INDEPENDENT TOLL REVIEW

Motorists First

Executive Summary

July 2024

Acknowledgement of Country

The Independent Toll Review acknowledges the traditional custodians of the land on which we work and live.

We pay our respects to Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of New South Wales.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

The Independent Toll Review is committed to honouring Aboriginal peoples' cultural and spiritual connections to the lands, waters and seas, and their rich contribution to society.

Contents

Preface

The NSW Government requested us to review tolls and to consider reforms that would improve their efficiency, fairness, simplicity and transparency. As well we were asked to consider relevant competition and regulation questions.

In our Interim Report we proposed a significant reform agenda.

That report set out proposals for a better system and we promised a Final Report that would include an implementation path.

Responses to the Interim Report indicated strong community and toll road user support for the direction proposed. There was acknowledgement from concessionaires that a move to network tolling was appropriate, but less agreement on the detail of what that looked like, and on the path to get there.

Consultations and other work since the Interim Report confirm our view that significant reforms are needed. Further, as we said in the Interim Report, reforms are achievable in a way that respects contracts and honours the reasonable expectations of the concessionaires.

Key elements of our reform proposals remain as follows:

- First, as far as possible, the interests of motorists and the public should be put first. In particular, a more unified, fairer, consistent, simpler and improved system of tolls that contribute to a better functioning toll network should be adopted.
- Second, the NSW Government should take back control of tolls. It should establish a State-owned entity NSW Motorways to drive toll reform and to deliver overdue consumer and administrative reforms. It should also focus on opportunities to provide competition (especially for new roads) and better regulation, and to consider whether any fundamental reforms in the system (such as a better 'allocation of traffic risk') should occur. The NSW Government announced its intention to establish such a body in the NSW Budget 2024-2025 and in this report we refer to the new entity as NSW Motorways (rather than 'State TollCo' as we had indicated in the Interim Report). The government role in toll decision-making should be overseen by the Independent Pricing and Regulatory Tribunal (IPART), which should also have a broader role of monitoring the impact of reforms and of promoting greater transparency in relation to tolls.
- Third, legislation will be needed as soon as possible to enable the establishment of NSW Motorways and to give the government power to make timely and final decisions on tolls, and provide for the Revenue Adjustment Mechanism. This mechanism is needed to protect concessionaires from losses and to prevent windfall gains for them from the reforms. Within this framework there should be full consultation with and full participation by concessionaires and other stakeholders in delivering the reforms.

In formulating this Final Report, we have considered submissions and responses to our Interim Report including responses by concessionaires and their investors. Concessionaires and their investors did not make substantial proposals for reform prior to our Interim Report. Following the publication of that report and consultations initiated by us, we received in mid-May, a letter indicating that concessionaire owners wished to cooperate with the NSW Government in delivering network reforms.

After follow-up discussions with the concessionaire owners, we received a further letter which suggested a broad process that concessionaire owners would seek to follow with the government to agree a way forward. It provided some indication of what their model of network tolls might look like. In significant ways this departed from the carefully considered reforms we had proposed. It did not support a unified network approach to tolls, but rather indicated support for an untested 'corridor approach', the details of which were not outlined. They rejected a key idea of fairness which we recommend in our report – a declining distance charge. They did, however, suggest that in principle agreements on new tolling methodology between the State and individual concessionaires could be reached by the end of 2024. Contracts could then be re-negotiated on an individual basis and compensation be provided if necessary to keep them in a value neutral position. The government could request them to identify other funding sources. They suggested implementation of new tolling arrangements could begin by late 2025.

We are not confident that such an approach would yield an outcome in the public interest. Rather there is a danger that this would put the interests of concessionaires first. Under this process, the government itself would be held hostage to the agreement of all the concessionaires and investors involved. It would be a process where nothing could be agreed until all agreed.

We consider that an attempt to adopt this process should occur, but the government should in the meantime legislate to enable it, if necessary, to reach timely and final decisions that would achieve reforms in the public interest and take full account of concessionaire entitlements. We have developed principles and approaches for a Revenue Adjustment Mechanism to protect the interests of concessionaires which could provide a basis for those negotiations.

The question of setting new tolls is the feature of our Interim Report which brought most public attention – understandably – although our view is that the most important part of our Review relates to long-term reforms of the system.

Regarding tolls, we have since done a small amount of additional modelling – the most we could do in the time available. Once again, we have modelled 'bookend' scenarios with each bookend being an 'unlikely' finishing point and with an 'actual' likely to be along the spectrum. It should be appreciated that the Network Tolling A bookend in the Interim Report – despite much emphasis on it by the Transurban response – is unlikely. Network Tolling A assumed that the current injection of taxpayer subsidies of around $400 million in toll relief is returned to Treasury. As a consequence, the tolls modelled under that scenario do not show many winning motorists. The main winner would be the taxpayer!

In our Final Report we have focused on two 'bookends' – and as well have considered the status quo under which no tolls change.

The first of the two models – the Network Toll Restructure model – involves the introduction of network tolls (and the injection of revenues from two-way tolling). We do not favour its adoption without adjustments (that take it closer to the second model below).

The second model – Network Toll Restructure and Reduction – combines a restructure and a general reduction in tolls drawing upon funding sources from within the tolling system discussed in the report. We do not propose moving all the way towards the end of this spectrum, but we favour an outcome closer to it than to the restructure only option. Further refinement of this model will take account of funding source constraints and traffic effects as needed.

Some features of the Network Toll Restructure and Reduction scenario include:

- most motorists and trips are winners
- the main losses are for persons crossing Sydney Harbour who are caught by the introduction of two-way tolling and catch-up tolling

- the broad aim of bringing a degree of relief to Western Sydney motorists is realised, especially regarding longer trips; the model outcomes have been driven in part by the application of a number of additional funding sources not identified or included in the Interim Report. These are discussed in the Final Report and will require further analysis and negotiation
- the modelling results have highlighted the flexibility of the declining distance-based approach coupled with infrastructure charges to respond to different conditions on the network, including congestion hotspots.

We consider it has been of public value to include the results of the preliminary modelling in the Interim Report and now this report. The aim of publicising this was to enable people to learn about the kinds of changes and outcomes, including redistributions, that would be achieved with the introduction of network tolls. The modelling work can be further developed before new network tolls are introduced.

We conclude with the following points:

First, the reform will take some time to implement. We consider first steps could be delivered to the public in 2027 with some of the reforms being transitional and with a further set of changes with the establishment of the Western Harbour Tunnel in 2028 and with yet later changes on the path to a final outcome. A considerable effort is required over that period, and it should be led by NSW Motorways in close consultation with concessionaires and other stakeholders.

Second, we emphasise that during that time some consideration should be given to whether there is a better way of operating the tolling system. Under the present system traffic risk is borne by concessionaires. In other words, if traffic exceeds forecasts – they win and if it is less than the forecast – they lose. To take this risk/opportunity they demand a high toll. There are different approaches to dealing with traffic risk which do not have such a high cost. We consider there is much to be said to a different approach to traffic risk. But this will require time to decide and negotiate.

We consider that reform is especially needed because the present system has diminishing legitimacy in the minds of motorists. The burden of tolls on motorists is likely to grow significantly in coming years and Sydney is already showing signs of toll saturation. Our reforms will deliver greater legitimacy and a better social licence for the system.

Finally, we want to acknowledge the considerable help we received from representatives from NSW Treasury and Transport for NSW (TfNSW) in preparing this report and also the submissions and contributions of many other participants.

Professor Allan Fels AO

Chair

Dr. David Cousins AM

Deputy Chair

Executive summary

A: An introduction and background

1. About this Review

This Review has examined the operation of motorway tolling in Sydney. The Review was established by the NSW Government, in line with its election commitments, to consider options for reform. It has been led independently by Professor Allan Fels AO (Chair) and Dr. David Cousins AM (Deputy Chair) supported by NSW Treasury and TfNSW. Views expressed in the report are those of the Chair and Deputy Chair and not necessarily the NSW Government. The government has indicated that it will respond to the report's recommendations in 2024.[1]

The context for the Review is the increasing community concern about the growing prevalence of tolls as the motorway system continues to expand in Sydney. About $2.5 billion a year is currently spent on tolls by Sydney motorists. Concerns have especially been expressed about the impact of tolls on residents in Western Sydney who have fewer public transport alternatives and often longer distances to travel for work and other activities.

Over the past three decades a comprehensive network of motorways has been developed primarily by governments entering into Public Private Partnership (PPP) agreements with private sector firms to finance, design, build, operate and maintain the motorways. Tolls have been levied by the private concessionaires to recover the costs involved.

The Review was specifically asked to consider the efficiency, fairness, simplicity and transparency of tolls as well as the impact of competition and regulation on tolls.

2. Consultation

The Review has engaged significantly with the public and stakeholders to gather insights and test ideas.

Following the release of the Discussion Paper in June 2023, we conducted extensive public consultation sessions between 14 June and 28 July. We engaged over 700 groups and individuals, including the general public, businesses, academics, local councils, government agencies, peak bodies, local business chambers, member organisations, interest groups and industry stakeholders. We held three public hearings in Sydney, Parramatta and Penrith which featured presentations from key stakeholders like Transurban, NRMA and various local councils. In total we received 1120 submissions from the public and 51 from stakeholders alongside 21 private meetings.

After the Interim Report was released in March 2024, we initiated a further round of consultations to gather feedback on our findings and recommendations presented in the report. This phase of consultation received 117 written submissions from diverse groups, including the general public, academics, think tanks, private consultants and toll road operators. We also held an academic roundtable in April 2024 and multiple meetings and interactive sessions with stakeholders, concessionaires, investors and debt financiers to discuss emerging concepts and gather additional insights. The NSW Government's 'Have Your Say' portal enabled us to gather feedback from the public on the key recommendations and findings from the Interim Report.

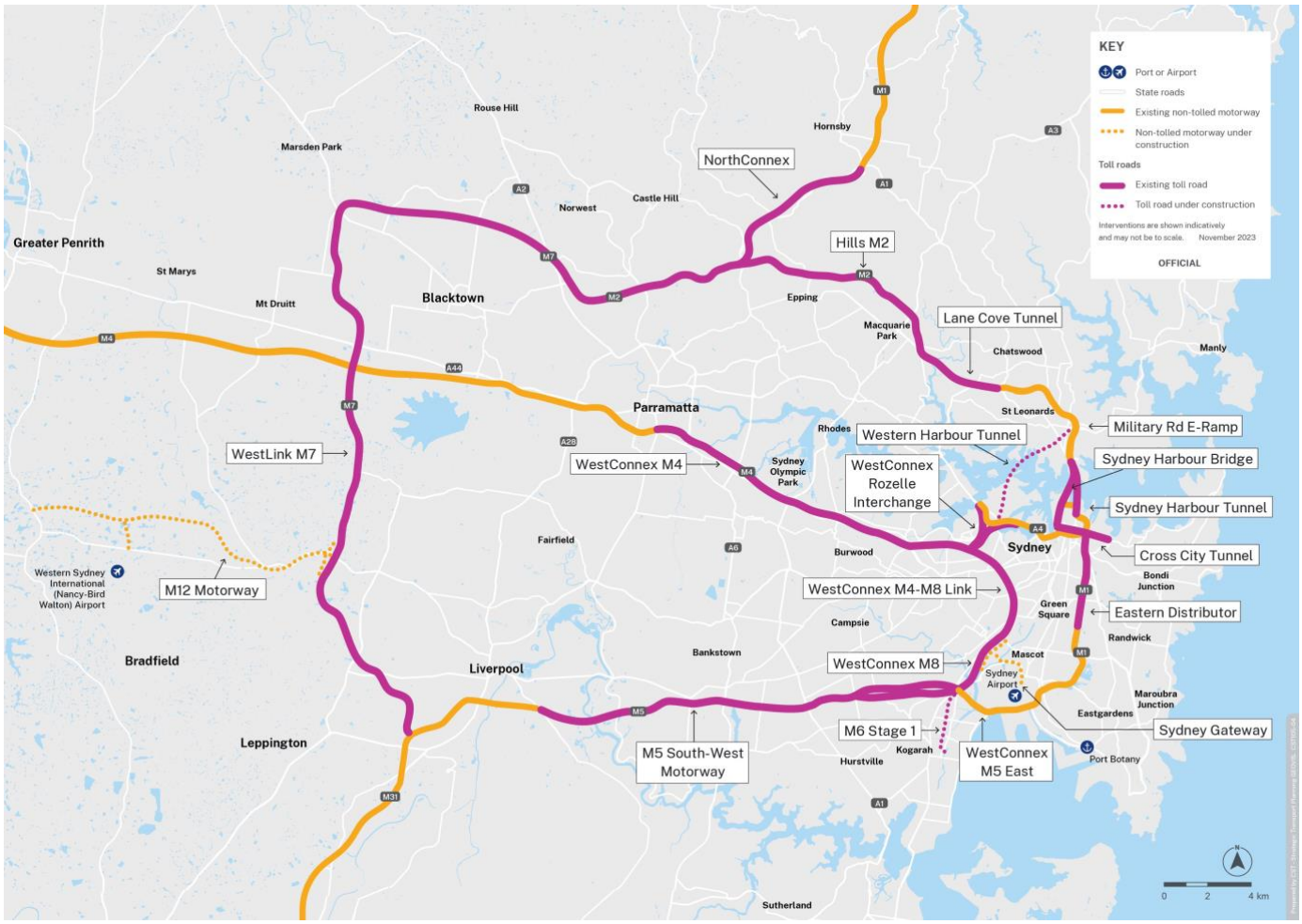
[1] NSW Government. NSW Budget 2024-25, Budget Paper No.01, p.1-11.

The Review acknowledges the contribution of all participants in the consultation process throughout the review period. Submissions and discussions have been carefully considered, informing the Final Report.

3. The current tolling landscape

As shown in the figure below, toll roads comprise nearly one-half of the motorway network in Sydney. The motorway network consists of 320 km of roads; the toll roads cover 156 km. Sydney has more toll roads now than any other capital city in Australia. Comparisons with overseas cities are difficult as the nature of tolling schemes can vary significantly. For example, the cordon tolling schemes operating in London, Singapore, Stockholm and Milan effectively cover many roads within their cordon areas. Despite its coverage of tolled motorways, Sydney is also regarded as the most congested capital city in Australia. It is also relatively high up in the rankings of congested cities in the world.

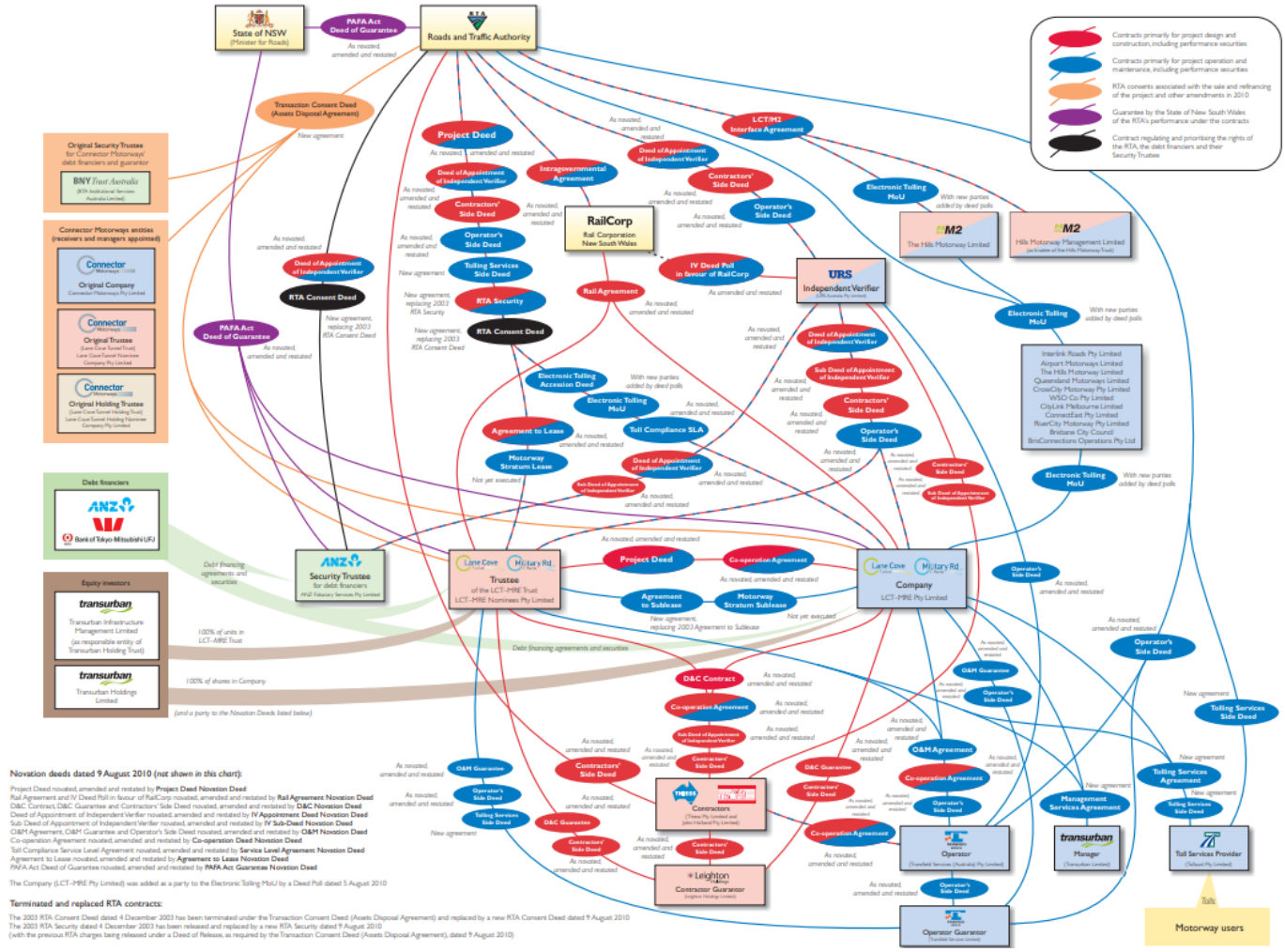
Figure 0.1 The Sydney motorway and state road network



Source: Independent Toll Review

There are now 10 private motorway concessions in operation with three of these under the WestConnex banner. Transurban has a dominant role in these concessions with at least a 50% equity investors and debt providers that have entitlements and rights. The complexity is highlighted in the chart below as just one example – it provides an overview of the structure of contracts and relationships associated with the Lane Cove Tunnel project upon completion of its sale to Transurban in 2010.

