

INDEPENDENT TOLL REVIEW

Stakeholder Submissions

2023 INDEPENDENT TOLL REVIEW

August 2023

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Transurban Limited

Transurban submission

NSW Independent Toll Review

July 2023

About Transurban

Transurban, starting in Melbourne in 1996, has since expanded to Sydney, Brisbane and North America and grown to become a top-15 ASX company.

More than 70% of our investors are Australian, holding Transurban shares through industry superannuation funds, including UniSuper, AustralianSuper and Aware Super.

Most of our 3900+ direct workforce¹ are based in Australia and as one of the country's largest private employers of contractors, our day-to-day operations and major infrastructure projects rely on a much larger workforce.

Transurban's NSW story started with our partnership to deliver the Westlink M7, which opened to traffic in 2005. Since then, we have been planning, building and operating toll roads that have delivered real and lasting benefits for Sydney's motorists.

Working with our partners and the NSW Government, we have delivered projects including NorthConnex and WestConnex. We have also made significant investments in our assets including widening the M5 South-West and Hills M2 to help ease congestion as our city continues to grow. Supporting thousands of jobs throughout construction, these projects help strengthen the NSW economy, and support productivity by moving people more quickly and reliably.

Transurban is unique as an owner-operator: delivering technology, safety, customer experience and operations.

Our purpose is to strengthen communities through transport.

By working to be a partner of choice for governments, our customers, the community and our investors, we have helped to deliver a toll road network that has transformed the way people, goods and services move in Sydney.

1. Direct workforce includes direct employees (which include casual, fixed term and permanent employees (excluding leave of absence and non-executive directors) and temporary workers and workers contracted through our partner organisations)

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Introduction

The last two decades have seen Sydney grow at a rapid pace, with the population increasing by more than one million people. This growth is expected to continue with the population forecast to increase by another 25% by 2042¹. As a key part of Sydney's transport solution, the toll motorway network has played an important role in the effective movement of people, goods and services, providing travel time savings, journey reliability and safety to support Sydney's liveability and prosperity.

Major infrastructure development is vital to support the city's liveability and productivity. Transurban and our partners have played an integral part in delivering missing road transport links to make the city better connected than ever before.

Through bipartisan achievement over more than 30 years, Sydney's toll road network has transformed the movement of people, goods and services across the city and beyond.

Every day, almost a million trips are taken on the 11 toll roads in which Transurban has an interest. Motorists are saving up to 41 minutes² (Figure 2) in travel time on various connections and, on an average work day, drivers save approximately 208,000 hours in travel time³. Safer and more reliable trips have supported Sydney's rapidly growing population and today more motorists are choosing to use toll roads than ever before.

Independent research has estimated that toll roads will create \$35.8 billion in economic benefits over 30 years,

with the benefits to the business and freight sector alone forecast to be estimated \$11.8 billion⁴.

Transurban recognises that the evolution of the network, through the progressive addition of toll roads and "missing links", has led to a variety of tolling regimes. These regimes have been determined predominantly by the funding requirement to develop each motorway.

We recognise that this Review considers there is now an opportunity to assess if the current tolling regime can be further enhanced in four main ways: efficiency, fairness, simplicity and transparency.

Transurban supports the NSW Government's suggestions for a more consistent approach across the network, which could include toll pricing based on distance travelled and geographic zones as well as a charge to access the tolled motorways.

We are also open to discussions on pricing based on time-of-day travel as a way of managing demand and

creating more efficient travel across the road network.

Sydney's toll road network involves many long-term investors committed to its success. Transurban's ownership interest represents 48% of Sydney's tolled motorways expressed by Average Daily Traffic (Refer Figure 1), and at least 90% of major Australian super funds hold shares in Transurban.

There are many different groups and stakeholders such as customers, community and investors, that will need to be considered in any changes to the tolling regimes. Any changes to our concessions will require approval from our stakeholders, partners and financiers.

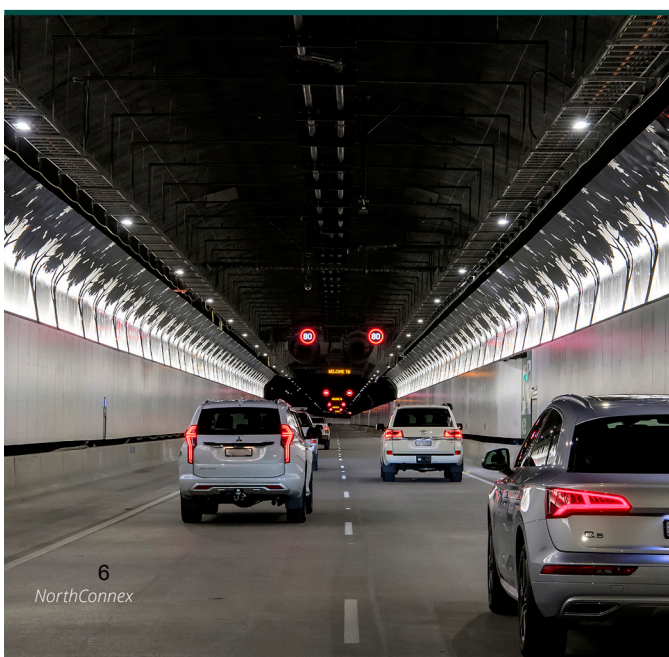
Transurban values the productive and collaborative partnerships we have had with successive governments and look forward to progressing our discussions on how Sydney's toll roads can continue to support the city's liveability and prosperity for years to come.

1. Deloitte Access Economics (DAE) Land Use Forecasts, Sep22 release

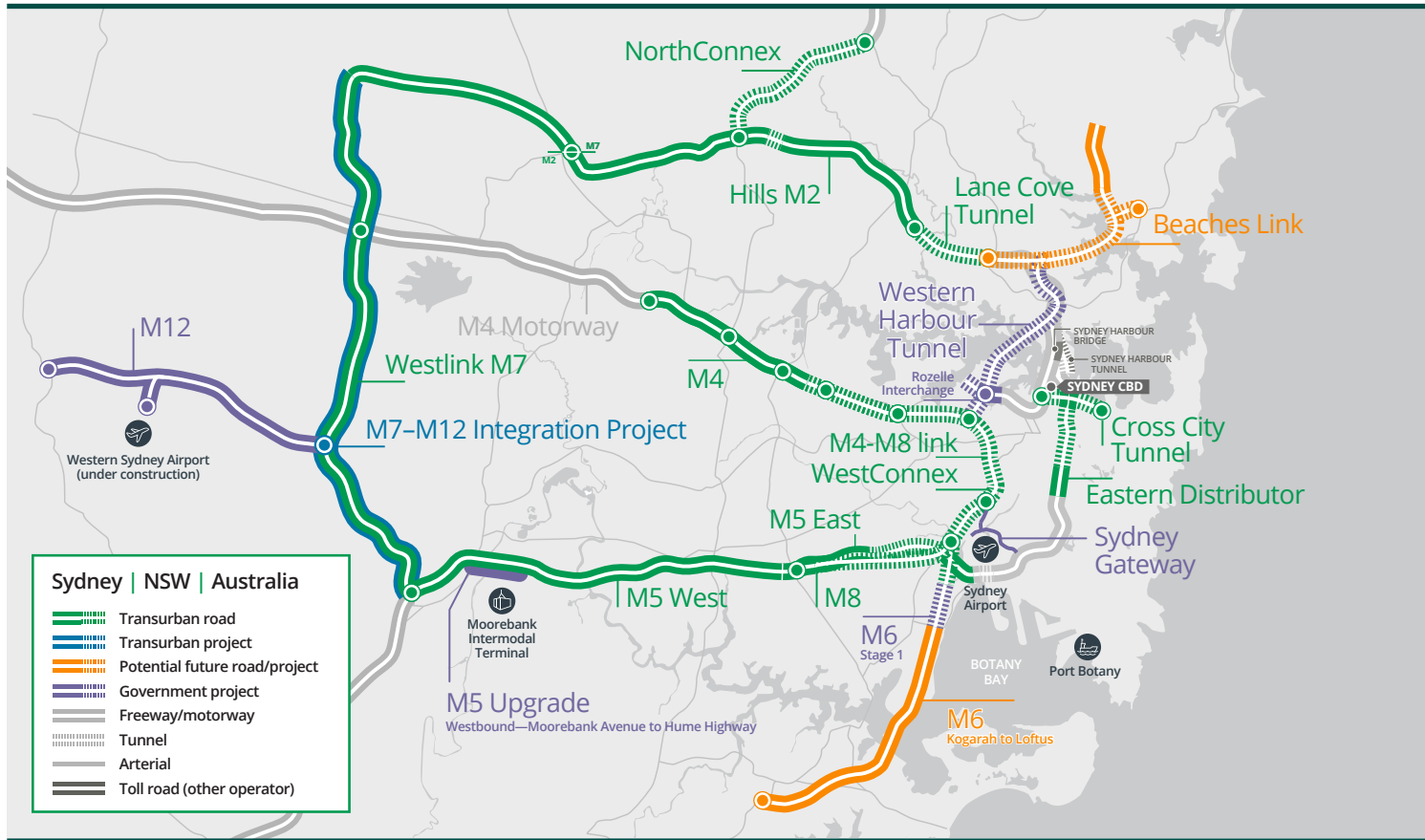
2. Source TomTom: for the highest hour between July 2022 – December 2022 (Transurban FY23 Results have travel time savings of 224,048 from period July 2022 - June 2023)

3. Source TomTom data: July 2022 –June 2023

4. Economic Contribution of Sydney's Toll Roads. KPMG, May 2021



Supporting Sydney's growing transport needs



Creating value for Sydney

Transurban and our partners have invested more than \$36 billion² into Sydney's motorway network to support the city's increasing population and connect economic and residential growth areas.

>\$36B²
invested in building and upgrading Sydney's motorway network

\$35.8B
in economic benefits over 30 years³

More than **69,000**
workers involved in stages of WestConnex and NorthConnex

429
community grants to NSW organisations since 2016

18ha
of open space created, 23km of new and improved cycleways and walkways, and one million trees planted through the WestConnex project

Transurban and our partners' investments have ranged from upgrades to existing assets such as the Hills M2 and M5 South West to delivering infrastructure that has created an entirely new road transportation map for Sydney and provided enormous liveability and productivity benefits in terms of travel-time savings, reliability and safety.

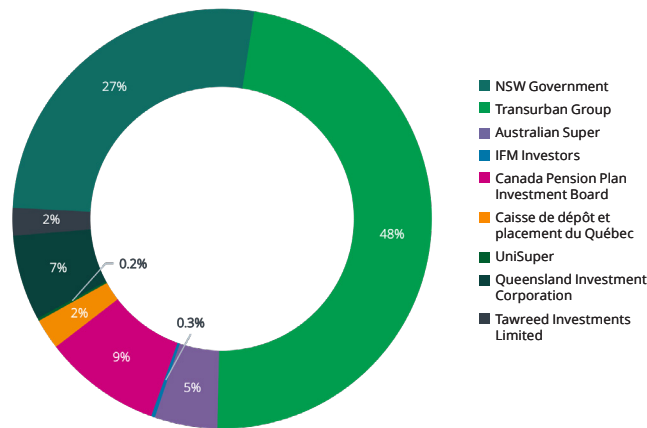
Transurban and our partners purchased WestConnex in two tranches, in 2018 and 2021, injecting more than \$20 billion into the NSW Government's finances, which freed up the public balance sheet for social infrastructure and other priorities. Tolling prices did not change as a result of these transactions.

As a result of our unsolicited proposal to build NorthConnex and create a vital missing link in the National Highway route, between the M1 Pacific Motorway and the Hills M2 Motorway, drivers can travel around 1,000 kilometres from Newcastle to Melbourne without encountering a traffic light.

The NorthConnex tunnels are an excellent example of the private and public sectors working together to fast-track a project to create huge benefits for the community and road users.

Australia's deepest road tunnels, NorthConnex are an excellent example of innovation and sustainability in design by catering for future growth. The tunnels, which significantly reduce congestion along Pennant Hills Road,

Figure 1. NSW toll road ownership by Average Daily Traffic¹



TRANSURBAN OWNERSHIP

- 30% Australian superannuation funds
- 20% Australian retail shareholders
- 10% Other Australian funds
- 40% Other

~90% of major Australian super funds hold shares in Transurban

\$36B²

invested by Transurban and partners

\$25.1B WestConnex

\$2.8B NorthConnex

\$2.3B M7 construction

\$5B Hills M2, LCT, CCT, Sydney Motorway Group, M5 West acquisitions

\$740M Hills M2 Upgrade

\$400M M5 Widening

\$100M Hills M2 Integration

are built to expand from two-lane capacity to cater for three lanes, and feature lighting displays to keep drivers alert and focused as they travel through one of the longest road tunnels in the country.

The private sector—motivated to achieve the best outcomes for its government partners, communities, customers and investors—have proven to be a strong force in driving efficiency and innovation in design, construction and operations. Transurban is also recognised for its comprehensive community and stakeholder engagement programs.

NSW has been a leader in the use of Public Private Partnerships to deliver toll road projects with twelve motorways and tunnel projects opened to date³.

Private sector involvement transfers a considerable amount of the construction and patronage risk from governments. The risk is significant, with well-documented failures in the sector including the Cross City Tunnel and Lane

Cove Tunnel where the projects failed to meet their patronage forecasts. While private investors bore the risk—and the losses—taxpayers benefitted with delivery of and access to improved networks and new, world-class roads and tunnels.

\$35.8 billion in economic benefits

In research commissioned by Transurban, KPMG estimates the total economic benefits from the accelerated delivery of toll roads by the private sector to be \$35.8 billion over the 30 years to 2046⁴.

In that time, businesses and freight users can expect to realise an estimated \$11.8 billion in benefits through travel-time savings, reliability gains and reduced vehicle operating costs.

Personal users stand to gain \$9.4 billion in similar benefits. In our submission to the 2021 Inquiry into Road Tolling Regimes (Appendix 2), we featured

case studies that bring to life the value of toll roads to hypothetical individual motorists, who each rely on the network for different reasons. Further case studies are highlighted on pages 8 and 9.

KPMG’s analysis estimated the toll road network will contribute an estimated \$14.5 billion in wider economic benefits by significantly improving access to economic centres and increasing participation in the labour market. An average of 5,300 full-time jobs are expected to be created annually over the 30-year period.

1. *Transport for NSW—Western Harbour Tunnel and Warringah Freeway upgrade—Environmental Impact Statement, January 2020 and internal Transurban analysis*
 2. *Transurban and its partners’, investments in Sydney*
 3. *Infrastructure Partnerships Australia, reports including the 2009 discussion paper “Urban Transport Challenge: Driving Reform on Sydney’s roads”. Along with the 11 roads listed in this submission, the Sydney Harbour Tunnel was the State’s first public-private partnership project, according to Infrastructure Australia.*
 4. *Economic Contribution of Sydney’s Toll Roads. KPMG, May 2021*

Creating value for customers

Every day almost a million trips are taken on the 11 toll roads in which Transurban has an interest¹.

Up to 41 minutes per trip

travel-time savings on individual roads²

208,000 hours

average workday travel-time savings

\$398+M

on operating and maintaining roads across FY22 and FY23, including incident response (actual and forecast)⁹

\$11

average customer spend per week²

Not only do individual toll roads offer travel-time savings of up to 41 minutes (Figure 2) and more reliable and safer trips, their connectivity creates a network with benefits far greater than the sum of its parts. For example, drivers can travel from Newcastle to Melbourne without facing a traffic light by using NorthConnex, the Hills M2 and Westlink M7.

Sydney's newest tunnel, the WestConnex M4–M8 link, which connects the M4 in Haberfield to the M8 in St Peters, is contributing to significantly reduced travel times and allows drivers to bypass up to 52 sets of traffic lights between Parramatta and Mascot. Travel-time savings result in fuel savings and fewer greenhouse gas emissions.

In independent research commissioned by Transurban in July 2023, 64% of the 1,008 respondents in Sydney rated travel-time savings as the main reason they used toll roads, followed by them being considered the most direct route (Figure 3). Case studies on pages 8 and 9 show the travel-time savings that our customers are achieving using various roads.

The projects we deliver have also improved the capacity, efficiency and safety of the broader Sydney road network, in particular along neighbouring roads. For example, after the WestConnex M4 Tunnels opened in

July 2019, the number of cars and trucks using Parramatta Road daily reduced by around 30%. As a result, air quality on Parramatta Road has improved by 10–15%³.

Since NorthConnex opened there has been a 57% reduction in crashes on the nearby Pennant Hills Road and 47% fewer fatal or serious injuries with heavy vehicles moved into the tunnel and away from local streets⁴.

Safer roads

The safety of our roads is our key priority and research from Monash University Accident Research Centre shows our Sydney roads are twice as safe as like roads with a 48.7% lower rate of fatal and serious injury crashes⁵.

State-of-the-art safety and traffic management technology and 24/7 road monitoring, aim to make motorists' journeys as safe as possible.

The International Road Assessment Program (iRAP) has rated 66% of our roads⁶ as four star and 17% as five star. This compares with the most recent publicly available iRAP ratings for the NSW public network (2013) where 51% of national highways in NSW had a rating of less than two stars, 46% were rated three stars and 2% had a four star rating.

Our commitment to road safety extends to research to improve safety outcomes for motorists across Australia.

We are now in the seventh year of a partnership with Neuroscience Research Australia, which has produced

Figure 2. Travel-time savings on Sydney toll roads⁷

MOTORWAY	DIRECTION	AM	PM
Cross City Tunnel	Eastbound	8min	11min
Cross City Tunnel	Westbound	9min	12min
M1 Eastern Distributor	Northbound	17min	21min
M1 Eastern Distributor	Southbound	23min	22min
Lane Cove Tunnel	Eastbound	9min	8min
Lane Cove Tunnel	Westbound	6min	7min
Hills M2	Eastbound	35min	33min
Hills M2	Westbound	37min	41min
M5 South West	Eastbound	24min	28min
M5 South West	Westbound	26min	22min
M5 East	Eastbound	18min	14min
M5 East	Westbound	16min	21min
Westlink M7	Northbound	34min	37min
Westlink M7	Southbound	39min	34min
WestConnex M8	Eastbound	21min	18min
WestConnex M8	Westbound	25min	28min
NorthConnex	Northbound	9min	8min
NorthConnex	Southbound	10min	10min
WestConnex M4–M8 Link	Northbound	13min	15min
WestConnex M4–M8 Link	Southbound	17min	13min
WestConnex M4	Eastbound	28min	31min
WestConnex M4	Westbound	28min	41min

1. Transurban ADT data: includes the benefit of M8/M5 East which opened/commenced tolling on 5 July 2020 and NorthConnex which opened on 31 October 2020

2. Average weekly Linkt Sydney customer spend on tolls – consumer FY21 (Covid reduced average weekly spend in FY22 compared to FY21)

3. Transurban media release, October 7 2021, Air quality improves around WestConnex: www.westconnex.com.au/media-releases/air-quality-improves-around-westconnex/

4. Transport for NSW Crashes on the Cumberland Highway (Pennant Hills Road) north of M2 and south of M1. 26-month comparison September 2012 to December 2022 (2022 crash data is preliminary and subject to change)

5. Monash University Accident Research Centre, June 2022

6. Excludes WestConnex, which will be assessed after the opening of Rozelle Interchange

7. Travel-time savings are for the entire length of each road, compared to the alternative route, for the highest hour between July 2022–June 2023; 'AM' means midnight to noon and 'PM' means noon to midnight. Source TomTom

8. Transurban commissioned research, conducted by Nature, 1,008 respondents across Sydney, July 2023

9. Total operations and maintenance spend on all NSW toll roads in which Transurban has an interest, across FY22 and FY23 (actual and forecast)

nation-leading research on child car seat safety as well as a world-first study into motorcycle safety.

We continue to partner with Kidsafe NSW to offer free car seat fittings and safety checks for families across Sydney, including a week-long car seat safety blitz during National Road Safety Week, which has seen more than 700 fitted over the past two years.

Customer experience

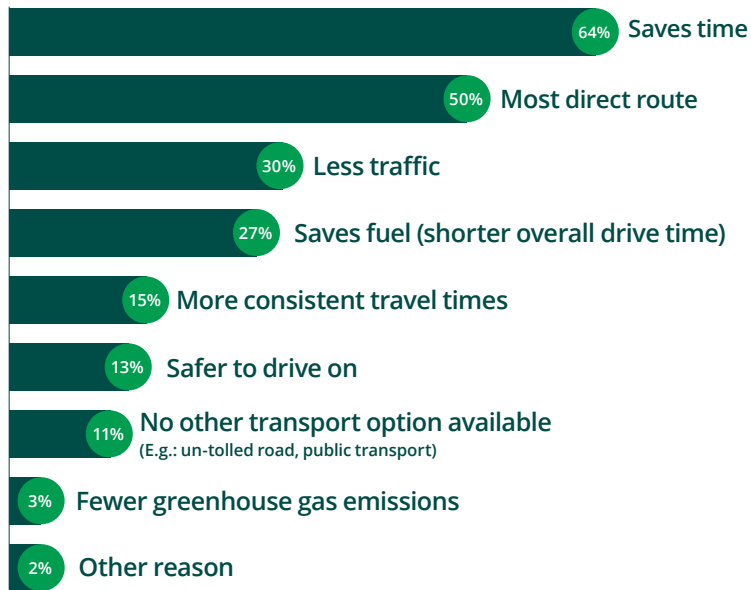
We continually find new ways to listen, understand our customers’ needs, and reflect on what we can do to improve their travel experience.

Linkt, Transurban’s retail brand, features a toll calculator, Trip Compare, which allows motorists to compare the costs and benefits of using a tolled route versus the alternate untolled route. The user enters their origin and destination and is provided with information on the cost of the toll along with estimated travel time and fuel savings. It’s a simple tool that allows people to assess the value of using a toll road to make a more informed choice about how they travel.

Our Voice of Customer Program, which analyses around 250,000 pieces of feedback from our Australian customers each year, also provides comprehensive metrics to gauge customers’ on-road experience.

We continue to invest in new systems and technology to ensure our customers can engage with us across a range of platforms and have an app, LinktGO, to give customers an option to pay by trip without an ongoing commitment.

Figure 3. Reasons for using toll roads⁸



We recognise that some people have difficulty managing their toll payments, so our Linkt Assist team is in place to provide tailored support for customers going through tough times. This confidential support can include more time to pay for toll road travel, ongoing payment plans and advising state enforcement groups and other toll road operators of a person’s situation (with their consent).

In FY20, we expanded our Linkt Assist program with new multi-lingual educational resources co-designed with The Salvation Army financial counsellors. Our Linkt Assist team also refers customers to our community sector partners for broader welfare support through our Linkt Assist 360 program, delivered in partnership with Good Shepherd.

“It’s magical, I’ve been driving trucks since 1978 and reckon NorthConnex is the single best piece of infrastructure that we have seen in Sydney for years. We’re saving around 15-20 minutes each way on a good run...”

Richie, truck driver for SRH Milk Haulage

“NorthConnex has helped our business enormously. Business has now picked up by 30 per cent and it’s a lot quieter and cleaner without the trucks. Customers coming from nearby suburbs can now reach us in 10 minutes rather than half an hour”

Steve, Director at Thornleigh Golf Centre, located on Pennant Hills Road



WestConnex M4-M8 link improving safety and efficiency

Since opening in January 2023, Sydney's newest motorway, the M4-M8 link, has become a crucial part of the city's transport network, with more than 32,000 trips on average every day¹.

Transurban traffic data shows motorists are already enjoying valuable travel-time savings during peak hours. For motorists travelling between St Peters and Haberfield, the link reduces time in traffic by up to 17 minutes. This compares to travelling on a non-tolled surface route, taking into account Parramatta Road and Stanmore Road. This latest section



of WestConnex has also made local surface roads significantly safer.

Transurban partners with Compass IoT, an international road technology and data analytics company, to use real-time data from vehicles to show how the car is being driven.

Data collected between March and June 2023 shows congestion along the

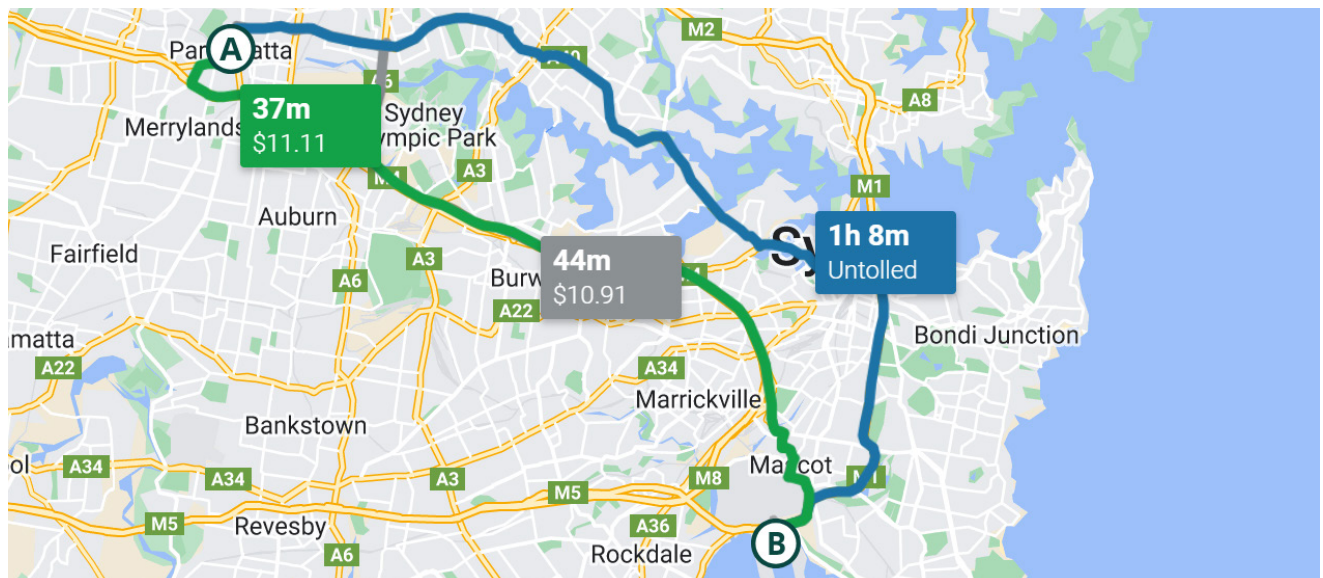
Parramatta Road and Stanmore Road surface route has reduced significantly, with up to 43% less harsh braking, up to 33% less harsh swerving and up to 35% less harsh swerving and braking. This means fewer potential rear-end and merge collisions and near misses for drivers, and a safer environment for pedestrians, active transport users and the local community.

Transurban's Trip Compare

Plan your journey from start to finish and compare your tolled and untolled travel options

Case Study 1. Trip to airport using M4 and M4-M8 Link

A family leaves Parramatta to travel to Sydney Airport. Leaving Friday at 5pm, they could save 31 minutes in travel time by taking the tolled route over the untolled alternative. Sydney Gateway opens in 2024, further reducing the number of traffic lights to Sydney Airport.



Friday 5pm **A Parramatta** **B Sydney Airport** **31m saved | \$11.11 cost**

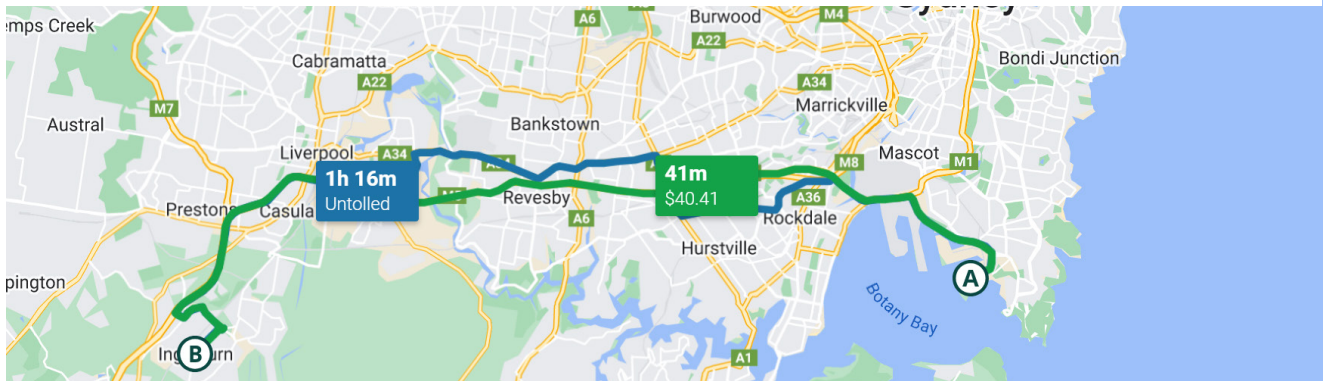
TOLLED ROUTE
37m
 18 Traffic lights
 2l Fuel used
 4.7kg CO₂ emitted

UNTOLLED ROUTE
44m
 79 Traffic lights
 3.3l Fuel used
 7.6kg CO₂ emitted

Trip Compare: Travel times and trip information are predictions based on 3rd party data from the Google Maps Directions API. Individual travel times, alternative trips and travel savings may vary based on your specific origin, destination and traffic conditions at your time of travel.

