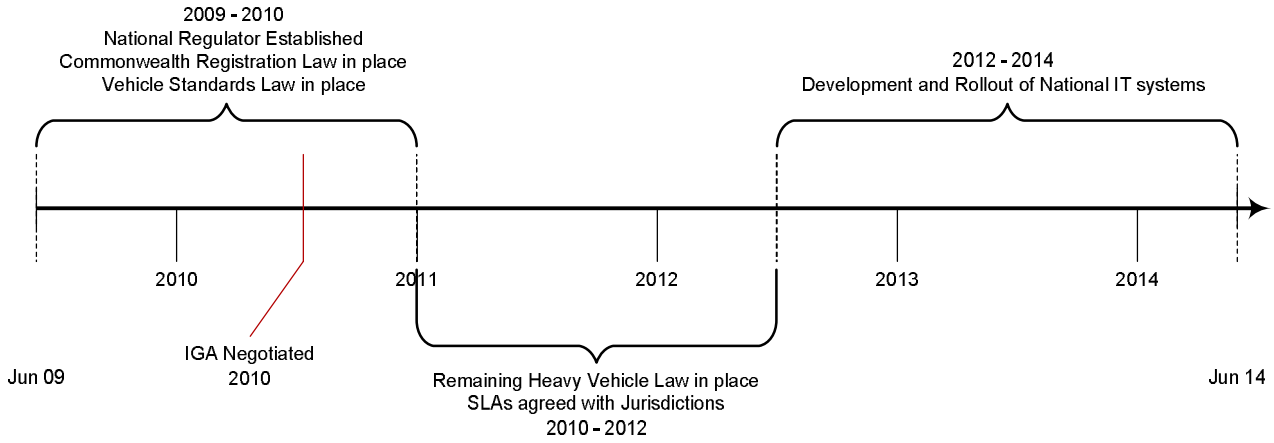
- Assume compliance and enforcement model laws are fully implemented

- Assume there would be a national heavy vehicle compliance and enforcement monitoring system and associated IT system over the longer term
- Assume existing police roles and arrangements in enforcing heavy vehicle laws

Other Costs and Questions

- Assume the National Regulator would standardise education and training for jurisdictional agency staff on national heavy vehicle systems

Possible Timeline



Possible Timeline for Implementation of Option 4

Appendix D Cost Data

Option 1

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
State & Territory Jurisdiction costs	$218,884	$218,884	$218,884	$218,884	$218,884	$218,884	$218,884	$218,884	$218,884	$218,884
NTC, AustRoads, Panel and Commonwealth Costs	$9,190	$9,190	$9,190	$9,190	$9,190	$9,190	$9,190	$9,190	$9,190	$9,190
Transition Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Cost	$228,074	$228,074	$228,074	$228,074	$228,074	$228,074	$228,074	$228,074	$228,074	$228,074
Inflated Total Costs	$236,513	$245,264	$254,339	$263,749	$273,508	$283,628	$294,122	$305,005	$316,290	$327,993
Discounted Cost	$216,647	$204,844	$193,685	$183,133	$173,156	$163,723	$154,803	$146,370	$138,395	$130,856

Table 30: Summary of government costs under base case (FY07/08 dollars)

Net Present Value of Costs (over 10 years) ('000s) = $1,705,611

Option 2

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
State & Territory Jurisdiction costs	$284,137	$284,137	$284,137	$284,137	$284,137	$284,137	$284,137	$284,137	$284,137	$284,137
NTC, AustRoads, Panel and Commonwealth Costs	$9,193	$9,193	$9,193	$9,193	$9,193	$9,193	$9,193	$9,193	$9,193	$9,193
Non-statutory Body	$0	$3,380	$3,380	$3,380	$3,380	$3,380	$3,380	$3,380	$3,380	$3,380
Transition Costs	$1,944	$43	$0	$0	$0	$0	$0	$0	$0	$0
Total Cost	$295,274	$296,753	$296,710	$296,710	$296,710	$296,710	$296,710	$296,710	$296,710	$296,710
Inflated Total Costs	$306,199	$317,528	$329,277	$341,460	$354,094	$367,195	$380,781	$394,870	$409,481	$424,631
Discounted Cost	$280,479	$265,199	$250,751	$237,091	$224,174	$211,961	$200,414	$189,495	$179,172	$169,411