Figure 0.2 Overview of the structure of the Lane Cove Tunnel project contracts at time of sale to Transurban on 9 August 2010



Source: Lane Cove Tunnel, updated summary of contracts, incorporating summaries of contract changes to 9 August 2010, p.14

In addition, there are two publicly-owned toll roads in operation, the Sydney Harbour Bridge and Sydney Harbour Tunnel (the Sydney Harbour Crossings). The bridge has been tolled since it commenced operation in 1932. Of modern motorway investment, the Tunnel was the first of the toll roads constructed under a PPP arrangement and, following 30 years of operation, reverted to public ownership in 2022. There are two motorways under construction which are planned to be publicly owned toll roads – the Western Harbour Tunnel and M6 Stage 1.

Tolls are set in line with schedules attached to the concession agreements, or by regulation in the case of the Sydney Harbour Crossings. There is no consistent basis on which these tolls are set. Some tolls are set as fixed amounts, some vary by distance, some have flagfall charges and caps that apply after a certain distance, and some operate in only one direction. Various different toll relief schemes, which have been implemented over time to try to relieve the burden of tolls for motorists, have added complexity to the tolling landscape.

There is variation in how tolls are adjusted. Some roads have their tolls adjusted quarterly or annually, depending on the concession agreement. More than half the private concessions also have a minimum rate of increase, regardless of inflation. For example, tolls on NorthConnex, the Hills M2 and the Eastern Distributor increase by a minimum rate of 1% each quarter. The maximum rate of increase is mostly based on the Consumer Price Index (CPI), but for one road – the Eastern Distributor – this is used in conjunction with Average Weekly Earnings. On seven private motorways, the tolls cannot go down.

The length of the concession agreements determine the period of time in which the concessionaires can collect tolls. Contract durations have generally been 30–40 years but in a number of cases, including the Hills M2 and Westlink M7, contract extensions have occurred following further capital investment works.

B: Evaluation of tolls

4. Public Private Partnerships and toll roads

NSW has been a leader in the use of PPPs. Governments at different ends of the political spectrum have been attracted to the use of PPPs by a range of factors including the desire to bring forward the funding and construction of roads and other infrastructure than may otherwise be possible if relying just on government funds; by perceptions that government funds were limited, and government debt needed to be restrained; and by perceptions that the private sector could provide necessary functions more efficiently than the public sector. Risks associated with the design, delivery and operation of roads were often considered to be better managed by private sector entities than by the State. User charging through tolls, though not restricted to private ownership, was seen to be an attractive way to fund new roads.

The Review has identified weaknesses in the setting of tolls under PPP arrangements.

- Firstly, it has not always been the case that the use of PPPs has been the best approach to provide new roads. Governments can borrow more cheaply than private sector entities and may be as efficient in providing some services associated with the delivery and operation of new road infrastructure. Typically, where governments provide infrastructure services, they engage private contractors to assist. Public Sector Comparators have been developed to compare the costs of government and private sector provision. We have identified at least one case – the Eastern Distributor – where a private sector road concession had not been deemed to be as cost effective as a public sector led approach.
- Second, under PPP arrangements, competition for concessions has not clearly been based on the level of tolls that bidders proposed to set. Rather, tolls have been determined in advance by governments and bids have been framed on this basis and been determined on other grounds. Ideally, competition should have been harnessed to ensure that firms willing to charge the lowest tolls, subject to appropriate minimum performance standards, were selected.
- Third, the setting of tolls administratively by governments raises questions about the basis on which this was done. Financial considerations, the need to recover costs over a reasonable time, were more in mind than the desirability of setting tolls which reflected economic efficiency and fairness considerations. Tolls have also been set more with considerations of what motorists would be willing to pay. Estimates of value of travel time savings (VTTS) have had a prominent role in this process.
- Fourth, there has been inadequate transparency in the setting of tolls to understand fully the details of how they have been determined and whether they have been set at appropriate levels. This has been a long-standing source of complaint. Over time governments have gradually released more details of concession contracts to the public, but not the essential financial data needed to assess tolls. We reviewed the Base Case Financial Models (BCFMs) applicable to the concession agreements, which have never been made public. We analysed the rates of return that would be obtained by the concessionaires if the assumptions relating to traffic and factors affecting projected revenues and costs were realised. Legal confidentiality reasons prevent us from publishing those rates or a description of them. Projected rates of return were boosted by the risks that concessionaires were perceived to have taken on, in particular that traffic forecasts may not be realised.

- Fifth, a clear indication that tolls were often set above what may be considered competitive market levels, was that for some concessions additional payments were committed by bidders beyond actual project costs. For example, the government sought upfront payments for the Cross City Tunnel, Westlink M7 and Lane Cove Tunnel agreements from the winning bidders to offset expenses incurred by the government in developing the projects and associated works. Although the nature of these additional payments has varied, they are essentially monopoly returns being captured by the government.
- Sixth, over time, governments have followed an approach of trying to minimise their own contributions to the cost of PPP road projects. 'No cost to government' has been a mantra espoused by governments in the past. This may save taxpayers, but it has the consequence for motorists of placing greater reliance on tolls to recover costs. Tolls either have had to be higher or remain in place for longer.
- Seventh, toll schedules, which cover the life of the concessions make no provision for regular reviews of the appropriateness of tolls given changing demand and supply conditions. A re-set of tolls would be costly. It would need to be negotiated with the government and may require compensation to keep the concessionaires 'whole'.

5. The structure and level of tolls

Sydney's toll motorway network has been developed over time through individual concession agreements. Concession agreements reflected the relevant considerations affecting each project, but not the desirability of having consistency across the network. There has been no overall system of tolls. One aspect of this is the limited use of time-of-day tolls to help manage traffic across the toll network. Only the Sydney Harbour Crossings have had variable charges of this nature.

As well as being differently structured, the tolls vary in levels so that when considered on an equivalent per kilometre basis, for example, similar trips on the network are charged at different rates. Concerns also were identified with the level of tolls that different types of vehicles have to pay. In some cases, for example motorcycles and small trucks, toll multipliers do not seem to reasonably reflect the cost impacts of their travel on the motorways. The Review found that these differences were adding to perceptions that tolls were unfair. Further, tolls were perceived as encouraging trucks to use non-toll roads as alternatives to the readily available toll roads, with consequent adverse impacts on local amenity, safety and the environment. Issues concerning the use of the Stoney Creek Road and Forest Road were highlighted in this regard.

Evidence on the pattern of congestion on Sydney roads was considered. We looked at traffic speeds across the road network. Operating speed ratios varied across the day and by type of road. As expected, tolled motorways had the highest operating speed ratios. This analysis tended to confirm the potential to relieve congestion across the whole network by attracting more traffic to the toll roads. A concern was identified that high tolls were discouraging many from using the toll roads.

The Review has identified strong community concerns about the continuing escalation of tolls at the rates of general inflation, or higher in the case of WestConnex (minimum of 4% or general inflation), and about the increasing prevalence of toll roads. Survey research conducted for the Review found that most drivers think tolls are too high and unfair. Eighty-seven per cent of Sydney residents strongly or somewhat were of the view that tolls were too high and 73% considered them to be unfair. These results were supported by other survey research provided to the Review. Academic commentators refer to the notion of toll saturation, where people have limited budgets to expend on tolls, in helping to explain driver reluctance to use the toll roads.

The future burden of tolls has been highlighted by NSW Treasury data. The estimated likely future toll collections up to 2060 when the last concession expires, on conservative assumptions, was $123 billion in today's dollars. Over half of this would come from the WestConnex concessions.

The impact of high and rising tolls is felt particularly in Greater Western Sydney. On a per kilometre basis, tolls are already relatively low on the M7, but the evidence was that people from Western Sydney suburbs spend more on tolls per week than people from elsewhere do.

The Review examined available data on the financial performance of Transurban, which has at least a 50% ownership share in all concessions. Concessionaires' return of and return on investment form a component of tolls and to assess the level of tolls, the rates of return concessionaires receive need to be considered.

Actual rates of return may vary from those projected at the start of concession agreements given the uncertainties involved, including of traffic. Actual rates of return realised on particular projects will vary over time, given the pattern of expenditures and revenues with construction costs being paid off, and tolls and traffic projected to rise over time. It is only at the end of a concession that projected rates of return can be assessed against actuals. The cost of capital to a firm is an important consideration, as a project must at least cover this to be viable. Over time the cost of capital has changed. It is lower today, even with interest rate increases over the past two years, than it was at points in the past when some of the concession agreements were entered into. Higher costs of capital in the past have been reflected in the expected rates of return in BCFMs at the time, and they continue to be incorporated in tolls today.

Risk is an important element affecting the cost of capital and expected rates of return. Traffic risk is a major consideration here. If concessionaires accept traffic risk, they will seek a higher rate of return as compensation. This will cause tolls to be higher relative to if government were to take traffic risk and finance projects at its lower cost of capital.

Generalisation is difficult, and legal restrictions imposed on us prevent greater precision, but we conclude that for older projects entered during periods of higher interest rates, the expected rates of return projected at the time the concession agreements were signed may be perceived as generous in comparison to the expected rates of return in lower interest rate environments, including today. Transurban has paid over $6.5 billion in dividends to its shareholders over the past five financial years and appears to be regarded as an attractive long-term investment by its major institutional investors. On the face of it, Transurban's returns on total assets over the past five years do not seem excessive. But given the general pattern of cost and revenue growth associated with toll roads, this may grow over time.

Under current tolling arrangements, the toll cap concessionaires operate under does not change to reflect efficiency improvements, so they have every incentive to pursue them. There is no requirement to share any efficiency gains with motorists in the form of lower tolls. It is possible that concessionaires could have predicted some efficiency improvements at the time they bid for concessions, which may have influenced what they were prepared to bid. If so, some efficiency gains may have been captured by governments. In our view, the absence of an efficiency sharing mechanism in toll setting could have been a factor encouraging the continued expansion by Transurban across the industry. It has gained advantages of economies of scale and scope in doing so. The Review considers there is a role for independent monitoring of concessionaire performance against BCFM forecasts and of reported financial performance of concessionaires. This will help the public determine whether tolls are set at appropriate levels in terms of the concessionaire profitability component built into them. The issue of whether tolls are too high or not is ultimately a matter of judgement based on all the relevant considerations. The background and circumstances of each road are different and this needs to be considered. Experiences with the earlier concessions are different from later ones as past learnings have influenced new practice. However, the tolls motorists are paying today all derive from the concession agreements signed in the past. So, whilst the level of concern about tolls on the individual roads may differ, we have reached the general conclusion that tolls are higher than they need to be and higher than desirable. There has been a failure to put motorists first in the tolling of toll roads. This has been reflected in matters such as the over-reliance on tolls as a funding source for the roads, rather than the use of general government revenues or borrowings; weaknesses in the selection criteria used to assess bids from

potential concessionaires, in particular not applying the minimum toll criteria as paramount; concern to extracting maximum value from motorists rather than charging efficient tolls; locking into tolls rates of return for concessionaires that have been significantly higher than current costs of capital; locking into tolling schedules with high and compounding escalation rates which did not require a sharing of efficiency gains with motorists. We note the political attractiveness of setting tolls initially at lower rates and deferring pain to future generations of motorists. The pattern of road congestion across Sydney with toll roads being relatively less congested than other ancillary and local roads, indicating to us that the toll roads may be tolled too highly to attract sufficient traffic to ensure they are used to the optimum extent.

The dissatisfaction of Sydney motorists with the level of tolls is also linked to the emphasis placed on tolls as financial rather than economic instruments. Tolls should be used more to manage the traffic. Motorists are right to consider that the tolls they are paying are too high when they are stuck in congested traffic on toll roads. More flexible tolls would help to overcome these situations.

6. Competition

Competition is the process of rivalry between firms in the supply and acquisition of goods and services. Effective competition occurs from an economic perspective when rivalry produces good market performance in terms of efficiency and progressiveness.

We can distinguish two aspects of competition in toll roads. These can be referred to as 'competition in the market' and 'competition for the market'. The latter refers particularly to the competition between bidders for the rights to a concession.

Transurban is by far the dominant player in toll collection and operation, owning at least 50% of all the concessions in the Sydney market and owning the toll retailer Linkt. Other minority equity owners and partners may provide some countervailing power to the influence of Transurban, but direct competition between them is very limited. With the orbital network now essentially complete, there is the possibility of some motorists having some choice in the toll roads they take to get to their destinations. However, for the most part, the individual toll roads have the characteristics of natural monopolies where it is not sensible or economic to have directly competing motorways.

Past governments have allowed Transurban to become a dominant player in the Sydney toll market. NSW governments and the Australian Competition and Consumer Commission (ACCC) have not opposed Transurban's acquisition of other concessions. The ACCC's approach to acquisitions by the company now seems to be changing given their recent opposition to Transurban's proposed acquisition of a majority ownership of Horizon Roads, the operator of EastLink, a Victorian toll road.

Transurban has benefited significantly from its road acquisitions. They have further enhanced its advantages of incumbency and its ability to acquire new concessions, including through Unsolicited Proposals. Transurban's political influence has been enhanced by its market position.

Concession agreements provide for the regulation of tolls through contract. The toll schedules specify what the tolls should be, at least what maximum tolls should be. In practice discounting below maximum levels does not occur. This is not surprising when the impact of toll changes on demand is very limited, but it also possibly reflects the lack of real competition between roads.

The toll schedules limit the use of any market power that Transurban may have but they do not necessarily remove all concerns about tolls being set at undesirably high levels, as previously noted. If this happens, governments, Transurban or both could be the beneficiaries.

Any market power Transurban may have had in competing for concessions is likely to have been weakened by the impact of the undertakings it was required to give to the ACCC at the time of its 51% WestConnex acquisition in 2018. These undertakings required it to publish information about the traffic on its roads. This aimed to offset Transurban's traffic modelling superiority, which gave it an advantage in bidding for new toll road concessions.

Public perception of Transurban's competitive position in the marketplace often does not appear to align with reality. Some comments to the Review suggested that Transurban was an unregulated monopolist setting unreasonably high tolls to maximise profits. The reality is that maximum tolls have been set by governments and vary over time according to rigid pre-determined patterns.

Transurban needs to acquire from the Sydney community a social licence to operate. The company is well aware of this but may have further to go to achieve it. We consider that a good step forward would be for the company to fully engage in the process to reform tolls and to work to further empower motorists.

7. Toll transparency and toll relief

There is much that could be done to better enable, inform and educate motorists about tolls to assist in their decision-making. Motorists need to have the ability to plan their travel routes and understand their own costs of using toll roads. It can help them to know how often they have used the toll roads in the past. Education to help motorists better understand how tolls are calculated is also necessary. Motorists need also to understand their financial rights and responsibilities as users of toll roads.

Toll relief schemes have been in place in different forms for many years. They suggest that tolls were not considered to be set appropriately to reflect the concerns of the community in relation to affordability and equity. These concerns may change over time having regard to factors such as general economic circumstances, the growth and distribution of population and so on, but toll determination under the concession contracts continues to be rigidly determined.

Toll relief schemes currently operating or having recently ceased to operate are shown in the table below.

Figure 0.3 Available toll relief schemes from 2020 to 2025

	2020				2021				2022				2023				2024				2025			
Relief scheme	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
M5 South-West Cashback*																								
Registration Relief (TR1)																								
Large Towed Recreational Vehicle Toll Rebate																								
Toll Relief Rebate (TR2)																								
$60 Toll Cap (TR3)																								

	2020				2021				2022				2023				2024				2025			
Relief scheme	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Truck Multiplier Rebate																								

Source: Independent Toll Review

*From 1997 to 2010 the Cashback Scheme also applied to the M4.

The M5 Cashback scheme has been operating for over a quarter of a century and the government has committed to retain this scheme at present. The $60 Toll Cap (TR3) and Truck Multiplier Rebate schemes were introduced by the current government as temporary schemes pending the more fundamental review of tolls being conducted by this Review.