Case Study 2. Value of travel-time savings to Sydney's freight operators

Trucking company picks up freight from Port Botany and takes it to Ingleburn for processing, packing and redistribution. Leaving the port on Tuesday at 8am, they could save 35 minutes in travel taking the tolled route over the untolled alternative.



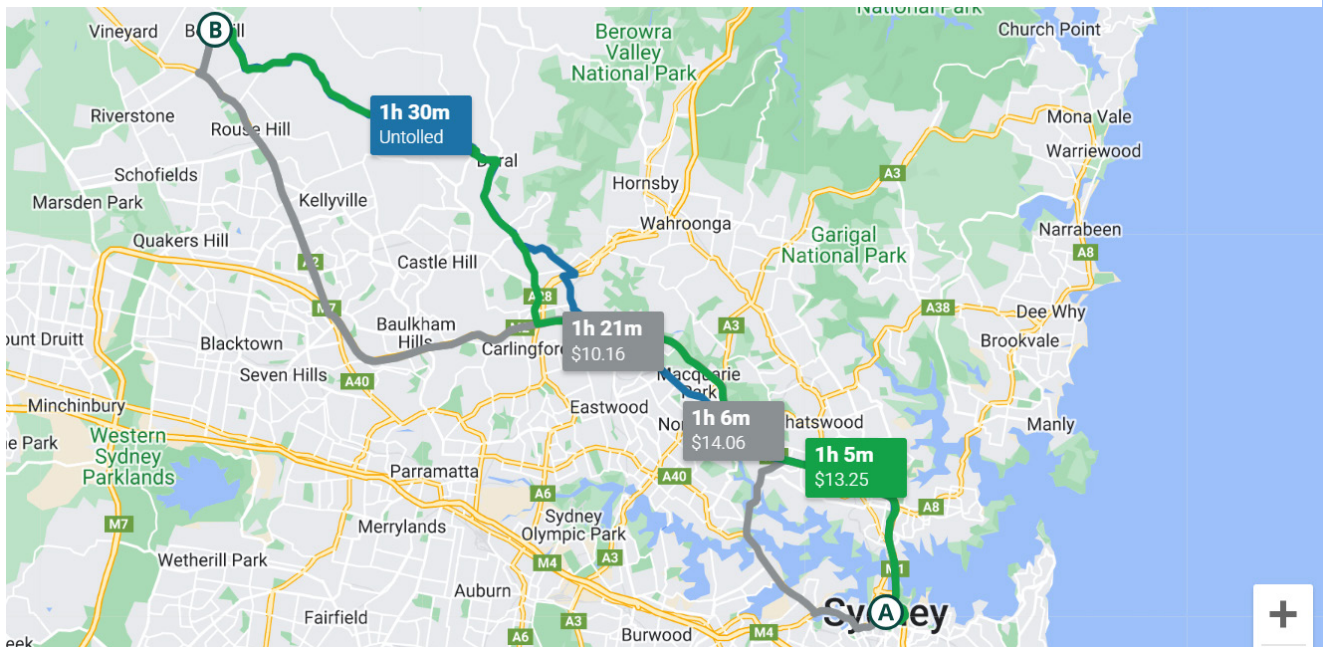
Tuesday 8am **A Port Botany** **B Ingleburn** **35m saved | \$40.41 cost**

TOLLED ROUTE
41m
 12 Traffic lights
 10.1l Fuel used
 27.6kg CO₂ emitted

UNTOLLED ROUTE
1h 16m
 56 Traffic lights
 15.2l Fuel used
 41.2kg CO₂ emitted

Case Study 3. Value of travel-time savings to working parents

A working parent who works in Sydney CBD travels home after work to have dinner with their family. Leaving work on Tuesday at 5pm, living in Box Hill they could save 25 minutes in travel taking the tolled route over the untolled alternative.



Tuesday 5pm **A Sydney CBD** **B Box Hill** **25m saved | \$13.25 cost**

TOLLED ROUTE
1h 5m
 29 Traffic lights
 4l Fuel used
 9.3kg CO₂ emitted

UNTOLLED ROUTE
1h 30m
 42 Traffic lights
 4.8l Fuel used
 11.1kg CO₂ emitted

1. Toll Review Discussion Paper

The Toll Review Discussion Paper provided a list of questions relating to the terms of reference and criteria to apply in the assessment of tolls. The questions and our answers are outlined below.

1.1 General questions relating to the Toll Review

A QUESTIONS

1 What issues do you see with the current tolling regimes across Sydney?

The NSW Government's Toll Review is considering ways to improve fairness, simplicity and transparency for motorists and efficiency across the network. We have responded to each of these questions with that framework in mind, while taking the opportunity to explain how toll roads work and have been developed.

Sydney's toll road network today is the result of significant achievements by multiple governments, both federal and state, that have been critical to the prosperity and liveability of Sydney, dating back to the Sydney Harbour Bridge almost a century ago.

The commissioning, delivery and long-term operations of these motorways have also given the private sector the opportunity to partner with governments for more than 30 years on projects such as WestConnex and NorthConnex.

The delivery of new and enhanced toll roads and their tolling regimes reflect the considerations taken by the government in office at the time, leading to variations in existing tolling methods and subsidies. Each toll price and escalation rate is set by the government, as it decides how to best meet the objectives of funding the project and providing a value-for-money proposition that will be attractive for motorists through travel-time savings and reliability.

Today's toll road pricing regimes reflect these decisions and have resulted in varying toll prices and methods including flat rates, caps, flag-falls and distance-based charges.

These differing toll regimes have led to a fragmented system that may be perceived as inconsistent by users, with varying prices and trip lengths (Figure 4). Government rebates and subsidies also only apply for some toll road users.

The NSW Independent Toll Review of the current pricing mechanisms provides an opportunity to optimise road utilisation, which could lead to less congestion at peak times and spare capacity at other times which, in turn, improves network performance, productivity and liveability.

Figure 4. Examples of price compared to trip length¹

MOTORWAY	ORIGIN/DESTINATION	DISTANCE	CURRENT PRICE
Westlink M7	M5 entry to M2 Exit	39.5 km	\$9.51
Westlink M7	M5 entry to M4 Exit	19.8 km	\$9.43
Hills M2	Westlink M7 to Lane Cove Tunnel	20.5 km	\$9.35
Hills M2	Beecroft Rd to Lane Cove Tunnel	8.4 km	\$9.35
M5 South West	Camden Valley Way to King Georges Rd	19.7 km	\$5.49
M5 South West	Belmore Rd to King Georges Rd	2.1 km	\$5.49

¹ As at July 2023, Class A vehicle price

2 How do these issues affect you?

An efficient and integrated transport network is essential to maintaining a productive and liveable city. However, the current pricing mechanisms on Sydney's toll roads are not geared to broader network performance to optimise the use of roads. This leads to congestion at peak times on some corridors and spare capacity at other times. The individual setting of toll prices for each road has also resulted in arrangements that can impact demand management and our customers' experience.

Toll roads form part of the broader Sydney road network, so congestion in the wider network affects the efficiency of toll roads, which, in turn, impacts motorists and the road's value-for-money proposition.

Traffic congestion also has an economic impact. Infrastructure Australia (IA) has estimated that the annual cost of road congestion for Sydney will be \$13.1 billion by 2031, up from \$6.6 billion in 2016¹, with congestion increasing most significantly in the inter-peak period. IA also forecasts that the proportion of the trip that drivers will spend on the city's most congested roads, during peak periods, will increase from 60–80% in 2016, to 70–85% in 2031 and peak congestion in both directions will be more common.¹

Global navigation expert TomTom, in its 2022 Traffic Index, showed that Sydneysiders are already spending around 200 hours in peak-hour traffic each year, with average travel time of 22 minutes per 10 kilometres². The TomTom data showed that motorists took an extra 10 minutes to travel 10 kilometres in the morning and afternoon peaks compared to the optimal travel time.

Alongside this, Sydney also faces the demands of a growing and highly urbanised population, which is forecast to grow by more than 25% by 2042³.

3 What do you think can be done about them?

Looking at Sydney's motorways as a whole network presents a challenge to how toll roads have been delivered and operated.

Transurban has consistently supported government suggestions for a more consistent approach to tolling regimes to improve efficiency, fairness, simplicity and transparency across the network. This has been explored at our appearances at previous tolling-related inquiries in 2022, 2021 and 2017 in NSW, and in other forums across the country.

We are open to government suggestions for an approach that could include distance-based tolling, geographic zones, access charges and time-of-day pricing to manage demand. We acknowledge that access to alternative travel options and flexibility to change trip timing should be a consideration to maximise the benefits of time-of-day pricing. Any reductions in pricing during peak periods should be considered with regard for network efficiency and performance.

Practically, there would be a need to consider any changes required to the technology and roadside equipment and the cost to deliver any changes to tolling regimes.

Importantly, Sydney's toll road market includes stakeholders, partners and financiers beyond Transurban, such as Australian super funds. Any change to concessions would require approval of individual shareholders for each concession as well as consent from financiers.

4 For toll reform in New South Wales, what would success look like to you?

Transurban is open and willing to discuss opportunities to improve Sydney's toll road network. At the same time, it is important for the Review to consider the benefits that drivers already experience each day.

The ability for Governments and the private sector to partner and work together has played a transformative role in creating the Sydney of today. This road infrastructure has helped create connections that make moving around the city more efficient, predictable and safe, ensuring Sydney remains one of the most liveable cities in the world.

These travel-time savings, plus safer and more reliable trips, have supported a rapidly growing population, and today more motorists are choosing to use toll roads than ever before. There is an average of almost a million trips every day on our roads.

¹ Infrastructure Australia, Urban Transport Crowding and Congestion, The Australian Infrastructure Audit 2019

² TomTom Traffic insights city centre: <https://www.tomtom.com/traffic-index/australia-country-traffic>

³ Deloitte Access Economics (DAE) Land Use Forecasts an, Sep22 release

The Toll Review has provided an opportunity to explore “win-win opportunities” (as the Discussion Paper states) and how Sydney’s toll roads can further benefit the city through more efficient travel and demand management as well as improving the efficiency, fairness, simplicity and transparency of the network.

We recognise the NSW Government is also looking at short-term opportunities, such as toll relief schemes, safely increasing the WestConnex speed limit, decision point signage and potentially some innovations in the way our sector services no-arrangement travel. Improving the Toll Notice process across the road network could include consolidation and digitisation of Toll Notices, and reviewing Toll Notice administration processes and fees.

We have a thorough understanding of Sydney’s road transport needs and look forward to continuing to deliver solutions – whether related to technology, innovation or infrastructure – to make toll roads even better into the future.

1.2 Specific questions relating to the Toll Review Terms of Reference

B DETERMINATION OF TOLLS

1 What factors are important in determining the level of tolls?

In determining the initial toll price, escalation schedule and concession length, government must first evaluate the cost to build and maintain the road or tunnel over its lifetime and decide whether or not it will contribute taxpayer funding to the project (and if so, what the size of the contribution will be).

Each toll road is governed by a concession deed, which is the contract between the NSW Government and the successful private sector participant. The deed dictates the commercial arrangements for the ownership and operation of each road and sets out the concession term and prescribes the tolling regime including toll prices and escalation.

The lower the government financial contribution is to a project, the higher the initial toll price, escalation rates and concession length will be for motorists and vice versa. Lower tolls and escalation and a shorter concession would require a greater government contribution, meaning less public funding for other essential services. By partnering with the private sector, the NSW Government has delivered critical road transport infrastructure with less upfront investment relative to the overall project cost.

Transurban and our partners have invested more than \$36 billion building and upgrading Sydney’s motorway network, which has freed up government budgets to spend on other public priorities such as public transport, health and education.

As outlined in our answer to question A1, one of the most important factors to consider when determining toll prices is whether they provide value for money to motorists over the life of the concession. Because Sydney’s toll road prices have been set in isolation from each other, pricing disparities have emerged across the network.

Sydney’s toll roads were each built for a certain purpose. The individual setting of toll prices for each concession addressed the objectives for that specific corridor at that time, but have had an impact on demand management and network performance. Any reform to address congestion across the entire road network must also reflect the wider cost of each road’s construction and ongoing investment in the asset.

2 How should the Government be influencing the setting of tolls?

As outlined in our answer to question B1, the NSW Government determines the concession length and tolling regime including toll prices and escalation through terms in a concession deed, which is the contract between the NSW Government and the successful private sector participant.

Any changes to the terms of a tolling concession deed would require renegotiation and approval, including from our stakeholders, partners and financiers (Refer to Appendix 1 for full list of assets and concessions).

3 What improvements would you like to see in the way road tolls are set?

As outlined in our answers to questions in Section A, we see an opportunity to work with the NSW Government to address pricing disparities across Sydney's toll road network to create a simpler and more transparent system for customers, and one that achieves a more efficient road network. This opportunity to make the current tolling regime more consistent, fair and efficient will ensure we can appropriately manage the current demand and congestion across the network.

However, any changes to the terms of a tolling concession deed would require renegotiation and approval, including from our stakeholders, partners and financiers.

4 Do you believe the tolls across the motorway network should pay for upgrades to the network (e.g. an increase of 5c/km distance charge for a widening to the M2)

Concession adjustments, such as changes to toll prices, escalation rates or concession extensions have been used by the NSW Government to help fund the development of new roads and tunnels, and to upgrade existing road transport infrastructure.

Since commencing operations in NSW, Transurban and its partners have funded network improvements through changes to tolling arrangements. This has enabled two major road enhancements, the M2 Upgrade and M5 South West Widening, which deliver significant value to customers.

The injection of private sector capital has eased pressure on public budgets and allowed government to direct their funds into other priority areas such as schools and hospitals, as well as public transport services that are so critical to complement the road network and give consumers a choice about their mode of travel.

It has also allowed much-needed road infrastructure to be built sooner than may have been possible if publicly funded. Through the NSW Government's Unsolicited Proposal Process, Transurban and partners are delivering the M7-M12 Integration Project. The Project will reduce travel times on an important freight route while helping to relieve existing congestion in Western Sydney, supporting the development of one of Australia's fastest growing regions.

The Project will be funded through additional revenue from the traffic uplift on the enhanced asset and a concession extension, as well as a direct contribution from the NSW Government towards the M7-M12 Interchange and connection to Elizabeth Drive.

Transurban also supports the principle that any reform implemented retains flexibility to amend tolling arrangements, such that the NSW Government can continue to draw on an appropriate mix of funding sources to fund future enhancements including variations to the tolling regime.

This follows the principle of a 'user pays' system, where those who benefit from the motorway pay for the asset.

C COMPETITION AND REGULATION

1 How do you think competition could influence road tolls and the efficiency of service performance by providers?

Sydney's toll roads operate in a highly transparent and regulated industry (Refer to Figure 5).

Bidding for toll road concessions in NSW (and elsewhere) has been highly competitive for many years and shows no signs of abating, whether through direct tender for a greenfield concession or secondary sale of a brownfield asset. Historically, whenever there has been an opportunity to acquire a toll road concession in Australia (and elsewhere), a range of well-resourced, experienced multinational parties have been involved in the bidding process.

In this context, all toll prices and performance requirements agreed between the State Government and a successful bidder for a toll road concession are inherently influenced by competition.

Competition does not otherwise influence road tolls because the government sets the initial toll price and escalation rates in the concession deed for each road.

When sorted by average daily traffic, Transurban's ownership of Sydney's toll roads is just under half of the sector. The percentage of private sector ownership is expected to decrease in the coming years as the State-owned M6 Stage 1 and Western Harbour Tunnel open.

We see competition at multiple levels in our industry today, from infrastructure planning (private or public participation), tender processes (design and construction operations), right down to the competitive bids for contractor suppliers.

Through our operations, under each concession, we are required to measure, meet and report on Key Performance Indicators that define the service level. This includes lane availability during peak hours as well as incident response and clearance times.

The Independent Toll Review has identified transparency as a key aspect of this review – and to Transurban this includes empowering customers with the information they need to make informed and personalised decisions about whether to use toll roads or the free alternative routes.

The injection of private sector capital has eased pressure on public budgets and allowed government to direct their funds into other priority areas such as public transport services that are so critical to complement the roads network, and give consumers a choice about their mode of travel. Ride-hailing and ride-sharing services, multi-modal transport platforms and transport-on-demand apps are already giving people greater certainty, choice and convenience in how they travel, and we continue to see the number of proponents in this market increase.

Notwithstanding the above, it is important to note that toll roads in Sydney are geographically distinct and serve predominantly different traffic flows, and there is no meaningful road-on-road competition between them. Accordingly, the emergence of a new private sector toll road owner in Sydney would not have any influence on existing road tolls or service performance.

Figure 5. Regulatory environment across industry sectors

	CONCESSION DEEDS	INDEPENDENT REGULATION	LIGHT-HANDED MONITORING
Example industries	Toll roads	Utilities including electricity, water, gas	Airports, railway and some ports
Pricing freedoms	Australian tolls fixed from date of concession with defined escalation. Other charges are set out in concession deeds, legislation or agreed with client (cost recovery)	Prices reset periodically (around every five years) to allow agreed return hurdles to be met based upon a regulated asset base	Price monitoring by the ACCC. Commercial arrangements with users renegotiated periodically
Customer choice	Road users have alternatives including non-tolled roads and other modes of transport	Choice at retailer level but monopolies around distribution infrastructure	Limited alternatives for consumers and users (airlines, shipping lines)
Volume risk	Demand risk borne by toll road owner, including shortfalls in revenue or higher than anticipated costs	Prices can be adjusted annually to allow costs to be covered and margin earned even if volumes fall	Prices reset is a commercial negotiation which covers cost recovery, volumes and returns

2 What scope is there to increase the influence of competition in the tolling industry?

The NSW Government has broad executive power to pursue a toll road ownership model or create a toll road sale process that increases the influence of competition in the bidding process. The NSW Government in its sole discretion, decides whether to construct the toll road itself, whether to jointly build the toll road in a public-private-partnership, or outsource the construction completely. It similarly decides, with discretion, who operates the toll road, whether it be itself or another third party.

The Independent Toll Review has been tasked with examining the scope for competition and regulation in the industry, which could play a role in delivering even greater transparency and efficiency.

Toll road concessions in NSW are highly sought after and there has always been significant competition to acquire these assets whether through direct tender for the greenfield concessions or as secondary sales of brownfield assets. The market interest in toll road concessions has been demonstrated by recent transactions both in Australia and internationally.

Each toll road operates as a separate, discrete and independent business that must be operated strictly in accordance with the terms of its concession deed. This is evidenced, in practical terms, by the relevant toll road concessionaire:

- having no pricing power; and
- operating a toll road that constitutes the supply of a service within a distinct geographic area by reference to a particular origin and destination, with no capacity to influence alternative routes or modes of transport.

For a bidder in a toll road transaction, the long-term economic benefit is tied to the exclusive right granted by the State to the concessionaire to operate that toll road under the terms of the concession deed and related legislation. That exclusive right is not affected by the ownership or operation of other toll roads. Each bidder (regardless of whether it has an interest in another toll road concession or is a potential new entrant) will assess the bidding opportunity by reference to economic and financial factors and criteria relevant to that toll road concession.

3 Should tolls on existing motorways or on future motorways be subject to on-going independent prices oversight, say by IPART (Independent Pricing and Regulatory Tribunal)? If so, how?

Concessionaires have no pricing power in relation to toll road concessions. The government sets the initial toll price and escalation rates in the concession deed for each road.

Toll roads are clearly marked, with the prices widely available on government, Linkt and E-Toll websites and apps such as the Trip Compare tool. Motorists also have a choice to use alternative non-tolled routes.

For example, in independent research commissioned by Transurban, only 11% of 1,008 respondents said they used a toll road because they had no other transport option available¹. Like all major infrastructure, toll roads are subject to rigorous oversight including from Infrastructure NSW, Transport for NSW, the Auditor-General and Cabinet.

¹ Transurban commissioned research, conducted by Nature, 1,008 respondents across Sydney, July 2023

C CRITERIA FOR ASSESSING TOLLS – EFFICIENCY

PRICING OPTIONS

1 Should tolls be set on a network basis? What are the pros and cons of doing this rather than setting tolls for individual parts of the motorway network as is now the case?

With much of the Sydney network becoming well established, we recognise that there is now an opportunity to revisit the current pricing regime in terms of fairness, simplicity and transparency for customers and a more efficient road network performance.

Transurban supports government suggestions for a more consistent approach across the Sydney tolled network, which could include toll pricing based on distance travelled and geographic zones as well as a charge to access a toll road.

We are also open to discussions on pricing based on time-of-day travel as a way of managing demand and creating more efficient travel across the Sydney road network.

However, any reforms must also reflect the wider cost of each road to ensure consistency and fairness. This is a complex discussion and Transurban is open to working with government and our partners on a long-term reform solution.

It is possible that some users will be worse off under a consistent network approach to tolling. A scenario where no user is worse off would likely lead to undesirable network outcomes and potentially reduced performance in already congested sections of the motorway, requiring costly upgrades.

2 Should tolls vary according to traffic flow e.g. higher in peak periods and lower in off peak periods?

Like most urban motorways, many toll roads have peaks in the morning and afternoon, which impact traffic flow, while at other times they have excess capacity.

The current capacity opportunities and congestion challenges on roads may be partly addressed through a pricing mechanism. Time of day pricing may be effective in demand and congestion management, while off-peak pricing for trucks can encourage them to drive at less busy times, providing a safer and better customer experience for daily commuters.

A time-of-day travel pricing signal could prompt people to consider their travel more deliberately.

While the government has applied time-of-day tolling on the Sydney Harbour Bridge and Sydney Harbour Tunnel since 2009, no other motorway concessions since then have adopted this tolling regime. The success of this tolling method would be a question for the NSW Government.

Beyond pricing mechanisms, flexible working hours, urban planning and changes in retail and services availability can in future help manage demand on transport networks.

In our February 2021 Mobility Trends Report we explained how the adoption of flexible work and/or school hours in our Australian markets could help spread peak-hour traffic. Such changes could improve the efficiency of transport networks if implemented on a large scale¹.

Small shifts in usage in peak periods can equate to large gains in efficiency. For example, Transurban traffic analysis (based on observations during school holiday periods on CityLink in Melbourne), showed that a 6% reduction in peak period volumes could increase average speeds by over 10 km/h.

3 Should tolls be set on a per kilometre basis, with or without a fixed access charge?

As explained throughout this submission, Transurban supports governments suggestions for a more consistent approach across the network which could combine distance-based tolling (by zone), and access charges, in addition to time-of-day pricing to manage demand.

A fixed access charge across the Sydney toll road network could help capture the marginal cost of short trips, given the impact these shorter length trips can have on congestion, thereby impacting overall network efficiency.

¹ Transurban Mobility Trends Report from Covid-19 – February 2021

For example, a 1.35km trip on Westlink M7 between Old Wallgrove Rd and the exit to the M4 Motorway currently costs users \$0.64. This low toll does not discourage drivers to access the road, which, in turn, has created congestion issues in this area.

Westlink M7 has distance-based tolls and WestConnex roads and tunnels have distance-based tolling with a flagfall.

4 Should tolls be set having regard to levels of congestion on the wider road network (i.e. including non-motorway) roads?

Pricing to manage peak demand is a concept that is used in other industries. For example, to regulate demand in the energy sector, users may be incentivised with lower off-peak rates to incentivise more efficient use. Similarly, this concept has broadly been implemented in setting public transport fares.

Transurban supports reforms that aim to improve Sydney's road network performance, noting that toll roads don't exist in isolation, they're part of complex transport networks that include freeways, arterial roads and public transport systems. Congestion on any part of these networks can affect the efficiency of a single toll road, which in turn impacts motorists.

5 Cordon

A CBD zone could potentially improve the local road network in the CBD with less cars, faster travel times, greater use of public transport, and a more pedestrian friendly environment.

Do you think a CBD zone or other cordon zone pricing area would be desirable and/or feasible in Sydney?

Are there other things that government could do to better achieve the desired outcomes of reducing congestion in particular areas?

Noting the NSW Government has ruled this out at this stage, Transurban has no comment on this issue.

6 What tolling arrangements should apply to trucks on motorways?

Tolling arrangements for heavy vehicles are set to ensure fairness and to efficiently utilise the motorway network capacity. The higher tolls reflect the greater value these vehicles such as trucks receive from the travel time savings, and also reflect the additional costs involved in safely accommodating them on the road.

As with all toll prices, large vehicle multipliers are set out in the terms of a concession deed and reflect the greater value these vehicles derive and the extra costs involved in safely accommodating them on the road and the additional road space they require.

Toll multipliers apply to large vehicles on toll roads in Sydney, except the harbour crossings. The multipliers are generally between two and three times the car tolls and are applied to Class B vehicles, such as trucks and heavy vehicles and can include larger items being towed depending on the overall dimensions.

Benefits to businesses include increased productivity and lower operating costs such as fuel consumption and vehicle wear-and-tear (Refer to page 9, Case Study 2).

Toll road design incorporates special features, such as suitable pavement depth and grades, tunnel heights, tunnel ventilation and breakdown bays, to accommodate large vehicles, which increases the overall project cost. For example, the Westlink M7 was constructed at significant cost using continuously reinforced concrete pavement.

Modern tunnels are also being built with a taller clearance than they once were to reduce the risk of overheight vehicles colliding with tunnel infrastructure. For example, the Eastern Distributor and Cooks River Tunnel are 4.4 metres high but all new tunnels – including the M4, M8 and NorthConnex – are built to 5.1 metres.

OTHER PRICING CONSIDERATIONS

7 Should vehicle emissions be considered in setting road tolls?

Free-flowing roads are essential to reducing vehicle greenhouse gas (GHG) emissions, and Transurban supports reforms that aim to improve network efficiency.

On average, our customers save an average of 27% in GHG emissions by using our toll roads compared to taking a congested, stop-start alternate route.

By using our Linkt Trip Compare online tool, motorists have the opportunity to compare the CO2 emitted on a toll road trip versus an alternate route (refer to pages 8 and 9 for the Trip Compare case studies).

While our roads are designed and operated to keep traffic flowing with flatter gradients, smoother road surfaces and enhanced congestion management, we recognise the serious impact that fossil-fuel powered vehicles have on the environment. We are supporting our customers through a number of initiatives to increase the uptake of electric vehicles (EV) and promote fuel-efficient driving techniques.

For example, we ran a promotion where customers had the chance to drive an EV for up to 10 days and report their findings, which we published on social media channels.

Recognising fleet managers' significant buying power and impact on the second-hand vehicle market each year, we also held our first EV Drive Day in February 2023. We partnered with Origin Energy, where around 50 fleet managers learnt about the benefits of EVs and had the chance to test drive 16 models.

We endorse the NSW Government's Electric Vehicle Strategy, which aims to increase sales of EVs to more than 50% of new car sales by 2030-31 as a move towards decarbonising road transport.

8 Road user pricing

There is an emerging view that road user pricing will need to be introduced across Australia, to replace the reducing revenue from a reducing fuel excise tax, due to the increasing uptake of hybrids and fully electric vehicles.

What implications, if any, do you see this having on for motorway tolls and how should this Review respond to the issue?

Fuel-efficient cars and the increasing take-up of electric vehicles have added pressure to the current road funding system.

The Federal Government's revenue from fuel excise is rapidly diminishing in real terms, while those driving less fuel-efficient vehicles are paying more for their use.

Industry and government bodies including the Productivity Commission, Infrastructure Partnerships Australia and the Australian Automobile Association have long recognised that the need to replace the current system is inevitable.

Recognising the need for a fair and sustainable road usage charge, the NSW Government will introduce a distance-based road user charge for eligible EVs of 2.5c/km (indexed to CPI) from 1 July 2027 or when EVs reach 30% of new vehicle sales, whichever comes first.

Transurban has also advocated for the introduction of a more sustainable and fairer road usage system and in 2016 completed Australia's first practical study to examine drivers' preferences for how they pay for their road use.

We believe this is an issue for consideration at a national level.

The review of Sydney's toll roads – and any proposed reforms – are separate to the broader reforms needed to replace the current road usage funding model.

D HEAVY VEHICLES

1 **Heavy vehicles create more wear and tear on the roads and contribute to congestion with light vehicles. Do current toll multipliers for trucks accurately reflect vehicle capacity in relation to wear and tear per tonne of freight moved?**

As outlined in our answer to Question C6, large vehicle multipliers are in place to reflect the extra construction costs and the impact heavy vehicles have on the road infrastructure, which is over five times greater than light vehicles¹, and the additional space they take up on the road.

Large vehicles occupy significantly more space, and their impact on traffic congestion causes much slower speeds, often resulting in stop-start traffic.

One truck travelling on a standard motorway lane takes up the space of around 3.5 to 4.5 times a passenger car. Trucks, as well as being physically bigger, also require additional space to accelerate and decelerate into, meaning trucks occupy an even larger pocket of road than their size alone suggests. This has a flow-on effect to other traffic, with heavy vehicles having a larger impact on congestion than passenger cars.

¹ Transport for NSW, Economic Parameter Values Version 2.0, June 2020

Transurban's 2021 submission to the Inquiry (Refer Appendix 2) references analysis articulated by the MidNorth Weight of Loads Group - a group of several northern NSW councils whose purpose it was to liaise with operators and Transport for NSW (then Roads & Traffic Authority) to ensure compliance with heavy vehicle mass limits. This analysis indicated that the wear-and-tear to road infrastructure caused by one articulated truck was estimated to equal that of 6,000 cars (Appendix 2).