Table 31: Summary of Government costs under option 2 (FY07/08 dollars)

Net Present Value of Costs (over 10 years) ('000s) = $2,208,148

Option 3

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
State & Territory Jurisdiction costs	$288,972	$288,972	$288,972	$288,972	$288,972	$288,972	$288,972	$288,972	$288,972	$288,972
NTC, AustRoads, Panel and Commonwealth Costs	$9,114	$9,114	$9,114	$9,114	$9,114	$9,114	$9,114	$9,114	$9,114	$9,114
Transition Costs	$5,797	$1,758	$1,758	$0	$0	$0	$0	$0	$0	$0
Total Cost	$303,883	$299,844	$299,844	$298,086	$298,086	$298,086	$298,086	$298,086	$298,086	$298,086
Inflated Total Costs	$315,126	$326,786	$338,877	$351,416	$364,418	$377,901	$391,884	$406,383	$421,420	$437,012
Discounted Cost	$288,657	$272,931	$258,062	$244,003	$230,710	$218,141	$206,257	$195,020	$184,396	$174,350

Table 32: Summary of government costs under option 3 (FY07/08 dollars)

Net Present Value of costs (over 10 years) ('000s) = $2,272,530

Option 4

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
State & Territory Jurisdiction costs	$270,466	$154,452	$38,437	$38,437	$38,437	$38,437	$38,437	$38,437	$38,437	$38,437
NTC, AustRoads, Panel and Commonwealth Costs	$8,870	$8,870	$8,870	$8,870	$8,870	$8,870	$8,870	$8,870	$8,870	$8,870
National Regulator	$0	$123,601	$246,707	$246,707	$246,707	$246,707	$246,707	$246,707	$246,707	$246,707
Transition Costs	$12,860	$4,375	$1,371	$0	$0	$0	$0	$0	$0	$0
Total Cost	$292,196	$291,300	$295,384	$294,013	$294,013	$294,013	$294,013	$294,013	$294,013	$294,013
Inflated Total Costs	$303,077	$314,218	$325,845	$337,901	$350,403	$363,368	$376,813	$390,755	$405,213	$420,205
Discounted Cost	$277,556	$262,435	$248,138	$234,619	$221,838	$209,752	$198,325	$187,520	$177,304	$167,645

Table 33: Summary of government costs under option 4 (FY07/08 dollars)

Net Present Value of costs (over 10 years) ('000s) = $2,185,133

Appendix E Sensitivity Analysis

A sensitivity analysis was conducted to assess the impact of uncertainty surrounding key factors considered most likely to impact the relative values of the cost benefit analysis:

- IT costs – the possible IT cost associated wit h the implementation of the national regulator under option 4 which may require a large capital cost associated with the development and deployment of a range of registration, licensing and associated data bases. These costs were unquantifiable at this stage of the analysis however best estimates currently range between $1 million to $200 million dollars. For the analysis a figure of $200 million has been used although this is an arbitrary decision and is used solely for the purposes of understanding the likely impact on the cost benefit analysis.
- Industry cost per net tonne kilometre – the average cost per net tonne kilometre estimated for the purpose of calculating industry's total cost may not be representative of the actual average cost per net tonne kilometre.

The IT cost impacts the relative values of the options in comparison to each other. The industry cost per net tonne kilometre impacts the value of benefits required to be realised under each option to outweigh the identified costs. The sensitivity analysis conducted is compared against the base case, as shown in the table below.

Base case

	Option 2 ($'m)	Option 3 ($'m)	Option 4 ($'m)
Incremental cost of option	503	567	480
Cost of the base case	1,706	1,706	1,706
Total industry cost	121,567	121,567	121,567
Cost increase %	0.41%	0.46%	0.39%

Sensitivity analysis: inclusion of IT cost

This analysis was conducted to test for the sensitivity of the initial results when a high level of IT costs were included as part of the incremental government cost. The assumption was that an arbitrary figure of approximately $200 million dollars in IT costs would be required in the fifth year of the regulatory period under assessment.