Toll relief rebates add complexity to the tolling system. Many motorists are not fully aware of the rebates they are entitled to or how to claim them and find the administrative arrangements tedious to deal with. For these reasons there have been relatively low claim rates. For example, TfNSW estimates that 35% of trips eligible for the M5 Cashback scheme will not be claimed.

Toll relief is becoming increasingly expensive with $561 million being budgeted for TR3 in the 2024-25 Budget over two years. Costs of the schemes increase as tolls rise and the number of claimants increases. It can be difficult to replace these schemes as motorists come to expect they will continue and become used to them.

Toll relief schemes are not necessarily fair when considered from a broader perspective, especially when they are just applied to particular parts of the toll network. The total toll burden does not change because of toll relief, only the distribution of who pays changes. It is not always the case that those who receive toll relief need it. The evidence available to the Review suggested that higher income earners not only use toll roads more, but also are more likely to seek toll relief. Toll relief schemes need to have clear objectives in relation to who they are seeking to benefit and to be appropriately targeted in doing so. Current schemes focus on account holders but not household or family income or other relevant socio-economic considerations affecting need. Previous efforts to develop a means tested toll relief approach have fallen short due to difficulties in obtaining required information.

Concessionaires are unintended beneficiaries of toll relief given that motorists' demand to use the toll roads will be enhanced by its availability. The upside sharing provisions contained in the concession agreements are an imperfect way of capturing this benefit for the community. Community views on toll relief are mixed. Many recognise its limitations, but many also consider that it is a very important part of the tolling system which should be retained. Our general view is that toll reform, if it can be achieved, is preferable to toll relief and toll relief should be applied to directly reduce the toll a motorist sees.

C: Recommended overhaul of tolls

8. Tolling principles

In considering possible reforms to tolls it is necessary to have regard to the objectives of toll setting and to the operation of existing tolling schedules attached to the concession agreements.

As to the objectives of toll setting, we have been particularly mindful of our terms of reference which draw attention to the importance of efficiency, fairness, simplicity and transparency in tolling. The economic principles of efficient pricing have been well developed over time, but their application in particular contexts, such as road tolls, can be complex. The financial imperative of concessionaires to recover costs, including an appropriate rate of return, in fixed concession time periods is a particular constraint. It has been said that fairness is what is in the eye of the beholder! Fairness has horizontal aspects (treating people in similar circumstances the same way) and vertical aspects (treating people differently according to their capacities or needs). Simplicity can be seen in the narrow context of an individual road or in a broader system context covering the network of toll roads. Transparency can relate to the openness of the toll setting process and to the visibility of tolls once determined to motorists.

In 2014, the NSW Government agreed a set of principles to guide the setting of tolls on new toll roads. This was a first step toward articulating a more coherent approach to toll setting even though the principles were not explicitly directed to existing roads. The Review carefully considered these principles and has further developed them to reflect a greater emphasis on:

- consistency across the whole tolled network;
- economic efficiency pricing principles including the importance of tolls reflecting costs as well as benefits; and of demand management pricing, including time-of-day and dynamic pricing; and
- fairness especially by the use of declining distance-based tolls.

Our terms of reference also required us to consider the impact of competition and regulation on tolls and these issues are also reflected in the new tolling principles we are proposing.

Proposed new Tolling Principles

Principle 1: Level and structure of tolls

Toll setting should be guided by the objectives of efficiency, fairness, simplicity and transparency.

a. Tolls should have regard to the costs associated with the provision of toll road services as well as benefits. Declining distance-based tolls are consistent with the principle and have efficiency and equity advantages over fixed distance-based tolls or variable zonal distance-based tolls.

b. In general, it is appropriate that beneficiaries pay for toll roads, for example, where benefits flow to the broader community then government contributions are appropriate. The extent of cost recovery achieved through tolls should reflect the extent to which a toll road's benefits are enjoyed directly by motorists.

c. The process for setting tolls should be transparent to the public to promote understanding and allow for informed comment.

d. The methodology for determining tolls should, so far as possible, be applied consistently across the entire network.

e. Tolls should allow toll road owners/concessionaires to recover their costs incurred in financing the construction of the toll road including an appropriate (i.e. risk adjusted) return, and efficient operating and maintenance costs where relevant. It may be appropriate to apply specific charges to individual parts of the network to allow for cost recovery, for example infrastructure charges to cover the additional costs associated with constructing tunnels or bridges.

Principle 1: Level and structure of tolls

f. Tolls should not be set at a level which would allow excessive, monopoly profits, or inefficient cost levels to prevail over time.

g. Maintaining flexibility to adjust tolls over time in response to demand and supply changes is important.

h. Toll setting should take into account fairness as well as efficiency considerations, bearing in mind that other more direct policy approaches may be preferable forms of intervention in relation to fairness.

i. The different vehicle categories for tolls should balance impactor pays (the extent to which vehicles impose costs on the network and other users due to their weight and size set against the costs imposed by such vehicles on ancillary roads) and beneficiary pays considerations (a higher willingness to pay for travel time savings). For example, under this principle setting higher tolls for heavier and larger vehicles is consistent with efficient tolling.

j. The structure of tolls should be simple enough to be readily understood by users and avoid creating perverse incentives for the use of the road network. Inconsistent approaches to the tolls of toll roads can cause distortions to traffic flows.

k. Tolling information should be communicated in real time to inform customer journeys and enable improved decision-making.

Principle 2: Consistency with competition policy

Toll road financing arrangements for motorways should be designed and implemented in a way that is consistent with the promotion of competition.

a. Competitive pressure should be harnessed when setting tolls and assessing concessionaire bids (competition for the market) and when regularly reviewing tolls (competition in the market). Bidding for concessions should focus on ensuring tolls are set at competitive levels.

b. Unsolicited proposals for toll road extensions should not be considered in isolation of the possibility of first modifying tolls to better manage traffic flows.

c. Restrictions should not be imposed on the use of any road or public transport in order to enhance the financial viability of a toll road.

d. Tolls should only apply where motorists have reasonable and effective untolled road options, including arterial roads, or public transport alternatives, except where community benefit may necessitate restriction on access to alternatives.

9. Toll reforms

Concerns about tolls

The evaluation of tolls has highlighted a number of significant concerns about tolls which impact on both efficiency and fairness. Tolls are generally considered to be too high. Motorists are paying more than is necessary and desirable. Although demand for toll road services is relatively unresponsive or inelastic to toll changes, high tolls cause a loss of economic welfare overall and adversely affect motorists struggling to meet the costs involved.

The absence of a consistent network approach to setting tolls is also a source of inefficiency, unfairness and complexity. The significant variations, which now exist between the way tolls are calculated on individual toll roads, impacts on the use of those roads by users. Some roads, such as the Cross City Tunnel, have significantly higher charges, expressed on a per-kilometre basis, than others, for no clear economic rationale. One-way tolling on the Sydney Harbour Crossings and the Eastern Distributor, and toll relief have distorted traffic flows on some toll roads as well as adjacent ancillary and local roads. Zero tolls which effectively apply when toll caps operate after certain distance points or with some toll relief schemes also distort traffic flows.

A further source of inefficiency with tolls is their lack of flexibility in reflecting demand conditions on the toll roads. There needs to be a capacity to change tolls over time and to better manage traffic flows across the network during the day.

Users of the toll roads should have a clear idea of the basis of charging from wherever they join the toll road network. The methodology by which tolls are set should be coherent and economically rational in line with agreed tolling principles.

Current tolls and toll relief lack fairness when they apply unevenly across the whole network. Also, despite the fact that per kilometre rates are lowest on the M7, motorists from Western Sydney appear to be most disadvantaged by current tolls (vertical inequity). Surveys and submissions of stakeholders indicate the financial impact of tolls is greatest in Western Sydney. These areas of Sydney have the highest number of motorists who will be eligible for the government's $60 Weekly Toll Cap[2], who report a lack of alternatives to toll roads, and report high use of toll roads. Analysis shows that these areas of Sydney have comparatively lower public transport access. Risks of mobility-related social exclusion, that is, of being unable to access essential services and opportunities due to transportation barriers are also higher.

Tolls can be complex but widespread availability of information about the basis of their calculation can help to deal with this issue. But when the basis of their calculation varies significantly between roads, as it does at present, simplicity is replaced by complexity.

The Review considers that a coherent network tolling approach to setting tolls can help to restore simplicity for users.

The Review is concerned about the lack of transparency generally in toll setting and sees the need for a much more open process for setting tolls to help detailed understanding by the public of the basis on which tolls have been set. The transparency of tolls for motorists once tolls have been determined also could be enhanced.

[2] Minister for Roads (2023, December 8). $60 weekly toll cap to provide cost-of-living relief to 720,000 motorists. NSW Government. https://www.nsw.gov.au/media-releases/toll-cap-cost-of-living-relief

The Review considers that a stronger competition lens is needed by governments when granting concessions and when considering the terms of concession agreements, including setting tolls and concession length. Regulatory improvements to toll setting arrangements embedded in concession agreements are needed, including enabling tolls to better reflect changes in traffic conditions over time. Independent oversight of the impact of toll setting on motorists and concessionaires is necessary.

Key tolling reforms proposed

Our key reforms are to:

a. Introduce a new network approach to tolling to provide for a uniform tolling methodology to apply across the whole tolled network so far as possible and to better manage traffic flows.

b. Reduce the level of tolls to allow for greater use of the toll roads and relieve congestion on ancillary and local roads to improve overall travel times.

Network tolls restructuring

The transition to network tolls as proposed in our Interim Report was supported by industry stakeholders, representative bodies, academic commentators, and the general public. It was recognised that the tolled motorway system had developed to the point that this approach was desirable.

There are major issues to consider and determine before a network approach to tolling can be introduced: what will this look like, what are the implications for making it work, and how can it be implemented?

What network tolling will look like and why

Existing tolling methodologies used for individual toll roads in Sydney vary. There has in recent years been an increased emphasis on distance-based tolls and most discussions of road pricing by experts support this methodology. There seems no reason in principle why a different system for toll roads could not operate in conjunction with distance-based tolls on ordinary roads. Distance-based tolls is consistent with a user pays system, but it has weaknesses in that by itself it does not accurately reflect costs associated with providing toll roads. It does not adequately recognise the fixed cost associated with road construction; nor accurately reflect the marginal costs associated with operating the roads which are likely to decline with distance and vary according to the state of traffic on the roads. Fixed distance-based tolling applies a set toll per kilometre to each kilometre travelled. This is not appropriate in our view to a network approach to tolling for the Sydney orbital network where many people from the outer West still need to travel to the CBD for employment or other purposes and are relatively disadvantaged when it comes to public transport options. This is a fairness consideration that needs to be taken into account. This issue is recognised but is dealt with inappropriately in some concession toll schedules where at a particular kilometre distance a cap is placed on tolls so that beyond that point no tolls are charged.

Fixed costs are often reflected in fixed access charges. For toll roads this could be a charge to enter the network with distance-based charges being set on top of this. A fixed access charge may have the desirable effect of discouraging short trips on the network, which can disrupt smooth traffic flows. However, if there is plenty of available spare capacity on a road it seems inefficient to do this. The level of the charge is critical in this context, and it may be appropriate that it varies according to time-of-day/traffic flows.

The design of any new system of network tolls will need to take account of the significant per kilometre variation in existing tolls as well as the need to reflect efficiency, fairness, and transparency considerations.

A network tolling system should address anomalies associated with one-way tolling on the Eastern Distributor and on the Sydney Harbour Crossings. Also, the latter charge the same tolls for all vehicles, cars as well as trucks. The Sydney Harbour Crossings are the only toll roads to apply time-of-day tolling, and tolls on the crossings and have only been increased once since 2009, this was in October 2023.

The previous government's toll review considered a scheme involving a fixed access charge and zonal fixed distance-based charges. We examined this proposal in detail and the modelling conducted in relation to it, but ultimately concluded that it was not appropriate to meet the objectives set for our Review. Zones were arbitrarily determined and set more in the light of existing road tolling differences than from the objective of achieving network uniformity or reflecting significant variations in cost of specific parts of the network. The preferred model required significant government subsidy to be acceptable.

Our response has been to design a tolling methodology that better reflects our specific objectives and current circumstances. Our preferred tolling system incorporates a uniform declining distance-based component to the toll and a fixed infrastructure charge relevant to the part of the network being travelled on. Declining distance tolls reduces the per-kilometre cost as journey length increases, a variant of distance-based tolls. The infrastructure charge varies according to the tunnel or bridge it relates to but has not been set on a strictly cost reflective basis. It enables the total toll to reach the necessary point where all tolls charged reflect the target of matching concessionaire revenues under the existing system.

The initial block of the declining distance rate is higher than the remaining blocks giving it the feel of an access charge, but it is considerably lower than the proposed access charge set by the previous government's review. The declining distance-based change applies uniformly on the network and does not depend on where the network is entered onto or where trips occur. In this sense it is fairer. The infrastructure charge more closely aligns with the cost of the infrastructure provision. Where more expensive tunnels or bridges exist the charges will apply, otherwise they will not. Whilst at first blush the declining distance-based charge may appear more complex, when seen in the context of the network as a whole this is much less so. The charge applies uniformly across the whole network unlike other options with different zonal distance-rates. Combined, the declining distance-based and infrastructure components of network tolls provide a fairer toll outcome for motorists in Western Sydney.

A further important aspect of our network approach to tolling relates to the application of demand management of time-of-day or dynamic pricing. We consider this should be an integral part of a network system. The network should be managed to ensure all parts of it operate efficiently in terms of the flow of traffic avoiding persistent under and over utilisation as far as can be achieved.

What are the implications for making network tolls work

There are significant enabling works to be undertaken to allow for the operation of network tolls. These include upgrades to existing tolling infrastructure and systems development. Figure 0.4 below indicates the network-level toll reconstruction engine (C2.5) which will need to be developed and where it fits in the current process of capturing tolls and calculating tolls, managing customer accounts and compliance. The declining distance-based approach adds no more cost in this regard than any other methodology would do. These costs are an investment for the future and are small in relation to the benefits a new network tolling system could bring for motorists.

Figure 0.4 Network toll reconstruction engine

	C1 Capture	C2 Calculate	(C2.5) NSW Motorways	C3 Customer	C4 Compliance
Purpose	To detect and capture the details of vehicles utilising the toll roads (tags, LPN etc.).	To validate, construct and rate trips from vehicle details captured (toll road, entry point, exit point, time-of-day, vehicle classification).	To apply business rules to day-based toll road usage such as: 1. Construct single concession tolls as multi-concession tolls. 2. Applying distance-based tolling rules. It also manages non arranged travel/unpaid toll recovery.	To manage customer accounts, toll products and the collections of tolls and fees.	To manage the processing of toll and penalty notices including nominations and objections.
Tech	1. Gantry (new exit points required). 2. Vehicle Detectors. 3. Front Camera Image. 4. Rear Camera Image. 5. Optical Character Recognition (OCR)/Licence Plate Number (LPN) Reader. 6. TAG Sensors.	TfNSW: 1. TRARM: Trip, Reconstruction And Rating Module. 2. TIRMS: Toll Incident Recovery Management System. Other: 1. Foreign Toll Operator/Tolling Back Office.	New C2.5 system: 1. Construct Multi-concession Tolls. 2. Apply distance-based tolling rules. 3. Apply associated business rules. 4. Manage non-arranged travel/unpaid toll recovery.	1. Etoll – TfNSW. 2. LinkT – Transurban.	1. Toll Compliance Management System.
Functions	1. Detect vehicle. 2. Capture vehicle photo (front). 3. Capture vehicle photo (rear). 4. Capture LPN. 5. Capture TAG details.	1. Accounts receivable. 2. Finance movement. 3. Asset management. 4. BI (Business Intelligence) reporting. 5. Trip reconstruction.	1. Construct single concession tolls as multi-concession tolls. 2. Output these as network toll charges to customers via retailers.	1. Tolling web portal. 2. CRM. 3. Tag logistic management. 4. Interoperability (car rental companies, MOU).	1. Process enforcement requests. 2. Obtain vehicle owner details. 3. Letter distribution. 4. Enforcement acknowledgements and updates.

	C1 Capture	C2 Calculate	(C2.5) NSW Motorways	C3 Customer	C4 Compliance
			3. Reconcile inputs and output toll charges to make good variances to concessions. 4. Manage Non-Arranged Travel/recovery management. 5. Compliance management. 6. Toll notice payment portal.	5. Product management. 6. Debt management. 7. BI reporting. 8. Financial accounting.	5. Nominations management. 6. Objections management. 7. Penalty notice updates. 8. Registration for Information Disclosure Agreement (RIDA)/ Additional Request for Information (ARI) processing.

Source: Independent Toll Review

Under network tolling we would want to see motorists being billed just once for each trip, not separately for the components of the trip provided by different concessionaires. There may be opportunities to phase in aspects of network tolling before it is fully implemented. For example, two-way tolling on the Sydney Harbour Crossings may be feasible before the full network system can be implemented; time-of-day trials may be appropriate or changes to toll relief consistent with network tolls could be implemented. Network tolling will have significant impacts for concessionaires depending on how it is implemented. Existing concession agreements outline current tolling arrangements for motorists as well as having provisions affecting the financing of those roads. Financiers will likely also be impacted by any change in tolling arrangements. The contracts protect concessionaires from changes which may adversely affect their financial position. This could be the case unless they were to agree to make changes and likely were compensated for doing so. It was on this basis that we indicated clearly again in the Interim Report that we would respect the contracts and honour the reasonable expectations concessionaires had of them. It was why we have also modelled options for network tolls on the basis that the revenues generated by network tolls were the same as the revenues that would be generated under the existing individual concession agreements in total.