2 Do current toll multipliers provide sufficient incentive for the use of more productive vehicles?

As noted in Question D1, the Class B large vehicle multiplier were predominantly set to reflect additional cost and impacts and space requirements of heavy vehicles. Although they weren't set with the objective of incentivising more productive vehicle use, the pricing structure does provide an incentive for the use of more productive vehicles as operators pay the same heavy vehicle multiplier if they utilise larger more productive vehicles.

As noted elsewhere in this submission including Section C6 above, there are significant productivity benefits for heavy vehicles using Sydney toll roads. Any changes to concession agreements in relation to large vehicle multipliers come under long-term reform that would require the approval of relevant partners.

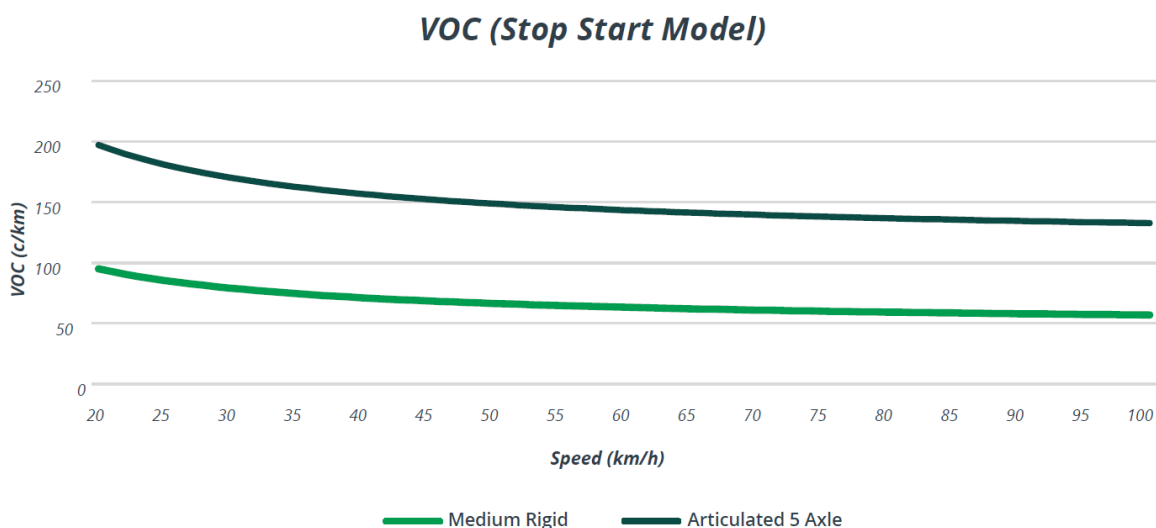
3 Are there sufficient incentives/requirements for heavy vehicles to use the motorways rather than the non-motorway network, e.g. for safer, more sustainable and productive outcomes?

As highlighted in Case Study 2 (page 9) there are significant incentives for heavy vehicles to use tolled motorways over non-tolled motorways including travel-time savings and reliability, reduced fuel consumption, smoother travel and less wear-and-tear on the vehicle, which all contribute to increased productivity and operational cost savings.

The design and operation of our roads have also led to measurable safety and sustainability outcomes. The Monash University Accident Research Centre has found Transurban's roads to be up to twice as safe as like roads, and on average customers generate 27% less greenhouse gas emissions by using our roads instead of the alternate route¹.

The design of our roads allows vehicles – in particular freight – to maintain steady speeds for longer. For example, the NorthConnex tunnels have been designed with a smoother and flatter road gradient, resulting in better fuel efficiency and reduced emissions. With all vehicles travelling in uninterrupted conditions, lane changing and vehicle braking is reduced, leading to better safety outcomes and significant operational cost savings. For example, Figure 6 shows that as travel speeds increase, operating costs such as fuel consumption, vehicle wear-and-tear, and vehicle capital costs decline significantly.

Figure 6: Vehicle operating costs model²



¹ Monash University Accident Research Centre, June 2022

² March Quarter 2023 CPI taken as a proxy against March Quarter 2022

4 Is there scope to improve road use efficiency by modifying non-toll restrictions on the use of trucks?

Where appropriate, government-led regulation redirecting trucks away from local roads and onto motorways (including tolled motorways) can improve the safety and performance of the broader road network.

For example, the NSW Government made the decision to require trucks to use the tolled NorthConnex tunnels, instead of Pennant Hills Road, a local surface road that runs parallel to NorthConnex. Removing these trucks from local streets has transformed local communities, improving safety and easing congestion, as well as providing better local air quality and reduced traffic noise for the local community.

After NorthConnex opened in 2020, a one-way trip on Pennant Hills Road was 33% faster – with more than 6,000 heavy vehicles a day moved into the tunnel. There has also been a 57% reduction in crashes on Pennant Hills Road and 47% fewer fatal or serious injuries with heavy vehicles moved away from local streets¹.

Ultimately, decisions regarding heavy vehicle regulation and non-toll restrictions are a matter for the NSW Government.

E PUBLIC TRANSPORT

1 What interrelationships can be identified between tolls and public transport?

An efficient transport network offers users choice based on their individual needs, integrating public transport options with roads.

Different modes of transport can suit different trip types. For example, in independent research commissioned by Transurban of 1,008 Sydney residents it was found that most people use public transport to commute (54%), whereas most people use toll roads when going on holiday (40%) or travelling to the airport (25%) or for social use (24%)². Refer to Figure 7.

No mode of transport exists in isolation. Motorways, arterial roads and public transport networks are interdependent and congestion on one mode of transport can affect the efficiency of another. A large proportion of the public transport task is undertaken by bus which cater for approximately 37% of all public transport trips, many of which travel on toll roads for quicker, more reliable journeys.

Transurban sees the value of integrated public transport, and it fully supports investments by all sides of government in more public transport.

We believe that cities work best when public transport—be it road, buses, rail, light rail or active transport—all work together effectively.

Figure 7: Reasons for using each type of Transport in Sydney

MODE	SOCIAL	RECREATIONAL	COMMUTING	CARING	DURING THE DAY	AIRPORT	HOLIDAY, GETAWAY	ERRANDS	OTHER	DON'T USE
Public transport	39%	30%	54%	12%	26%	20%	17%	27%	3%	1%
Local, arterial roads	43%	35%	42%	18%	25%	14%	26%	63%	3%	4%
Un-tolled motorways	41%	32%	27%	14%	17%	20%	43%	44%	2%	9%
Tolled roads	24%	15%	17%	10%	11%	25%	40%	17%	3%	23%
Ride share	58%	24%	28%	13%	15%	37%	21%	16%	1%	2%
Active transport	9%	12%	12%	5%	9%	3%	7%	17%	4%	58%
Carpool	45%	30%	28%	13%	18%	27%	32%	24%	0%	3%

Source: Transurban

¹ Transport for NSW. Crashes on the Cumberland Highway (Pennant Hills Road) north of M2 and south of M1, 26-month comparison September 2018 to December 2022 (2022 crash data is preliminary and subject to change)

² Transurban commissioned research, conducted by Nature, 1,008 respondents across Sydney, July 2023

2 Should buses be treated the same as trucks when determining what they are tolled?

Much like heavy vehicles, safely accommodating buses on the road network requires extra construction and maintenance costs, which are factored into the toll price (Refer to question C6).

Transurban believes that cities work best when public transport— road, buses, rail, light rail or active transport—all work together effectively.

Many of the concession deeds currently include provisions for toll exemptions for passenger services. Any changes to these exemptions for consistency amongst the concessions would be something Transurban would be open to discussing with the NSW Government. For example, STA bus services or similar that run scheduled bus routes through the Lane Cove Tunnel, Eastern Distributor and Cross City Tunnel are exempt from paying a toll, with terms as agreed in the concession.

NSW Economic Parameters published by Transport for NSW indicate that the value of time savings for a bus (based on average occupancy of 20 passengers) is worth \$418 per hour, more than 12 times a private car¹.

F CRITERIA FOR ASSESSING TOLLS – SIMPLICITY

1 Currently tolls are expressed in a number of different ways e.g. fixed amounts, distance (per kilometre) based, distance based with a fixed (access) component. Does it matter that this variation exists?

Refer to Section A where this is addressed.

Transurban supports the NSW Government's suggestions for a more consistent approach across the network which could combine distance-based tolling (by zone), access charges, in addition to time-of-day pricing to manage demand.

G CRITERIA FOR ASSESSING TOLLS – FAIRNESS

1 Is it appropriate that users pay road tolls?

Toll roads operate on a user-pays system. In selecting the route in their road travel, drivers have a choice to use a toll road, or a free alternative. A user-pays system means taxpayers across NSW aren't paying for roads they don't use. Users are paying for time savings and safer and more reliable travel.

The private sector, contributing to toll road infrastructure projects, is injecting vital funds that would have otherwise come from government budgets, leaving less for other government priorities such as health, education and public transport.

Building motorways and other road projects require difficult decisions to be made and the long-term nature of these investments often mean it is challenging to know all the factors that will shape how these investments would pan out over the years, if not decades.

If road investments are needed, Governments decide whether to:

- Use taxpayer funds;
- Adopt a user-pays model such as a toll road; or
- Not carry out the project at all.

In addition, the tolled motorway network has transformed previously congested corridors nearby, improving travel times and connectivity for local motorists that are not paid for by the recipients.

We recognise that it is important for people to have a choice about how they travel and have options to use alternate routes as well as public transport services that are critical to complement the road network.

¹ Transport for NSW, Economic Parameter Values Version 2.0, June 2020

2 Are road tolls value for money? Why, or why not?

Yes, toll roads are value for money when measured against key indicators like travel time savings, economic impact and safety benefits.

For example, Sydneysiders are already spending around 200 hours in peak-hour traffic each year, with average travel time of 22 minutes per 10 kilometres¹. Reducing the time people and goods spend in traffic gets people home sooner and enables businesses to make more deliveries and keep the economy moving.

Sydney's toll road network is critical to the movement of freight and passengers and underpins the city's economic growth and social connectivity. Not only do the individual toll roads offer travel-times savings, delivering more reliable and safer journeys, their connectivity creates a broader road network with far-reaching benefits.

Safer and more reliable trips have supported Sydney's rapidly growing population and today more motorists are choosing to use toll roads than ever before. Every day, almost a million trips are taken on the 11 toll roads in which Transurban has an interest. Motorists are saving up to 41 minutes² in travel time on some connections and, on an average work day, drivers save approximately 208,000 hours in travel time³.

In independent research, commissioned by Transurban in July 2023, 64% of the almost 1,008 respondents rated travel-time savings as the main reason they used toll roads, with the next most popular response being because toll roads are the most direct route¹.

These travel-time savings, in turn, result in fuel savings and reduced greenhouse gas emissions.

In addition, the tolled motorway network, alongside public transport and all other mobility options, offer greater convenience and personalised choices for travel.

Safety benefits

The safety of our roads is our top priority and independent research⁴ shows our Sydney roads are twice as safe as comparable roads with a 48.7% lower rate of fatal and serious injury crashes.

The International Road Assessment Program (iRAP) has rated 66% of our roads⁵ as four star and 17% as five star. This compares with the most recent publicly available iRAP ratings for the NSW public network (2013) where 51% of national highways in NSW had a rating of less than 2 stars, 46% was rated 3 stars and 2% had a 4-star rating.

State-of-the-art safety and traffic management technology and 24/7 road monitoring, ensures motorists' journeys are as safe as possible, controlling conditions such as speed limits and lane closures. We also have rapid incident response crews ready to deploy to the scene to ensure safe management of incidents and to minimise traffic disruptions which can affect the broader network.

Transurban also works with a range of external agencies including first responders and emergency services organisations to keep motorists safe. Activities include regular familiarisation tours, emergency testing and staged exercises.

3 Are road tolls fair for all motorists? Could they be made fairer? If so, how?

Drivers choose to use toll roads for a number of reasons, including benefits such as the value they receive through travel-time savings and safer, more reliable travel.

User pays, as a model itself, delivers fairness in terms of those that use it and receive the benefits pay for it. This Review should consider how fairness comes into play with the role that the tolling regime can play in delivering on these objectives. For more details on the tolling regime and Transurban's view see Section A.

4 Should the Government provide a subsidy to enable cheaper tolls?

This is a matter for government.

However, any subsidy should consider the potential impacts on network performance.

¹ TomTom Traffic insights city centre: <https://www.tomtom.com/traffic-index/australia-country-traffic>

² Source TomTom: for the highest hour between July 2022 - June 2023

³ Source TomTom data: July 2022 - December 2022 (Transurban FY23 Results have travel time savings of 224,048 from period July 2022 - June 2023)

⁴ Monash University Accident Research Centre, June 2022

⁵ Excludes WestConnex, which will be assessed after the opening of Rozelle Interchange

5 **Toll relief**

Temporary toll relief measures are expected to be in place for the next two years. If toll relief is to continue to be made available directly to motorists, should it be means tested?

This is a matter for government.

6 **Could toll relief measures be removed if tolls were set differently to now?**

This is a matter for government.

7 **How can it be ensured that the benefit toll operators receive from increased traffic as a result of toll relief paid by Government is passed back to the community?**

Our view is that the existing revenue-sharing regimes are appropriate. Revenue-sharing provisions in place with the government on all concessions provide the government with adequate protection to ensure it and the community receive upside from revenue that is above expectations, and investors don't retain all of this additional revenue.

Should traffic revenue outperform over time, our assets' contracts currently include provisions to share revenue with the government. For example, because of the Westlink M7 motorway's performance, \$174 million was raised in 2015 for the Government, which used it to build new infrastructure.

The risks in large-scale infrastructure are significant and have resulted in some highly publicised failures including the Cross City Tunnel and Lane Cove Tunnel where the projects failed to meet their patronage forecasts. While private investors bore the risk – and the losses – taxpayers benefitted with delivery of and access to improved networks and new, world-class roads and tunnels.

More recently, during the COVID-19 pandemic, traffic fell by around 60% due to the government-imposed lockdowns, significantly affecting private operators.

Private operators have a vested interest in an asset's ongoing success and providing value for customers, clients and investors.

8 **Can the collection of tolls be improved by consolidating notices and other measures?**

Around 95% of drivers who travel on our roads have an active account or pass in place, or set one up during the grace period of around 10 days before a Toll Notice is issued.

For the approximately 5% of trips that do proceed to a Toll Notice, there is an opportunity to improve this experience across the entire NSW network, and Transurban supports and has advocated for reforms to the Toll Notice process.

This could include consolidation and digitisation of Toll Notices and reviewing Toll Notice administration processes and fees. These changes could provide benefits including a:

- better customer experience
- reduction in Toll Notices issued, and
- reduction in the amount of fees paid.

Transurban would need to work closely with Transport for NSW, E-Toll and the broader industry, both at a NSW and national level on any change.

This is an opportunity for a holistic solution that could significantly reduce the number of Toll Notices issued in NSW – the highest of any state – and deliver significant benefits to the people of NSW.

H **CRITERIA FOR ASSESSING TOLLS – TRANSPARENCY**

1 **To what extent does the level of the tolls influence the use of a motorway?**

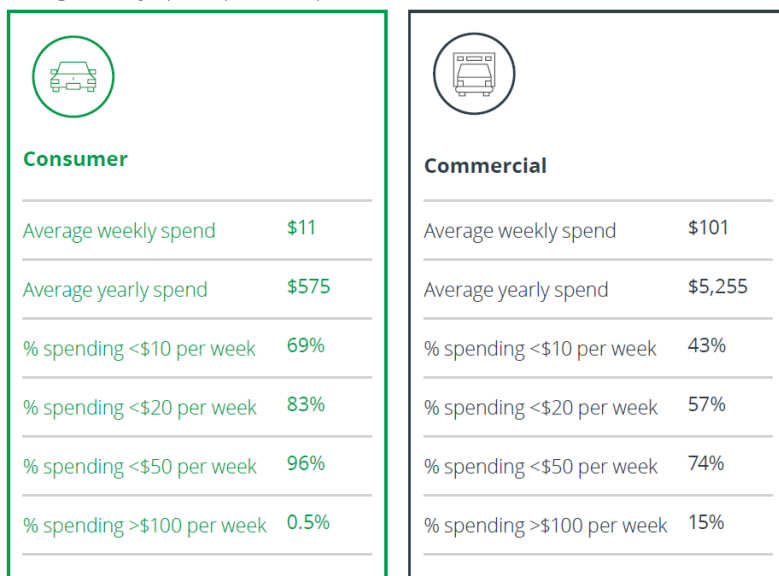
As noted in the introduction, more Sydney motorists are choosing to use toll roads than ever before.

As outlined in our answer to question G2, motorists are choosing toll roads compared to using alternative routes as they provide value for money relative to the toll price. Customers consider the motorway system to provide value despite scope for improvement to address disparities discussed in previous responses.

Data on motorway use by Linkt customers

Most of our Sydney Linkt customers use toll roads infrequently. Analysis of Linkt Sydney customer data shows the average motorist travelling in a private vehicle spent approximately \$11 per week, with 69% spending less than \$10 and 83% spending less than \$20 per week (FY21)¹. Refer to Figure 8.

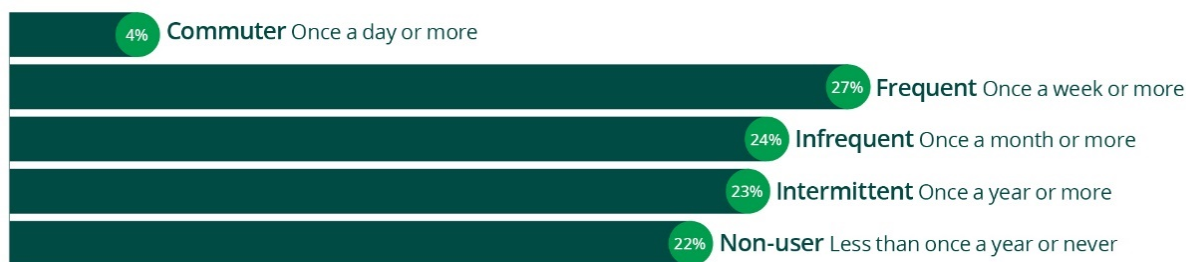
Figure 8: Average weekly Linkt customer spend on tolls – consumer and commercial accounts FY21 (Covid reduced average weekly spend post this period).



Independent research commissioned by Transurban also found that only 4% of 1,008 respondents used toll roads daily, while a further 27% use them once a week or more² (Refer to Figure 9).

Figure 9: Toll use frequency for general public

Toll use frequency NSW



The research found that travel-time savings were by far (64%) the main reason that people chose to take a toll road, followed by the roads being the most direct route (50%).

¹ Average weekly Linkt customer spend on tolls – consumer accounts FY21 (Covid reduced average weekly spend in FY22 compared to FY21)

² Transurban commissioned research, conducted by Nature, 1,008 respondents across Sydney, July 2023

2 What information would assist you make better decisions as to whether to use a toll road?

To help motorists make an informed decision about their travel, Transurban launched the Linkt Trip Compare tool, a toll calculator provided on the Linkt website, which compares the costs and benefits of using a tolled route versus the alternate untolled route.

The user enters their origin and destination and is provided with information on the cost of the toll along with estimated travel-time and fuel savings.

In addition to Linkt Trip Compare, navigation tools like Google Maps, TomTom and Waze provide information to customers about their route options, but up until recently these third-party apps did not include information on toll prices, which made it hard for customers to weigh up their options. Waze now includes toll pricing in its app.

We are also exploring the feasibility of on-road signage that would provide motorists with additional information to help inform their route choice.

2. Appendix 1—Transurban asset portfolio at 31 December 2022

OVERVIEW	SYDNEY										
	M5 WEST ¹	M2	M4 ²	M8 ^{2,3,4,5}	M4-M8 LINK	M5 EAST ^{2,5}	LCT	CCT	ED	M7	NORTHCONNEX
Opening date	Aug 1992	May 1997	Jul 2019	Jul 2020	Jan 2023	Dec 2001	Mar 2007	Aug 2005	Dec 1999	Dec 2005	Oct 2020
Concession end date	Dec 2026	Jun 2048	Dec 2060	Dec 2060	Dec 2060	Dec 2060	Jun 2048	Dec 2035	Jul 2048	Jun 2048 ⁶	Jun 2048
PHYSICAL DETAILS											
Length—total	22 km	21 km	14 km	11 km	7.5 km	10 km	3.8 km	2.1 km	6 km	40 km	9 km
Length—surface	22 km	20.5 km	8.5 km	2 km	-	5.5 km	0.2 km	-	4.3 km	40 km	-
Length—tunnel	-	0.5 km	5.5 km	9 km	7.5 km	4.5 km	3.6 km	2.1 km	1.7 km	-	9 km
Lanes	2x3	2x3	2x4—West 2x3—East	2x2	2x4	2x2	2x2 2x3 some sections	2x2 2x3 some ramp sections	2x3 2x2 some sections	2x2	2x2 ⁷
OWNERSHIP											
	100% ²	100%	50% – Transurban 20.5% – AustralianSuper 10.5% – CPP Investments 10.0% – CDPQ 9.0% – Tawreed Investments Limited (Tawreed)	50% – Transurban 20.5% – AustralianSuper 10.5% – CPP Investments 10.0% – CDPQ 9.0% – Tawreed	50% – Transurban 20.5% – AustralianSuper 10.5% – CPP Investments 10.0% – CDPQ 9.0% – Tawreed	50% – Transurban 20.5% – AustralianSuper 10.5% – CPP Investments 10.0% – CDPQ 9.0% – Tawreed	100%	100%	75.1% – Transurban 14.4% – IFM Investors 10.5% – UniSuper	50% – Transurban 25% – CPP Investments 25% – QIC Limited	50% – Transurban 25% – CPP Investments 25% – QIC Limited
TOLLING											
Large vehicle multiplier	3x	3x	3x	3x	3x	3x	3.37x	2x	2x	3x	3x

- 1.M5 West will form part of the WestConnex M5 concession once the current concession expires in December 2026, through to December 2060. During that period Transurban's proportional ownership will be 50% based on its current ownership proportion in WestConnex
- 2.Transurban's proportional ownership in WestConnex through its equity investment in STP JV increased from 25.5% to 50% on 29 October 2021
- 3.Opened on 5 July 2020. Formerly referred to as the New M5
- 4.The M8 is currently line marked for two lanes with the capacity for three lanes in each direction to accommodate future traffic growth
- 5.Tolling commenced on 5 July 2020, coinciding with the opening of the M8
6. Does not include the concession extension in connection with the M7-M12 Integration Project
7. Marked for two lanes in each direction but built to accommodate three lanes in each direction

3. Appendix 2—NSW 2021 Inquiry into road tolling regimes – Transurban Submission

Please refer to our website for the report.

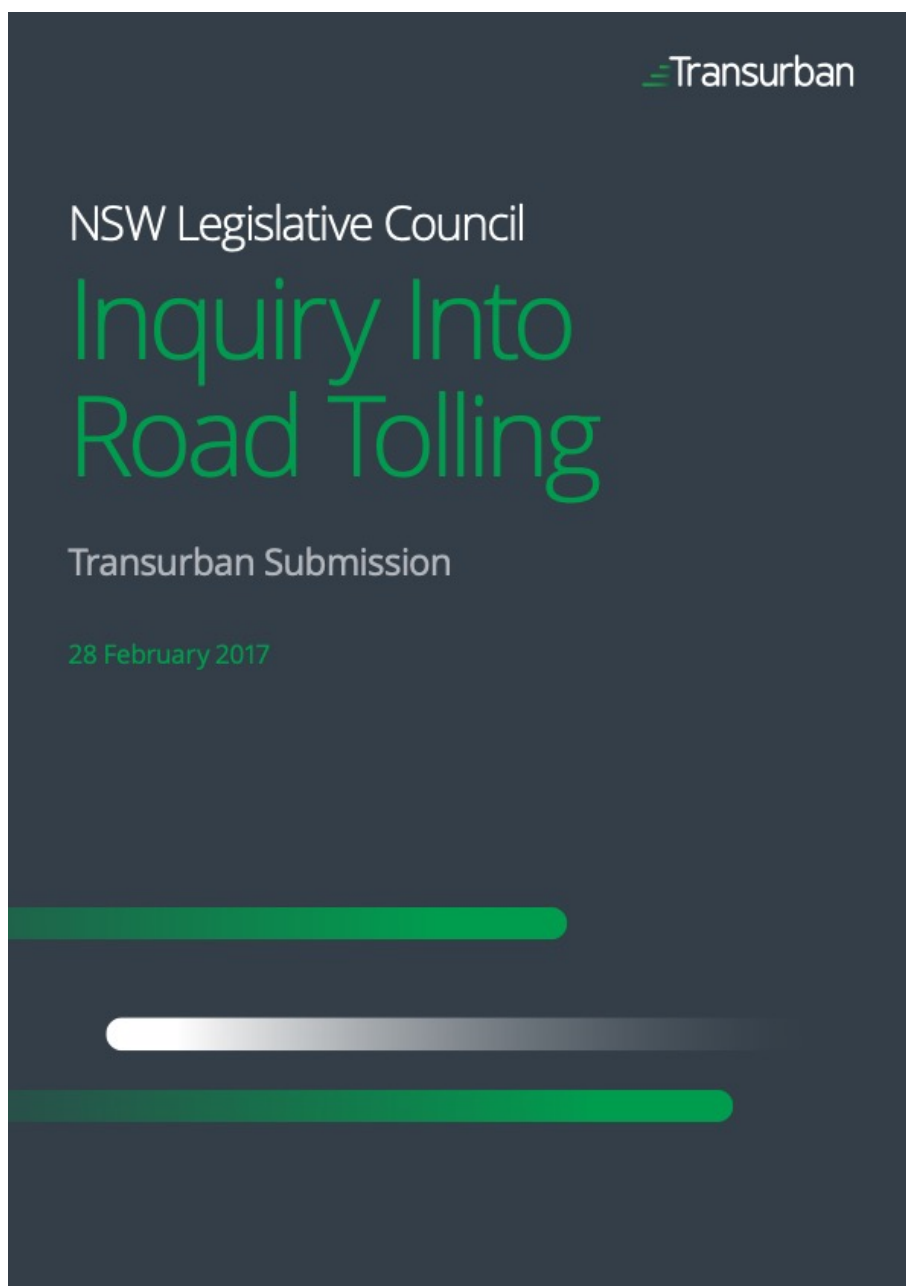
transurban.com



4. Appendix 3—NSW Tolling Inquiry 2017 - Transurban Submission

Please refer to our website for the report.

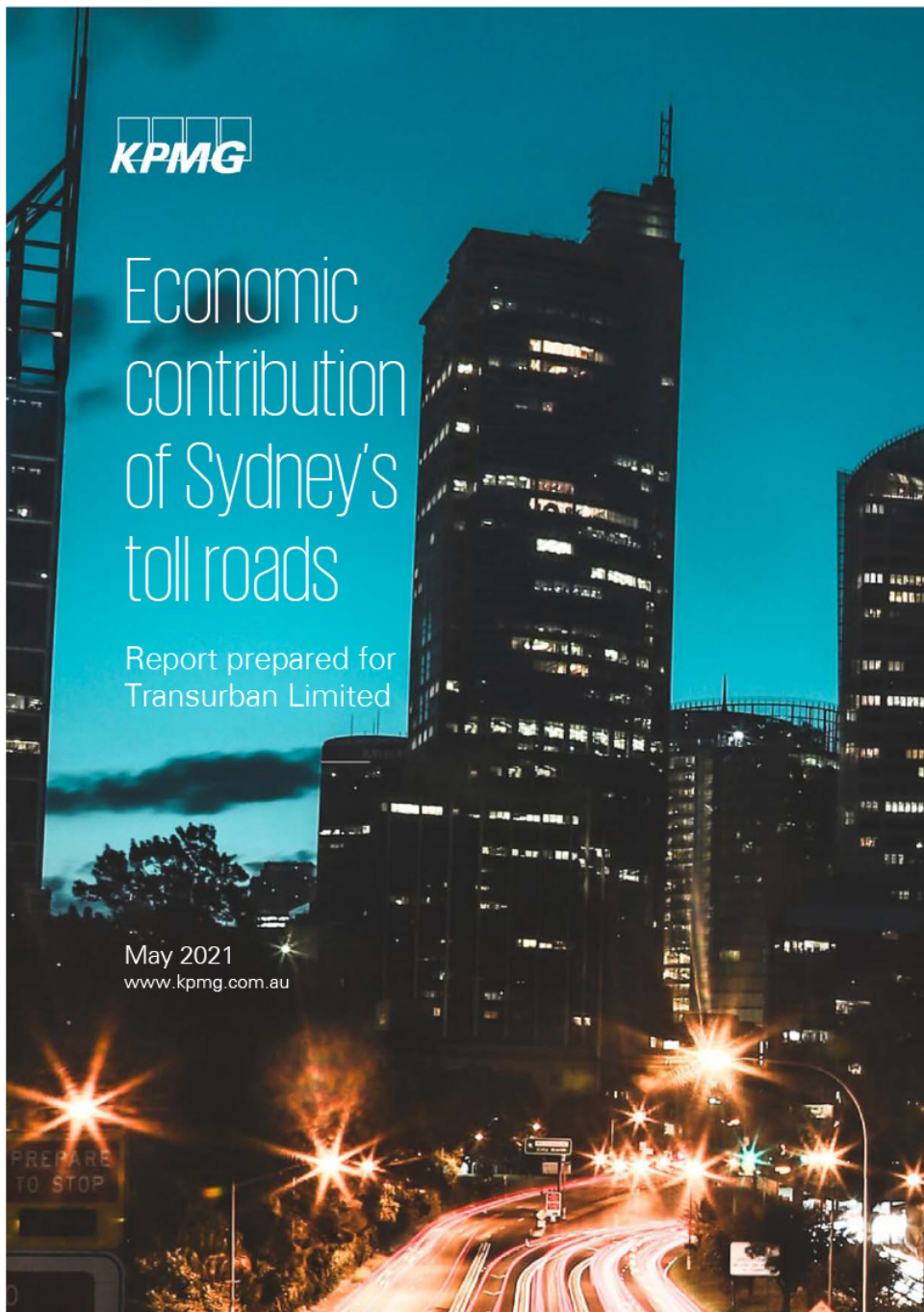
transurban.com



5. Appendix 4—KPMG report – commissioned by Transurban in 2021

Please refer to our website for the report.