Option 4 was chosen for the sensitivity analysis as it currently has the lowest percentage cost increase, though Option 2 and possibly Option 3 may have additional IT costs as well. These have not been investigated here as they were not the preferred option and the sensitivity analysis attempted to assess the relative value of the change compared to the base case.

The analysis shows that the value of benefits needed to be achieved should exceed the increase of 0.49 percent of the cost of new regulation for option 4. Based on the analysis of quantifiable and unquantifiable benefits it is highly likely that the identified benefits would exceed this revised percentage cost increase, particularly as option 4 is the only option where all benefits should be able to be realised and maximised.

Premise: Additional $200m IT cost incurred in year 5 at 9.675% nominal discount rate, incurred in option 4 only.

	Option 2 ($'m)	Option 3 ($'m)	Option 4 ($'m)
Incremental cost of option	503	567	606
Cost of the base case	1,706	1,706	1,706
Total industry cost	121,567	121,567	121,567
Cost increase %	0.41%	0.46%	0.49%

Sensitivity analysis: variations in average industry cost basis

This analysis was conducted to test the sensitivity of the initial results to variations in the average cost per net tonne kilometre that was used for industry in the overall calculation. The assumption tested here was whether or not the cost per tonne kilometre was an appropriate measure of the cost to industry. The sensitivity analysis attempted to assess the relative value of the change compared to the base value over a range of +/- 10%. That is, what would be the effect to the overall percentage cost increase that the value of benefits needed to be achieved should exceed, if the estimate of average cost was inaccurate by a range of +/- 10%? The analysis shows that the value of benefits needed to be achieved varies by only +/- 0.04% under option 2, + 0.05% to -0.04% for option 3 and +/- 0.04% for option 4. These are not significant variances and indicate that if industry costs were higher or lower than calculated in this report, the magnitude of benefits to be realised change, albeit by a small percentage.

Increase total industry cost by 10%

	Option 2 ($'m)	Option 3 ($'m)	Option 4 ($'m)
Incremental cost of option	503	567	480
Cost of the base case	1,706	1,706	1,706
Total industry cost	133,724	133,724	133,724
Cost increase %	0.37%	0.42%	0.35%

Decrease total industry cost by 10%

	Option 2 ($'m)	Option 3 ($'m)	Option 4 ($'m)
Incremental cost of option	503	567	480
Cost of the base case	1,706	1,706	1,706
Total industry cost	110,515	110,515	110,515
Cost increase %	0.45%	0.51%	0.43%

Sensitivity analysis: variations in government cost basis

This analysis was conducted to test the sensitivity of the data received from state and territory jurisdiction and seeks to assess the possible overstatement in the jurisdictional costs estimates. Option 4 was chosen as it was assessed it was assumed to have a reduced policy function for jurisdictions and under option 2 and 3 it would be assumed there should be minimal variation to the base costs aside from transitional costs. Notwithstanding the data provided by the jurisdictions, the assumption is that that under option 4, jurisdictional

costs remain the same as the base case in all functional areas except for the policy areas. Policy areas were assumed to be reduced due to approximately 20% of their base case value, given the role of the national regulator in undertaking these policy-related functions.

On this assumption if the estimated total cost of option 4 based on data provided by state and territory jurisdictions reduces to $202.7 million a year (FY07/08 dollars), the total NPV cost over ten years becomes approximately $1,655 million.

Functional Area	$ 'm
Policy	4.0
Registration and Permits (inc. Inspections)	50.8
Driver Licensing	8.7
Compliance Monitoring & Enforcement	109.0
Education and Information Provision	5.4
Management, Administration, Corporate and IT Support	20.8
Other	4.0
Total	**202.7**

This would result in a NPV cost decrease of approximately $50.2 million in comparison to the base case (assuming the cost of all other functions remain the same as under the base case). Overall this provides a reduction of -0.04% in comparison to the base case. This is a negligible saving in comparison to the base case, assuming that at a minimum, the majority of policy functions are undertaken by a national regulator.

	Option 4 ($'m)
Incremental cost of option	-50.2
Cost of the base case	1,706
Total industry cost	121,567
Cost increase %	-0.04%

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