There are a number of ways concessionaires could be kept 'whole' in any move to network tolls. The Interim Report outlined an approach involving network tolls being set by a government-owned tolling company, NSW Motorways, with a Revenue Adjustment Mechanism operating to ensure concessionaires were squared up so as to obtain approximately the same revenues as they would have received under the old tolling approach. A more recent proposal from concession owners, discussed below, is that network tolls could be recognised in the concession contracts after negotiations with the government and identification of funding gaps and sources to keep them 'whole'.

The adoption of network tolls will involve restructuring of tolls across the network with some tolls increasing and some declining. We have assumed that additional revenues from the Sydney Harbour Crossings will be utilised to assist in this restructure and transition to network tolls. It is a policy decision for government as to whether this occurs.

An aim with the initial restructure to network tolls also is to minimise the size of the changes in tolls for individual trips as far as is possible, both when tolls increase or decrease. We consider that once the network system is in play and has had time to settle down, that further adjustments could be made to tolls. This tolling reform is likely to generate more traffic itself. But we also envisage further reforms to concession arrangements could be achieved over time to allow further overall reductions in tolls to be achieved.

Network tolling will result in traffic changes which may not always be readily accommodated by the existing road infrastructure. Changes will need to be anticipated and carefully managed. In some cases, modifications or enhancements may have to be made to existing roads. Demand management tolling initiatives may be required.

The impact of network reforms will need to be monitored and refinements adopted as considered necessary. We consider community acceptance of the new network tolls and their perception of their fairness is essential to the success of this reform.

As regards to what it would look like, the Review has carefully considered what tolling methodology would best meet the objectives of efficiency, fairness, transparency and simplicity. We have examined the previous government's Tolling Principles and approach adopted by the previous government's tolling review as well as other related approaches, including a corridor-based approach as recently suggested by concessionaires, and other approaches such as section tolling, but have not been convinced that these are adequate to meet our objectives.

How can network tolls be implemented

In our Interim Report, we expressed the view that the government needed to take the lead in toll reform through legislation and the setting of network tolls. This view reflected our perception that the large number of counterparties to the concession agreements and associated financiers would make it difficult to reach agreement between them in a timely manner, that Transurban would inevitably dominate such negotiations, and that competition law prohibited competitors from reaching agreement on matters which are likely to fix or maintain tolls. It was also a reflection of the fact that we had had no substantive proposals for reform of tolls from concessionaires up to that point of time.

In line with these views, we proposed a government-led reform process which included the establishment of a government-owned tolling body (NSW Motorways) which would set network tolls and operate a Revenue Adjustment Mechanism to ensure concessionaires were kept whole in relation to their existing contracts. Motorists would pay network tolls but the concessionaires would still receive around the same expected revenue that they would have received had their existing tolling schedules been operative. Whilst led by government, it was anticipated that NSW Motorways would work in close co-operation with concessionaires and other relevant stakeholders.

In response to our Interim Report a letter was sent to us on 14 May 2024 signed by NSW Toll Road Partners, a group of eight toll road investors, 'noting the Interim Report's concerns over timing and complexity and a desire for 'early reform' ' and indicating a '…willingness to work with the NSW Government to expeditiously develop a suitable network-wide solution'. They suggested '…the principles of such a solution could be agreed within a short period of time, and in advance of the conclusion of the government's existing rebate schemes in December 2025'.

The Review's Chairs immediately responded seeking more details of this commitment and met with representatives on 22 May 2024.

Following this meeting, the NSW Toll Road Partners further formally responded to the Reviewers on 4 June 2024. The substantive content of this letter is reproduced in the box below.

Figure 0.5 NSW Toll Road Partners letter content

‘As noted in our discussions, we each remain committed to working with the Toll Review and the NSW Government to examine options in relation to delivering toll reform in NSW.

We recognise the importance of developing a solution that achieves the objectives of fairness, efficiency, simplicity and transparency that the Review was asked to consider by the NSW Government.

Therefore, in order to progress the objectives, using building blocks of a distance-based pricing regime as proposed in the Interim Report, it is each out our view that the NSW Government should further develop and work with concessionaires to model the impact of a distance-based per kilometre rate (DBR) regime across the road network. In such modelling, the per kilometre rate could vary between the motorway corridors, reflecting the level of congestion and availability of alternative transport modes in each. We each believe a corridor-based DBR has the potential to deliver the most benefits by providing greater operational efficiency across the network and a better community outcome. These could be coupled with the appropriate Infrastructure Charges to better reflect the cost of delivering and operating complex tunnel infrastructure, as well as two-way tolling should the Government choose to implement this. Noting that Infrastructure Charges could be incorporated into the DBR for the tunnels.

It is each of our view that the NSW Government is best placed to set the tolling pricing parameters and this could be implemented through a renegotiation of the concessions rather than alternative regimes proposed by the Review such as ongoing revenue adjustments. This would ensure the parameters balance key outcomes such as transport network performance and value for money for taxpayers and motorists.

With an understanding of the impact of the proposed regime and toll pricing parameters, the NSW Government could then seek feedback from each concessionaire to quantify the resulting funding deficit or surplus created as a consequence of implementing the proposed DBR so that the parties can engage on mechanisms to compensate the concessionaires, if required to achieve a value neutral outcome for each concessionaire. This would include the impact of other potential toll parameters prescribed by the Government such as Infrastructure Charges and/or escalation rates.

As part of this engagement, the Government could also request for each concessionaire to detail other value sources that may be able to contribute to assist in the funding of the proposed reforms. This will provide a basis for the Government to achieve in-principle agreement with the individual concessionaires by the end of 2024. These principles will then be used to amend individual concession deeds, targeting completion and execution of all documentation by the second half of calendar year 2025, prior to scheduled conclusion of the NSW Government’s toll rebate programs.

Should the NSW Government prefer an alternate approach to that outlined above, we each welcome engagement from the NSW Government on their preferred solution.’

Source: NSW Toll Road Partners Letter to the Interim Report, 2024

The letter raises some doubts in relation to network tolling. It suggests it will use the building blocks of a distance-based regime as proposed in the Interim Report, but then talks about a corridor-based scheme where the per kilometre rate could vary between corridors. This was explicitly not the preferred option of the Reviewers and not one that we would now support. In our early modelling work we did explore the option of corridor tolls as a close variant of zonal tolls but did not proceed with it. In essence it seeks to maintain the status quo.

However, we welcomed these indications of willingness to work with government to achieve toll reforms (albeit late in the day for this Review) and see positive elements to the proposal we would wish to pursue. The idea of amending the concession contracts to incorporate network tolls determined by NSW Motorways in consultation with concessionaires is a good one; but such an outcome is still likely to be extremely challenging as far as reaching agreement is concerned. There is a risk that toll reform outcomes become defined by minor contractual changes that reflect the lowest common denominator positions held by each individual concessionaire, and in so doing fail to achieve the significant toll reform that is required. Identification of funding needs and sources will involve significant negotiation between government and the concessionaires. The proposal, if successful, will likely eliminate the need for a Revenue Adjustment Mechanism to keep concessionaires whole, as they would now do this as part of the negotiations behind agreeing to the new tolling regime. Rather than a government-led process, this option would be a concessionaire-government negotiation process, one that would not be fully transparent to the public.

Whilst we do not doubt the good intentions of concessionaires and their owners to now work towards toll reform, we still consider this will be a difficult path forward. We consider strongly, if this approach was supported by the government, that clear milestones would need to be set for the resolution of matters like funding source discussions and that a target date be set for the introduction of network tolls. There also needs to be in place a sound legislative framework and pathway as outlined in our Interim Report to operate as a backstop should negotiations be delayed, or not result in achieving the objectives underpinning the vision for network tolling.

Network tolls restructuring and toll reduction

The move to network tolls based on a uniform methodology for their calculation will involve some restructuring of tolls. There will also be some reduction in average tolls, essentially because of the introduction of two-way tolling and other reforms affecting the Sydney Harbour Crossings, but the key focus is the restructuring.

A second element of toll reform considered to be necessary by the Review is achieving a reduction in the level of tolls. We have outlined previously why we consider tolls to be generally too high. This judgement is not linked to current cost-of-living pressures being experienced by many in the community, though toll reductions would no doubt be welcomed from this perspective as well. Toll reform will take several years to be fully achieved and hopefully cost-of-living pressures will be eased by then.

In order to achieve toll reduction as well as toll restructuring it will be necessary to identify funding sources that can be applied to reducing tolls.

Funding sources to achieve reductions in tolls

The Review has identified potential funding sources within the tolling system that could potentially be used to achieve reductions in tolls. Some of these sources could come from government and others from concessionaires. Some are essentially of a one-off character, and some are on-going. To achieve sustained reductions in tolls it is necessary to identify ongoing funding sources.

One potential source of funding identified in our Interim Report is the balance of toll relief funding not committed to continue at this stage by government. We note here the current commitment for Cashback to continue on the M5. If toll relief was removed, up to around $250 million per annum could be diverted into reducing tolls. This could amount to a drop in average tolls of around 10%. Alternatively, if toll relief continued at this level, government should continue to pursue from concessionaires the benefit they obtain from the impact this toll relief has on induced traffic on the tolled motorways.

Transurban has suggested a range of potential funding sources which it considered could be tapped into to help support network tolls and to achieve reductions in tolls. These sources related to existing concession contracts and were considered to have a potential value of around$1.5 billion to $2.0 billion. Negotiations with government were flagged as being necessary to unlock this potential.

Given commercial sensitivities and the potential for government-concessionaire negotiations, we will not comment specifically on them. However, this does point to the potential to tap into funding sources to achieve lower tolls. In general, funding sources from concessionaires may be created by initiatives which increase revenues or decrease costs for concessionaires. In our Interim Report we commented on the suggestion that tolls today could be reduced by allowing the length of concessions to increase. We pointed out that this would not amount to real reform if it was just an intertemporal transfer of toll burden. However, if it was accompanied by genuine reforms to tolling arrangements it would be more acceptable. The benefits to concessionaires of extension of contracts cannot be measured on the basis that a single dollar lost today is worth a single dollar in the future. Obviously, market based discount needs to apply to the value of the future dollar. But the discounting should take into account what seems to be a significant revealed preference of investors and Transurban for long-term concessions. There is an intertemporal efficiency case for extending the duration of tolls because the long life of motorway infrastructure (say over one hundred years) exceeds the life of concessions (say thirty years). This point however requires caution and deeper consideration than it has been given in this report, including for example, the competition issues and the reform issues referred to elsewhere in this report. We are also mindful that the potential competition impacts of possible funding sources will need to be considered. This is again a relevant consideration in relation to increasing concession lengths as increasing the lengths of concessions would defer the time when other potential entrants could bid against an incumbent for a renewal of a concession contract. We would be less concerned about this if there was an effective toll oversight mechanism in place over the existing contract. A major issue that should be considered in relation to funding sources is whether traffic risk could be better mitigated than is now the case. Concessionaires and financiers act on the basis that concessionaires have this risk. Their required returns are, therefore, higher than otherwise and accordingly so are tolls. A better system for managing traffic risk is needed. One proposal here, which we call the Net Present Value Revenue Approach (NPVR), which essentially allows concessionaires the time needed to recover their NPVR expectation built into the BCFM attached to their contract. When this NPVR is achieved, the concession ends. Traffic risk is avoided in this process. We consider the merits or otherwise of this approach and its possible implications for new and for existing contracts should be more fully explored by the NSW Government.

Current toll regulation through contracts gives significant incentive for concessionaires to seek improvements in efficiency and lower costs so they are unlikely to want to give any of this away. But contracts may impose restrictions which entail unavoidable costs and removal of the restrictions may enable the costs to be avoided. Some restrictions on financing arrangements may be in this category. Whether the benefits of doing this outweigh the costs is a matter that should be considered.

Reforms to toll relief

Toll relief may contribute to the objectives of toll reform. It may deal with concerns about tolls that may not otherwise be able to be rectified. It may provide transitionary assistance until reforms are put into place. It may attempt to deal with issues that are really beyond the scope of tolls but provide some comfort or support to the recipients. Whatever the objective, it is desirable that it be clearly articulated and addressed in a least cost way. Our general presumption is that the government should aim for tolls to be set as efficiently, fairly, transparently and simply as possible and avoid the need for toll relief. Significant benefits could be achieved by the whole community if funding was diverted from existing toll relief schemes into reducing tolls. The review considers that toll relief could be reformed by applying the following principles.

If toll relief is considered necessary, it should:

- be targeted to those most in need, to the extent practicable
- the assessment of need would take account of whether the motorist has viable alternative travel options, such as public transport
- avoid unnecessary distortion to tolls
- apply to travel over the whole toll network; and
- have clear objectives, be monitored and transparently evaluated.

Vehicle classifications and multipliers

Tolls currently vary by class of vehicle based largely on vehicle dimensions. Class A covers vehicles of 2.8 metres or less in height and 12.5 metres in length. There are a few variations to this affecting the Eastern Distributor and M5 South-West motorway, which should be removed for consistency.

Class A dimensions cover ordinary vehicles mainly and class B covers all vehicles exceeding Class A dimensions. Toll charges for Class B are generally a multiple of those in Class A. There are significant variations between roads as to what this multiple is. On the Sydney Harbour Crossings the multiple is 1 (one-way only); on the Cross City Tunnel and Eastern Distributor (one-way) it is 2; on Lane Cove Tunnel it is 3.4 and on the other five toll roads it is 3. The Review is proposing a modified vehicle classification structure and uniform definitions and multipliers across all the tolled motorways, consistent with the network tolling uniformity objective. Summary of recommended changes to vehicle classes and multipliers provided below.

Figure 0.6 Recommended future vehicle multiplier arrangements.

	Definition	Multiplier	Current toll classification	Proposed new classification
Motorcycle (a new class)	A two wheeled motor vehicle, including motor vehicles with a trailer or side car.	0.5	A	1
Car (Class A)	A vehicle that is: • not a motorcycle • is 2.8 metres or less in height • and 12.5 metres or less in length.	1	A	2
Mid Class Heavy Vehicle	A vehicle that is • not Class 1 or 2 and • 3.3 metres or less in height and • 12.5 metres or less in length.	2	B	3

	Definition	Multiplier	Current toll classification	Proposed new classification
Other Heavy Vehicle (Class B)	A vehicle that is not Class 1, 2 or 3	3	B	4
Notes:	Vehicle dimensions include the dimensions of loads and trailers, except towed recreational vehicles, as registered, which will be rated on the towing vehicle only. The classifications based on axle counts are superseded.			

Source: Independent Toll Review

The Review considers that the impact of these changes should be closely monitored to assess whether the reduction in multiplier for Mid Class Heavy Vehicles achieves the objective of encouraging more of these trucks to use the toll motorways rather than ancillary and local roads. If not successful, the higher multiplier may need to be restored to better balance toll revenues.

We consider that the multiplier on very heavy, high productivity vehicles could be increased based on costs imposed on the roads but have not recommended it at this stage given the impact of other network toll changes affecting these vehicles. Higher productivity vehicles will also have greater capacity to pay.

We note that NSW Government has announced a Freight Policy Reform Program to improve the safety, sustainability and productivity of freight transport, which is currently engaging with industry and the public. Our recommendations should be considered alongside the work of this program, and the outcomes of the current two-year trial offering rebates on current Class B multipliers to vehicles travelling on the M5 East and M8.

10. Assessment of toll reforms

The Review has undertaken traffic and modelling of relevant scenarios relating to the introduction of network tolling. Sensitivity testing of key assumptions has also been undertaken.

We have tried different ways of applying our declining distance and infrastructure charging approach, and improved it based on the results. Through modelling we considered how changing and lowering the tolls will affect the drivers' benefits, such as paying less in tolls and travelling faster; and how it will affect the road network, such as more cars using the toll roads, and reduced congestion on toll roads, ancillary and local roads. We anticipate this work continuing and being further refined after the Review and before network tolls are introduced.

The traffic models used have been developed by TfNSW and independent experts over time to world class standard. The key inputs for the traffic modelling process included:

- Traffic Demand: inputs were based on 2022 forecast land use and demographics for Sydney (which determines the size of the travel market) and spatial distribution of employment which significantly shapes travel patterns across the city.
- Transport Network: inputs were based on the physical transport infrastructure and services (including the road network and public transport services), as well as monetary costs (e.g. tolls, parking and public transport fares) which influence travellers' options to travel.
- Economic and Behavioural: Sydney toll roads use various measures to determine toll increases and affordability. These include the Consumer Price Index (CPI) and Average Weekly Earnings (AWE). Updated Value of Travel Time Savings (VTTS) inputs, based on 2023 surveys, were used to estimate users' willingness to pay for travel time savings.