[transurban.com](https://www.transurban.com)





NorthWestern Roads Group

Driving positive change

How Westlink M7 and NorthConnex are helping Sydney thrive.

August 2023



NSW 2023 Independent Toll Review
Attention: Professor Allan Fels AO and Dr. David Cousins AM

Lodged by e-mail: Tolling_PMO@transport.nsw.gov.au

11 August 2023

Subject: Submission from NorthWestern Roads Group

Dear Professor Fels and Dr. Cousins,

NorthWestern Roads Group welcomes the opportunity to provide our submission to the 2023 Independent Toll Review. At a time of economic uncertainty, cost-of-living pressures and challenging State finances, it is more important than ever that our infrastructure provides value for money and supports economic growth.

The NorthWestern Roads Group independently operates the concessions for the Westlink M7 and NorthConnex motorways. We are committed to working closely with the NSW Government and the Toll Review team to deliver even greater benefit to the community.

Our submission outlines the key achievements and benefits of the toll roads we operate, illustrating the value they bring to users, the community, and the NSW Government. In particular, Westlink M7 and NorthConnex have made substantial contributions to the ongoing development from Western Sydney through to the Central Coast, benefiting both residents and businesses.

While the vision for Sydney's road network has been successfully realised, granting customers seamless integration between various motorways, its progressive delivery over the past three decades has led to a tolling regime that can be complex and confusing for our valued customers. We recognise this complexity cannot be solved by one party alone. We welcome the opportunity to work with the Toll Review team and other toll road owners to investigate potential improvements that could bring value and simplicity to all stakeholders.

We understand the importance of empowering customers with choice. Our submission highlights two potential improvements to the operation of NSW's motorways. Firstly, enhancing information provision at crucial decision points to facilitate informed choices. Additionally, we have proposed enhancements to simplify the administrative process for toll notice payments to reduce fees and the burden on our customers.

In support of our submission, we have commissioned an analysis from KPMG on the road user benefits of Westlink M7 and NorthConnex, which we have attached for your reference.

We look forward to further discussions and working collaboratively with your team on this important Toll Review.

Yours sincerely,



Penny Graham
Independent Chair
NorthWestern Roads Group



Ian Whitfield
Executive General Manager
NorthWestern Roads Group

Changing Sydney, one journey at a time.

\$2.9B

Estimated annual toll road and non-toll road user benefits.¹

64

Traffic lights avoided by using both Westlink M7 & NorthConnex.¹

57%

Pennant Hills Rd casualties post NorthConnex opening in 2020.¹

18%

usage of Cumberland Highway post Westlink M7 opening in 2005.¹



Up to 39min
saved travelling on Westlink M7.²

Up to 10min
saved travelling on NorthConnex.²



>235k
Average daily trips on Westlink M7 & NorthConnex in FY23.³

>85M
Annual trips on Westlink M7 & NorthConnex.³

>1B
Trips on Westlink M7 & NorthConnex since opening.³

1. Road user benefits Westlink M7 and NorthConnex - KPMG August 2023
 2. Travel-time savings are for the entire length of each road, compared to the alternative route for the highest hour between July 2022 - June 2023. Source: TomTom
 3. NorthWestern Roads Group Average Daily Traffic data

Westlink M7 and NorthConnex are making a major contribution.

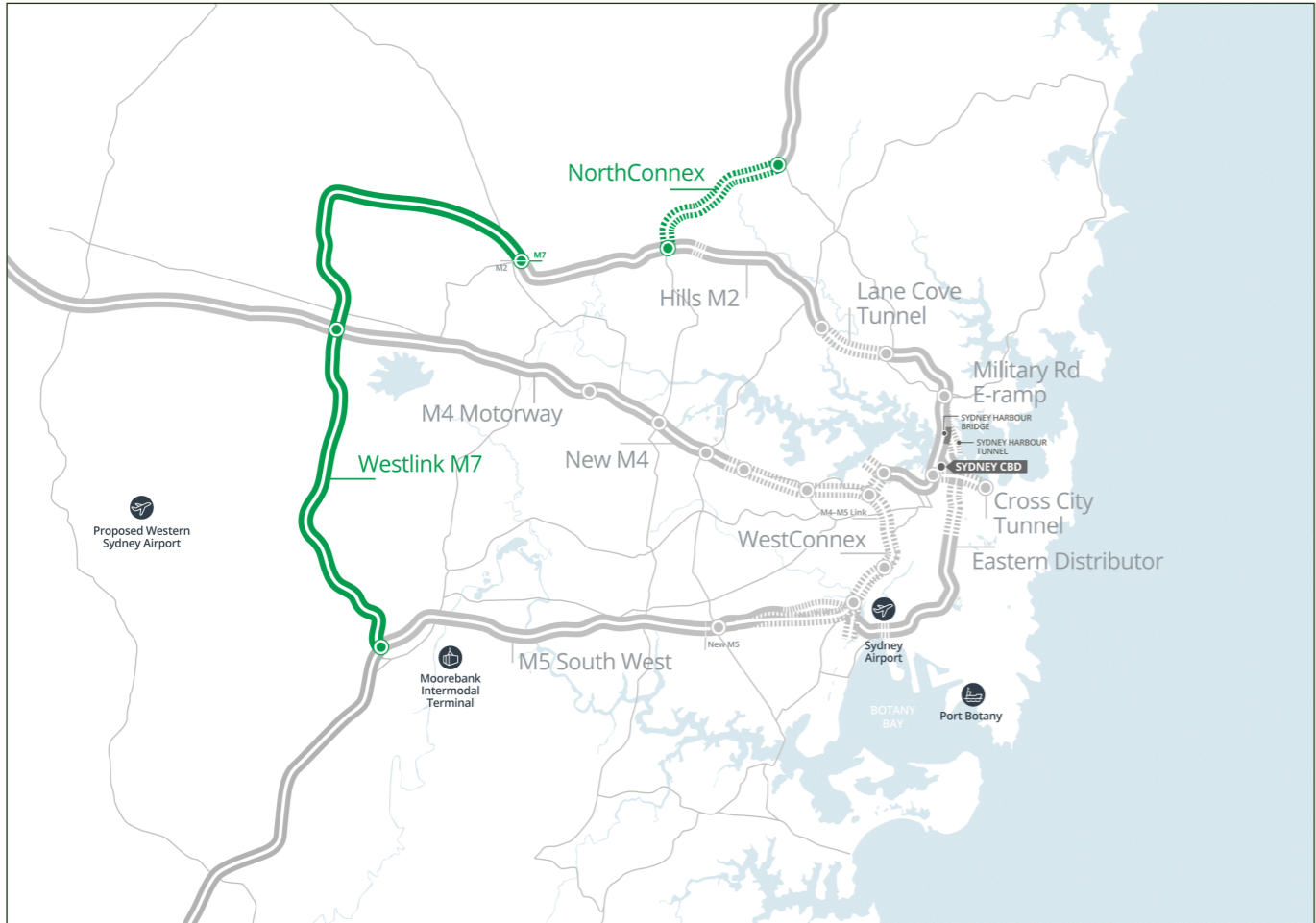
As these numbers demonstrate, Westlink M7 and NorthConnex are improving the lives of Sydneysiders.

Journeys are faster. Emissions are lower. Local communities have reclaimed their roads. Western Sydney and the Central Coast are developing faster than ever. More importantly, major road casualties have fallen.

Our commitment to Western Sydney is set to continue with delivery of the M7-M12 Integration Project.



Two roads with one destination.



Connecting people simply, quickly and safely.

Every modern city has a world-class orbital road network. London has the M25. Paris has the Peripherique. New York has the Interstates. It's a crucial cog in their economic wheel.

Thanks to strong collaboration between federal and state governments with the private sector, Sydney has an orbital corridor supporting the growth of NSW.

Westlink M7 and NorthConnex are key parts of this completed network.

1. Road user benefits Westlink M7 and NorthConnex - KPMG August 2023

Westlink M7	NorthConnex
40km open road.	9km tunnel.
Connecting Western Sydney via 17 interchanges.	Connecting Sydney orbital to northern Sydney and beyond.
Includes 40km shared paths for pedestrians and cyclists.	Removed 6,800 trucks from Pennant Hills Rd in FY23 ¹ . Reduced noise and congestion. Improved air quality.
Distance based tolls with 20km cap linked to CPI - so drivers pay based on use.	Fixed price - effective distance based increasing by higher of CPI or 1% per quarter
Future-ready thanks to connection to M12 Motorway, Western Sydney Airport and Bradfield plus planned widening.	Innovative lighting, curves and design has improved both travel experience and safety.
Linking Brisbane and Melbourne inter-capital traffic.	



Merging the best of private and public.

Working together for a better NSW.

In collaboration with the NSW Government, our diverse structure, independent chair and independent management team ensures a balanced approach to every decision.

Together with our shareholders, who bring leading toll road operator and world class asset management experience, Westlink M7 and NorthConnex continue to deliver long-term, stable outcomes – for everyone.

67.5% of our ultimate ownership comes from a Superannuation Fund or Pension plan.

Economic growth at every turn.

>\$5B

shareholder investment commitment, freeing public funds for other projects.¹

>\$174M

raised by Government through securitisation of our revenue sharing arrangement.

>440,000

jobs located within 5km of Westlink M7 and NorthConnex by 2041.²

Helping local economies across Sydney – from Greater Western Sydney through to the Central Coast.

The economic benefit of Westlink M7 and NorthConnex began even before we broke ground. By partnering with the private sector, the NSW Government was able to re-allocate funds to other priorities, such as schools and hospitals.

Over 18,000 people were involved during original construction, which had flow on effects for local businesses and communities.

Now, with both roads fully commissioned, the NSW Government shares in the upside, thanks to our revenue sharing arrangement. Put simply, if toll revenue is higher than expected, the NSW Government will receive a share of the extra revenue.

1. Includes construction costs and direct costs to operate the motorway.

2. Road user benefits Westlink M7 and NorthConnex - KPMG August 2023



Sending every driver happily on their way.

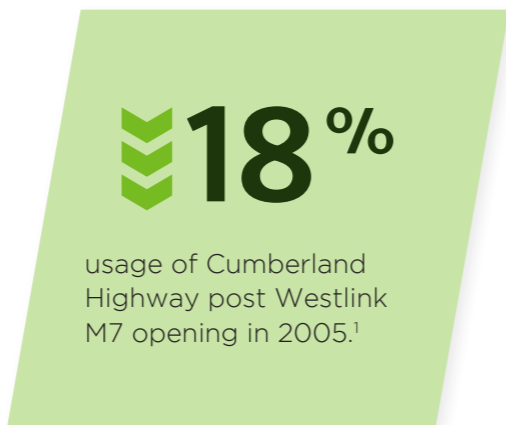
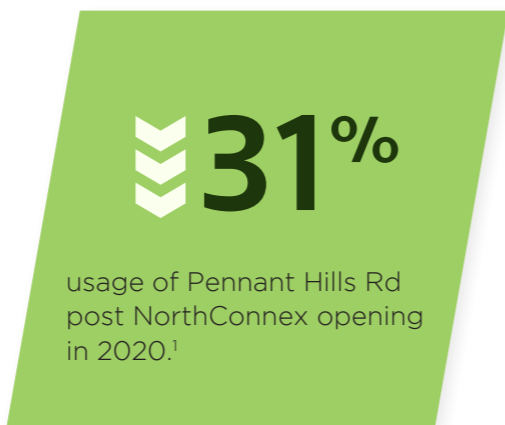
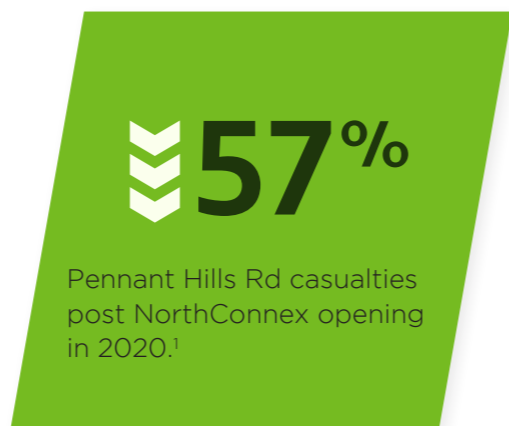
Faster, safer and better value for all road users.

You'd expect Westlink M7 and NorthConnex to reduce travel time - that was our primary goal. Commuters now get home to their families significantly safer and faster compared to alternate routes.

What's less expected is the additional value both roads provide. With less starting and stopping, fuel usage is reduced and breakdowns happen less frequently, which cuts the cost of operating a car or truck.

This combined with travel time savings for our customers provide an annual value over \$1.9B.¹

The added benefit is less traffic for local roads including heavy freight - reducing congestion, emissions, frustrations and accidents. This makes local roads safer for communities and delivers an annual \$1B in non-toll road user benefit.¹



Total example travel time saving¹

			8am	5pm	12pm
Westlink M7	Northbound	Eastern Creek to West Pennant Hills	27 min	20 min	16 min
		The Cross Roads to Eastern Creek	20 min	19 min	18 min
	Southbound	West Pennant Hills to Eastern Creek	18 min	20 min	14 min
		Eastern Creek to The Cross Roads	28 min	23 min	24 min
NorthConnex	Northbound	West Pennant Hills to Wahroonga	12 min	8 min	8 min
	Southbound	Wahroonga to West Pennant Hills	11 min	11 min	7 min

Total yearly road user benefit^{1,2}

	Westlink M7	NorthConnex
Private Car - includes travel time savings and reliability plus savings on car operating costs.	\$1,029m	\$96m
Business Car - includes travel time savings and reliability plus savings on car operating costs.	\$189m	\$17m
Commercial vehicle - includes travel time and reliability savings, freight time savings plus savings on truck operating costs.	\$523m	\$62m
Total	\$1,741m	\$175m
Total for both roads	\$1,916m	

1. Road user benefits Westlink M7 and NorthConnex - KPMG August 2023

2. Estimated based on 2023 financial year

Green light for a greener future.

ISCA award

NorthConnex achieved 'Leading' Infrastructure Sustainability Design

 **>90%**

renewable electricity for Westlink M7.¹

 **40km**

of shared paths for pedestrians and cyclists thanks to Westlink M7.

 **6,800**

heavy commercial vehicles removed from Pennant Hills Rd.^{1,2}

- ↑ improved air quality
- ↓ reduced traffic noise
- ↓ reduced congestion

Sustainability is core to design, construction and ongoing management.

Westlink M7 and NorthConnex were both designed to minimise carbon emissions. Both roads are energy efficient thanks to the use of 5,500 LED lights. Plus, noise reducing barriers were built in during construction, making it quieter for those who live nearby.

In addition, Westlink M7 maintains over 40km of pathways for the western Sydney local communities to enjoy for cycling and walking.

Our proudest achievement was seeing NorthConnex awarded as the first road project to achieve a 'Leading' Infrastructure Sustainability Design rating from the Infrastructure Sustainability Council of Australia (ISCA).

1. *Based on 2023 financial year*
2. *Road user benefits Westlink M7 and NorthConnex - KPMG August 2023*

A smooth trip to future success.

Far from 'set and forget', we're always looking to improve.

The disparate toll pricing structures across the network are confusing and complex but reflect the decisions of government over the past 30 years. We welcome discussion on opportunities to simplify and improve the network to find a win-win for our customers, toll roads owners and the NSW Government.

Both our roads have made an enormous difference to drivers and communities, but we can always do more.

One recommendation is to improve information at key decision points, for example sharing live information on traffic conditions, transit times and toll rates. That way every driver has choice on every journey. We're talking to the NSW Government to lobby navigation suppliers like Google and Waze to provide information that enables real-time decision making.

We're also planning to simplify the toll payment system. Currently, a single journey without an eTag sees a hard copy invoice printed and mailed, based on the vehicle registration. Instead, we're hoping the NSW Government can help us shift to an email system. That will reduce cost to the customer, improve accuracy and make paying easier.

**Real-time directions.
Better decisions.**

**eTags work.
eMail will too.**

For more information visit

northconnex.com.au
westlinkm7.com.au

Or refer to

*Road user benefits Westlink M7 and
NorthConnex - KPMG August 2023*

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"Westlink M7" is a registered trademark of Westlink Motorway
Limited ABN 63 096 512 300





**Professor David A. Hensher, AM,
PhD, FASSA
University of Sydney**

Submission to NSW Tolling Review

Professor David A. Hensher, AM, PhD, FASSA

Founder and Director

Institute of Transport and Logistics Studies (ITLS),

The University of Sydney Business School,

Sydney NSW Australia 2006

David.Hensher@sydney.edu.au

<https://www.sydney.edu.au/business/about/our-people/academic-staff/david-hensher.html>

<https://www.sydney.edu.au/business/our-research/institute-of-transport-and-logistics-studies.html>

4 July 2023

1. My starting position is that the toll review should be positioned to be able to transition to a network-wide solution as part of a longer-term commitment to ensuring road use efficiency, accompanied by some equity (justice and fairness) rules to ensure that no one is worse off financially.
2. In discussing the tolls, we want to emphasise that we should set tolls at a level that delivers to users travel time savings benefits, given their value of travel time savings (\$/person hour). We also recognise that the toll levels set are confounded by the need to raise revenue to fund the capital investment of a concessionaire (i.e., where tolls reflect the costs of, financing, constructing, designing, maintaining and operating the assets).
3. This hybrid set of pricing rules does not make it easy to identify an efficient price since economics suggests that capital investment recuperation should be seen through the lens of other ways of repaying the investment debt rather than imposed on users (given society as a whole obtains a benefit). However, the PPP structure depends heavily of revenue from patronage forecasts. Errors in patronage forecasts have been the main source of errors in revenue (linked to optimism bias and statistical misrepresentation). Experience over many years has resulted in the business case for equity providers discounting patronage forecasts to 60% of the forecasts offered up by models and consultants. I attach two papers we have written based on what we suggest is the experience with PPPs, and while they do not explicitly discuss specific toll prices, they place the pricing issue into a relevant broader setting, linked in part to the allocation of risk.
4. The current smorgasbord of toll settings in Sydney, set as part of a long-term concession for each tolled road, are adjusted based on an agreed indexation rule, which has created a distortion in the pricing of all roads, given the imposed baseline toll rate, which was often set politically. While the tolled infrastructure we have has been a net positive to users, the pricing of it has not helped the efficiency (and equity) of the entire network. We are stuck with it, with Transurban effectively controlling the Sydney Road network under current contracts.
5. At a previous parliamentary inquiry where I spoke, we got nowhere with new ideas, and the committee recommended staying with the existing pricing model under the concession agreements. To reproduce what I said, given the analysis undertaken in Hensher and Mulley (2014), we identified for all roads, a 5c/km distance-based charge

(DBC) *in peak periods only* plus halving of registration fees¹, which made almost no user financially worse off and a slight gain to Treasury revenue, while close to a 6% improvement in peak hour traffic (approximately returning the busy periods to school holiday traffic levels in many locations):

"Once buy in is secured and travel time savings demonstrated, the distance-based charge can be increased. For example if we increased it by 1c/km (to 6c/km) in the peak, this results in additional revenue of \$4.2bn per annum, more than enough to remove the tolls on existing tolled routes and compensate the toll road operators over the duration of the concession, with part of the distance-based revenue raised on the tolled routes (and additional funding if required, although this is unlikely)." Drawn from Hensher, D. A. & Mulley, C. (2014) Complementing distance-based charges with discounted registration fees in the reform of road user charges: the impact for motorists and government revenue. *Transportation*, 41 Number, 697–715.

6. Hence, my suggestion is a toll road repricing model that will move seamlessly, in the future, into a network wide solution. I like the idea of a peak, shoulder, off-peak distance-based charges that can be capped.
7. The DBC should vary by distance bands (and not arbitrary spatial zones), and I support some justice and fairness criteria to compensate those who are financially worse off, or adjust the amount outlaid (like a user side subsidy instead of a provider side subsidy).
8. The suggestion of an access charge is, in network terms, like a registration fee, to give access rights to the road network. We already have a discounted system for registration fees when the amount spent on tolls exceeds a stipulated sum. Instead of offering a discount on registration linked to toll outlays, I support converting this to an access charge (ultimately for all roads) that is used to cover the net costs of toll road operators when annual kms exceed an agreed quantum.
9. One also needs to distinguish discounts and/or caps according to who pays for the tolls, such as households or businesses, an issue that may be problematic when we have household-business registered vs other non-household business registered vehicles. This is an important issue in the context of equity (justice and fairness).
10. A question of great importance will be in setting a DBC that achieves multiple objectives, notably reflecting an efficiency outcome (distorted if only applied to tolled roads, but which can be resolved in time through a network-wide re-pricing), an equity outcome, and an outcome that accommodates the debt-repayment (and RoI) model of the toll road service provider (i.e., Transurban).
11. In recognising this, a starting position might be to identify the revenue per annum from tolls, the net debt recovery required per annum plus the acceptable profit margin (given risk profile) and the total annual kilometres of all vehicles (cars and trucks). This can be used to calculate a starting estimate of a crude average DBC:
 - a. $(\text{Total revenue minus net debt recovery and other annual expenses}) / \text{total annual kilometres}$

¹ Excluding Stamp duty and other charges such as vehicle transfer administration fees (paid on change of ownership) and number plate fees (paid on first vehicle registration).

- b. The resulting average can be increased for trucks and decreased for cars given the modal shares, to arrive at the same aggregate average DBC.
- c. The next challenge is to identify the trip length distribution (ideally with actual number of trips by mode) and to tailor the DBC to vary by kilometres driven, possibly blocks of 5 km. to ensure an average DBC aligned with the funding objectives. One assumes such data is with Transurban, and even TfNSW?

12. I attach a PDF of a slide presentation of what a network-wide road pricing reform model should consider, and a proposal to undertake a trial to test the ideas.

13. A serious challenge is the ability to remove fuel excise, which is collected Federally and have it replaced by a DBC, the latter one assumes will be collected by a state-based agency. Initially I assume the fuel excise with stay in place.

14. There will be complications as we transition to electric cars that will not pay the fossil-fuel excise, and my view is that a DBC should be aligned with travel time savings and not with the energy source of the vehicle. The latter might explicitly be a charge linked to emissions and it might be possible to combine into a DBC with a lower rate for lower emission cars (noting at present that there are still 30% emissions beyond the tailpipe of electric cars).

See details in <https://ses.library.usyd.edu.au/bitstream/handle/2123/30276/ITLS-WP-23-06.pdf?sequence=1&isAllowed=y>

15. I offer some elasticities (Table 1) of the relationship between toll levels and traffic responses which may be useful for someone testing variations in tolls under a DBC and its link to changes in traffic levels and revenue.

Table 1 Elasticity of traffic level with respect to tolled routes

Wuestefeld and Regan (1981)	Roads between -0.03 and -0.31 Bridges between -0.15 and -0.31 Average value -0.21	Sixteen tolled infrastructures in the US (roads, bridges and tunnels)
White (1984), quoted in Oum et al. (1992)	Peak-hours between -0.21 and -0.36 Off-peak hours between -0.14 and -0.29	Bridge in Southampton, UK.
Goodwin (1988), quoted in May (1992)	Average value -0.45	Literature review of a number of previous studies
Ribas, Raymond and Matas (1988)	Between -0.15 and -0.48	Three intercity motorways in Spain
Jones and Hervik (1992)	Oslo -0.22 Alesund -0.45	Toll ring schemes, Norway.
Harvey (1994)	Bridges between -0.05 and -0.15 Roads -0.10	Golden Gate Bridge, San Francisco Bay Bridge and Everett Turnpike in New
Hirschman, McNight, Pucher, Paaswell and Berechman (1995)	Between -0.09 and -0.50 Average value -0.25 (only significant values quoted)	Six bridges and two tunnels in New York City area, US.
Mauchan and Bonsall (1995)	Whole motorway network -0.40 Intercity motorways -0.25	Simulation model of motorway charging in West Yorkshire, UK
Gifford and Talkington (1996)	Own-elasticity of Friday-Saturday traffic -0.18 Cross-elasticity of Monday-Thursday traffic with respect to Friday toll -0.09	Golden Gate Bridge, San Francisco, US.
INRETS (1997), quoted in TRACE (1998)	Between -0.22 and -0.35	French motorways for trips longer than 100 kilometres

UTM (2000)	-0.20	New Jersey Turnpike,US.
Burris, Cain and Pendyala (2001)	Off-peak period elasticity with respect to off-peak toll discount between -0.03 and -0.36	Lee County, Florida, US.

16. Potential Price Plans, aligned with Mobility as a Service (MaaS), that might be worth considering within a DBC reform structure:

Casual off-peak (rare peak use)	Modest off-peak discount and peak surcharge
Frequent off-peak	Fixed monthly fee, free in off-peak, standard rate in peak
Frequent peak	Higher fixed monthly fee, free in off-peak, discounted rate in peak
Long-term committed / risk averse	<p>Guaranteed toll rates over 10+ years (protect against price rises) for “customer investors” in “Warratah” bonds or toll-road equity.</p> <ul style="list-style-type: none"> – Discounted tolls could be in place of dividends (investment risk reduced as the return is controlled by the customer’s toll-road usage). – Investment could be via super funds (i.e., redirection of individuals’ existing funds rather than requiring additional household investment).

Finally, some generic rules of good practice are offered. Schemes can be both economically viable for investors and politically actionable in the face of voter expectations if these general principles are adhered to:

1. There ultimately needs to be **one mobility revenue scheme** (or a fully interoperable series of schemes) for a region / province / conurbation that allows each resident access to all modes. With support from the OEMs and standards organisations like IEEE and SAE it is possible that through connected vehicles and apps universal mobility charging (PAYG) might even be achieved much as most mobile phones can now roam worldwide
2. All of the proceeds from the scheme need to go **back into the transport network** also across all modes, not just (as I suggest is often the case) back into roads, and definitely not back into the general treasury. A key component must that they must fund alternative mobility enhancements as a priority, effectively imposing both a "carrot" and a "stick" to get drivers out of personal vehicles.
3. **Incentives** need to be created for driving at certain routes or times that mitigate congestion including secondary / tertiary road usage or driving at nonpeak times.
4. **Petrol taxes per se need to be eliminated**, however incentives for LEV and ZEV usage and disincentives for ICE use can be provided selectively by a carbon tax or other environmental assessment. A question of semantics perhaps but politically very important.

Extra from Hensher et al. (2016)

Hensher, D.A., Ho, C. and Liu, W. (2016) How much is too much for tolled road users: toll saturation and the implications for car commuter value of travel time savings? *Transportation Research Part A*, 94, 604-21. (This paper has generated extensive media interest – newspapers, radio and TV).

Figure 6 shows the number of toll roads used for the journey to work (JTW) of the sampled workers. The Journey from work (JFW) is very similar. Of the commuters whose travel involved toll roads, the majority use one toll link with the most popular toll roads being the M5, followed by the SHB, M7, M2 and the Eastern Distributor (ED). However, it is not uncommon for the JTW to involve more than one tolled link. The most popular combination of toll roads are the M5 and M7 (\$4,723 per annum), the SHB and LCT (\$2,462 per annum), the ED and CCT (\$4,046 per annum), M7 and M2 (\$6,739 per annum), and SHB, LCT and M2 (\$5,539 per annum) with the number in parentheses being the annual toll outlay on commuting, assuming a 5-day working week and a 48-week working year (4 weeks vacation). The sample average annual gross personal income is \$93,000 per annum (Table 2), which after tax is around \$68,000. The range of toll outlays associated with the toll activity summarised above are from 2 to 9 percent of the after-tax income for toll users (although there are a number of users in excess of 9 percent). As indicated, the toll outlay for toll road commuters is substantial, and an addition of more tolled links may result in an increasing number of commuters not prepared to pay tolls to save travel time. Figure 7 shows the current level of toll saturation amongst toll road commuters. One in five toll road commuters (65 out of 311 workers) have reached their saturation point, with an average level of toll saturation amongst toll road commuters around 60 percent. Thus, some commuters can still sustain increasing toll costs; but a substantial proportion appear to be no longer prepared 'to pay to save'.

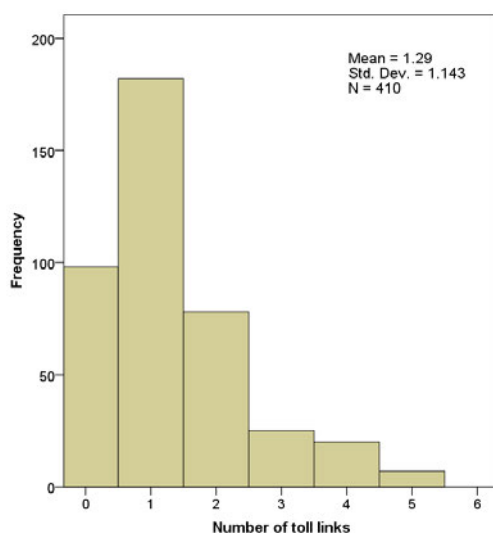


Figure 6. Number of toll roads involved on journey to work

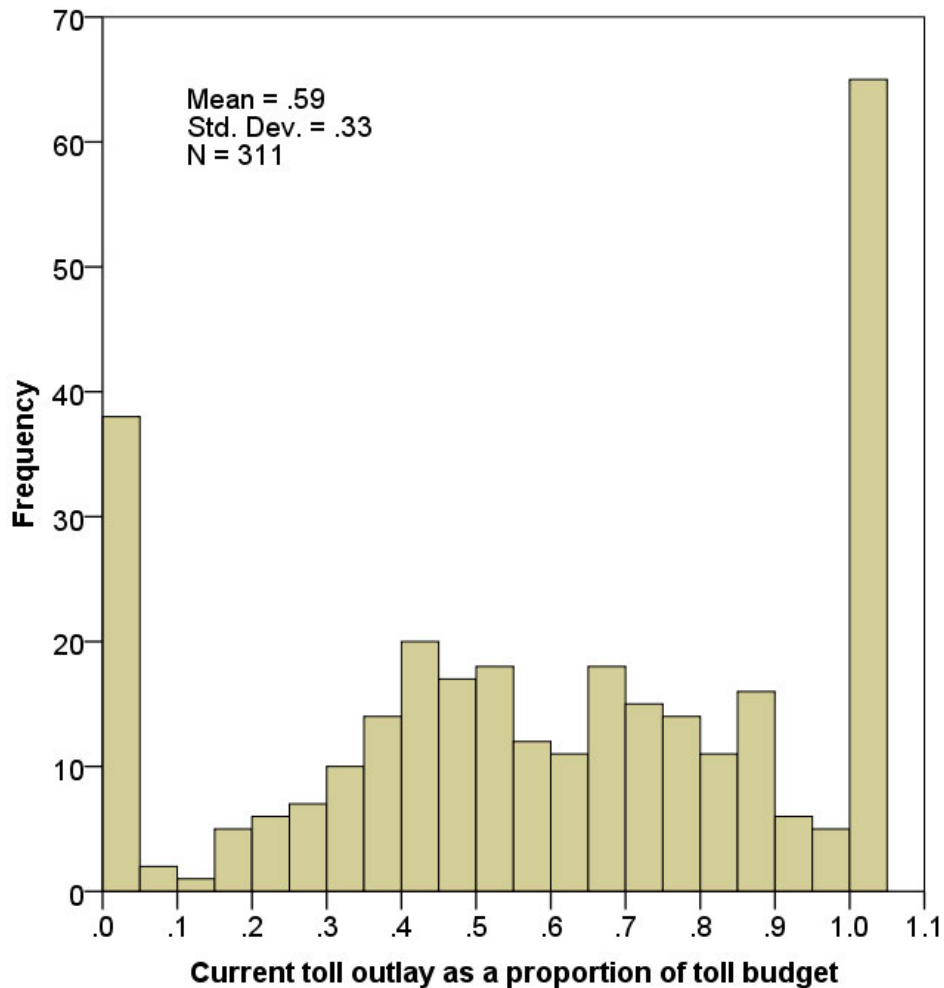


Figure 7. Current level of toll saturation amongst toll roads commuters

Table 2 completes the commuters' profile. On average, the JTW or JFW of a sampled car commuter takes close to an hour, with one-third of the commuting time being on toll roads². Over the last two weeks, commuters have outlaid, on average, \$50 on toll roads with the maximum amount of toll outlay of \$374. The toll outlay is currently smaller than the budget commuters have for commuting on toll roads, with an average gap between toll outlay and toll budget of \$37 ($\$87 - \$50 = \37) for 2-week commuting or \$3.70 per day if commuters travel to and from work five days per week. The average age of sampled workers is 43 years and a vast majority (80%) work fulltime. Five percent of the workers have their commuting tolls covered by employers, and another 4% of workers pay commuting tolls through their own business. In terms of gender and occupation, the sampled workers spread quite evenly across both sexes and cover all occupations.

Table 2. Descriptive profile of sample

	Mean	Std. Dev	Minimum	Maximum
Journey to and from work travel time (mins)	56	23	22	150
Travel time on toll roads to and from work (mins)	20	20	0	140
Total toll outlay in last 2-week commuting (\$)*	50	59	0	374
Toll budget for 2-week commuting (\$)	87	88	0	500

² A number of commuters live in the Central Coast, which is over 90 kilometres from the CBD. In addition, commuters coming from the far Outer West spent significant time on connected toll roads (i.e., M7, M2, Lane Cove Tunnel and Harbour Bridge).

Respondent age (year)	43	14	20	70
Personal income (\$1,000)	93	48	10.4	260
Worker pays tolls (1/0, base = other arrangement)*	57%	n/a	0	100
Own-business pays tolls (1/0, base = other arrangement)*	4%	n/a	0	100
Employer pays tolls (1/0, base = other arrangement)*	5%	n/a	0	100
Male worker (1/0, base = female worker)	53%	n/a	0	100
Fulltime worker (1/0, base = Casual/Volunteer)	80%	n/a	0	100
Part-time worker (1/0, base = Casual/Volunteer)	14%	n/a	0	100
Professional worker (1/0, base = labourer)	30%	n/a	0	100
Admin worker (1/0, base = labourer)	27%	n/a	0	100
Clerical worker (1/0, base = labourer)	14%	n/a	0	100
Self-employed (1/0, base = labourer)	8%	n/a	0	100
Sales worker (1/0, base = labourer)	7%	n/a	0	100
Trading worker (1/0, base = labourer)	4%	n/a	0	100
Workers with other occupations (1/0, base = labourer)	6%	n/a	0	100

Note: * statistics are based on the sub-sample of toll road commuters;
n/a = standard deviation is not meaningful for dummy variables.

Impacts in Media and Consultant Comment

“That was the best (perhaps scariest!) read I’ve had in ages.”

Dr Robert Bain, RBconsult Ltd (UK TollRoad expert, adviser to Australian Federal Government)

The Sydney Morning Herald
New South Wales

702 ABC Sydney Breakfast, 2UE, 2GB, Smooth FM, VM FM, Triple M, Nov 2015



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Sydney motorists unwilling to pay for more toll roads: study

November 11, 2015

Jacob Bauhac
City Editor

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What your commute really costs

Prof DAVID HENSHER
SYDNEY UNIVERSITY

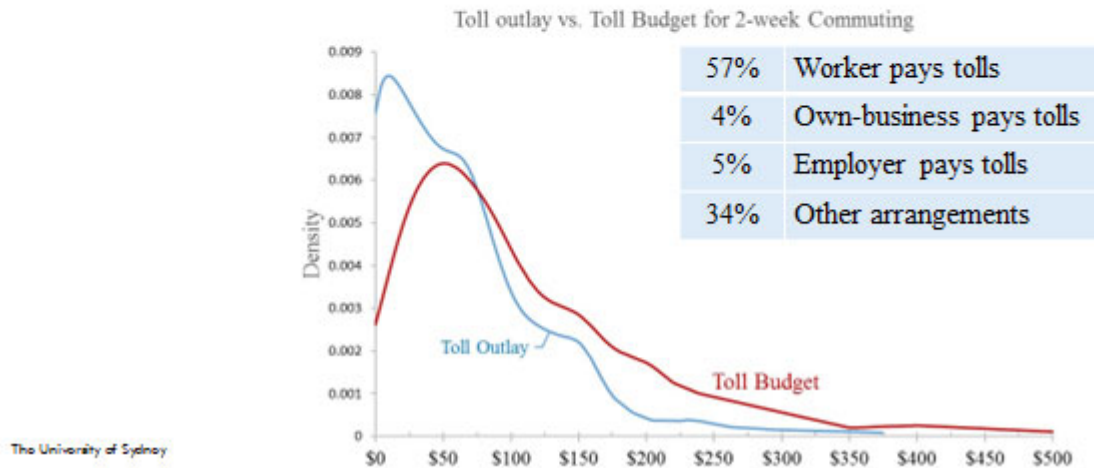
Taking its toll
Air Date Wed 11 Nov 2015 Duration: 01:52

The University of Sydney

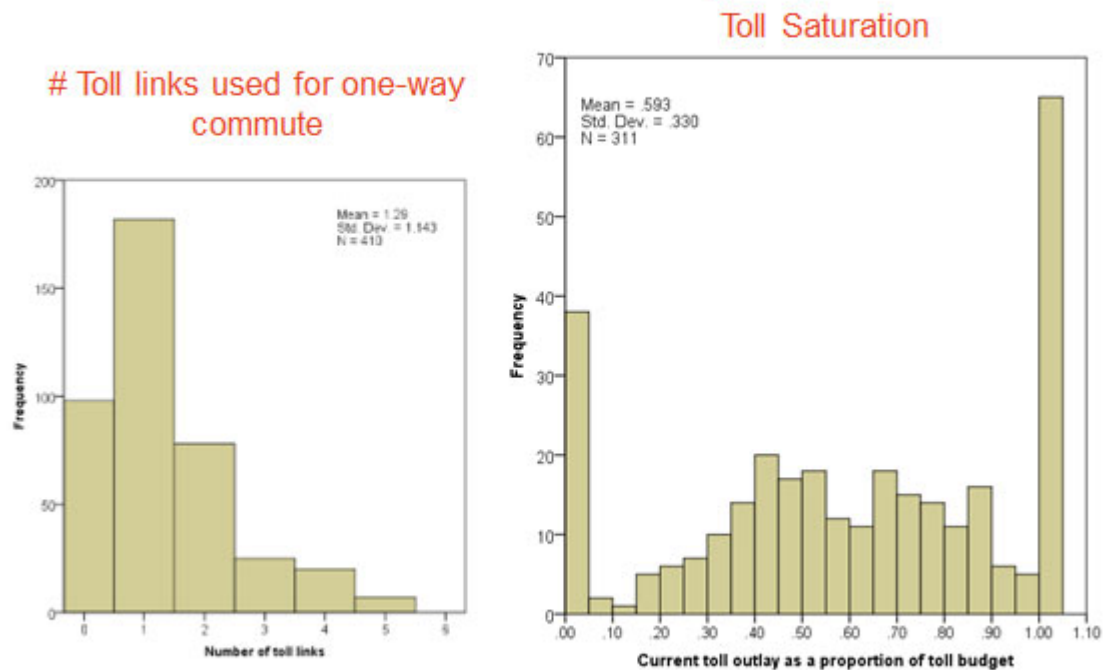
Page 2

Commuting and Toll Budget Profiles

	Mean	Std.Dev	Min	Max
Journey to/from work travel time (mins) (free and tolled)	56	23	22	150
Travel time on toll roads to/from work (mins)	20	20	0	140
Total toll outlay in last 2-week commuting	\$50	\$59	0	\$374
Personal Toll budget for 2-week commuting	\$87	\$88	0	\$500



Current Level of Toll Saturation in Sydney



My responses to questions in 2013 Parliamentary Review

From: transportinfrastructure [mailto:transportinfrastructure@parliament.nsw.gov.au]
Sent: Wednesday, 22 May 2013 11:58 AM
To: jo.dumergue@sydney.edu.au
Subject: Inquiry into road access pricing

Dear Professor Hensher,

Please find attached a letter containing some additional questions the Committee would be grateful if you could respond to.

If you have any questions, please don't hesitate to contact me on 9230 3382.

Regards,

Emma Wood
Research Officer
Legislative Assembly
Parliament of New South Wales

Parliament House, Macquarie Street, SYDNEY NSW 2000
+61 2 9230 3382
+61 2 9230 3052

Professor David Hensher

22 May 2013

Follow up questions.

1. *You present a staged proposal for introducing road access pricing, of which the first stage is to reduce annual registration fees, through either a pay as you go, or a voluntary discount scheme. What are the advantages and disadvantages of both these schemes?*

Response: The preferred approach is the one in the Hensher-Mulley paper. The focus is on implementing this on the entire road network both in Sydney and the rest of NSW. The example used was only developed for Sydney where we reduced annual regn charge and added a 5c/km distance based peak period charge. If this is extended to the rest of NSW, then the component of the distance-based charge would have to be reduced to reflect no congestion (note the 5c/km is not a congestion charge but a use related charge but has a part that reflects congestion). My best guess at this stage is that the non-Sydney distance-based charge could be around 2-3c/km.

2. *Is linking payments to kilometres travelled likely to lead to an increase in fraud through falsifying odometer readings?*

Response: There is always a slight risk, but I doubt it is serious and should not be the basis of not supporting such an initiative. I am not aware of how much happens currently, but the great majority of users would not do this, and one might have to include some very high penalty if caught. Note that odometer readings are captured on an on-board computer which also tracks travel by time of day, and if we can implement the Oregon model then payment will be done at the petrol stations.

3. *Can you outline the elements of your scheme that may provide challenges to implement?*

Response: The greatest is selling the idea to stakeholders who will ultimately be mechanism to obtain political support. One has to ensure that if there is a trial period that there will be noticeable time benefits (even though we are selling the lower regn charge plus a distance based peak period charge). Such time benefits become the way forward to justify further increases in the distance-based charge as a way of growing revenue to invest back into infrastructure, both roads and public transport. Importantly we must get govt to support earmarking monies to these causes otherwise stakeholders will be sceptical and may not see the full benefits. In addition we have to get away from the view by politicians that this is not on without good public transport, since we are offering a lower cost by switching time of day of travel (and we now know that enough people would prefer to switch time of day and stay with car – see http://sydney.edu.au/business/_data/assets/pdf_file/0009/169713/TOPS-2013-Q1-Media.pdf)

4. *How important is fuel excise reform as part of a broader pricing scheme?*

Response: Not overly except that the non-indexed fuel excise is diminishing and there is a risk that Federal govt may argue for a share of the distance-based revenue. But if this revenue is unrelated to fuel excise which is still collected then I see no reason why the Federal govt can reasonably claim a contribution from the charge (which is not a tax).

5. *In your submission you mention a ‘taxi tariff’ as a model for a road pricing scheme. Can you elaborate on the benefits and challenges of this type of scheme?*

Response: This in the Hensher-Bliemer paper. It was used as an example of a way of collecting revenue by installing equivalent meters in cars, but I doubt it has high appeal.

Hensher, D.A. and Bliemer, M.C. (2014) What type of road pricing reform might appeal to politicians? Viewpoints on the challenge in gaining the citizen and public servant vote by staging reform, *Transportation Research Part A*, 61, March, 227-237.

6. *Several models propose implementing significant changes in stages. What do you think the major changes are and which should be introduced first?*

Response: Begin with registration reduction and peak period distance-based charge designed to sell no cost impost on users and no revenue loss to State Treasury. Then once accepted and time benefits are obtained, consider a higher cost per km as a way of building use related funds for new infrastructure including public transport. Ensure that distance-based charge is not CPI indexed but adjusted maybe every 3-6 months according to traffic levels in metro area. The non-metro area distance-based charge would be reviewed as well based on other cost imposts changing.



**Associate Professor Philip Laird
University of Wollongong**

Submission to the 2023 Independent Toll Review

Philip Laird, University of Wollongong July 2023

The government of New South Wales elected in March 2023 has inherited a transport system with a pressing need for transport policy reform. Effective solutions may well require an effort by the NSW government to secure the support of the Australian government.

Amongst the transport problems are the network of tollroads in Sydney.

This submission is in two parts: firstly some quick responses to some of the General questions relating to the Toll Review; and, secondly some general comment.

1. General questions relating to the Toll Review

A. Some Sydney motorways have charges that can be considered too high and others have charges that can be considered as too low.

There needs to be some pricing carrots and sticks to get people to think twice before getting into a car and driving around Sydney.

The 2003 Parry report on Sustainable Transport also addressed the important subject of Sydney's road pricing. For too many politicians, road pricing reform is a 'no go' area. Yet, as observed by the 2010 Henry Tax Review, road pricing needs addressing.

B. Determination of tolls

Tolls could and should be used for motorway upgrades. Indeed, they were used from the 1960s to December 1988 to progressively upgrade the section of the Pacific Highway between Berowra and Gosford. The tolls were removed at the request of the Federal Government which then did not want to see its National Highway System have any tolls. Here, it is of note that intercity tolling on motorways works well in many overseas countries.

Tolls were also used from the 1970s to 1996 on the Waterfall – Bulli motorway. The State government of the day could have kept the toll as a source of revenue to undertake further upgrades of the Princes Highway. One such upgrade, which is now long overdue, is grade separation of an intersection at the foot of the Mt Ousley road within the City of Wollongong.

This writer would like to see more tollways run by the NSW government with less in the private sector, and certainly less run by one particular company.

Agreed that toll price increases should be subject to review by IPART.

C. Efficiency

Agreed that tolls should be set on a network basis.

Agreed that there should be peak hour, and off peak pricing.

Agreed vehicle emissions need to be considered in setting road tolls (and road pricing in general).

A Cordon for the Sydney CBD would be a good move. Fewer cars with a better deal for pedestrians at traffic lights (they get a poor deal in Sydney at present) would be a plus. Other gains would include better for cyclists and buses.

In 2003, the NSW Parry Report recommended, inter alia Charging for road use as follows:

Any implementation of road use pricing must be accompanied by rationalisation of the current taxation of motorists.

As a separate issue, undertake a joint review with the Federal Government of taxation, expenditure and other policies that are detrimental to public transport compared with private transport.

Following consultation with the community and stakeholders, consider implementing electronic road pricing (ERP) within the next 5–10 years as a means of effectively signalling to the community the external costs of road use—congestion, pollution, road wear and tear and accidents.

In the intervening period, take steps to facilitate the introduction of ERP, such as introducing two-way tolling and harmonising tolls across existing and new tolled arterials.

In 2009, the Henry Tax Review noted that **“Current road tax arrangements will not meet Australia's future transport challenges.”**

The Henry Tax Review made several pertinent recommendations for road pricing reform. These included

Recommendation 61: Governments should analyse the potential network-wide benefits and costs of introducing variable congestion pricing on existing tolled roads (or lanes), and consider extending existing technology across heavily congested parts of the road network. Beyond that, new technologies may further enable wider application of road pricing if proven cost-effective. In general, congestion charges should apply to all registered vehicles using congested roads. The use of revenues should be transparent to the community and subject to further institutional reform.

On 15th June 2011, Professor David Hensher presented a seminar, asking **'Should Motorists Pay for the Congestion they Cause?'** Roads are possibly the most underpriced in terms of user contributions of all the public assets that we avail ourselves of. Regardless of whether some believe that governments should provide more road capacity to combat traffic congestion, it is an undeniable fact that if we provide more capacity under the existing road user pricing regimes (registration and fuel pricing only), then more cars will use the roads, quickly using up the additional capacity. The great sadness about all of this is that there is a presumption that we all have rights to enter the traffic and delay all other motorists, yet not contribute to the true cost associated with delay and lost time – the curse of congestion. This results in a predictable 'tragedy of the commons'. This talk is part of an ongoing conversation to discuss replacing fixed charges with car use related charges, with congestion charging regimes included as one part of a future variable user charging policy.

David Hensher was then Professor of Management, and is the Founding Director of the Institute of Transport and Logistics Studies (ITLS) at the University of Sydney.

Attention is also drawn to the views of the Grattan Institute as per the Sydney Morning Herald 2022 opinion piece by Marion Terrill *It's time for a new approach and for Sydney to embrace a congestion charge.*

<https://grattan.edu.au/news/why-its-time-for-congestion-charging-2/>

D. Heavy Vehicles

The regulation of heavy truck movements, and recovery of road system costs from heavy trucks present a real challenge. This has long been recognized with a series of inquiries at a NSW and national level going back to at least 1980 with the *Report of the Commission of Enquiry into the New South Wales Road Freight Industry* conducted by Mr G McDonnell. His report found data deficiencies, a need for

improved heavy vehicle safety, and unrecovery of road system costs from the heavier articulated trucks moving large distances each year, The McDonnell report was followed in 1984 by a *National Road Freight Industry Inquiry Report*.

Other reports have since followed. These include that in 2009, the Henry Tax Review noted that “***Current road tax arrangements will not meet Australia's future transport challenges.***”

The Henry Tax Review made recommendations for heavy vehicle road pricing reform that included

Recommendation 62: The Council of Australian Governments (COAG) should accelerate the development of mass-distance-location pricing for heavy vehicles, to ensure that heavy vehicles pay for their specific marginal road-wear costs. Revenue from road-wear charges should be allocated to the owner of the affected road, which should be maintained in accordance with an asset management plan. Differentiated compliance regimes to enforce this pricing policy may need to be considered to balance efficiency benefits from pricing against the costs of administration and compliance for some road users.

Mass distance location charges for heavy trucks in Australia are long overdue. As the 2015 Harper Review into Competition Policy found

Roads are the least reformed of infrastructure sectors, with little change to institutional arrangements around provision and funding over the past 20 years. Lack of suitable road pricing models leads to inefficient investment decisions and creates distortion on the choices users make between different modes, particularly between rail and road freight.

If one accepts that the current New Zealand charges with mass distance pricing are user pays, then the operation of six axle semitrailers and the nine axle B-Doubles on public roads (with details below) are in receipt of an annual hidden subsidy of about \$2 billion per year. This averages to about one cent per net tonne kilometre. More details can be supplied on request.

External costs of articulated truck movements including road crash risk, emissions, and road congestion but excluding unrecovered road system costs are broadly estimated at over one (1) cent per net tonne km in non-urban areas and over two (2) cents per net tonne km in urban areas.

These costs, which far exceed the external costs of rail freight, were addressed by a 2012 report by the NSW IPART on grain transport. In aggregate, they amount to at least \$2 billion per annum, and this is on top of a demonstrable under-recovery of road system costs of a further \$2 billion per annum from the operators, and their clients, of B-Doubles and long distance heavily laden semitrailers.

There is ample scope for restricting the movements of heavy trucks, including B Doubles and semitrailers operating at high mass limits, to certain roads. This will require some enforcement to be effective.

- E. Public transport
Buses should be treated differently than heavy trucks.
- F. Simplicity
The simpler the charges, the better.
- G. Fairness

In the view of this writer, the State Labor Government elected in March 1995 made road pricing worse when in response to a pre-election promise to remove tolls

on the M4 and M5 Motorways, a scheme was introduced to pay toll rebates to private car owners using these motorways.

Although the situation is now complicated by the emergence of electric vehicles, there is a good case for increasing fuel excise and lowering fixed annual charges for cars. This has been a long standing practice in New Zealand and this approach was recommended c 2002 by Ministers forming the Australian Transport Council. It is now time, possibly prompted by the NSW Government to revise this at a national level.

As above, toll relief is not favoured.

I. Transparency

Would like to see a lot more transparency in the cost and benefits of road vehicle use, and proposals for road upgrades.

2. **General Comment**

Attached to this submission is a position paper prepared in 2011 for NSW Section of the Chartered Institute of Logistics and Transport, with 10 points. It is clear that NSW has many long standing transport problems.

A. Going further back, the general situation was aptly summarised by John Laird writing in the Consumers' Transport Council (CTC) *Newsletter* of June 1991.¹

SYDNEY REJECTS ITS MEDICINE

Sydney, as we well know, has growing pains. Our unique combination of private enterprise, a multitude of local governments, the NSW State Government, Quangos (quasi-autonomous government organisations) and a remote Federal Government (hereinafter called 'The System') have created over the years the monster megalopolis by the simple practice of lurching from crisis to crisis.

Every now and again, the chronic sickness becomes acute by the eruption of one symptom or another, and acute pain draws attention to the problem. Rarely, however, is there a good doctor to be found – and too often, when the problem is diagnosed, the patient flatly refuses to take the medicine prescribed.

Often, the patient's relatives (you and I) and 'The System' just simply refuse the good doctor's advice in terms such as 'it costs too much', 'the cure will take too long', and 'the operation is too painful'. Or, 'if we talk about it for long enough we will get used to the pain and the operation won't be necessary.'

With few exceptions, such as Bradfield's plans for the early 20th century, this is the kind of thinking that has since dominated the growth of Sydney. Indeed this approach is also destroying the economic and social health of most other Australian cities.

The response to date of 'The System' has been the creation of further suburbs on the periphery of an already swollen city with more roads, more cars, more shopping centres – indeed more everything. All of this is at the expense of our health and quality of life with air pollution, congestion, family isolation, and loss of countryside. The distances we are required to travel reduce our opportunities for

¹ reprinted P Laird, P Newman, M Bachels and J Kenworthy (2002) *Back on Track: Rethinking Transport Policy in Australia and New Zealand* UNSW Press, p92 - 93.

sport and leisure, and place on many working people the burden of high travel costs in terms of time and money.

Compounding the existing problems that include waste disposal and air pollution eroding the best work of our architects and engineers over the last 200 years are proposals for a third runway at Sydney's main airport ...

The cures to these problems for cities approaching four million people are well researched and documented. The first prescription, historically tested and demonstrated in many European and Asian cities, is high-density development of the inner city. This makes possible full economic use of the infrastructure of the city at the same time freeing chosen areas to provide parks – even forest enclaves – along with increased inner city population.

Restraint on suburban sprawl is effected by similar controlled development in satellite cities – each equipped with modern social facilities interlinked with equally modern light rail transit systems.

Such regional development can be shown to give enormous savings to the community. The number of motor cars could be reduced dramatically. With such a reduction, the amount of parking space, road construction and maintenance, pollution, noise and road crashes would be reduced for the benefit of all.

‘The System’ must do better.

B. Since the 1970s, Sydney has seen the construction of many new motorways. Parts of Sydney are now over dependent on cars.

However, as noted in the 2022 BITRE Infrastructure Statistics Yearbook (Table 5.3a) the urban rail passenger task for Sydney grew from 5.56 billion passenger kilometres (bpkm) in 2009-2010 to 7.69 bpkm in 2018-19. This was an extraordinary growth of 38 per cent.

This growth the urban rail passenger task far exceeds the growth in road passenger use by cars for in Sydney going from 44.62 bpkm to 48.56 bpkm over this time – a growth of nearly 9 per cent.

The growth the urban rail passenger task also exceeds population growth.

C. In 1950, Sydney’s tram network was about 245 route kilometers (km). Between 1961 and 1997, Sydney had no trams. In 1997, a light rail service commenced between the old tram concourse at Sydney's Central Station and Wentworth Park, was extended in the year 2000 to Lilyfield and in 2014 reached Dulwich Hill.

Light rail in Sydney was later extended, including along George Street going to the University of NSW main campus at Kensington, with a branch line. Light rail is currently under construction in Parramatta.

D. Re Active transport, there remains ample scope for improved safety and mobility for pedestrians and cyclists to move around Sydney and other NSW cities.

E. During 2018-19, road vehicles within Sydney were driven over 42 billion kilometres (BITRE 2022 Table 6.5). Each year, Sydney's road vehicles use of over 4 billion litres of petrol and diesel with the resultant air pollution and carbon emissions.

In Sydney, the cost of road crashes was broadly estimated in 2011 to be in the order of \$3 billion a year, the costs of health impairment from motor vehicle emissions is over \$1 billion a year, and the costs of carbon dioxide emissions (at \$23 per tonne) was about \$250 million a year. Updated figures would be of much interest.

In addition to these costs, there are the costs of road congestion, estimated in 2016 by Infrastructure Australia at \$8 billion a year for Sydney with the Hunter and Illawarra regions.

E. The decision to put the Eastern Harbour Tunnel on hold is supported.²

F. Re Freight, the present 2018 NSW Freight and Ports Plan is considered to be in need of review and improvement.

One freight challenge for Sydney is for rail to achieve a former official target of moving of 40 per cent of all containers through Port Botany and expanding intermodal freight terminals such as Enfield. In the later regard, the development of the Moorebank Logistics Park is welcomed, with an Import Export (IMEX) terminal (containers to and from Port Botany) now operating, and an Interstate terminal under development.

In 2021, a NSW Auditor General report noted that in 2020-21, 2.7 million TEU (twenty foot equivalent units) moved through Port Botany. The NSW government had planned to increase the number of containers moving by rail from the port to 28 per cent by 2021. However, the auditor-general report said this effort would fall short and noted 16 per cent was then currently carried by rail. This situation was not assisted by the NSW Government giving permission, in 2021, for giant “A Double” trucks to access Port Botany.³

G. In reducing emissions from NSW transport, the former NSW Government had just one initiative, electric vehicles. Surely much more is needed (in addition to Australian Government initiatives) to include better public transport, support of active transport, road pricing reform (with consideration of congestion pricing) and more freight on rail (or at least off road).

H. Conclusion

The Greater Sydney Region faces transport challenges on many fronts. To restore Sydney’s ranking in the top ten liveable cities of the world (it had a place there, for many years, until 2019) will require road pricing reform along with sustained investment in its rail system. Both the New South Wales and Australian governments have some hard decisions to make unless Sydney is to be exposed to increasing road congestion and a lower quality of life.