- Observed traffic behaviour: The traffic model has been calibrated and validated using a range of observed datasets which describe the use of the Sydney road network. This includes traffic counts at around 1,000 locations across Sydney, travel time data for key corridors and travel patterns from the Household Travel Survey.
- Modelling was conducted for 2026, considered the earliest possible year for implementing toll reform, and for 2031, 2041 and 2051 when all committed toll roads and major motorway upgrades, such as the Western Harbour Tunnel, M6, Sydney Gateway, M12, and M7 widening, are expected to be operational. However, as the future trends largely mirror those of 2026, the focus of discussion in the Report is 2026.

Three scenarios were modelled, which we refer to as Status Quo; Network Toll Restructure; and Network Toll Restructure and Reduction. These are described in Figure 0.7. The network toll scenarios can be compared to the Status Quo and to each other. The network scenarios are presented as bookends of what we anticipate could apply. On the spectrum of possible outcomes between these 'bookends', our preference would be to see something closer to the Network Toll Restructure and Reduction scenario end than the Network Restructure scenario alone.

Figure 0.7 The network scenarios compared to the Status Quo and each other

	Status Quo	Network Toll Restructure	Network Toll Restructure and Reduction
Tolling structure	Based on the continuation of existing tolling arrangements into the future individual concessions	• Declining distance and infrastructure charge. • Total tolls paid is equal to Status Quo (2026). • Reduction in tolls through reinvestment of additional revenue flowing to government from a) two-way tolling to lowering tolls, and b) the introduction of heavy vehicle multipliers on the Sydney Harbour Crossings.	• Declining distance and infrastructure charge. • Total tolls paid by motorists is equal to the Status Quo 2026, less $650m per year (real 2026) of additional funding sources within the tolling system. • Reduction in tolls through reinvestment of additional revenue flowing to government from a) two-way tolling to lowering tolls, and b) the introduction of heavy vehicle multipliers on the Sydney Harbour Crossings.
Toll relief	Assumes continuation of M5 Cashback.	Assumes continuation of M5 Cashback.	Assumes continuation of M5 Cashback.
Two-way tolling	• One-way tolling continues on the	• Two-way tolling is in place on the ED and the SHC from 2026.	• Two-way tolling is in place on the ED and the SHC from 2026.

	Status Quo	Network Toll Restructure	Network Toll Restructure and Reduction
	Eastern Distributor (ED). • Two-way tolling is in place on the Sydney Harbour Crossings (SHC) from Western Harbour Tunnel (WHT) opening assumed to be in 2028.	• WHT is assumed to be part of the SHC from 2028.	• WHT is assumed to be part of the SHC from 2028.
Vehicle classes	Two vehicle classes: Class A and Class B as per the current arrangements.	Four vehicle classes: Class A and Class B, a new class for motorcycles, and a new class for MCHV.	Four vehicle classes: Class A and Class B, a new class for motorcycles, and a new class for MCHV.

Source: Independent Toll Review

Inputs for modelling Network Toll Restructure and Network Toll Restructure and Reduction scenarios

Figure 0.8 Indicative Network Toll Restructure and Network Toll Restructure and Reduction structures in nominal 2026 dollars

	Network Toll Restructure	Network Toll Restructure and Reduction
Declining distance rate components		
Toll for first distance segment	$0.65/km	$0.50/km
Distance segment length	4 km	4 km
Declining percentage	15%	15%
Infrastructure charges		
Sydney Harbour Bridge, Sydney Harbour Tunnel (Western Harbour Tunnel assumed to be aligned from 2028)	$4.70 (peak) $1.70 (off-peak)	$4.20 (peak) $1.60 (off-peak)
Cross City Tunnel	$5.00	$3.00
Eastern Distributor	$6.00	$3.00
Lane Cove Tunnel	$4.00	$2.00
NorthConnex	$5.00	$2.00
WestConnex – M8	$2.50	$0.50

	Network Toll Restructure	Network Toll Restructure and Reduction
WestConnex – M4-M8 Link (Haberfield to St Peters)	$4.00	$1.00
WestConnex – M4-M8 Link and Rozelle Interchange (Haberfield to Rozelle)	$1.50	$0.50
WestConnex – M4-M8 Link and Rozelle Interchange (St Peters Interchange to Rozelle)	$2.50	$0.50
WestConnex M4 East Tunnels	$1.50	$0.50
WestConnex M5 East Tunnels	$1.50	$0.50
M6 Stage 1	$0.50	$0.50
Vehicle class multipliers		
Motorcycles	0.5x	0.5x
Light Vehicles	1.0x	1.0x
Mid-Class Heavy Vehicles	2.0x	2.0x
Large Heavy Vehicles	3.0x	3.0x
Point toll		
Military Road E-Ramps	$2.15	$2.15

Source: Independent Toll Review

Modelling outputs

Analysis suggests that changes in tolls and travel times under network tolling, when considered together, are favourable for motorists in Sydney's outer north, south and west. Most travellers across the network will enjoy faster journey times and lower toll costs. Benefits to motorists are greater under the Network Restructure and Reduction scenario than the Network Restructure scenario. Importantly significant travel time savings occur on ancillary and local roads with diversion to the toll roads especially under the Network Restructure and Reduction scenario.

The analysis suggests that two-way tolling on the Eastern Distributor, and the Sydney Harbour Crossings are the changes that are contributing most to some motorists experiencing unfavourable outcomes, not the general structure of network tolls.

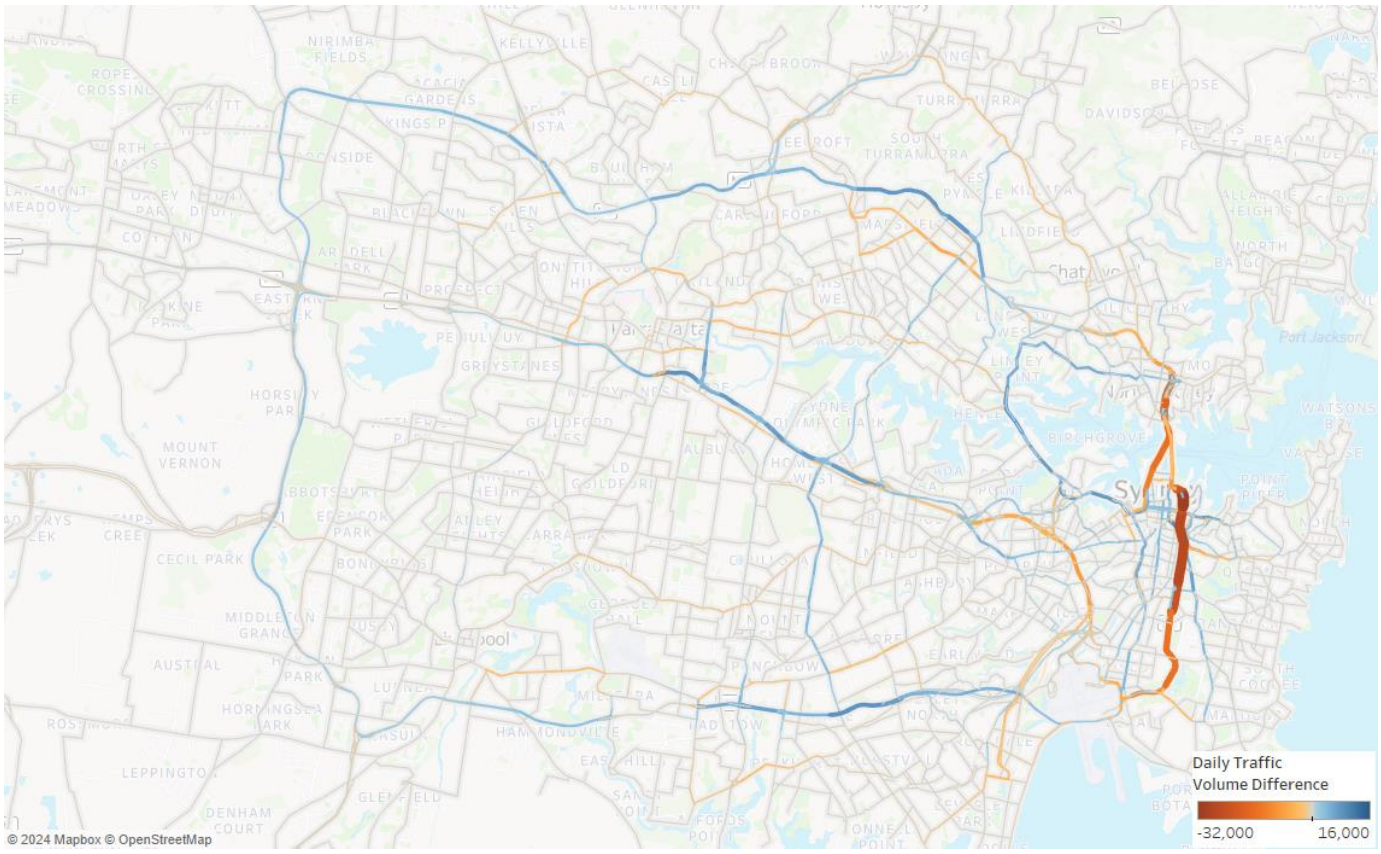
The introduction of network tolls is anticipated to alter motorist behaviour. Traffic impact analysis (shown below) indicates forecast changes in traffic patterns for an average school day in 2026. In some areas (marked orange to red), a reduction in traffic volumes is expected. This reduction is likely to lead to increased network speeds, thereby contributing to overall travel time savings. In contrast, other areas show a forecast increase in traffic volumes (marked in blue). This could mean better use of roads with available capacity. Conceivably there could be added pressure on parts of the road network, requiring further study of options at a more detailed level, including modifying tolls or adjustment of the parameters available in the proposed tolling system, to address this.

Network Toll Restructure scenario

The Volume Difference Plot illustrates an increase in the volume of trips on tolled roads around the M2, M4, and M5 East sections of the network compared to the Status Quo. Along these corridors, there are often reductions in volume on alternative road routes.

Conversely, traffic is expected to be diverted from motorways such as the Sydney Harbour Bridge and Tunnel, Eastern Distributor, and M8. For the first two, this is primarily due to the introduction of two-way tolling, with the Sydney Harbour Bridge and Tunnel also incorporating time-of-day tolls. Traffic modelling estimates that the modelled time-of-day tolls will reduce traffic volumes on the Harbour Crossing during peak periods and increase traffic during off-peak times. This results in a net decrease in demand for the Harbour Crossings. As a result, alternative routes like the Iron Cove Bridge and Anzac Bridge will experience increased traffic during peak periods and decreased traffic during off-peak times. Whilst this may demonstrate the impact of the changes to peak and off-peak tolls on the Sydney Harbour Crossings that were modelled, this is not an outcome we would want to see. Further adjustments to model inputs can be made to deal with this and optimise network traffic flows.

Figure 0.9 Daily Traffic Volume Difference Map – Status Quo vs. Network Toll Restructure

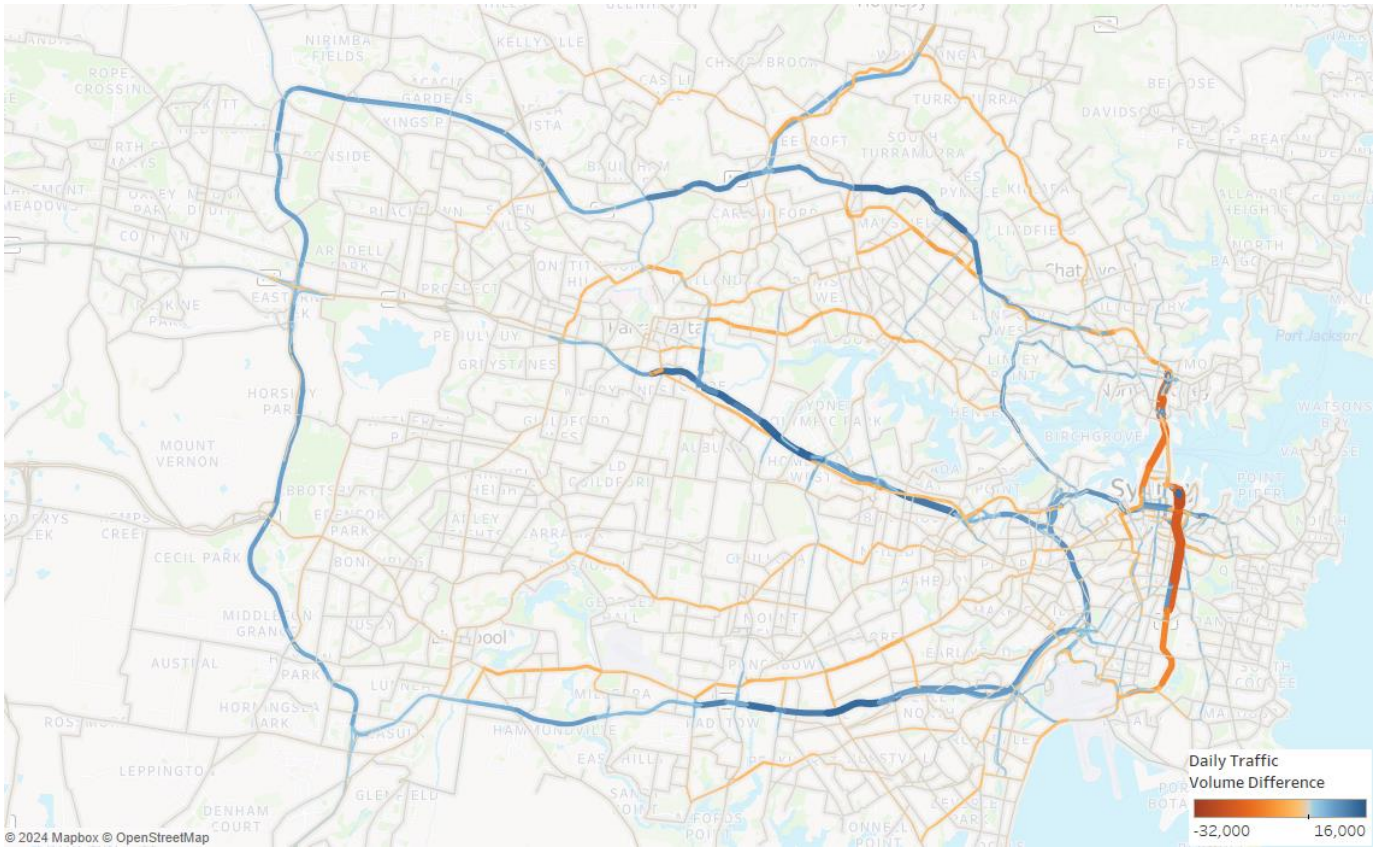


Source: Independent Toll Review

Network Toll Restructure and Reduction scenario

Traffic volume increases are forecast for the M2, M4, M5 East and M5 South-West, and M7 compared to the Status Quo due to the reduction in tolls under this option. Conversely, traffic reductions are forecast for the Sydney Harbour Crossings and the southbound direction of the Eastern Distributor. The implementation of two-way tolling is again expected to add pressure to roads nearing capacity. A review of daily traffic changes suggests that some mitigation options will need to be investigated to alleviate any potential decrease in road user experience on the M2, M7, and M5 South-West toll roads, as well as key roads such as River Road, Victoria Road, and James Ruse Drive. However, with the opening of the Western Harbour Tunnel, traffic forecasts indicate that traffic may divert from River Road and Victoria Road to the Western Harbour Tunnel.

Figure 0.10 Daily Traffic Volume Difference Map – Status Quo vs. Network Toll Restructure and Reduction



Source: Independent Toll Review

As a snapshot of the outcomes from network tolling, the average toll has been calculated and compared to the Status Quo. This has been completed for Class A vehicles and all vehicles.

Figure 0.11 Average toll by scenario in 2026

Vehicle type	Status Quo	Network Toll Restructure	% reduction: Network Toll Restructure compared to Status Quo	Network Toll Restructure and Reduction	% reduction: Network Toll Restructure and Reduction compared to Status Quo
Class A	$9.02	$7.62	16%	$5.43	40%
All vehicles	$11.18	$9.11	19%	$6.48	42%

Source: Independent Toll Review

Average tolls are lower in both network toll scenarios, for all vehicles, as compared to the Status Quo scenario, but especially with the Network Toll Restructure and Reduction scenario.

A significant factor in the lower average tolls in the network tolling scenarios is that more trips in these scenarios involve paying a toll. This is largely due to the introduction of two-way tolling on the Sydney Harbour Crossings and the Eastern Distributor. With more trips paying a toll, the average toll per tolled trip reduces. Another factor is the introduction of multipliers for heavy vehicles, including the proposed MCHV class on the Sydney Harbour Crossings, which will generate additional revenue.

The reductions in average tolls are significant. For Class A vehicles, average tolls compared to the Status Quo drop by 16% with the Network Toll Restructure scenario and 40% with Network Toll Restructure and Reduction scenario. The equivalent changes for the All Vehicles are 19% and 42% respectively.

Neither of the network toll scenarios we have presented is the final or optimal solution. A more realistic scenario would be somewhere between them, in the direction of the Network Toll Restructure and Reduction scenario, balancing the trade-offs between revenue generation, traffic management, equity and affordability.

The tables below show the proportion of Class A trips (by trip length band) where tolls are expected to increase and decrease under each of the network toll scenarios.