Many of the issues raised by the 2003 Parry Report that were not addressed by the government of the day now need to be revisited.

A/Prof Philip Laird OAM, PhD, FCILT, Comp IE Aust
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plaird@uow.edu.au

26 July 2023

² <https://theconversation.com/is-another-huge-and-costly-road-project-really-sydneys-best-option-right-now-136836>

³ <https://theconversation.com/instead-of-putting-more-massive-trucks-on-our-roads-we-need-to-invest-in-our-rail-network-172491>

New South Wales transport - new directions needed

A Position Paper for the NSW Section of CILTA by Philip Laird December 2011

The government of New South Wales elected in March 2011 has inherited a rail system that requires upgrading and a pressing need for land transport policy reform. To bring the New South Wales rail system up to the standard of other mainland Australian states will require the support of the Australian government.

Concern has been expressed by the public, local government, professional associations and the media about the need to upgrade the railways of New South Wales. By way of example, an independent inquiry into public transport was commissioned by the Sydney Morning Herald and directed by former NSW transport chief, Mr Ron Christie AM. The final report, released in 2010, had many findings including the need for a second rail harbour crossing.

The City of Sydney has called for light rail to help Sydney regain its ranking as one of the world's top five cities. In 2008, Coffs Harbour Council called for long overdue upgrades of the North Coast line whilst an independent candidate in the 2011 NSW election called for reinstatement of Casino - Murwillumbah trains. Rural Councils, such as Cowra, continue to work towards the restoration of recently closed branch lines for freight.

In addition, Wollongong City Council (reinstated September 2011) has called for high priority to be given to an upgrade of the rail line between Wollongong and Sydney *"to improve safety, reliability and speed of passenger and freight services."*

1. Urban passengers

Between 1976 and 2011, the population of Sydney and Central Coast increased from 3.1 million to over 4.6 million. However, over the past 35 years the growth of the rail system has simply not matched population growth and spread. The rail system extensions since 1976 have been mainly limited to Bondi Junction (1979) East Hills-1Glenfield (1988), the Airport line and Olympic Park line (2000), and the Epping Chatswood rail link (2009).

Western Sydney has seen strong population growth in recent decades and is now home to about 9 per cent of Australia's population. From the 1930s to date, it has gained only three new short rail tracks. Since the 1970s, Western Sydney has seen the construction of more than 100 kilometres of motorways and is now heavily dependent on cars for transport.

There is now an urgent need for a start on the construction of an Epping Rouse Hill line in North West Sydney. A North West line was promised in 1998 in the official NSW *Action for Transport* Statement for completion by 2010. In 2008, advanced planning for this line was stopped in favour of a metro line. This metro was abandoned in 2009 in favour of yet another metro. As a result, more buses have been put onto Sydney's congested roads. During peak hours, some Sydney CBD streets are now fully packed with buses.

Other 1998 NSW *Action for Transport* rail projects are also long overdue. These projects include completion of the Parramatta Rail Link.

A further rail issue is to make the Sydney airport line work better. After 11 years of operation, it is now time for some dedicated luggage friendly trains for overseas and domestic air travellers.

There are many urban rail challenges in Sydney. One is reducing transit times to those applying in 2005 before a 2005-06 timetable change slowed trains down.

In addition, issues such as the presentation of trains along with reducing fair evasion and vandalism needs addressing. Plus integrated ticketing. In this regard, it is possible that the new state government may look to a “Melbourne model” of franchising train maintenance and operations - hopefully avoiding some of the mistakes made in 1999 by the Victorian Government. However, more than franchising is needed to address the need for a 'culture change' within RailCorp.

Questions about train fares, including some quite generous concession fares, were addressed in 2003 in an official report on Sustainable Transport. However, the recommendations on fares in this report by Mr Tom Parry were rejected by the government of the day.

Rail fares have fallen to about 25 per cent of operating costs. The present government would do well to revisit the 2003 Parry report.

2. Light Rail

In 1950, Sydney's tram network was about 245 route kilometers (km) as against Melbourne's 210 route km. However, by 1961, Sydney had no trams whilst Melbourne had retained their trams. In 1997, a light rail service commenced between the old tram concourse at Sydney's Central Station and Wentworth Park with a mixture of street and off-street running. In 2000, the line was extended to Lilyfield making a total length of 7.2 km. This line is now due to be extended, along the former Rozelle goods line, to Dulwich Hill.

There has been no shortage of ideas for further extending light rail in Sydney, including trams along George Street. There have also been suggestions of a CBD loop, and extending light rail to the University of NSW main campus at Kensington.

A report commissioned by the City of Sydney recommended the building of five tramlines (*Sydney Morning Herald* 21 February 2005). As the Sydney Lord Mayor Cr Clover Moore MLA said: “...*the time is right for light rail after the NSW Government has spent billions of dollars on road tunnels and toll roads - and further entrenching our dependence on road transport.*”

3. Active transport

There is ample scope for improved safety and mobility for pedestrians and cyclists to move around Sydney and other NSW cities. This includes giving pedestrians a 'fair go' at traffic lights, and more cycle paths.

4. Road transport costs

During 2010, road vehicles within Sydney were driven over 36 billion kilometres. In broad terms, this leads to vehicle ownership and operating costs of some \$30 billion per year⁴. Budgeted NSW (Sydney, regional and rural) road system costs for 2011-12 are \$5.4 billion.

⁴ Australian Bureau of Statistics, Canberra (2011) *Survey of Motor Vehicle Usage for 12 months ended 31 October 2010. Cat. No. 9208.0* noting a total of 226 billion kilometres driven by cars, buses and trucks using about 31 billion litres of petrol, diesel, and LPG. Sydney accounted for 15 per cent of this distance driven by all road vehicles in Australia. In 1993, the Allen Consulting Group (*Land transport infrastructure, maximising the contribution to economic growth*, Australian Automobile Association, Canberra) then estimated the total costs of motor vehicle operation (including roads and road crashes) at about \$80 billion per annum. From

In Sydney, the cost of road crashes is broadly estimated in the order of \$3 billion a year. Each year, Sydney's road vehicles use of over 4 billion litres of petrol and diesel leading to health impairment from motor vehicle emissions costing over \$1 billion a year, and carbon dioxide emissions (at \$23 per tonne) of about \$250 million a year. In addition to these costs, there are the costs of road congestion, estimated at \$4.6 billion a year and set to rise to \$8 billion a year by 2015.⁵

5. Road pricing

The 2003 Parry report on Sustainable Transport also addressed the important subject of Sydney's road pricing. For too many politicians, road pricing reform is a 'no go' area. Yet, as observed by the 2010 Henry Tax Review, road pricing needs addressing. This includes the use of congestion pricing in major cities.

As a result of perceived shortcomings with Sydney's trains, buses and ferries, more and more cars are being driven on Sydney roads. More freeways and tollways have been built, yet road congestion increases. It is clear that some vehicle demand management is needed. This could be by way of a congestion tax and or increased fuel excise.

There is a widely held view, with some merit, that Sydney people should not have to pay a road congestion charge until public transport has been significantly improved. However, appreciable investment is now needed to improve Sydney's rail system and other public transport.

6. Intercity and regional trains

Interurban passenger services also require attention. In 1998, major track upgrades between Sydney and the Central Coast/Newcastle were promised in 1998 to allow for faster trains. However, only the most basic work has been delivered (eg Platform 5 at Hornsby) and instead there have been numerous government funded studies. Sydney - Newcastle trains are being addressed in the current federally funded study into High Speed Rail. However, improvements are needed this decade rather than the promise of trains at 250 km/h on new track in the 2020s.

Faster trains are also needed between Sydney and Wollongong where express trains have an average speed of just 55km/h. This is far slower than Perth-Mandurah's average of 90km/h. Brisbane Gold Coast trains (Central-Robina) average 68 km/h.

Some parts of regional NSW are served by XPTs use trains built in the 1980s running over track with 'steam age' alignment. These XPTs will not last forever. As well as new trains, track upgrades will also be required. A case can be made for constructing 400km of new track to modern standards (easy curves and grades) on the Main South and North Coast lines to replace over 500km of torturous alignment. The benefits include faster freight trains as well as faster passenger trips.

Since the late 1980s over 200 km of track on Queensland's North Coast line between Brisbane and Cairns has been rebuilt on improved alignment for faster and heavier freight trains. Plus the introduction in 1998 of the Queensland tilt train moving on good track at speeds of 160 km/h. Track straightening in New South Wales was also recommended during 1998 in a NSW Parliamentary Report called "The Tilt Train."

GDP data at <http://www.rba.gov.au/statistics/tablesthis> was about 11 % of GDP. This is now \$150 billion per year, and Sydney has about 20% of Australia's population.

⁵ <http://www.clovermoore.com.au/working-for-sydney/issues/transport>

In contrast to no action on the part of the NSW Government, the Victorian Government in 1999 embarked on a Regional Fast Rail program that included track upgrades on four lines and new trains. The new services started in 2006 with trains moving up to 160 km/h. Within four years, the patronage had doubled.

An incremental approach to High Speed Rail, starting with some sections of new track and new trains capable of 200 km per hour, is quite possible this decade. Such trains could well be extended to Canberra.

7. Freight

A New South Wales freight plan was promised in 1998 by the previous NSW Government in the official NSW *Action for Transport* Statement. A freight plan was promised again by the then NSW Transport Minister (Mr Scully - Australian Financial Review for 6 August 2001 "NSW ports, freight facilities under review") who had "ordered five, 10 and 30-year plans to address potential bottlenecks in the operation of ports in the international economy." This freight study was put off until 2010. A NSW freight plan is still to be delivered. Meantime, other states are making progress in their freight planning.

Two freight challenges for Sydney are for rail to achieve an official target of moving of 40 per cent of all containers through Port Botany and expanding intermodal freight terminals such as Enfield. Measured in twenty foot equivalent units called TEUs, Port Botany moved a record 1.928 million TEUs in 2009-10. However, only 16.4 per cent of these containers were moved by rail. In recent years, container throughput at Port Botany has increased and rails share has decreased.

Port Botany has had for some years a NSW planning cap of 3.2m TEU per annum. At the present growth rate, this limit will be reached later this decade. To support further growth, a 2010 NSW Government application to Infrastructure Australia asked for federal funds to duplicate the M5 East freeway at a cost of \$4.5 billion. This is a costly proposal, and it would be more cost effective to get more containers moving through Port Botany onto rail and/or expand other ports.

It could well be better to expand Port Kembla for Port Botany container overflow and to complete the 35 km Maldon Dombarton rail link. This project, started by the Wran government in 1983, is well advanced. A 2009 pre-feasibility study found at least ten reasons for completing the railway, and in October 2011 the Prime Minister committed \$25.5m towards pre-construction work. The cost in a 2011 feasibility study gave an estimated cost between \$624m and \$667m. That is about one seventh of the cost of the M5 east duplication.

The delays in caused to moving rail freight through parts of Sydney, and the expense of increasing the capacity of Strathfield-Broadmeadow track, are an incentive to complete an inland Melbourne-Parkes- Brisbane route.

Since 2004, the federal Australian Rail Track Corporation (ARTC) has held a long term lease over NSW mainline interstate track and the Hunter Valley. The ARTC now has an important role within New South Wales to put more freight onto rail. Within Sydney, the ARTC is working towards completion of the 36 km South Sydney Freight Line - albeit delayed from 2010 to at least 2013. In December 2011, it was announced a Strathfield-Hornsby track capacity upgrade would be completed by 2016. This followed a protracted review since 2007 by the ARTC and NSW Government.

In the Hunter Valley, various ARTC projects have done much to reduce congestion and increase capacity on the Hunter Valley network to about 146 million tonnes per annum. The ARTC has worked hard to improve NSW interstate mainline

track on its existing alignment. This includes the laying of about two million concrete sleepers and bridge works along with updated signaling. However, the reduction in transit times for interstate freight trains has been limited, and with less than 10 % mode share of Sydney Melbourne and Sydney Brisbane freight, more work is needed.

Indeed, as noted in 2007 by Mr Paul Neville MP, chairman of a House of Representatives committee “it is now even more obvious that bold measures will be necessary to see a more serious movement of freight from road to rail.” Mr Neville stated that the freight task is expected to double in the next 20 years, but if nothing is done to improve rail’s competitiveness “*our roads will become totally and utterly congested.*”

In 2008, Mr Len Harper⁶ noted the tracks linking Australia's three largest cities “... *are inadequate for current and future needs.*” That year, the ARTC stated: “*there is no alternative but to start to consider deviations of the current poorly-aligned sections of the network.*”

Indeed, as noted in the 2004 AusLink White paper, the ARTC was then prepared to build “... *deviations at 14 locations, totaling 121 kilometres, to ease curves on the North Coast railway between Newcastle and Brisbane (\$158 million).*” A special allocation of \$450m to the ARTC was made in the May 2004 Federal budget. However, these deviations did not proceed, and only now more limited curve easing work is taking place.

To expedite major deviations as opposed to minor curve easing, some effort in planning and investment will be required by the NSW Government. A case study of a major deviation between Hexham and Stroud Road was noted in 2007 report of the Neville Committee (The Great Freight Task: Is Australia’s transport network up to the challenge? page 116). Here, the construction of 67 km of new track would replace a substandard 91 km section to halve transit times and reduce fuel use by 40 per cent.

A further freight transport challenge within New South Wales is that of grain transport. The title of an article in The Land, 11 August 2011 says it all: *Call this a rail system? - ‘Third world’ branch lines driving freight onto roads* Rail access pricing of NSW grain lines is now the subject of a review by the Independent Pricing and Regulatory Tribunal (IPART). The draft report of the review also gives attention to road cost recovery from heavy trucks, and external costs.

Road access pricing for heavy trucks was also addressed by the 2010 Henry Tax Review. This review favoured mass-distance-location charges for the heavier trucks hauling large distances each year, which has been in place in New Zealand since 1978 and is now under consideration for Australia by COAG. The proposed use of B-Triples could well be conditional on mass distance charges.

8. Oil Vulnerability

In 1998, the Chartered Institute of Transport issued a sternly worded warning that cheap oil would not last forever and that 'More of the same' in our current transport plans is no longer tenable. The next year, the Institution of Engineers, Australia issued a well researched call for transport reform.⁷

⁶ Len Harper, Chartered Institute of Logistics and Transport ‘The major task of increasing rail traffic on the East Coast’ Track and Signal Oct-Nov-Dec 2008 (p9-13)

⁷ Chartered Institute of Transport (1998) statement from the 1998 National Symposium (held in Launceston) and the Institution of Engineers, Australia (1999) *Report on Sustainable Transport*

In 2002, the Secretary of the Australian Treasury, Dr Ken Henry⁸ noted that projected increases in urban traffic and interstate road freight raised "important issues"; also *"Not dealing with these issues now amounts to passing a very challenging set of problems to future generations."*

A 2011 conference paper⁹ noted Australia cannot afford to wait for another oil price shock before taking measures to improve energy efficiency in transport.

Despite these warnings, the growing use of oil in road transport and the cost of oil imports does not appear to concern government. In 2004, oil prices were rising, yet government forecasts were given that oil could be expected to drop back to \$20 a barrel. However, by mid 2008, oil prices had peaked at about \$146 per barrel.

With the global recession, oil prices have since receded to now about \$80 a barrel and a case can be made that oil prices may not reach the mid 2008 peak for some years. On the other hand, as the current global recession lifts, oil prices could really escalate.

The diversion of passengers and freight from road to rail within New South Wales could reduce the use of imported oil (a 10 per mode shift would reduce petrol use by over 1 billion litres a year and diesel use by over 250m litres per year). Such a mode shift would also reduce greenhouse gas emissions. In addition, rail has the potential for more electrification.

If and when international oil prices start to trend upwards, the need for rail investment in Sydney will become urgent. It is better that the investment is made now, rather than when it may be regarded as too late to stop further erosion of the standard of living in Sydney.

9. Planning and project delivery

As noted by Infrastructure Australia and the Australian Government, recent New South Wales transport planning has been deficient. As a result, in 2009 Sydney lost valuable federal funds to upgrade its urban rail network, whilst Melbourne gained over \$3 billion of such funds.

There is also a need, through better planning with less "chop and change" and better project management, to contain the cost of rail project delivery.

10. Conclusion

New South Wales faces land transport challenges on many fronts. To restore Sydney's ranking in the top five liveable cities of the world will require sustained investment in its rail system along with road pricing reform. Both the Australian and New South Wales government have some hard decisions to make. Otherwise, Sydney will experience increasing road congestion and be vulnerable in the event of any sustained increases in international oil pricing.

Further upgrading of interstate and regional rail track is vital.

⁸ Henry K (2002) in an address to the ATRF and BTRE Colloquium in October 2002 accessed at www.treasury.gov.au

⁹ 2011 AusRail Plus paper "Picture the future" by Matthew Rait of Siemens Ltd Aust.



**Professor David M. Levinson
University of Sydney**

Toll Road Review

Dear Prof. Fels and Dr. Cousins,

My name is David M. Levinson, I am Professor of Transport at the School of Civil Engineering at the University of Sydney. I have studied tolling and transport finance since the 1990s, and am privileged to be able to provide an independent submission to this Independent Toll Review. I am happy to answer any further questions that might arise.

Introduction

(A1) The State of New South Wales has established a new toll road review, which will examine the patchwork of tolling rates on different tolled motorways. This is an excellent effort. Road pricing represents the single most significant step society could make towards a more efficient, sustainable, and accessible transport system. It is also one of the most challenging to implement politically. Charging a fee for the use of roads during peak hours has the potential to dramatically improve mobility and reliability and reduce congestion and pollution, benefiting both individual travellers and society as a whole.

(A1,C8) Road pricing introduces a price signal that reflects the actual demand for road space. By doing so, it encourages drivers to shift their travel to off-peak hours, use alternative modes of travel (public transport, walk, bike), telecommute, shop online, or travel less altogether. This, in turn, leads to a more efficient and sustainable use of the road network, benefiting both individual travellers and society as a whole.

(A4, C2) For example, if a driver travels during peak hours, they will pay a higher fee than if they were to travel during off-peak hours. This provides an incentive for drivers to adjust their travel patterns, reducing peak period congestion and improving mobility.

Use of Toll Revenue

(B4) Road pricing provides a source of revenue that can be reinvested in transport infrastructure, maintenance, and public transport systems, further improving the overall accessibility and sustainability of the transport system. By introducing a market-based solution to congestion, road pricing has the potential to ensure that the benefits of these new technologies are realised, and that the transport system remains accessible, efficient, and sustainable for all.

(B4) Tolls on existing users should not be used to widen roads for new users, as that has adverse effects of increasing automobile use in an era when public policy says we want to reduce it for a variety of reasons, including environmental sustainability and community liveability.

Toll Rates

(G) The existing tolled motorways are under-utilised because the tolls are too high, and as a consequence local roads are over-used, compared to a social-optimum. The tolls are too high because the toll-road operator, through a series of opaque contracts, is allowed to operate in a profit-maximising way, rather than required to price in a welfare-maximising way, more in line with other public utilities. This is well established in economics and should not be a surprise (Zhang and Levinson 2009)

(C1-C4,F) Tolls should be set on a consistent basis, system-wide. There should be a small access fee, and variable distance charge, with time-of-day discounts for off-peak periods. (C4) Work in Minnesota on High-Occupancy Toll lanes (Janson and Levinson 2014) suggests that real-time congestion varying tolls (rather than time-varying tolls based on typical congestion) may have perverse effects, as the higher price acts as a congestion signal that may attract people to the motorways.

Road-Space Reallocation

However, tolls cannot just be lowered on motorways without some consideration of local roads. Lower tolls will induce demand for additional travel by automobile, with all of the concomitant negative externalities. Instead, the lower tolls on motorways should be seen as an opportunity for road-space reallocation on major arterial roads, like Parramatta Road, Victoria Road, Prince's Highway, etc. that parallel these high capacity facilities. Reallocating space towards transit lanes and streetscaping and wider footpaths, will help restore these roads to their historic function as serving local communities rather than for high volumes of through traffic. Along with this, speed limits should be lowered on local roads, to help encourage travellers to take motorways.

Heavy Vehicles

(D, C7) Long Distance Trucks in particular do not belong on local roads, but high tolls on motorways, and the absence of similar charges off-motorways, creates incentives to avoid the motorways. Lower tolls on motorways, along with regulations requiring long-distance trucks to use motorways when able to, would help improve the safety and air quality of local communities, the safety of trucks, and traffic flow in general. Heavier vehicles should pay higher tolls due both to pavement damage as well as higher overall emissions. This applies to heavy cars as well as trucks.

Public transport

(E) Buses, because of the social benefits they provide to all other transport users, should not be tolled, but should instead be subsidised and prioritised, with lanes converted to bus lanes as needed on toll roads at no cost to the bus operators.

Electric and Autonomous Vehicles

(C8) Without effective demand management strategies, the deployment of electric (EVs) and especially autonomous vehicles (AVs) will lead to even more congestion and reduced mobility. EVs don't pay fuel taxes. AVs won't have to pay for parking, and in the worst of all possible world, in the absence of road charges, would just drive around the block empty waiting for their owner to finish their business.

The previous NSW administration passed a law that said that EVs will have to pay an odometer tax by 2027, or once they reach 30% market share of new vehicles, whichever comes first. This is a good policy, which introduces road pricing one vehicle at a time. As EVs eventually come to dominate the market (while Australia is lagging other countries, there is no reason not to expect this to happen over the next two decades), more and more vehicles will be paying distance-based road tax, without the major controversy that would arise trying to do this all at once, on every vehicle. Enhancing this with an off-peak discount, to encourage more road use in the off-peak, and less in the peak, is also good policy.

This needs to be extended to AVs which are now coming online overseas, and will eventually make their way to Australia.

Data (B1,H1, H2)

Setting tolls in the absence of good data is tricky. Toll operators should be required to publicly share spatially and temporally detailed data on toll road utilisation and rates, including by type of vehicle. Every counting station, every 30-seconds, we should know the number and types of vehicles passing, and their speed.

Experiment (B1,H1, H2)

However in addition to that, the public should fund (compensate the toll road operators for) a series of widely publicised toll rate adjustments, which can be treated by rate-setters as experiments, setting lower tolls, or even zero tolls, on selected toll roads (or the system as a whole) for a period of 8 weeks, so that the elasticity of demand on the toll roads with respect to toll rates can be accurately ascertained. We need a longer window (at least 8 weeks) to allow traffic to adapt to a new equilibrium. These "toll holidays" will produce valuable information for future rate setting.

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Full length article

Unscrambling the toll road egg[☆]

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ABSTRACT

The aim of this article is to provide an overview of the economic problems of toll roads and to suggest solutions to those problems. The major difficulty to be confronted is that of 'unscrambling the egg', that is, of dealing with the complications created by past policy mistakes, which have been locked in through long-term toll road contracts.

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1. Introduction

The development of road infrastructure has been a central component of Australian national development since the early 20th century. For most of this period, roads were planned and constructed by the public sector and financed indirectly, through vehicle registration fees and petrol taxes.

More recently, concern about the problems of road transport has focused on the problems of toll roads, including pricing, performance and ownership. Since the value of a road network does not depend on a single road, but on the transport system as a whole, efficient management of toll roads are crucial to the nation's welfare, even when individual roads are privately owned.

The aim of this article is to provide an overview of the economic problems of toll roads and to suggest solutions to those problems. The major difficulty to be confronted is that of 'unscrambling the egg', that is, of dealing with the complications created by past policy mistakes, which have been locked in through long-term toll road contracts.

The article is organised as follows. Section 2 provides background information on the Australia road network, the history of toll roads and the main issues of the toll road network. In Section 3, the evolution of policy is examined, with particular emphasis on the Public Private Partnership (PPP), ownership and operation. The major economic issues associated with performance and demand are outlined. Section 4 provides a framework for the economic analysis of these problems based on the concepts of externality, efficiency, and competition. These concepts are used to derived recommendations of policy responses to the failures of the private toll road model.

2. Background

2.1. The road network

Roads are the most important single item of infrastructure spending for governments in Australia ([Productivity Commission, 2017](#)). The value of national road assets has been estimated at over \$280 billion ([Roads Australia, 2013](#)). Annual road-related expenditure for the Commonwealth government is about \$50 billion ([BITRE, 2016](#)). The total length of roads

[☆] This paper is based on a presentation for the 2017 Colin Clark lecture.

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Table 1

Current toll roads in operation in Australia.

Source: BITRE (2018).

Type	Name	State	Length (km)	Original owner	Majority owner	Operator
Harbour/river crossing	1. Sydney Harbour Bridge	NSW	1.1	NSW Dept. of Public Works	RMS	RMS
	2. Sydney Harbour Tunnel	NSW	2.7	Transfield Pty Ltd & Kumagai Gumi	Kumagai Gumi (50%)	Tunnel Holdings Pty Ltd
	3. Go Between Bridge	QLD	0.3	Brisbane City Council	Transurban	Transurban
Tunnels or roads with tunnels	4. Cross City Tunnel	NSW	2.1	CCT Motorways	Transurban	Transurban
	5. Lane Cove Tunnel	NSW	3.8	Connector Motorways	Transurban	Transurban
	6. Clem7	QLD	6.8	River City Motorways	Transurban	Transurban
	7. Airport Link	QLD	6.7	BrisConnections	Transurban	Transurban
Intra-city links – short-long	8. Legacy Way	QLD	5.7	Brisbane City Council	Transurban	Transurban
	9. M1(Eastern Distributor)	NSW	6	Airport Motorway Pty Ltd	Transurban	Transurban
	10. M2(Hills)	NSW	21	Hills Motorway Pty Ltd	Transurban	Transurban
	11. M7 (Westlink)	NSW	40	Western Sydney Orbital Pty Ltd	Transurban50%	Transurban
	12. M5(South-West)	NSW	22	Interlink Roads Pty Ltd	Transurban50%	Transurban
	13. CityLink	VIC	22	Transurban	Transurban	Transurban
	14. EastLink	VIC	39	ConnectEast	Horizon Roads Pty Ltd	Horizon Roads Pty Ltd
	15. Gateway Motorway	QLD	23.1	Queensland Investment Corp.	Transurban	Transurban
16. Logan Motorway	QLD	38.7	Logan Motorways Pty Ltd	Transurban	Transurban	

was nearly 900 000 km in 2015 (BITRE, 2015). Annual road vehicle kilometre travelled (VKT) reached over 220 billion km in 2010, compared to around 50 billion km in 1965 (BITRE, 2011).

As a network asset, the value of a road depends, almost entirely, on the roads and other transport links to which it connects, instead of the road itself solely. Additions to the network may either enhance or reduce the value of existing roads. When designed carefully, additions can reduce traffic. However, in some cases, additions can reduce the value of the network as a whole. The first case is known as the induced demand effect. For example, with the expansion of roads, urban sprawl can lead to more traffic, instead of curing congestion as expected.

The second case is that inappropriate expansion of the road network can be counterproductive (Braess, 1968). Braess' Paradox is illustrated by examples in which traffic flow may be improved by closing some existing roads.

2.2. History of toll roads

Toll roads have a long history in Australia, but remained rare until recently. The first toll road connecting Sydney and Parramatta was built early in the 19th century (Productivity Commission, 2017). A hundred years later, the first toll bridge, Sydney Harbour Bridge was completed. It was not until the 1990s that involvement of the private sector began to increase, leading to a significant expansion of toll roads in Australia (Quiggin, 2005; BITRE, 2018).

The total length of the 16 toll roads currently in operation is 241 km (BITRE, 2018). As shown in Table 1, eight are in New South Wales, six in Queensland, and two in Victoria. Most of these roads have been built under the Public Private Partnership (PPP) model.

2.3. Externalities

Although road infrastructure brings various benefits to an economy, road transport has also been associated with a range of negative environmental and health problems, some of which are specifically linked to motorists while others reflect more general impacts on the public. These negative impacts may be divided into four main categories: congestion; crash risk; noise and local air pollution; and carbon dioxide emissions.

Congestion is one of the most important and direct negative externalities caused by driving. When entering a road, a motorist imposes costs on all the other drivers using the road, while incurring costs in return. Each additional motorist reduces the mobility provided by the road and increases the time spent by other drivers using the road. Since no-one bears the costs they generate themselves, congestion is excessive.

Driving in rush hours generates more congestion costs than driving in non-rush hours. Similarly, driving in urban roads generates more congestion costs than driving in rural roads. Under current funding systems, there is, in general, no price distinction between driving under different conditions. Drivers on less busy roads, travelling in non-rush hours are subsidising drivers in rush hours who generate more congestion. An ideal system of road pricing would take this into account.

It might seem that the introduction of toll roads represents a step in the direction of sound road pricing. In reality, however, toll roads are typically uncongested, and are underused as a result of tolls.

Second, there are problems associated with crashes that cause fatalities and severe injuries. Road crashes are one of the leading causes of premature death for people under 45 ([Australian Institute of Health and Welfare, 2017](#); [Burke and Teame, 2018](#)). Car accidents not only risk the lives of on-road motorists and passengers, but also non-motorists including cyclists and pedestrians.

Estimates of the economic damage caused by road crashes raise problematic issues including the economic value of life and health. A conservative estimate is that road crashes imposed a financial burden \$30 billion on the Australian economy in 2015 ([Economic Connections, 2017](#)).