Figure 0.12 Class A, indicative toll difference, Network Toll Restructure compared to Status Quo, 2026

Class A, Toll difference, Network Toll Restructure compared to Status Quo, 2026							
Trip distance	$3+ lower	$1–3 lower	$0–1 lower	$0–1 higher	$1–3 higher	$3+ higher	Total % of trips
<10 km	3%	10%	6%	14%	3%	16%	52%
10–25 km	3%	9%	5%	7%	4%	3%	32%
>25 km	4%	4%	3%	1%	4%	1%	16%
All trips	11%	23%	14%	22%	10%	20%	100%

Source: Independent Toll Review

Figure 0.13 Class A, indicative toll difference, Network Toll Restructure and Reduction compared to Status Quo, 2026

Class A, Toll difference, Network Toll Restructure and Reduction compared to Status Quo, 2026							
Trip distance	$3+ lower	$1–3 lower	$0–1 lower	$0–1 higher	$1–3 higher	$3+ higher	Total % of trips
<10 km	10%	13%	10%	2%	3%	14%	52%
10–25 km	17%	7%	4%	0%	0%	2%	32%
>25 km	14%	1%	1%	0%	0%	0%	16%
All trips	41%	22%	15%	2%	3%	17%	100%

Source: Independent Toll Review

The tables indicate:

- The shares of trips by distance bands are consistent across both network toll scenarios, and most trips are shorter trips of less than 10 km (52%).
- With the Network Toll Restructure scenario, the proportion of trips with lower tolls (48%) and higher tolls (52%) is relatively similar.
- The Network Toll Restructure and Reduction scenario has more and bigger trip toll reductions; around 78% of trips pay less tolls.

The Final Report contains a geographic representation of the average toll change for private vehicles under the Network Toll Restructure scenario and Network Toll Restructure and Reduction scenarios relative to the Status Quo (Figures 10.10 and 10.11).

Also in the Final Report are details of tolls for selected trips under the Network Toll Restructure and Network Toll Restructure and Reduction scenarios compared to the Status Quo (Fig. 10.12). They show many routes where vehicle classes experience lower tolls under the network tolling scenarios.

The selected trip toll data indicates network tolling maintains a correlation between distance and tolls, but the declining distance kilometre rate generally results in lower tolls for long-distance trips compared to the Status Quo.

Network tolling also offers motorists clear benefits on the M2 and M5 South-West, where currently drivers incur charges when they pass fixed toll points. Under network tolling motorists pay instead a declining distance charge for the actual distance they travel (and infrastructure charges as applicable), leading to lower tolls.

There are routes where tolls are forecast to increase. Introducing two-way tolling on the Eastern Distributor and Sydney Harbour Crossings along with higher infrastructure charges on these routes, increases tolls for certain trips, such as those from the CBD or north of the Harbour Bridge to Sydney Airport.

Additionally, the cumulative nature of infrastructure charges raises tolls for routes involving multiple ventilated tunnels and/or the Sydney Harbour Bridge, despite the individual charges being relatively low.

There are some routes where the effects of both two-way tolling and multiple infrastructure charges are evident, resulting in higher tolls.

The introduction of the MCHV class generally leads to lower toll costs across the network for this vehicle class, as it has a multiplier of 2x under network tolls, compared to 3x under the Status Quo.

Heavy Vehicles also generally have a lower set of tolls under network tolls. Exceptions, where tolls are higher for Heavy Vehicles and the MCHV class, occur mainly where tolling has been expanded (northbound tolling on Sydney Harbour Crossings and southbound tolling on the Eastern Distributor) or charging by vehicle class introduced (Sydney Harbour Crossings).

Sensitivity analysis of results

Sensitivity analysis assists in understanding how modelled travel behaviour changes in response to changes in input assumptions. For example, if we lower the toll per kilometre by a small amount, does the model predict a large or small change in the number of vehicles using toll roads? By doing this kind of analysis we can identify which assumptions are most influential on the modelled outcomes.

Results of sensitivity testing undertaken for the Review on the Network Toll Restructure scenario 2026 are shown below. In general, changes to the VTTS parameters resulted in a larger proportional shift to the number of toll road users. Average tolls were more sensitive to changes in the initial distance segment toll, as opposed to alterations to the segment distance or declining rates. An initial distance segment reduction from $0.65/km to $0.60/km increased daily traffic on the network by approximately 23,000 vehicles but resulted in $120 million less in annual total tolls paid.

Figure 0.14 Modelling sensitivity tests, per cent change from Network Toll Restructure, 2026 all vehicles

Sensitivity test	Change in average school-term weekday toll road users	Change in annual total tolls paid	Change in average toll
Decrease initial segment toll from $0.65/km to $0.60/km	+2.0%	-3.6%	-5.5%
Decrease segment distance from 4km to 3km	+0.8%	-4.6%	-5.3%
Increase declining distance rate from 15% to 20%	+0.4%	-3.9%	-4.4%
Decrease all infrastructure charges by 10%	+0.6%	-1.8%	-2.3%
Increase VTTS parameters for all trip purposes and vehicle classes by 20%	+5.9%	+6.6%	0.6%
Decrease VTTS parameters for all trip purposes and vehicle classes by 20%	-7.6%	-8.4%	-0.9%

Source: Independent Toll Review

The sensitivity analysis demonstrates the flexibility of the declining distance and infrastructure charging approach, and how small adjustment to tolling components result in different outcomes. The initial segment toll, segment distance block sizes, declining distance rate and variable fixed infrastructure charges can all, either separately or in combinations, be varied as required to achieve different traffic and tolling outcomes across the network as a whole and importantly at particular parts of the network. For example, increasing the declining distance rate from 15% to 20% generally attracts more trips along corridors that enable long-distance travel, such as the M2 and M7. Conversely, reducing some infrastructure charges has larger impacts on the east side, especially on the Eastern Distributor.

11. Institutional reforms

The introduction and operation of network tolls and related reforms will require new institutional arrangements. This will be the case irrespective of the precise way in which network tolls are implemented. Implementation could be either through government-concessionaire negotiation or be government-led.

The Review has proposed the establishment of a State-owned tolling body (NSW Motorways) to lead the reform process and be responsible for determining network tolls in consultation with concessionaires and other stakeholders. It is also recommending IPART have a significant role in oversighting tolls and contributing to the understanding of tolling issues. Legislative change will be necessary to underpin the change to network tolls.

NSW Motorways

The Review considers that the NSW Government should take control of motorway tolls and the motorist experience through NSW Motorways. It should have responsibility for driving the toll reform agenda. NSW Motorways should be a separate and dedicated State-owned entity with full day-to-day independence over the operational and commercial decisions it takes to achieve the expectations placed upon it by government. Its objectives should align with the long-term interests of NSW motorways and motorists. One of its objectives should be the promotion of competition where feasible and desirable. NSW Motorways should apply a pro-competition focus to every aspect of its decision-making. NSW Motorways would be expected to engage staff with the necessary expertise to perform its functions. With investment over time, NSW Motorways will build strong public sector capability and expertise in its tolled motorways providing government and motorists with enhanced value for money.

NSW Motorways will operate the network trip reconstruction engine (C2.5). It will receive the data collected and processed by individual toll roads and determine the value of each individual trip across one or more separate toll roads based on the new network tolling model. NSW Motorways will provide the necessary trip data to toll retailers to ensure the right amounts are charged to motorists and remitted to toll road operators.

It is proposed that the E-Toll toll retailer business could transfer from TfNSW to NSW Motorways. NSW Motorways, as a dedicated body with greater autonomy, is expected to be able to provide a stronger user focus and be a more proactive competitor.

TfNSW currently issues toll notices (on behalf of toll road operators) to motorists who have not arranged to pay their tolls within 72 hours. It is proposed that this ‘fee-for-service’ function also transition to NSW Motorways. NSW Motorways would take over from TfNSW in relation to toll notice improvements (e.g. digitised toll notices, immediate notifications and renaming ‘toll notices’ to ‘invoices’).

Richer customer-level data will assist NSW Motorways in assessing and modelling the customer impact of toll adjustments and reforms. NSW Motorways will be in a position to understand the characteristics, circumstances and preferences of all toll road users regardless of their choice of toll retailer.

NSW Motorways will work with industry and relevant government agencies to lead the implementation of motorist experience improvements. It will do this as a toll retailer and through a significant customer advocate role.

The Review sees potential merit in a broader role for NSW Motorways as: (i) an operator of government-owned toll roads, and/or (ii) the government counterparty for concession agreements with the private sector. Transferring road ownership would make NSW Motorways a more conventional roads authority, taking a direct role in the development and operation of the toll road network, and directly managing concession contracts. It may also be empowered to undertake direct borrowings and investment if required.

There appears to be significant potential benefits to be achieved by bringing public toll road assets and PPP contract management responsibilities into NSW Motorways. However, there is the potential for conflicts of interest if NSW Motorways was both the network toll setter as well as the operator of some toll roads. These potential conflicts would need to be addressed in appropriate ways, such as ring-fencing governance of regulatory functions from market functions. The involvement of IPART in overseeing toll setting (discussed below) may also assist in dealing with any potential conflicts, real or perceived, if government wished to proceed with a vertically integrated operating model for NSW Motorways.

Concessionaire negotiations and revenue adjustments

Under the current system the tolls paid by motorists are set out in toll schedules in concession agreements. The introduction of a unified system of tolling will change the tolls motorists pay from what is currently in place. This change in tolls is likely to change traffic volumes and toll revenue on each individual toll road – some toll road operators would receive more toll revenue, and some less revenue, than expected under existing contractual arrangements.

A government-concessionaire negotiated approach to establishing network tolls may be possible, with concession agreements then being amended to encompass the new network tolls, as concession owners have shown a willingness to achieve network reform. However, to ensure the deliverability of toll reform outcomes, a Revenue Adjustment Mechanism should be developed where, as far as possible, toll road operators receive a similar amount of revenue as they would have received had motorists been charged under existing toll arrangements in the event that a negotiated outcome is not achievable.

Principles for a Revenue Adjustment Mechanism

Different assumptions, criteria, models and processes can be adopted to achieve revenue adjustment. As a starting point, the Review assumed, as a minimum, that revenue available from two-way tolling on existing toll roads that are currently only tolled one-way, could be injected into the setting of new network tolls. Additional funding sources identified by government and concessionaires can also be applied to support toll reduction as well as restructure.

This will enable some trips to be cheaper for motorists than under Status Quo tolls and, without revenue adjustment, result in some toll road operators collecting less toll revenue relative to the Status Quo. It is proposed that any additional toll revenue earned by operators, together with the toll revenue raised from two-way tolling and other funding sources, be used to ‘true-up’ the revenue shortfall of those operators that receive less revenue under new network tolls.

Our approach at this stage in considering revenue adjustment is primarily focused on the system as a whole. At the level of each individual toll road operator, we expect a similar approach can be adopted.

We considered potential options for revenue adjustment that were aimed at achieving as far as possible the following principles:

1. Motorists pay, in aggregate, no more than they would under the current tolling regime.
2. There is no cost to the government, other than the implementation cost to establish network tolling and the contribution of revenue raised from two-way tolling.
3. Toll road operators should receive a similar amount of expected revenue as they would have received had motorists been charged under existing toll arrangements (the ‘status quo’).

In the event that agreement to amend the concession agreements cannot be reached, the NSW Motorways entity should have powers to apply revenue adjustment principles to resolve the revenue adjustment outcome. A centralised independent issue resolution process would support the process.

It is expected that there will be close consultation with toll operators, and all interested parties, in establishing this framework. Enabling the implementation of revenue adjustment via legislation will ensure a timely, effective and equitable outcome for all stakeholders, and transparency for the public who can see where their toll revenue is going.

To support the Revenue Adjustment Mechanism, it is proposed that a toll operators' fund be established to enable the distribution of network toll revenue (including two-way toll revenue and other funding sources) between toll road operators and ensure that each toll road operator is paid the amount due for vehicles travelling on its toll road.

Principles for revenue adjustment

Two options were developed for preliminary consultation with toll road operators and their investors:

Option 1 – status quo traffic forecast: Under this option, toll road operator revenue would be determined by the application of tolls under existing contracts (being the tolls that would have applied if network tolling were not introduced) to forecast traffic volumes expected to have occurred had there been no change to tolls for motorists. The toll road operator's status quo traffic is forecast by modelling the traffic expected under existing contract tolls. The toll road operator's revenue is determined as a calculation of contract toll multiplied by the modelled traffic volume. Conceptually, this keeps toll operators 'whole' from a revenue perspective. A significant side effect of this approach is that it allocates traffic risk and opportunity to the government.

Option 2 – price elasticity of demand: This approach works off actual traffic volumes rather than by forecasts. At the aggregate level, the actual traffic volume would be discounted to the extent that the volume was boosted by the lower tolls brought about by support from funding sources (the elasticity adjustment). The elasticity coefficient would initially be determined by forecasting the elasticity coefficient discount. After a period of time under network tolling, the forecast elasticity coefficient could be updated to reflect actual traffic volumes observed from the change in tolls. Under this option, toll road operator revenue remains a function of actual traffic volume and therefore toll operators remain exposed to underlying traffic demand risk and opportunity. This option avoids the problem of traffic risk transfer in option 1.

The preference of concessionaires is to work in partnership with government on potential solutions that could be implemented as a one-off adjustment or reset to support implementation of network tolling rather than having a Revenue Adjustment Mechanism applied. The Review supports a government-concessionaire negotiated approach as long as it meets the end 2024 target timeline but would still want to see motorists being billed once for each trip, not separately for the components of the trip provided by different toll road operators. A statutory-backed Revenue Adjustment Mechanism would be an important backstop to this.

There are opportunities for IPART to contribute to reform

The involvement of independent regulators such as IPART in NSW is common in industries where substantial investments and inelastic demand are present, including where there is private ownership. These include water, energy, rail and airports.

IPART is established through the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act), which sets out its primary functions and governance. IPART's involvement in network tolling issues would bring expertise and greater transparency to the consideration of tolling issues and the impacts of reform.

Industry participants did not generally favour a toll regulation role for IPART as was promoted by academic commentators and strongly supported by other groups and motorists, including the NRMA.

Any involvement of IPART would need to have regard to the provisions in concession contracts as well as its own Act and any other relevant legislation. In current circumstances we do not consider IPART needs to have a role of determining network tolls, but we would not rule out this possibility for some time in the future. We see three important roles for IPART at the current time:

- Price monitoring
- Investigation or analysis of specific tolling issues
- Recommendations on tolls

Annual monitoring would support transparency and public confidence in tolls. It could assist in monitoring the impacts of reforms and related concession-related matters, including progress of concessionaires in realising their BCFM expectations. It could usefully assess the operation of toll relief schemes.

IPART should commence an investigation as soon as possible into the appropriate methodology for assessing tolls. In referring this matter to IPART, the relevant Minister should request that IPART take the Proposed New Tolling Principles into consideration.

IPART could provide input and advice to NSW Motorways on tolls, including advice on time-of day-tolls.

Legislation

Legislation is needed to provide the framework for the reforms proposed by the Review. Preliminary consideration has been given to what the legislative package should include. It is acknowledged that significant further review and consultation is required to develop the draft legislation.

It is anticipated the reforms would be implemented through a toll reform bill which would include changes to the *Transport Administration Act 1988* (TAA) (to establish NSW Motorways and any statutory functions) and to the *Roads Act 1993* (Roads Act) and *Roads Regulation 2018* (Roads Regulation). The Roads Act and Roads Regulation would be the vehicle for reform of tolls.

A new division would be introduced into the Roads Act, largely replacing the existing tolling provisions.

The proposed bill (together with revised Roads Regulation) would:

- enable efficient, fair, simple and transparent tolls for motorists
- strengthen consumer rights through the establishment of the tolling customer advocate
- improve transparency of decision-making about tolling
- provide for any necessary revenue adjustment principles
- simplify compliance and enforcement
- protect the interests of road owners and lessees in a network tolling scheme
- clarify, as necessary, respective roles and responsibilities of NSW Motorways and TfNSW.

Establishing NSW Motorways

NSW Motorways would be established under a new part inserted into the *Transport Administration Act 1988* (TAA). NSW Motorways would have the functions conferred on it under the TAA, the Roads Act, and any other relevant Act. A list of suggested functions, powers and obligations is as follows:

Asset owner functions

- Commission infrastructure and systems to facilitate network tolling (including powers to acquire and enter land).

- Operate the network-wide tolling back office for trip processing to ensure the right amounts are charged to motorists and credited to the appropriate road owners.
- Service provider to toll road operators and motorists.
- Manage the toll operators' fund.
- Conduct a business using the assets and staff of NSW Motorways.

Retailer functions

- Conduct the E-Toll business of the State on an inter-operable basis.

Regulator functions

- Set the toll road network tolls in consultation with concessionaires and in consideration of any recommendations from IPART.
- Promote and drive reform of tolling to enhance transparency and improve the experience for motorists.
- Make revenue adjustment determinations.

The legislation would set out the requirement for NSW Motorways to be overseen by a board of independent directors to be appointed by the relevant Minister.

Establishing IPART role

The IPART Act provides the framework for the role of IPART. The new legislation would empower IPART (by Ministerial referral) to oversee tolls by providing for three roles:

- price monitoring
- investigation or analysis of specific tolling issues
- recommendation on tolls.

The legislation would also allow IPART to give advice to the Minister on the appropriate maximum roaming fee or mechanism for regulating roaming fees.

Toll road operators and toll retailers will be required to provide information to IPART to enable it to oversee tolls and roaming fees. The legislation would provide IPART with effective information gathering powers to perform this task – equivalent to those the ACCC has for this type of work.

Phasing

Toll reforms can be seen as occurring over three phases including the establishment of NSW Motorways and new legislation, implementation of network tolls and then identification of further broader reforms. It could be two years before a network system of tolls can be initiated but there are things we recommend that can occur before then, especially reforms to improve the motorists' experience in using toll roads. The Reviewers understand that many will be frustrated about the length of time required to achieve substantive toll reform, however, we are dealing with a legacy of several decades and without these changes this legacy will continue until at least 2060, when the last of the current concessions are due to expire.

Phase 1

Phase 1 involves legislation being passed by the government to:

- Provide clear authority, and set criteria, for tolls to be set on a more uniform basis across the network.

- Establish NSW Motorways to assume responsibility for setting network tolls in the future. It would be expected that NSW Motorways would initially move to implement the network structure recommended by the Review.
- Establish a role for IPART to assist network toll setting by NSW Motorways.
- Provide a mechanism to resolve expeditiously and fairly, issues relating to the distribution of network revenues to individual toll road operators to maintain the current status quo in this regard in the event that this may be required to progress toll reform.

Phase 2

Phase 2 will see the implementation of toll reforms to reduce tolls, including the introduction of new network tolls.

The Review supports negotiation as the first avenue for implementing network tolls. In the event the negotiations fail to deliver true reform, the legislation will be ready to invoke.

Phase 3

Phase 3 of tolling reform might involve consideration of other ways to reduce the toll burden on motorists by, for example:

- Removing tolls from some roads if the State had the financial capacity.
- Broadening the tolling base by incorporating motorways that are now part of the continuous network but remain untolled. Exemptions from the tolled network create distortions and complicate operation of the tolled network. Including them within the tolled network would be consistent with the efficiency, fairness, simplicity and transparency criteria used to evaluate existing tolls. This may be appropriate in the longer-term particularly with the likelihood of broader road pricing reforms being introduced. However, as it would be contrary to existing government policy to impose tolls on currently untolled roads and also road pricing is not within our terms of reference, we have made no recommendation on these particular matters.
- Amending the approach to PPP agreements to enhance competition. This may involve taking a stronger approach to designing contracts which are consistent with the promotion of competition and improving toll setting processes.

12. Competition reforms

Transurban's high toll road market share is likely to give it significant incumbency advantages over other competitors in the market, and over potential competitors. This is despite the requirements imposed on the company by court-enforceable undertakings in 2018 to publish traffic data useful in modelling for concession bids. The company has been able to capture efficiency gains from its growth in market share over time. Through its partnership with the government across the toll road industry, it has been able to garner significant political influence. The company is in a position where it can have considerable influence over transport planning and policy matters, including toll reform.

Transurban's view about toll reform is critical because of its influence in the market. If the market was less concentrated with more competitors toll reforms might be easier. This is not to suggest, however, that there would not have been similar difficult issues to deal with.

Nevertheless, toll reform may itself provide opportunities for other measures to be considered that may help to enhance competition in the longer term. Ensuring that IPART is able to monitor prices and concession performance, report publicly on its work, and provide expert commentary to NSW Motorways and government would be an important step to enhance the transparency of tolls.

There may also be potential for government-owned toll roads to have greater influence on the industry as new roads and tunnels are constructed and remain in government ownership. There are steps that could be taken to achieve better outcomes from competition for the market when new concession agreements become available or extensions to existing agreements are in contemplation. The government could look to revamp tender processes to better reflect the importance of promoting effective competition for the market. This may involve:

- ensuring that there are always a number of competing bids
- ensuring that the bidders are all well informed about the operation of the network, traffic flows and volumes and financial performance of roads that make up the network
- ensuring that bid evaluation criteria focus on the importance of minimising tolls (or adhering to network tolls where these apply) and costs subject to achieving other relevant quality and service outcomes
- ensuring that bid evaluation criteria include consideration of the impact on industry concentration.

An important consideration in relation to concessions concerns the allocation of risks between the contracting parties. This allocation can have significant competition consequences, as well as consequences for tolls. Transurban's in depth knowledge and management of demand risk arguably still gives it an advantage over potential rivals. Not having traffic risk, as for example is the case with availability PPPs, would likely attract new classes of investors who are looking to invest in more stable and certain income streams.

Concession length is related to the issue of traffic risk. Concession length could be determined according to when revenue, including traffic forecasts, determined at the start of the concession were fully realised. Setting concession length in this way may lead to longer or shorter lengths than would have been set in the more traditional way.

Reduced concession lengths may be more conducive to the promotion of competition and toll reform as they give opportunity to renew contract terms more frequently to better reflect these objectives and bids can be assessed with these objectives more sharply in focus. Conversely, longer concession lengths involve great loss of control for the government and less flexibility to respond to technological and other factors affecting supply and demand over time.

Whilst there are competition benefits from shorter concession lengths, we also recognise the potential strategic benefits than can be obtained by trading off increases in concession length for real reforms to competition and tolls.

An Unsolicited Proposal (USP) arises when a proponent independently approaches the government with a commercial proposition, without any prior request from the government. They are a separate pathway for procurement and involve negotiations with one party rather than competitive bidding. USPs have been significant in the growth of Transurban in the Sydney market. The ACCC has argued they advantage incumbent toll operators and that competitive processes offer better value for money. Under network tolling, stronger consideration to demand management tolling measures could be expected. This consideration should be taken into account when assessing any USP to increase network capacity.

Potential regulation of roaming fees provides a safeguard for new entrants concerned about the possibility that a vertically integrated incumbent concessionaire may use its market power to competitive detriment. IPART involvement in this regulation, rather than NSW Motorways, would overcome concerns about possible conflict of interest here.

D: A better system for motorists

13. Improving the motorist experience

Setting uniform network tolls which are efficient, fair, transparent and simple should significantly improve the motorists' experience of using toll roads, but there are other aspects of this experience which also need to be improved. These relate to trip planning, travelling on the roads, dealing with retailers and receiving toll notices, making complaints and responding to unpaid bills.

Most of the government focus on toll roads seems to have been on the financial aspects of concession deals. The individual experiences of motorists seem to have had lesser priority. Our aim in this Review has been to ensure motorists are put first.

Transparency issues

Transparency is an important issue for motorists and the proposals in our Interim Report to improve online resources, signage, and user-specific information through retail accounts were strongly endorsed by motorists.

The Review considers there are opportunities to:

- revamp statements to be more informative and user-friendly, including:
  - fee breakdowns and links to fee information
  - historical usage data so that motorists can understand how much they spend on tolls
- provide predictions of toll road use for motorists based on factors such as historical use, seasonality, and personal factors
- improve information on retailer websites to improve access to existing toll calculators and content which is currently hard to find
- improve information about cashback and rebates with more prominence to each
- provide personalised reminders and notifications to motorists about their eligibility to claim toll relief
- increase convenience by moving from physical tags to tagless technology.

Transitioning E-Toll's customer base and capabilities to NSW Motorways would position E-Toll to take advantage of these opportunities.

Signage should be improved and incorporate electronic signage where practicable showing tolls, travel times and hazards at key decision points as well as along toll routes. Peak/off-peak tolls and dynamic pricing will only prevent congestion from occurring, or encourage motorists to use an underutilised road, if motorists are informed of the higher or lower pricing in advance of the toll road access point.

TfNSW, NSW Motorways and Linkt should work together to develop a 'one stop shop' holistic transport application and corresponding website that provides a single 'source of truth' for motorists and facilitates trip planning. It should also offer features such as trip information and statements, historic spending breakdowns, predictive spend, cost comparisons, rebates and notifications.

Third-party navigation applications should be further customised to be more personalised for the motorist by allowing them to choose which toll roads they are comfortable travelling with as well as showing emissions usage and fuel consumption data for their specific vehicle type, and further integrating tolls within these apps. Relevant apps include Google Maps, Apple Maps, and Waze.

Non-digital education options should be provided to motorists for tolling-related topics. This could include hardcopy pamphlets and brochures distributed at Service NSW Centres and via direct mail when a motorist receives their first toll notice, their first licence or an E-Toll tag.

Appointment of a customer advocate

An important recommendation of this Final Report is the appointment of a customer advocate within NSW Motorways.

This position is intended to bring a dedicated focus to motorist experience improvements. Cooperation across TfNSW, Service NSW and industry will be required to implement our proposed initiatives. NSW Motorways' involvement will help ensure that those key players appropriately prioritise the motorist experience.

The customer advocate will be a contact point for motorists unable to resolve complaints satisfactorily with concessionaires or publicly-owned operators. The customer advocate will seek to investigate and resolve systemic issues raised by complaints. The position will provide a high-profile central point of contact for motorists' complaints and issues of concern.

The customer advocate will champion network-wide improvements based on customer feedback and education programs to improve outcomes for customers.

The customer advocate will monitor progress in implementing transparency reforms proposed by the Review to benefit motorists. Many of these proposals have been suggested before but not acted on.

The transition to network tolling will necessitate an overhaul of the toll collection process. From the customer perspective, there will be a single network toll per trip which may involve multiple toll roads. In the background, via the Revenue Adjustment Mechanism, that toll will be paid to multiple toll road operators. Some aspects of this overhaul will be addressed prior to network tolling when consolidated toll notices are introduced. New 'pain points' are anticipated to emerge with this change. The customer advocate will have a critical role in quickly identifying new issues that arise and working across organisations to resolve them.

The customer advocate should be required to report annually on activities undertaken during the year.

Industry Ombudsman

Our Interim Report contained a preliminary recommendation that the external dispute resolution function for the toll road industry should be established within NSW Motorways. Our final recommendations in relation to toll complaints are to establish a customer advocate role within NSW Motorways and commence discussions with other States to establish a nation-wide external dispute resolution function.

As a customer advocate, NSW Motorways will be able to have a higher impact in promoting positive reform than it could as an external dispute resolution body which would mostly handle disputed debts.

We commented on the role of the Tolling Customer Ombudsman (TCO) in our Interim Report. Our view remains that there is currently no clear external dispute resolution body resolving complaints in relation to tolling in NSW. The TCO is now funded by Transurban as its only customer. The dominance of Transurban raises questions about the independence of the TCO. The TCO suggested, however, there may be merit in a single, statutorily approved external dispute resolution body for tolling across NSW, Queensland and Victoria. Under this model toll road operators and retailers would be required by law to be members of the new scheme. This model has similarities to that adopted for the Australian Financial Complaints Authority and the Telecommunications Industry Ombudsman. Further work is required to assess the justification for such a legislative scheme. The number of complaints relating to toll roads is significantly lower than the financial and telecommunications services industries. Tolling is also largely a state regulated activity, and the laws in each state differ to a degree.

Unpaid tolls and debt recovery

Improvements to the toll collection process must start with simplifying and modernising toll notices. The Minns government's election commitments to consolidate toll notices and reduce administration fees are an important first step. Consolidated toll notices will save motorists millions of dollars per year in administration fees. In addition, the government should look at:

- digitising toll notices and introducing immediate notifications
- renaming 'toll notices' to 'invoices' to more clearly communicate their purpose
- removing toll notice administration fees and introducing late payment fees to improve fee transparency and provide better incentives for motorists to not delay payment.

Transurban noted its support and advocacy for improvements to the toll notice processes in its submissions to the Review.

Toll notices should also be accompanied by motorist-centric information. For example, motorists should be provided with helpful advice about how the most common underlying causes for inadvertent toll non-payment (e.g. flat E-Tag battery and the licence plate number is not linked to a retail account, insufficient credit card balance) so motorists can act to resolve the problem from causing further unpaid tolls.

Debt recovery can commence if the motorist had no valid arrangement in place (in most cases this will be a working e-tag) and the toll remains unpaid following the specified notice period (typically 14 days) for the second toll notice. We estimate that there is no valid arrangement in place for about $125 million worth of trips in NSW each year.

Toll road operators can elect to pursue debt through civil proceedings against the registered operator of the offending vehicle or refer toll offences to the State to enforce. Under the criminal enforcement process, issuing the penalty notice is at the discretion of authorised officers within TfNSW.

In most cases, toll road operators elect to pursue civil debt recovery. Criminal enforcement is a regulatory action, not designed for achieving commercial outcomes for toll road operators.

When pursuing civil debt recovery, private toll road operators are bound by Australian and state consumer protection laws. The ACCC and the Australian Securities and Investments Commission have jointly published the *Debt collection guideline: for collectors and creditors*.[3]

[3] ACCC. (2021, April). Debt collection guideline: for collectors and creditors April 2021. ACCC. https://www.accc.gov.au/system/files/Debt%20collection%20guideline%20for%20collectors%20and%20creditors%20-%20April%202021.pdf

The existence of these two pathways can be confusing for motorists. Whether the toll road operator elects one pathway or the other can create a very different experience for the motorist. These issues were highlighted by the Aboriginal Legal Service.

There are good policy reasons for encouraging the use of civil debt recovery wherever possible for toll collection. Civil debt recovery should be encouraged as it allows for more effective customer engagement (including compliance education to prevent non-payment issues arising) and removes commercial incentives from the exercise of regulatory discretions.

There are significant opportunities to improve civil debt recovery practices. The Aboriginal Legal Service's comment that civil debt recovery can be less clear and transparent than the criminal enforcement process highlights the scope for improvement in this area. NSW Motorways, through the customer advocate, can encourage the use of best practice debt recovery practices by toll road operators supported by appropriate government policies. Opportunities include:

- Each toll road operator developing and publishing a customer charter.
- Reviewing any legislative constraints on civil debt recovery. The legislation currently only recognises that the debt can be recovered against the owner of the vehicle. The legislation should potentially be expanded to recognise that the debt may be owed by the driver.
- Strategies to improve the accuracy of contact information available for registered vehicle owners.

The time is right for major reform of toll roads

This is the first major independent review of tolls in New South Wales. It comes at a time when the State now has a fully developed network of toll roads and when the emphasis on private delivery of this major infrastructure is no longer seen as an imperative. We have no doubt however that new roads will continue to be built over time and that the private sector will continue to have an essential role in this.

The legacy of past decisions made within the context of PPP arrangements is what we now have to deal with. Professor John Quiggin (University of Queensland) describes the problem as 'unscrambling the toll road egg'.[4] Past decisions have left an uncoordinated and inconsistent system of tolls, unsustainable long-term burden for users, underutilised toll roads and continuing problems of congestion on other roads.

Action to deal with these problems will not be easy, but we have painted a realistic vision for the way forward and are encouraged by the responses we have recently received from concessionaires. We recognise that toll roads are unique in significant respects, which justifies the initiatives proposed.

Tolls are regulated under long-term PPP contracts, which have significantly different features to most other infrastructure regulatory schemes. Other schemes have independent regulators, regular reviews of prices, consideration is given to the distribution of efficiency improvements and greater public transparency and accountability applies.

The PPPs affecting toll roads also have unique features and have evolved over time in the light of experience. They are a type of PPP which includes private financing, allocating risks in particular ways and affecting tolls in particular ways.

It would be wrong to suggest that the policy responses we have proposed to deal with the identified problems associated with tolls in anyway suggest a precedent for how we or the NSW Government consider infrastructure investment should be regulated in other circumstances.

[4] Quiggin, J. & Wang, I. (2019). Unscrambling the toll road egg. Economic Analysis and Policy, 61.

Our public interest assessment is that these arrangements now need to be reformed and that unique measures need to be taken to do this. In particular, to establish a proper network system of tolls, it is necessary to replace the existing contractual provisions relating to the setting of tolls with new provisions. And the new institutional arrangements we have proposed will ensure toll roads operate to the benefit of motorists, as well as concessionaires and the State.

In undertaking reforms, the government should respect the contracts it has with concessionaires and the reasonable expectations of concessionaires. In our view, concessionaires should be constructively engaged in the reform process.

Table of findings and recommendations

Findings:	
Process for setting tolls	**Finding 1:** The process for setting tolls has been flawed.
Public Private Partnerships	**Finding 2:** The important details of PPP arrangements relating to toll setting are not disclosed to the public, reducing the information available to assist public understanding.
	Finding 3: Toll road users bear a disproportionately high proportion of the cost of toll roads.
Structure of tolls	**Finding 4:** There is no overall system of tolls.
	Finding 5: The lack of a unified tolling system creates complexity, inefficiency, inequities and unfairness.
	Finding 6: Tolls are too rigid and are locked-in for decades without options for review.
	Finding 7: On most toll roads, time-of-day tolling is not used to improve traffic management.
	Finding 8: The financial impact of tolls is greatest in Western Sydney.
	Finding 9: Available evidence suggests that Transurban's profitability has not been excessive in recent years. Profitability of its current portfolio of NSW toll roads is likely to increase over time in line with traffic and toll rate escalation and declining construction costs.
Level of tolls	**Finding 10:** The level of tolls appears to be higher than necessary and desirable.
Competition	**Finding 11:** Transurban has a dominant market share in the current provision of toll roads in Sydney.
	Finding 12: Transurban has been dominant in the NSW market for acquisition of toll road concession contracts.
	Finding 13: The significant position of Transurban in the toll retailer market could adversely affect competition for tolling concessions.