Third, there are problems of noise and local air pollution, correlated to the volume of traffic and the combustion of fossil fuels, affecting those living close to road links. The World Health Organisation ([WHO, 2011](#)) revealed that transport noise is a major cause for health problems including sleep disturbance, hearing loss, cardiovascular problems and learning difficulties for children. Researchers also discovered that all of the capital cities in Australia suffer from unacceptably high levels of road traffic noise which exceeded the levels recommended by WHO ([Brown and Bullen, 2003](#)).

Petrol and diesel-fuelled vehicles are a major source of urban air pollution. Major pollutants are particulate matter (PM), hydro carbons (HC), nitrogen oxides (NOx), carbon monoxide (CO) and sulphur dioxide (SO₂). Although Australia has long implemented vehicle emissions standards, these standards have been offset by increasing vehicle use.

Finally, there are the problems of carbon dioxide emissions and climate change at the global level, resulting from the use of fossil fuels at road transport. Road sector transport accounts for about 15 per cent of the total emissions in Australia ([Climate Change Authority, 2014](#)). Traditional petrol and diesel-fuelled vehicles emit carbon dioxide directly from the combustion process. In the last few years, there have been proposals to improve fuel efficiency of light vehicles (i.e. [CCA, 2014](#)). However, political resistance has so far prevented implementation of the proposed standards.

This problem cannot be simply resolved by switching to electric vehicles. For example, [Wang \(2018\)](#) argued that taken into account the life-cycle emissions, electric vehicles produce as much as CO₂ as a traditional vehicle in the Australian context, where electricity production heavily relies on coal. Hence, electrification of the car fleet must be accompanied by a shift to renewable electricity generation.

2.4. Haphazard historical mix of funding and pricing

There is no coherent principle underlying road funding and pricing in Australia. Motorists and taxpayers contribute to the funding of road infrastructure in two ways: consumption independent charges and consumption based charge. The consumption independent charges include vehicle registration fees, stamp duty and other vehicle administration related fees. The primary consumption-based charge is fuel excise.

Registration of motor vehicles is done through each state and territory, and registration fees vary across states and territory. Collected by state governments, the registration fees are fixed for consumption depending on the attributes of a vehicle, such as vehicle weight and segment. However, this fee does not depend on the distance travelled by a vehicle. Some states charge a traffic improvement fee along with the registration fee, but the traffic improvement fee is still not relate to road use. Therefore, most problems of road transport are matters beyond the power of the fixed charges.

Another form of charge collected by state and territory is the stamp duty, which is another fixed cost for consumers depending on the value of the vehicle. Set by the state government, the stamp duty is charged at the initial purchase of the vehicle or subsequent transfer. However, this charge is independent of the use of road.

Fuel excise, a consumption based charge, is another source of road funding. Fuel excise is set and collected by Commonwealth. In 2001, the excise rates were adjusted with the introduction of GST. In 2006, the new Fuel Tax Credit Scheme commenced to provide business and households of fuel that recovers excise under certain conditions ([Fuel Taxation Inquiry, 2018](#)). Mining and transport industries claimed about \$3 billion fuel credits in year 2009–10 ([ATO, 2011](#)), taking up to 80 per cent of the total credits of that year. In 2014 the indexation of the fuel-excise tax was reintroduced, which has been in effect till present.

Road related revenues, however, are not directly used as road funding. These revenues become an important part of the government revenue. It can be observed that revenue from road use has been declining in recent years mainly due to improvements in fuel efficiency of motor vehicles in [Parliament of Australia \(2018\)](#). Excise of fuel has fallen from 44 per cent to 39 per cent of road related revenue from 2000 to 2014, while still remaining the largest source of road related revenue ([BITRE, 2015](#)). This falling fuel excise revenue requires new policies be designed to meet the growing gap between the need for funding and the current revenue.

Expenditure patterns are similarly complex. The Commonwealth provides funds for four categories of expenditure: national projects; strategic regional projects; the Roads to Recovery programme supporting local roads improvements; and the general Financial Assistance Grant programme to local government, a portion of which is identified as a local road component. State governments fund and maintain arterial roads and manage vehicle administration and driver licencing. Local roads are primarily the responsibility of local government. At no level are road user payments closely related to the fiscal and social cost of providing roads.

In summary, the current funding system is inequitable, inefficient and probably unsustainable in the long run ([Deloitte, 2013](#)).

3. PPPs for toll roads

From the 1970 onwards, governments faced increasingly severe constraints on current and capital expenditure. This led to a search for ways of financing infrastructure that did not, at least according to standard accounting conventions, involve increases in taxation or public debt. Much of the appeal of Public Private Partnerships (PPPs) and particularly of PPP toll roads was derived from these apparent accounting benefits.

3.1. Inefficiency of toll road PPPs

Tolls are, in general, an inefficient and inequitable method of financing road construction. They are inefficient because they discourage the use of new, relatively safe and uncongested roads. To avoid the toll on newly constructed motorways, motorists use older suburban roads, accepting longer travel times for themselves, generating greater air and noise pollution and creating accident risks both for themselves and for people living in the areas through which they drive.

As well as being inefficient, tolls are inequitable because they allocate the burden of financing road construction in an arbitrary fashion. In general, the people who have historically had the worst deal in road transport are usually the ones who end up paying tolls, while those who have always had good roads have them maintained and improved free of charge.

3.2. Crucial role of demand risk

The situation is even worse with PPP projects. The basic problem is that the government is in a better position to manage demand risk. The flow of traffic on any given road will depend on subsequent decisions about urban development and about the development of the transport network as whole. A private owner of a single road will demand either a high rate of return or a guarantee that future management decisions do not adversely affect traffic on the road in question. By contrast, for the government which owns the road network as whole, and can tax all road users, risk about traffic flows on any one road is unimportant. The government's concerns go beyond the road network – what matters is the performance of the transport system as a whole.

The misallocation of demand risk was evident from the beginning of the push for private infrastructure (Quiggin, 1996). However, it was largely disregarded. In the 1990s, governments were sufficiently desperate to avoid taking on debt that they signed contracts on terms highly favourable to the private parties. Notable examples include the Citylink project in Melbourne, which remains the most profitable motorway in Australia. In cases where demand fell short of expectations, governments frequently offered concessions to prevent project failure.

3.3. The end of the PPP model

From 2000 onwards, as it became evident that governments had offered excessively generous terms, there was an increasing emphasis on securing 'value for money'. Given the misallocation of risk involved in private ownership of roads, this should have brought the PPP process to an end. However, the experience of the 1990s suggested to many investors that PPP projects were 'a licence to print money' and that, if anything went wrong, governments would come to the rescue.

As a result, a number of PPP projects went ahead on the basis of highly optimistic projections of demand which were never realised. Examples are illustrated in Figs. 1–6, as follows.

Most of these projects were commenced in the years leading up to the Global Financial Crisis (GFC), when capital markets severely underpriced risk. By the time construction was completed, and the failure of demand forecasts was evident, the GFC had taken place, and financial institutions were seeking to reduce their risk exposure.

3.4. The breakdown of the PPP model

As a result of the GFC, the failed road projects were unable to secure additional financing and were sold off. Nearly all ended up under the control of the Transurban Corporation, which is now effectively a monopolist in the toll road sector.

In the wake of the GFC, the traditional PPP model for toll roads was irreparably broken. Governments were no longer prepared to pay substantial premiums to transfer demand risk to private investors, while investors were unwilling to bear the risk without a premium. Consequently, the traditional PPP model has been abandoned.

The relatively limited number of PPP road projects that have proceeded have been based on models where governments bear most of the risk. These include 'supported debt' and 'availability payments'. In the supported debt model, the initial demand risk is borne by governments, borrowing at the public sector discount rate. In the 'availability payment' model, the private party receives a stream of payments, subject to the possibility of abatement penalties if service standards are not met. Since the imposition of these penalties is rare, the 'availability payment' model is effectively equivalent to debt financing, though the costs are usually higher.

4. Recommended policy responses to existing problems

An examination of recent developments in road infrastructure management has to be informed by the theoretical frameworks described in the previous section and by understanding of Australia's system of government. The starting point

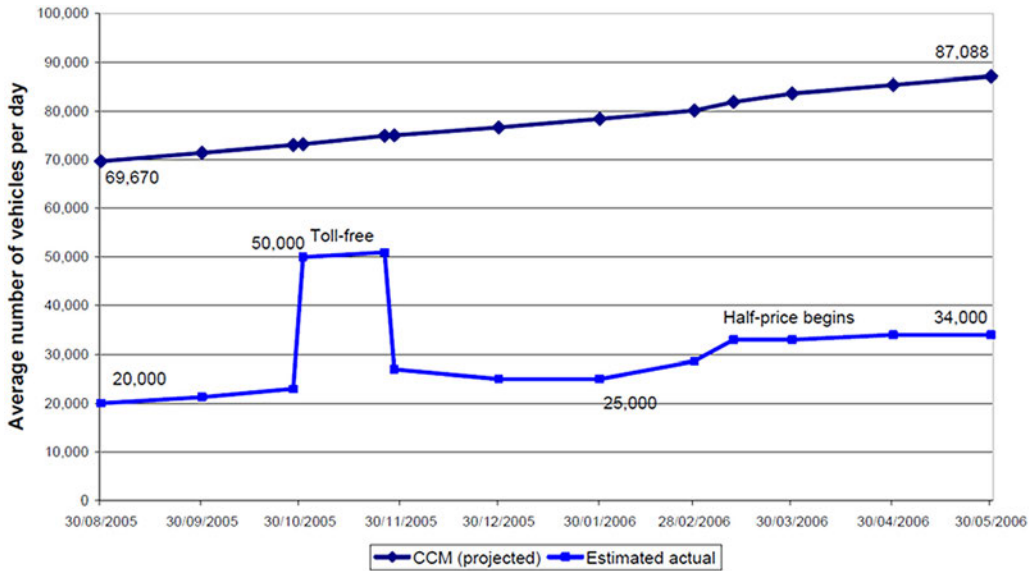


Fig. 1. Estimated actual patronage compared to CCM's projections – nine months. Source: NSW Audit Office (2006) research. Information on CCM projected patronage obtained from RTA documents. Estimated actual patronage based on research plus CCM statements where available.

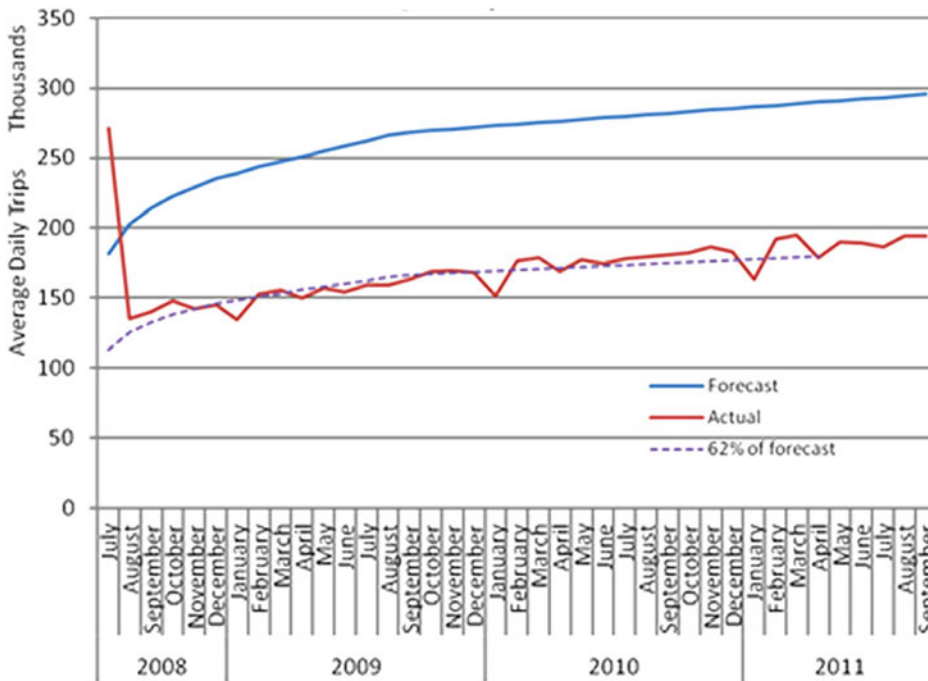


Fig. 2. Actual and forecast average daily traffic volumes of Eastlink. Source: Charting Transport (2016).

of the policy process has been the improvement of traffic conditions without increasing government debt. This rationale is under question as the public now is bearing more costs under current PPP arrangements than it was expected. This section offers policy recommendations to reform the current road-user charging system that can be more efficient and fairer for users.

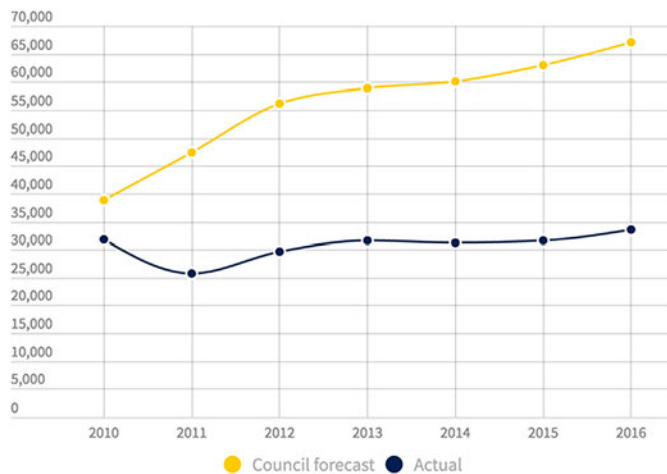


Fig. 3. Predictions and actual volumes of traffic of Clem 7, tunnels between Woollongabba and Bowen Hills cost \$3.2 billion since opened in 2010. Source: Atfield (2017).

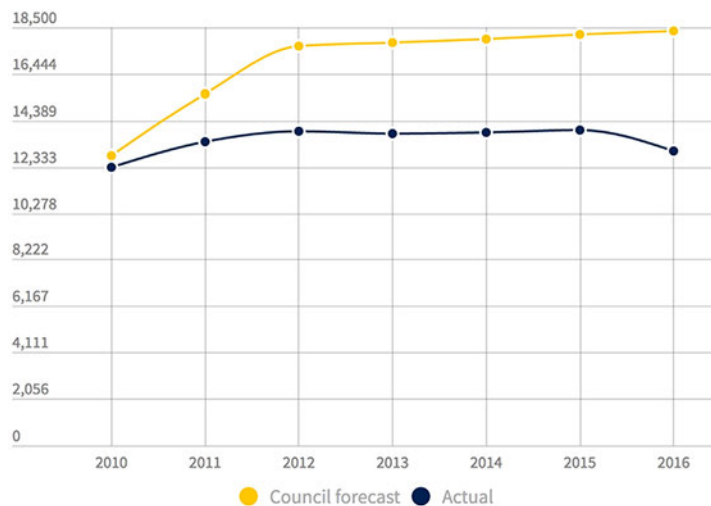


Fig. 4. Predictions and actual volumes of traffic of Go Between Bridge, cost \$338 million since opened in 2010. Source: Atfield (2017).

4.1. Road pricing

Driving is not costless; it causes congestion, noise and air pollution and crash risk, etc., which are the negative externalities drivers do not pay for under current policy arrangement. In principle, these issues could be addressed through Pigovian taxes, w first proposed in the context of as road pricing by Vickrey (1963). Vickrey (1963) proposed a congestion pricing system for the subway system for the New York City, charging different prices at peak and off-peak times.

Vickrey argued that a similar approach applied to private road transport and suggested electronic identifiers be carried in each vehicle and computers be used to detect the trip and motorists be billed monthly. Even though this suggestion was beyond the technology at that time (1960s), it is now feasible and could be implemented by developing existing systems for charging toll road users, such as GoVia.

In practice, however, few policy proposals of this kind have been put on agenda in the private road transport policy in Australia. Vickery's explanation on why this advice is not well received still applies to today's context, that "People see it as a tax increase, which I think is a gut reaction. When motorists' time is considered, it's really a savings". In the long-run, road pricing could yield more revenue as well as improve traffic conditions, and encourage modal shift and provide more welfare to the society. These benefits have long been underestimated or ignored throughout time by politicians and the public.

Table 2 gives a general description of the road pricing tools that are being used across the world. Road tolls are widely used in Asia and America. Its main purpose is to raise revenues. In Australia, roll roads are built to ease traffic congestion.

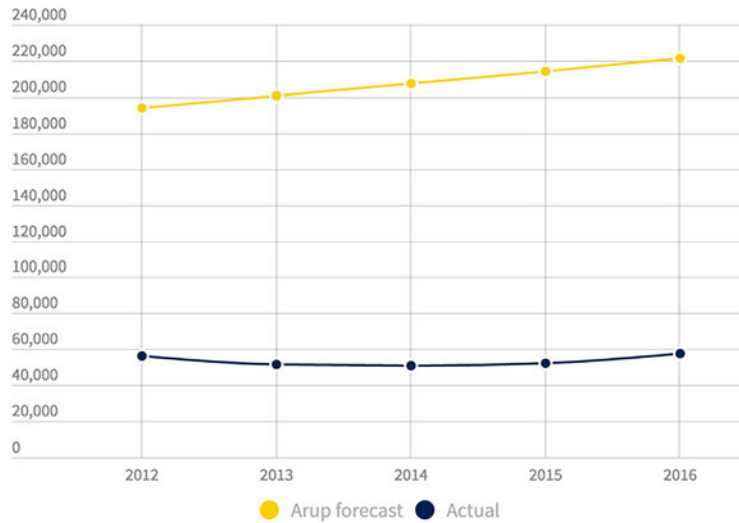


Fig. 5. Predictions and actual volumes of traffic of Airport Link, the 6.7-kilometre tunnels between various places and airports cost \$4.8 billion to build, since opened in 2012.
Source: Atfield (2017).

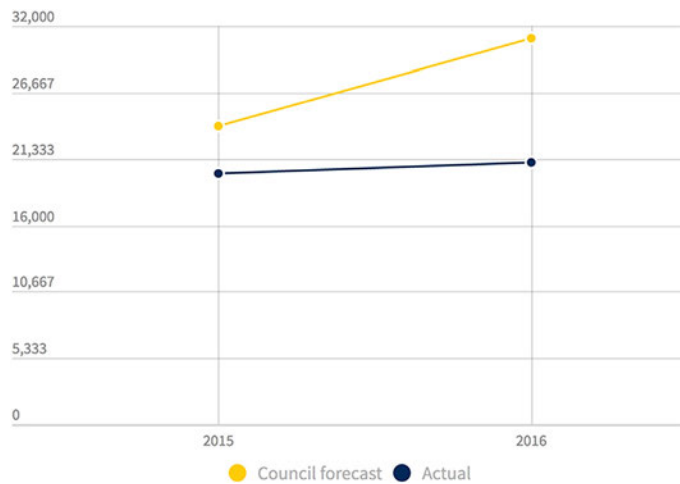


Fig. 6. Predictions and actual volumes of traffic of Legacy Way, funded by Brisbane City Council borrowings instead of PPP, with one cent from every toll donated to Legacy Australia since opened in 2015.
Source: Atfield (2017).

However, the effect of road toll on traffic improvements is limited because the toll roads are underused due to high rates. Congestion pricing is another form of road pricing, which charges different fees at different traffic conditions. With main targets to reduce traffic congestion and raise revenues, this approach has been adopted in densely populated major cities around the world, such as Melbourne, Singapore and Toronto.

Congestion pricing applied to city centres has reduced the pressure of traffic during peak hours and optimised the usage of existing road infrastructure. Congestion pricing is often combined with cordon fees, which are charged for driving in a particular area to relieve traffic congestion in high density area, such as a London Singapore and Oslo. Managed lanes are a popular tool in the US, which allow high-occupant-vehicles (HOVs) to travel faster than low-occupant-vehicles which do not prefer to pay a fee to use those lanes designed for HOVs. This approach allocates the existing resources more efficiently and also encourages car-pooling.

Distance based-fees are used to generate revenues and reduce the use of vehicles as well as reduce the negative externalities of private road transport. This method has been proposed in the Netherlands and been implemented by Germany on trucks.

Road space rationing is a second-best approach, restricting road use allowed for particular vehicles. A common version of this practice is 'odds and evens' rationing, where use is limited according to the final digit of the number plate. This approach

Table 2

Major application of road pricing in the world.

Source: Victoria Transport Policy Institute (2018).

Name	Description	Objectives	Country (Area)
Road toll (fixed rates)	A fixed fee for driving on a particular road.	To raise revenues.	Australia, China, Japan, US
Congestion pricing (time-variable)	A fee that is higher under congested conditions than uncongested conditions, intended to shift some vehicle traffic to other routes, times and modes.	To raise revenues and reduce traffic congestion.	Melbourne, Singapore and Toronto
Cordon fees	Fees charged for driving in a particular area.	To reduce congestion in densely populated urban centres.	Singapore, London, Oslo,
Managed lanes	A common example is a high-occupant-vehicle (HOV) lane that accommodates a limited number of lower-occupant vehicles for a fee.	To encourage efficient use of existing lanes, and to raise revenues compared with an HOV lane.	The US.
Distance-based fees	A per kilometre road charge.	To raise revenues and reduce various traffic problems.	The Netherlands and Germany
Road space rationing	Revenue-neutral credits used to ration peak-period roadway capacity.	To reduce congestion on major roadways or urban centres.	Mexico, Beijing

has been used in a number of jurisdictions, including Beijing. This approach can effectively reduce the number of cars on the road at any given time, but implies inefficient use of the car fleet. In particular, motorists with a high demand for travel have an incentive to buy additional vehicles, ensuring that the plate numbers are such as to allow travel at all times.

4.2. Principles of road pricing

A number of principles of road pricing may be derived from standard microeconomic principles

- Charges for road use should cover costs, including return to capital, depreciation and maintenance
- The price of road use should cover marginal costs, including congestion and other negative externalities.
- The price should optimise use of the network as a whole, not individual roads and network optimisation requires congestion pricing

* Revenues from road pricing should be used to balance choices between private cars and public transport, and between road and rail.

Road resources are different from other public goods because road systems form a unique network when anyone of the road is congested, it may affect the roads connected directly and indirectly to it. Therefore, current toll road pricing in Australia may not be optimising the entire network as all of the roads have to be taken into account when solving the optimisation problem. Road pricing is a complex problem and should be part of the development of efficiency and optimised road network management. Since network management involves a clear and thorough understanding of traffic flows, all factors that affect the flows including the number of vehicles, the number of lanes, accidents and time, should be considered when introducing a pricing tool. It is important to examine the potential changes of these factors of road use when simulating scenarios of road pricing strategies.

Implementing road pricing could affect demand for public transport. Increasing the cost of car travel could encourage modal shift from private car use to public transport. This would arise both because of substitution effects and because public transport will become faster when congestion is reduced by increased pricing of personal vehicles. Small (2004) argues that road pricing could set off a 'virtuous circle' for mass transit where people reduce the use of private vehicles and congestion is reduced. Public transport is faster and reduces costs to bus providers, which enables the bus providers to further improve the quality of service.

4.3. Unscrambling the egg

Current road policy in Australia embodies decades of policy failure. Many old congested roads are untolled. In some cases, they serve as 'rat runs' to avoid tolls, which means that traffic in these areas became even worsened when new toll roads were built in these areas. By contrast, new toll roads are underused, having reached only 30% to 60% of projected usage in many cases. However, when the demand exceeds the supply of toll roads in the next 15 to 30 years, BOOT arrangements mean that tolls will be due for removal. All of these issues above have to be addressed as soon as possible to avoid further burden to the public.

It is, therefore, necessary to design new policies that systematically deal with traffic congestion, negative externalities and road funding. A comprehensive road pricing policy is essential.

Perhaps the most urgent need is to introduce congestion pricing in densely populated urban areas. With GNSS receivers equipped in automobiles, charges based on the road trips can be made simple and easy. Another consideration is the privacy

issue, which could vary across regions. Singapore, for example, designed privacy in its system, while the Swedish economy values transparency highly therefore privacy is less an issue (D'Artagnan Pacific Pty Ltd and Ian Wallis Associates, 2018).

To implement congestion pricing systematically, it is necessary to remove existing toll roads. If toll roads are separately managed by different bodies, with the introduction of congestion pricing, congestion will not be efficiently solved. Hence, the government should repurchase toll roads or replace toll collection with shadow tolls.

Technological advances offer further possibilities. With the development of self-driving cars, travel could be automatically tracked therefore pricing can be similarly automatically tracked to internalise congestion externalities.

4.4. Feasibility and equity issues

Although economists have long argued for road pricing, they have been rarely successful in convincing politicians and the public in Australia. We provide here a discussion on the fiscal, social and political feasibility of road pricing and relevant equity issues.

Hensher and Mulley (2014) have proposed a revenue neutral policy reform. The central theme is to gradually increase usage-based charges while reducing registration and others fixed cost.

Shifting from existing tolls and registration to user charges based on congestion pricing in a revenue neutral manner is socially desirable. In the Australian context, tolls largely are often imposed on roads serving growing areas with lower income populations. Carefully designing marginally progressive set of steps in introducing tools of road pricing are essential to demonstrate the public that equity issues are appropriately addressed if registration charges become regressive and CBD congestion charges progressive for private motorists, neutral for business.

Attitudes towards road pricing are changing over time across the world. Solving congestion problems in largest cities by imposing congestion pricing and other road pricing tools are widely accepted in many developed economies, such as the UK, Singapore, the Netherlands and so on. However, in Australia, road policy reform has not been put on the policy agenda because of hostile political attitudes. These attitudes are gradually changing as congestion is becoming more and more severe in large cities and a majority of the toll roads have been proven inefficient.

Opposition to congestion pricing is likely to be strongest among people who drive regularly to the central business district, including businesspeople, politicians and journalists. These groups are more politically influential than the beneficiaries of reduced registration charges, including those who live far from the city centre and may earn lower incomes.

5. Conclusion

Fixing the past failures of road pricing policy will be difficult, but not impossible. A number of steps can be considered. Inefficient tolls on roads funded by PPPs should be gradually removed. This could be done via buyback or shadow pricing. The lost revenue could be replaced by congestion pricing. A comprehensive road pricing system based on congestion can optimise the use of the existing road network, reduce traffic congestion and internalise negative externalities.

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**Professor Russel G. Thompson
PhD University of Melbourne**

28th July 2023

Toll Review

I would like to commend the NSW government for conducting a review of toll levels in Sydney. It is an important area of policy since tolls have a significant impact on sustainability, and traffic demand patterns in urban areas throughout the day. Our research conducted over the past 7 years in the Freight and Logistics Group at The University of Melbourne has examined how tolls can be used to achieve sustainability related objectives such as congestion alleviation, emission reduction, safety enhancement and social equity.

Current approaches for determining tolls are primarily based on maximizing revenue to toll road operators. This causes a number of *problems* such as:

- (i) *High external costs* such as safety and health impacts from emissions and noise from drivers avoiding toll roads due to high toll levels. Many vehicles use alternative routes that lead to more crashes and higher emission levels.
- (ii) *Poor utilization of roads* due to the lack of incentives for drivers to *use toll roads at off-peak periods* since flat rate tolls are common.
- (iii) toll levels *not reflecting the impact of vehicles on damage to pavements and structures* due to a lack of discrimination regarding vehicle types such as heavy freight vehicles.

Our research focuses on a multi-stakeholder approach where the benefits and costs to road users, residents and infrastructure companies are considered. We have examined a range of policy options, including toll charges based on fixed distance multi-classes, gross-vehicle-mass and link specific distance based multi-class.

We have developed modelling approaches for identifying optimal toll levels for cars and trucks in urban traffic networks to achieve specific objectives. These models have been applied to examine how tolls on roads in Melbourne can be determined to achieve sustainability goals.

Our research has identified optimal toll charges for different vehicle classes including cars and several truck types for achieving various objectives including maximizing revenue, minimizing emissions and operation costs. For specific objectives we have predicted toll revenue, total operations costs and for different classes of road users, total emission costs as well as total travel times and compared these with existing practice for EastLink and CityLink toll roads in Melbourne.

The relationship between Internal Rate of Return (IRR) for infrastructure investors and environmental and social costs have been investigated. Results of our modelling have shown that lower toll levels for both cars and trucks can lead to reasonable rates of return for toll companies and have substantially less environmental and social costs.

Traffic network modelling of Melbourne's CityLink has shown that when user costs for both cars and trucks are optimized this leads to significantly lower toll levels for cars

and trucks and lower social and environmental costs are achieved as well as attaining reasonable return of investment. The results of our research have been presented at national conferences and published in several international journals. We welcome the opportunity to explain our modelling methodology in more detail and further elaborate on our results.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Russell G. Thompson', with a stylized flourish at the end.

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Infrastructure Partnerships Australia



27 July 2023

Professor Allan Fels AO and Dr David Cousins AM
Review Chair and Deputy Chair
2023 Independent Toll Review

Via online submission: <https://www.nsw.gov.au/have-your-say/toll-review>

SUBMISSION IN RESPONSE TO THE NSW 2023 INDEPENDENT TOLL REVIEW DISCUSSION PAPER

Infrastructure Partnerships Australia is pleased to provide this submission in response to the Discussion Paper for the 2023 Independent Toll Review in New South Wales.