Findings:	
Toll transparency	**Finding 14:** Current tolling information fails to adequately enable, inform, and educate motorists, thus reducing user empowerment and efficient decision-making.
Toll relief schemes	**Finding 15:** Toll reform is preferable to toll relief. The current toll relief schemes are inadequately targeted and underutilised, in part due to overly complex administration. Toll relief is not financially sustainable given the existing pattern of toll escalation and limitations on the availability of government resources to fund relief.
	Finding 16: Concessionaires are an unintended beneficiary of the current approach to toll relief. Increased traffic and patronage of toll roads, through induced demand created by toll relief, directly benefits operators by increasing their revenues.

Recommendations:	
Tolling principles	**Recommendation 1:** The NSW Government should adopt the Proposed New Tolling Principles.
The opportunity for reform: moving to network tolling	**Recommendation 2:** The NSW Government should adopt network tolling. Implementation will require detailed planning, investment in infrastructure and close monitoring of impacts.
	Recommendation 3: The NSW Government should adopt declining distance-based tolls as the foundation of network tolling. This would lead to a simpler, more consistent and coherent system of tolls which aligns more closely to the criteria the Review has been asked to consider, namely efficiency, fairness, simplicity and transparency.
	Recommendation 4: The NSW Government should consider ways to reduce the level of tolls for Sydney motorists and explore funding sources, especially from within the tolling system, as a pathway to enable lower tolls.
	Recommendation 5: The Review recommends that the NSW Government further explore the possible application of the NPVR approach to determining concession lengths and removing traffic risk from concessionaires.

Recommendations:	
	Recommendation 6: The NSW Government should consider the role of toll relief in supporting the transition to network tolling. Significant changes in toll relief may need to be phased over time.
	Recommendation 7: If the NSW Government chooses to extend or phase out toll relief, it should be with consideration of the following principles: i. Toll relief should be targeted to those that are most in need to the extent practicable through means-testing. ii. The assessment of need would take account of whether the motorist has viable alternative travel options, such as public transport. iii. Toll relief should avoid distorting price signals (e.g. they should not make trips on the tolled network free unless there are good policy reasons for doing this). iv. Toll relief should apply network-wide. v. Toll relief scheme design should support data collection for post-implementation evaluation of scheme performance against policy objectives. Publication of scheme performance against policy objectives could be contemplated as part of broader transparency measures for tolling, for example price monitoring.
	Recommendation 8: In the transition to network tolling there may be a case for continuing toll relief schemes like the current TR3 ($60 toll cap), which offer some relief and certainty to motorists. The NSW Government should however consider increasing the cap, for example to $70, to ease the pressure on government finances. Over time there should also be a move towards means testing in line with our toll relief principles.
	Recommendation 9: When the M5 South-West becomes part of WestConnex concession in 2026, if the government still wishes to reform the rebate scheme it should fix the ongoing amount of the rebate at the then nominal rate. The scheme should be reviewed in five years time and reformed to align with principles in Recommendation 7.

Recommendations:	
Future opportunities: using pricing to influence demand	**Recommendation 10:** Flexible pricing techniques including peak/off-peak tolls, and dynamic pricing should be available as part of a network tolling system.
	Recommendation 11: The NSW Government should consider an initial focus on freight operators for peak and off-peak tolls.
Updating vehicle classifications and charges	**Recommendation 12:** The NSW Government should further explore refining tolling classes in New South Wales, adopting a uniform definition for Class A vehicles, and a fairer classification for towed recreational vehicles and motorcycles.
	Recommendation 13: The NSW Government should continue to apply toll multipliers to vehicles exceeding Class A vehicle dimensions.
	Recommendation 14: The NSW Government should investigate a new classification for mid-class heavy vehicles to incentivise these vehicles to use toll roads.
	Recommendation 15: Vehicle multipliers should be applied consistently across the toll road network.
	Recommendation 16: The NSW Government should simplify the arrangements allowing public bus services to be exempt from tolls to ensure consistency across the network.
Expanding toll coverage	**Recommendation 17:** Consistent two-way tolling should be part of the network tolling system. Practical issues with the implementation should continue to be investigated.
	Recommendation 18: The NSW Government should investigate the scope of the tolled network in Sydney to achieve greater consistency, efficiency, and fairness.
Initial assessment of toll reforms	**Recommendation 19:** The NSW Government should note the modelling conducted by the Review. Modelling will need to continue prior to the introduction of any network tolling.

Recommendations:	
NSW Motorways entity	**Recommendation 20:** The NSW Government should establish a government-owned special purpose entity (NSW Motorways) with responsibility for improving outcomes and transparency for motorists to strengthen governance and accountability over NSW toll roads. The NSW Motorways entity will drive and implement toll reforms: a. The NSW Motorways entity will, in consultation with toll road operators, establish network tolls payable by motorists. The NSW Motorways entity will have the power to set network tolls and in doing so it would take full account of the existing interests of toll road operators. If necessary periodic adjustments will be made in consultation with toll road operators. b. The NSW Motorways entity will seek to improve competition outcomes. c. The NSW Motorways entity will absorb current TfNSW toll collection functions (E-Toll retail business and issuing toll notices). d. The NSW Motorways entity will have an ongoing focus on constantly innovating to improve the toll road experience for motorists in New South Wales.
	Recommendation 21: The NSW Government should consider options for the contract management of privately operated toll roads, including whether to bring them under the NSW Motorways entity from TfNSW.
	Recommendation 22: The NSW Government should consider options for administrative arrangements concerning public toll roads, including whether to bring them under the NSW Motorways entity from TfNSW.
Concessionaire negotiations	**Recommendation 23:** The NSW Government should seek to obtain in principle agreement with concessionaires to implement network tolling by the end of 2024. If agreement is unlikely to be reached to the satisfaction of the government within this timeframe, the legislative package referred to in Recommendation 27 should be activated.

Recommendations:	
Independent oversight of toll setting	**Recommendation 24:** The NSW Government should introduce a legislative framework for toll oversight by IPART. The framework should allow for IPART to monitor prices, undertake investigations and recommend tolls on Ministerial referral.
	Recommendation 25: The relevant Minister should make a referral to IPART to work with TfNSW and the NSW Motorways entity to monitor prices including: a. The financial and traffic impact of network tolls. b. The operation of toll relief schemes. c. The need for and operation of time-of-day tolling. d. Concessionaire performance in relation to their BCFM expectations.
	Recommendation 26: The relevant Minister should make a referral to IPART to undertake an investigation into the methodology IPART could adopt in future to make recommendations in relation to tolls.
Setting tolls – legislative package	**Recommendation 27:** If in principle agreement is not reached with concessionaires to implement network tolling by the end of 2024, in addition to establishing the NSW Motorways entity and IPART roles, the legislative package should also: a. Enable network tolls to be set independently of contractual frameworks if necessary. b. Provide for a Revenue Adjustment Mechanism to enable appropriate sharing of network toll revenues between toll road operators if necessary. c. Provide for an independent toll issue resolution mechanism. d. Modernise the legislative framework for NSW toll roads.
Competition measures	**Recommendation 28:** The NSW Government should ensure future procurement processes have greater regard for the desirability of maintaining a competitive industry structure.
	Recommendation 29: The NSW Government should review existing concession agreements with the aim of enhancing competition.

Recommendations:	
	Recommendation 30: The NSW Government should place a greater focus on long-term implications for control and competition rather than short-term benefits in the approach to future procurement of toll roads.
	Recommendation 31: As with other aspects of toll setting, there should be clear public transparency in relation to determining the length of concession agreements. The concession period should be based on clear public interest considerations, including maintaining competitive industry structures.
	Recommendation 32: The NSW Government should favour competitive tender processes over unsolicited proposals for new toll road concessions.
	Recommendation 33: The NSW Government should regulate roaming fees to promote competition for future toll road PPPs.
	Recommendation 34: Full details regarding the setting of tolls should be disclosed to the public. The Review recommends that the NSW Government with concessionaires seek to remove impediments to the disclosure of relevant BCFM information in this regard
Transparency for motorists	**Recommendation 35:** Improve the retail experience for motorists by providing personalised insights into past and projected toll spend.
	Recommendation 36: The NSW Government should improve decision-making and trip planning information available to motorists online, on the road and through Service NSW.
Tolling customer advocate	**Recommendation 37:** The NSW Government should establish a tolling customer advocate function within the NSW Motorways entity to: a. Consider systemic complaints affecting motorists and, where relevant, refer complaints to other relevant agencies. b. Influence improvements to systems, processes and legislation to minimise future customer complaints and improve toll compliance. c. Manage customer education and awareness campaigns.

Recommendations:	
	d. Resolve new 'pain points' which arise from the transition to network tolling. e. Ensure customer complaints are escalated, and responded to within appropriate timeframes and that responses are thorough and fair. f. Publish regular reports on the implementation of toll reform by government and industry.
	Recommendation 38: The NSW Government should ensure that toll road operators are required to suspend debt recovery action while the NSW Motorways entity in its customer advocate role is assisting a motorist with a disputed debt.
Industry ombudsman	**Recommendation 39:** The NSW Government should work with the Victoria and Queensland Governments to investigate co-operative legislation requiring toll road operators and retailers to be members of a statutorily approved independent dispute resolution scheme.
Toll notice	**Recommendation 40:** The NSW Government should simplify and modernise toll notices.
Debt recovery – criminal enforcement	**Recommendation 41:** The NSW Government should review legislation and policies relating to toll default offences, including: a. Prior to the introduction of network tolling, amending the offence to ensure there is only one offence for non-payment for a trip for those roads where aggregated trip tolls are used (currently WestConnex). b. As part of the introduction of network tolling, amending the toll default offence so that only one offence can occur for each trip. c. Ensuring the offence applies to either the driver or registered vehicle owner in the most optimal and fair way.

Recommendations:	
Debt recovery – civil	**Recommendation 42:** Through its customer advocate role the NSW Motorways entity should pursue further opportunities to improve civil debt recovery practices including: a. Each toll road operator developing and publishing a best practice customer charter. b. Reviewing any legislative constraints on civil debt recovery. c. Developing strategies to improve the accuracy of contact information available for registered vehicle owners.

Glossary

Term	Description
2014 Principles	A broad set of principles approved by the NSW Government in 2014 to guide future tolling decisions on Sydney's motorway network.
ACCC	Australian Competition and Consumer Commission.
AWE	Average Weekly Earnings.
Availability PPP	A Public Private Partnership (PPP) model where the private sector is responsible for delivering specified assets and services (including financing of those services) through an outcome-based contract. The government retains demand risk and the primary form of revenue for the private sector is a regular periodic service payment for making the asset available and providing services to the required performance standard i.e. based on key performance indicators.
BCFM	Base Case Financial Model. A financial model referred to in a concession contract containing initial forecasts of a concessionaire's cash flow, including revenue and expenditure, over the term of a concession.
Class A	A tolling class which includes cars and motorcycles.
Class B	A tolling class for vehicles which exceed the Class A dimensions.
Concessionaire	For the purposes of this report, the holder of a toll road concession. Concessionaires are typically granted the right to finance, build, operate, toll and maintain a motorway for a set term, before returning the motorway back to Transport for NSW in the required condition.
CPI	Consumer Price Index.
Declining distance	For the purposes of this report, a toll calculation method that involves a variable charge based on travel distance on toll roads. This variable charge is declining, that is, motorists pay a lower rate on a per kilometre basis the longer they travel on tolled motorways. Declining distance is a specific type of distance-based toll.
Distance-based toll	A toll calculation method based on the distance travelled on a toll road or network of toll roads.
Dynamic pricing	For the purposes of this report, real-time adjustments to a toll to maintain traffic flow.

Term	Description
Economic PPP	A Public Private Partnership (PPP) model where the primary revenue stream is in the form of third-party user charges and not service payments from government. The financial impact to government is significantly less for an Economic PPP than for an Availability PPP.
Environmental Impact Statement	For the purposes of this report, a report prepared by a proponent for the development of a new toll road (or toll related infrastructure or activity) and exhibited for public consultation under the *Environment Planning and Assessment Act 1979* (NSW).
Escalation	For the purposes of this report, a regular (quarterly or annual) increase in the toll provided for under a concession contract.
Flagfall	A fixed fee component of a toll. Also referred to as an 'access charge'.
Fixed toll	A toll which is constant and not dependent on other variables, e.g. distance travelled or time of day.
GIPA Act	*Government Information (Public Access) Act 2009* (NSW).
GSF Act	*Government Sector Finance Act 2018* (NSW).
IPART	Independent Pricing and Regulatory Tribunal.
IPART Act	*Independent Pricing and Regulatory Tribunal Act 1992* (NSW).
Independent Reviewers	Professor Allan Fels AO and Dr David Cousins AM appointed by the NSW Government in April 2023 to identify reform options for the NSW tolling network.
MCHV	Mid-Class Heavy Vehicle. A potential new tolling class considered by this Review.
Means-tested	Where eligibility for financial assistance is based on income/asset levels.
Motorway	A distinct type of road that has a pure mobility function with minimal or no access to adjoining land. Motorways provide for major regional and inter-regional traffic movement.
Multiplier	A method for calculating a toll for one tolling class based on the toll for another tolling class.
NPVR	Net Present Value of Revenue
Network tolling	A toll pricing structure that is consistent across the toll road network.
NSW Motorways	A new entity proposed by this review to drive toll reform in NSW. The Interim Report referred to this entity as 'State TollCo'.

Term	Description
NSW Toll Road Partners	A group of toll road investors in NSW who jointly provided feedback to the Review on the Interim Report: • Australian Super • Caisse de dépôt et placement du Québec • Canadian Pension Plan Investment Board • IFM investors • Queensland Investment Corporation • Platinum Tawreed Investments, a wholly owned subsidiary of the Abu Dhabi Investment Authority • Transurban • UniSuper.
Peak/off-peak tolls	A form of variable toll where the toll differs based on the time of day.
Proposed New Tolling Principles	The Independent Reviewers' proposed tolling principles to guide toll setting in future, detailed at Chapter 8.
PTAL	Public Transport Accessibility Level. A measure of a location's connectivity by public transport. Based on walking distance to nearest stations/stops, waiting times at nearest stations/stops, number of services passing through nearest stations/stops, whether there are major rail stations nearby.
PPP	Public Private Partnership. The creation of an infrastructure asset through private sector financing and private ownership for a concession period (usually long-term). The government may contribute to the project by providing land or capital works, through risk sharing, revenue diversion or purchase of the agreed services.
Review	The independent review led by the Independent Reviewers to identify reform options to overhaul the toll network.
RMS	Roads and Maritime Services. RMS merged with Transport for NSW on 1 December 2019.
Roads Act	*Roads Act 1993* (NSW).
Roads Regulation	Roads Regulation 2018 (NSW).
Roaming fee	A fee paid by toll road operators to toll retailers for collecting tolls from motorists.

Term	Description
Status quo	A strategic traffic modelling scenario which retains the current tolling regimes, escalation rates and tolling classes. This scenario is used as a comparator for the analysis of alternative options.
STP	Sydney Transport Partners. A Transurban-led consortium which owns 100% of the WestConnex concessionaires.
Sydney Harbour Crossings	The Sydney Harbour Bridge, Sydney Harbour Tunnel and, from its opening, the Western Harbour Tunnel.
TAA	*Transport Administration Act 1988* (NSW).
TCO	Tolling Customer Ombudsman.
TfNSW	Transport for New South Wales.
Toll	A charge imposed for traffic using a toll road.
Toll relief	A government policy to reduce the financial impact of tolls to motorists. Most toll relief schemes have been provided as a rebate.
Toll retailer	A service provider which issues motorists with an account to enable them to pay their tolls. There are currently two toll retailers in NSW, Linkt (owned by Transurban) and E-Toll (owned by Transport for NSW). The Roads Regulation and the Road Transport (Vehicle Registration) Regulation 2017 refer to toll retailers as 'toll service providers'.
Toll road	A road (or bridge or tunnel forming part of a road) whose use requires the payment of a toll. Includes both the Sydney Harbour Bridge and tollways established under the Roads Act
Toll road network	A collective description for the toll roads in Sydney. They are not a network in a conventional sense as they are commonly separated by sections of public (untolled) roads.
Toll Road Operator	Operators of toll roads whether private or public. The toll road operators in New South Wales are the concessionaires and TfNSW. Referred to as 'toll operators' in the Roads Act and other legislation.
Toll Road Pricing and Relief Reform Review	A review which commenced in December 2021, under the previous Coalition government to consider longer term tolling reform.
USP	Unsolicited Proposal. An Unsolicited Proposal is an approach to government from a Proponent with a proposal to deal directly with the government over a commercial proposition, where the government has not requested the proposal. This may include proposals to build and/or finance infrastructure, provide goods or services, or undertake a major commercial transaction.

Term	Description
VTTS	Value of Travel Time Savings. The benefits provided by reductions in the amount of time spent on travel.[5]

[5] Victoria Transport Policy Institute. (2023). Transportation Cost and Benefit Analysis II – Travel Time Costs. https://www.vtpi.org/tca/tca0502.pdf.

Disclaimer

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