Infrastructure Partnerships Australia is an independent think tank and executive member network, providing research focused on excellence in social and economic infrastructure. We exist to shape public debate and drive reform for the national interest. As the national voice for infrastructure in Australia, our membership reflects a diverse range of public and private sector entities, including infrastructure owners, operators, financiers, advisers, technology providers and policy makers.

This submission responds to the Discussion Paper, and puts forward reform principles that would deliver broad-ranging benefits to toll-road users and the broader taxpayer base, while protecting the commercial interest of existing toll road owners and operators. Infrastructure Partnerships Australia has been a strong and consistent advocate for reforming how the network of tolls is priced, including calls for the introduction of road user charging across the entire road network, as well as the rationalisation of toll road pricing. While our support for these important reforms has not wavered, the case for road reform and the benefits that could flow from strong public policy leadership in this area have only grown.

Our support for this important reform dates back to our 2009 discussion paper titled *Urban Transport Challenge: Driving Reform on Sydney's roads*, while our 2014 paper *Road Pricing and Transport Infrastructure Funding* and 2019 paper *Road User Charging for Electric Vehicles* have advanced debate on road reform more broadly. These reports can be found on our website at <https://infrastructure.org.au/major-reports/>.

Infrastructure Partnerships Australia has also made numerous contributions on these issues to parliamentary inquiries over many years. Our submission to the NSW Legislative Assembly Committee on Transport and Infrastructure's 'Inquiry into Road Access Pricing' in 2013, along with our submission to the NSW Legislative Council Portfolio Committee No.6 – Transport 'Inquiry into Road Tolling Regimes' in 2021 are of direct relevance to this Review. They are included as *Attachment A* and *Attachment B* for your reference.

Background: The role of road tolling Australia

Tolling has been an important source of road funding in Australia's major cities over recent decades. From the 1980s until the later 2000s, effectively all road tolling concessions were granted through competed PPP-type arrangements. This facility-based tolling approach created the forward cash flow to attract competitive design, construction and operation of road infrastructure – underpinned by a competition for debt and equity that positioned Australia as a global leader in innovative (private) financing of public infrastructure.

The question of whether or not a road is built should be made on the basis of the net benefits of the project relative to its costs, irrespective of how it is funded and financed. But if a road is deemed to offer net benefits, the question then becomes who should pay for the road's upfront and ongoing costs. A road, by its nature, delivers substantially higher benefits to its users. Non-users may still benefit, such as through reduced freight costs, but these benefits will be far more diffuse. Toll roads are also naturally opt-in. Road users who could take a toll road but opt not to can use other roads which are free at the point of use.

On this basis, tolling enables beneficiaries (direct users and consumers of services which use the road) to contribute their fair share to the costs of the road, and reduces the funding burden on non-users and the broader tax base. This impacts government capacity to fund other priorities, as money that is *not* spent by taxpayers on road infrastructure, is money that can be allocated to other essential infrastructure and services elsewhere, such as schools and hospitals. Road tolling may not always be popular, but it is far fairer and more effective than the alternative.

Without tolling, many of the nation's most significant and economically valuable road corridors simply could not have been built or their delivery would have been severely delayed. Given the scale of public infrastructure spending in Australian cities, particularly on major public transport projects, this pipeline of works would also not have been possible had the funding burden for toll road projects also fallen to taxpayers.

Government decides how roads are paid for – and sets toll levels accordingly

It is also worth briefly reflecting that, at the macro level, the setting of toll levels is not complex. A given road will have a particular delivery cost – the Government makes a choice about whether that road will be paid for by users (through tolls) or by taxpayers (from consolidated revenue), or some combination of the two. This also extends to the ongoing costs of maintaining that road over time.

There are four levers available to any government it in making that decision, being:

1. the starting toll
2. the escalation rate of the toll
3. the concession length, and
4. any upfront capital contribution on behalf of the taxpayer.

Crucial to this framework is an appreciation that a government's decision to move any one of these four levers, within a given revenue envelope, necessarily requires one or more of the others to also move in order to ensure the funding remains available to deliver the road. For instance, should a government choose to reduce the escalation rate of tolls, the shortfall must be recovered through a combination of one or more of a higher initial toll, a longer concession period or a greater upfront contribution from taxpayers (which in turn reduces governments capacity to fund other priorities).

Simply put, when considering suggestions to ‘lower the tolls’ or ‘abolish CPI-linked increases,’ one must determine which of the other three levers will need to be pulled in order to make up the difference in cost. With this in mind, it is also important to reiterate that tolls are therefore set by governments, not concession owners. It is the government, at the point of contract execution, which decides these parameters.

Project-by-project decisions on road tolling have resulted in a patchwork of network pricing

Despite the benefits toll roads have brought, their rollout and the setting of toll prices has been ad-hoc. Planning and delivery has mostly been undertaken on a project-by-project basis with the pricing structure reflecting the cost of financing, designing, constructing and operating individual portions of the network. However, when considered across the network, can be viewed as complex and, to a degree, inadequate in the recovery of the true costs of the use of the motorway network.

Over recent years additions to the network have increasingly sought to provide critical links in motorways, moving towards more efficient networks of radial and orbital high-value transport corridors.

Despite improvements in transport network performance as these motorways are connected, the approach to their pricing remains tied to the commercial arrangements at the point of contract execution. This is because, as discussed above, tolls are typically set for each motorway as a means of meeting the costs of constructing, operating and maintaining that road. By their nature, these arrangements do not account for the broader transport network impacts of setting toll road prices at this level.

From governments’ perspective, setting prices for one toll road over the life of a concession trades the upside of certainty off against future flexibility – for instance, governments often cannot fully take account of future changes in road and public transport networks that have not yet been planned, nor can they accurately forecast the full range of other variables that may impact transport network demand and supply over the coming decades, including changes in technology and population growth.

The result is inconsistent and ultimately inefficient road network pricing, which is deeply unfair for some transport users who face disproportionate transport costs. This approach may also provide perverse incentives for other users to opt for private vehicles when other transport options may better serve their needs and free up road space for those who need it. The result is more congestion, pollution and frustration for all.

The differential pricing regimes across the network also gives rise to issues of equity where motorists using different sections of the network pay vastly different sums for similar functionality. This perception of unfairness has been compounded by the M5 Cashback and Toll Relief schemes – and will continue to do so given the NSW Government’s election commitment to introduce a \$60 weekly toll cap from 2024 and the ‘Tradie and Truck Toll Relief’ for trucks along the M5 East and M8, both for a period of two years. Government rebate programs only add to the quagmire of network pricing, as a form of quasi-welfare unconnected to the individual needs and capacity to pay of users. These programs further complicate any analysis of who pays what for roads, and whether the costs borne by some transport users are equitably distributed.

Moving to a single toll pricing structure through network pricing could benefit all parties

The facility-based tolling model has been highly effective to deliver the current network. However, now that the network is substantially built out, we have an opportunity to pivot to a system that better serves the interests of future users and taxpayers and resolve these pricing issues. Rationalising road tolling while maintaining revenue neutrality across the transport network could yield substantial benefits for all transport users. Aside from

improving fairness by linking price to usage and spreading the total cost burden across all users, a holistic approach to pricing across individual concessions could provide governments with a powerful tool to integrate toll roads within broader network planning, and – with the inclusion of mechanisms such as off-peak discounts, could help to spread peaks in demand. Done well, the result would be reduced congestion across the entire road network, as supply and demand could more actively managed on tolled arterial routes, along with substantial economic and social benefits.

Ideally, this should be undertaken alongside broader road network pricing reform for maximum benefit. Infrastructure Partnerships Australia has long advocated for fair and efficient road pricing across networks, including time, distance, location and mass-based charging, and is encouraged by progress on road reform in numerous states and territories in line with the advice in our 2019 paper *Road user charging for electric vehicles*. However, there is no need for reform of toll road pricing to be delayed in light of broader road reforms – the two processes can be complementary in outcome but separate in process.

Naturally, an early step in any reform would need to be engagement with toll road concession holders and their investors, which include major Australian superannuation and institutional funds. These entities committed to long-term agreements with governments on the basis of long-term certainty over the toll road pricing regime. For this reason, toll road pricing arrangements cannot simply be unilaterally overhauled by governments.

However, informal discussions Infrastructure Partnerships Australia has had with various concession holders, over more than a decade, have consistently indicated a willingness to consider reform – including to investigate movement towards a single integrated pricing structure for the Sydney network.

Should reform progress, the interests of toll road users should be prioritised while the legitimate commercial interests of the existing toll road owners and operators are protected. Any rationalisation of toll road pricing should safeguard toll road users against unreasonable increases in road charges on an individual basis and ensure tolls reflect a best-for-network pricing structure. While not absolute, a general rule of thumb that total revenue across the current network is no higher as a result of reform (but is rebalanced) would be a sensible principle to adopt. Any reforms should be clearly communicated to communities, with an opportunity for detailed community engagement on potential changes, and negotiations transparently disclosed beyond any immediate commercial sensitivities.

The success of a single toll pricing structure requires simplicity in design

On a final note, Infrastructure Partnerships Australia submits that there should be a strong preference towards simplicity in the way rationalising road tolling is achieved. Caution should be taken towards mechanisms that introduce unnecessary complexity.

Infrastructure Partnerships Australia understands that during the consultation process, proposals – such as declining distance-based charges, caps on charges and means-tested subsidies – have emerged. While on face value, these mechanisms may appear attractive to achieve outcomes sought in the Review, on closer examination, they may lock-in additional complexity, and lead to significant inefficiencies.

In the current economic climate, broader cost-of-living issues are more appropriately considered through broader tax and transfer systems, not narrowly within the tolled road network, and should be approached at a whole-of-government level.

Further information

Infrastructure Partnerships Australia would be happy to provide further assistance to the Review. If you require additional detail or information, please do not hesitate to contact Mollie Matich, Director, Policy and Research, on (02) 9152 6000 or mollie.matich@infrastructure.org.au.

Yours Sincerely,



ADRIAN DWYER
Chief Executive Officer

Attachment A

28 May 2021

Ms Abigail Boyd MLC
Chair
Portfolio Committee No. 6 – Transport and Customer Service
NSW Legislative Council
Parliament House, Macquarie Street
SYDNEY NSW 2000

Dear Ms Boyd

RE: INQUIRY INTO ROAD TOLLING REGIMES

Infrastructure Partnerships Australia is pleased to provide this submission to the NSW Legislative Council Portfolio Committee No. 6 – Transport and Customer Service.

Infrastructure Partnerships Australia is an independent think tank and an executive member network, providing research focused on excellence in social and economic infrastructure. We exist to shape public debate and drive reform for the national interest. As the national voice for infrastructure in Australia, our membership reflects a diverse range of public and private sector entities, including infrastructure owners, operators, financiers, advisers, technology providers and policy makers.

This submission responds to the Terms of Reference of the Inquiry, and puts forward a proposal for reforming toll road pricing that would deliver broad-ranging benefits to toll-road users and non-users alike. Infrastructure Partnerships Australia has been a strong and consistent advocate for reforming how roads are priced and funded, including calls for the introduction of road user charging across the entire network, as well as rationalisation of toll road pricing. While our support for these important reforms has not wavered, the case for road reform and the benefits that could flow from strong public policy leadership in this area have only grown.

Our support for this important reform dates back to our 2009 discussion paper titled *Urban Transport Challenge: Driving Reform on Sydney's roads*, while our 2014 paper *Road Pricing and Transport Infrastructure Funding* and 2019 paper *Road User Charging for Electric Vehicles* have advanced debate on road reform more broadly. These reports can be found on our website at infrastructure.org.au/major-reports/.

Infrastructure Partnerships Australia has also made numerous contributions on these issues to parliamentary Inquiries over many years, with our 2013 submission to the NSW Legislative Assembly Committee on Transport and Infrastructure's 'Inquiry into Road Access Pricing' is of direct relevance to this Inquiry. It is included at *Attachment A* for your reference.

Background: The role of road tolling in Australia

Tolling has been an important source of road funding in Australia's major cities over recent decades. From the 1980s until the later 2000s, effectively all road tolling concessions were granted through competed PPP-type arrangements. This facility based tolling approach created the forward cash flow to attract competitive design, construction and operation of road infrastructure – underpinned by a competition for debt and equity that positioned Australia as a global leader in innovative (private) financing of public infrastructure.

The question of whether or not a road is built should be made on the basis of the net benefits of the project relative to its costs, irrespective of how it is funded and financed. But if a road is deemed to offer net benefits, the question then becomes who should pay for the road's upfront and ongoing costs. A road, by its nature, delivers substantially higher benefits to its users. Non-users may still benefit, such as through reduced freight costs, but these benefits will be far more diffuse. Toll roads are also naturally opt-in. Road users who could take a toll road but opt not to can use other roads which are free at the point of use.

On this basis, tolling enables beneficiaries (direct users and consumers of services which use the road) to contribute their fair share to the costs of the road, and reduces the funding burden on non-users and the broader tax base. Road tolling may not always be popular, but it is far fairer and more effective than the alternative.

Without tolling, many of the nation's most significant and economically valuable road corridors simply could not have been built or their delivery would have been severely delayed. Given the scale of public infrastructure spending in Australian cities, particularly on major public transport projects, this pipeline of works would also not have been possible had the funding burden for toll road projects also fallen to taxpayers.

Project-by-project decisions on road tolling have resulted in a patchwork of network pricing

Despite the benefits toll roads have brought, their rollout has been ad hoc. Planning and delivery has been undertaken on a project-by-project basis with the pricing structure reflecting the cost of financing, designing, constructing and operating individual portions of the network. However, when considered across the network, can be viewed as complex and, to a degree, inadequate in the recovery of the true costs of the use of the motorway network.

Over recent years additions to the network have increasingly sought to provide critical links in motorways, moving towards more efficient networks of radial and orbital high-value transport corridors.

Despite improvements in transport network performance as these motorways are connected, the approach to their pricing remains tied to the commercial arrangements at the point of contract execution. This is because, as discussed above, tolls are typically set for each motorway as a means of meeting the costs of constructing, operating and maintaining that road. By their nature, these arrangements do not account for the broader transport network impacts of setting toll road prices at this level.

From governments' perspective, setting prices for one toll road over the life of a concession trades the upside of certainty off against future flexibility – for instance, governments often cannot fully take account of future changes in road and public transport networks that have not yet been planned, nor can they

accurately forecast the full range of other variables that may impact transport network demand and supply over the coming decades, including changes in technology and population growth.

The result is inconsistent and ultimately inefficient road network pricing, which is deeply unfair for some transport users who face disproportionate transport costs. This approach may also provide perverse incentives for other users to opt for private vehicles when other transport options may better serve their needs and free up road space for those who need it. The result is more congestion, pollution and frustration for all.

The differential pricing regimes across the network also gives rise to issues of equity where motorists using different sections of the network pay vastly different sums for similar functionality. This perception of unfairness has been compounded by the M5 Cashback and Toll Relief schemes. Government rebate programs only add to the quagmire of network pricing, as a form of quasi-welfare unconnected to the individual needs and capacity to pay of users. These programs further complicate any analysis of who pays what for roads, and whether the costs borne by some transport users are equitably distributed.

Moving to a single toll pricing structure could benefit all parties

As toll roads approach a more complete network across cities, there is an opportunity to resolve these pricing issues. Rationalising road tolling while maintaining revenue neutrality across the transport network could yield substantial benefits for all transport users. Aside from improving fairness by linking price to usage and spreading the total cost burden across all users, a holistic approach to pricing across individual concessions could provide governments with a powerful tool to integrate toll roads within broader network planning, and – with the inclusion of time-of-day pricing, could help to spread peaks in demand. Done well, the result would be reduced congestion across the entire road network, as supply and demand could more actively be managed on tolled arterial routes, along with substantial economic and social benefits.

Ideally, this should be undertaken alongside broader road network pricing reform for maximum benefit. Infrastructure Partnerships Australia has long advocated for fair and efficient road pricing across networks, including time, distance, location and mass-based charging, and is encouraged by progress on road reform in numerous states and territories in line with the advice in our 2019 paper *Road user charging for electric vehicles*. However, there is no need for reform of toll road pricing to be delayed in light of broader road reforms – the two processes can be complementary in outcome but separate in process.

Naturally, an early step in any reform would need to be engagement with toll road operators and their investors, which include major Australian superannuation and institutional funds. These entities committed to long-term agreements with governments on the basis of long-term certainty over the toll road pricing regime. For this reason, toll road pricing arrangements cannot simply be unilaterally overhauled by governments.

However, informal discussions Infrastructure Partnerships Australia has had with various concession holders, over more than a decade, have consistently indicated a willingness to consider reform – including to investigate movement towards a single integrated pricing structure for the Sydney network should the NSW Government consider reform in this area.

Should reform progress, the interests of toll road users should be prioritised while the legitimate commercial interests of the existing toll road owners and operators are protected. Any rationalisation of toll road pricing should safeguard toll road users against unreasonable increases in road charges on an individual basis and ensure tolls reflect a best-for-network pricing structure. While not absolute, a general rule of thumb that total revenue across the current network is no higher as a result of reform (but is rebalanced) would be a sensible principle to adopt. Any reforms should be clearly communicated to communities, with an opportunity for detailed community engagement on potential changes, and negotiations transparently disclosed beyond any immediate commercial sensitivities.

Improving access to data can help to inform decisions by governments and transport users

For governments, and the work of this Committee, access to this data is important to inform better decisions and to help develop a strategic direction for pricing of toll roads and broader transport services across Sydney. For transport users, this data could inform better decisions on how and when to travel, and to better understand the relationship between transport costs and where they live.

Greater transparency of transport data can help to inform research and debate on toll roads and options for reforming transport pricing. In line with its *Open Data Policy*, the NSW Government should publish aggregated data it holds on transport demand and costs, data on the impact of transport on cost of living for families across Sydney, except where there is gives rise to genuine commercial-in-confidence issues. This data could provide a powerful tool for exploring the impact of transport pricing on affordability and cost of living in each part of Sydney, and how pricing influences transport demand between modes and regions.

The Committee should consider future options for transport reform

While not strictly within the scope of this Inquiry, the Committee should be mindful of other transport issues that could impact future reform of how roads are priced and managed.

The first of these is the growth in shared fleets. The current model of private car ownership, with at least one car in every driveway, may be unrecognisable in a generation's time. Many Australians have already opted for car-sharing programs or ridesharing for some or all of their trips. This trend is likely to become more widespread as parking becomes harder to find, and more people seek to avoid the costs and hassles of car ownership. Approximately half of all vehicle sales in Australia already are to fleet buyers – though many of these are still leased by individuals.

By using shared vehicles, users pay no direct fee for road use – with fees flowing to third-party operators. Shared vehicles are typically used more often than private vehicles, so reduced individual car ownership will also undermine the second-largest source of road-related revenues, vehicle registration, which is levied by state and territory governments. The impact of changes in toll road or broader transport network pricing could be diffuse for motorists in shared vehicles, blunting the impact of pricing as a tool for managing road demand.

Another trend likely to impact this area of policy is the rollout of autonomous vehicles. Estimates for the mass market arrival of autonomous vehicles vary widely, but fully self-driving cars which require no driver or steering wheel are likely to arrive at some point over the coming decades.

Fleets of electric, autonomous vehicles owned by a few major companies without a price signal for road use would leave taxpayers with the full burden of paying for roads. Both ride-sharing and autonomous vehicles are also susceptible to 'empty running', where vehicles carrying no passengers take up vital road space.

Without a road user charge in place, this phenomenon will only exacerbate congestion, and the increasing demand for road space will mean operators will be able to charge a premium to travel. This would benefit those who can afford to pay more, and penalise those with fewer transport options, while leaving governments with little control over transport service delivery on publicly-funded roads.

Further information

We would be happy to provide further evidence in support of our submission. Should you require further information, please contact Director of Policy and Research, Jon Frazer on 0422 688 430 or jon.frazer@infrastructure.org.au.

Yours Sincerely

A handwritten signature in black ink that reads "Adrian Dwyer". The signature is written in a cursive, slightly slanted style.

ADRIAN DWYER
Chief Executive Officer

Attachment: Infrastructure Partnerships Australia's submission to the NSW Legislative Assembly Committee on Transport and Infrastructure's 2013 'Inquiry into Road Access Pricing'



NSW Inquiry into Road Access Pricing



**INFRASTRUCTURE
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BUILDING AUSTRALIA TOGETHER

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1. EXECUTIVE SUMMARY

It is inevitable that New South Wales will need to implement a more uniform approach to pricing road use to fund infrastructure investment, manage demand and deliver world class public transport options. The congestion faced by commuters on Sydney roads and the backlog of projects and maintenance on ageing assets across the State, are ample evidence that the existing system is not fit for purpose, standing as a barrier to achieving an efficient infrastructure network.

The *Legislative Assembly Committee on Transport and Infrastructure's 'Inquiry into Road Access Pricing'* is therefore a timely and important opportunity for New South Wales to evaluate the available options and recommend a reform pathway for road pricing.

The principle recommendation of this submission is a timetable for the staged introduction of Network Tolling on the Sydney Motorway Network. A Network Tolling approach, which would include a more uniform tolling framework on currently tolled and some un-tolled portions of the network, and provisions for the eventual introduction of time of day price variability, will be crucial to the efficient delivery and effective operation of Sydney's transport system. A staged approach should include considerations of equity for users, the immediate-term move to cashless tolling across the network, the ultimate removal of Cashback on the M5 and the delivery of the missing links in the network – notably the F3-M2, the WestConnex (comprising the M5 East Duplication and the M4 East), the F6 extension, inner-city bypass and the Castlereagh Freeway.

The submission also points to the need for broad-based reform of transport taxation in Australia, beginning with a renewed commitment to the Heavy Vehicle Charging and Investment (HVCI) work currently being pursued through the COAG process. New South Wales has a leading role to play in that process and should continue to support the reforms. As a lead jurisdiction in the HVCI process, New South Wales would be well placed to deliver related reforms within the State and be the host jurisdiction for any trials and concept tests – including the continued pursuit of the proposed High Productivity Vehicle access pilot scheme on the Hume Highway under a direct charging arrangement. In this context, HVCI should be considered an important step toward establishing a whole of market and network rational pricing system.

Finally, the submission reflects an acknowledgement that hypothecation – that is, earmarking or isolating a particular revenue stream for a particular expenditure area – has been an important feature for public acceptability in effective road pricing reforms in overseas jurisdictions. For instance the London Congestion Charge regime, which continues to enjoy public support, includes provisions to use revenue above administration costs for

investment in the city's public transport system. Accordingly, hypothecation is likely to be an important feature of reforms in New South Wales and should be recognised in recommendations put forward by the Committee to Government.

A more rational approach to pricing road access within New South Wales is undoubtedly required.

The avoidable social cost of congestion in Sydney is tipped to reach \$5.6 billion this year alone.¹ The effects of congestion are more than a mere inconvenience experienced by commuters, they are also a substantial economic burden, resulting in lost productivity and reduced economic opportunity. These effects occur in the absence of an effective rational pricing structure to manage the balance of transport provision against the price of transport use.

The current approach to charging for road use in New South Wales sees the application of a blend of pricing mechanisms; the broadest of which is the combination of consumption based Fuel Excise levied by the Commonwealth and fixed fees and charges levied by the NSW Government, such as vehicle registration fees, stamp duties and parking levies.

Sydney's Motorway Network has an additional set of charges applied on sections of the network under a facility based tolling model – where tolls reflect the costs of, financing, constructing, designing, maintaining and operating the assets. Whilst these corridor specific arrangements have been valuable mechanisms to fund the Sydney Motorway Network, and to more directly link the cost of use with the cost of provision through a user pays framework, they have also delivered a complex system with unintended price signals for some users. These broader access and usage charges are supplemented by even less visible charges, such as the annual off-street commercial and office parking space levy charged in the Sydney CBD and other business districts.

Together, these charges form a complex and inequitable pricing framework for access and usage of the State's road network. The complexity of the system becomes even more acute when analysis is extended to the supply side of the infrastructure equation.

For Sydney's tolled road assets, customers can see a transparent framework for how the charges they pay are returned to the road network – with toll charges ultimately paying for a road asset that would otherwise not be available. However, for the wider charging

¹ Bureau of Infrastructure, Transport & Regional Economics, *Estimating urban traffic and congestion trends for Australian cities*, Working Paper No 71, p. 109.

framework, the connection between what users pay and the provision of infrastructure is obscure and convoluted.

In 2011-12 the Australian Government collected circa \$14.2 billion from excise duties on petrol and diesel fuels.² In the same year the NSW Government collected around \$2.5 billion from road users through annual motor vehicle registration fees, stamp duties and parking levies.³ How and how much of these charges are returned to benefit users through the provision of transport infrastructure is, from a motorists and taxpayer's perspective, hidden.

The lack of a direct link between what road users consume and what they are charged means there is no effective price signal for users to understand their own impact on the road network; or wider market signals for road providers to utilise in delivering the network to meet demand. The 2010 Henry Tax Review described the current 'fuel tax and rego model' as a "crude two part tariff for road usage" which is principally focused on generating revenue but unable to provide effective, variable price signals to motorists.⁴

The results of the existing pricing structure are clear. On the road network in urban areas demand outstrips supply during significant portions of the peak periods and remains underutilised at other times of the day; while across the whole network New South Wales' councils have identified a funding gap in excess of \$600 million per annum for the maintenance of locally managed roads.⁵

The revenue and investment issue is compounded by the decline in excise revenue as a component of Commonwealth Government receipts. The cessation of indexation of fuel excise in the early 2000s and the increasing fuel efficiency of the vehicle fleet has resulted in a relative decline in the significance of fuel excise as a revenue source – for example revenue raised from petrol excise has more than halved since 2001-02 as a proportion of GDP, while

² Australian Government 2012, *2012-13 Federal Budget, Statement 5: Revenue*, p. 5-24. Available at: http://www.budget.gov.au/2012-13/content/bp1/download/bp1_bst5.pdf

³ NSW Government 2012, *2012-13 Budget Chapter 5: General Government Revenue*, p. 5-10. Available at:

http://www.budget.nsw.gov.au/__data/assets/pdf_file/0008/18296/bp2_Ch5.pdf and Office of State Revenue <http://www.osr.nsw.gov.au/taxes/parking/>

⁴ Australia's Future Tax System 2010, *Final Report: Part 2 – Detailed Analysis – Volume 2*, p. 375. Available at:

http://www.taxreview.treasury.gov.au/content/downloads/final_report_part_2/AFTS_Final_Report_Part_2_Vol_2_Consolidated.pdf

⁵ NSW Government 2012, *NSW Long Term Transport Master Plan*, p. 318. Available at: <http://haveyoursay.nsw.gov.au/article/nsw-long-term-transport-master-plan-released-today>

the fuel consumption for new vehicles has reduced 8.4 per cent over the same period.⁶ The result is a quasi-consumption based tax (Fuel Excise) which is delivering diminishing relative returns, in an era of increasing demand for transport infrastructure.

In New South Wales, the backlog of required transport infrastructure investment is substantial. The *NSW Long Term Transport Master Plan* identified project priorities which would require approximately \$100 billion of funding over the next 20 years; while the *Infrastructure NSW State Infrastructure Strategy (SIS)* identifies \$30 billion of ‘new’ projects and programmes including the WestConnex motorway proposal, the F3-M2 link and extension of the rapid transit passenger rail services from the North West Rail Link through the CBD to the Inner West.⁷

The competition to attract investment from the Commonwealth into New South Wales transport infrastructure is further clouded by a substantial national infrastructure shortfall of around \$770 billion and broader Commonwealth fiscal strategies.⁸ The substantial national backlog means a wider range of projects across all jurisdictions competing for a reduced level of available Commonwealth investment.

Broad based reform of road charging and investment within New South Wales is not an immediate proposition. Like all successful microeconomic reforms, it will require careful and considered public debate and a staged approach to implementation. However, the case for change to a more rational pricing and investment structure for roads in New South Wales and Australia is clear. The *Legislative Assembly Committee on Transport and Infrastructure’s ‘Inquiry into Road Access Pricing’* therefore represents an important phase in the debate and an important opportunity to develop the public case for reform.

1.1 Recommendations

Many of the reforms required for the State’s transport network are long-term and national, requiring sustained reform across multiple jurisdictions. In addition to seeking a lead role in the national long-term reform agenda, New South Wales is well placed to introduce a more efficient pricing framework on key roads and corridors within the State in advance of a national reform approach to rational road pricing for all vehicle classes.

⁶ IPA Analysis of Commonwealth Budget Papers – 2001-02 to 2010-11 and BITRE, Information Sheet 30, *Fuel consumption by new passenger vehicles in Australia 1979–2008*. Available at: http://www.bitre.gov.au/publications/2009/files/is_030.pdf

⁷ Infrastructure NSW 2012, *State Infrastructure Strategy*, page 188-196.

⁸ Infrastructure Partnerships Australia 2010, *The Role of Superannuation in Building Australia’s Future*, page 9.

IPA recommends that the Committee adopt a staged approach on this issue, focused on implementing on the ground reform within New South Wales and advocating broader long-term reform at the national level.

- **The Legislative Assembly Committee on Transport and Infrastructure should recommend the staged implementation of Network Tolling on the Sydney Motorway Network.**
 - Implementation should be completed in line with the indicative 2020 timeframe outlined within this submission;
 - In line with this timeframe, the NSW Government should task Transport for NSW to prepare a detailed options paper for industry and community consultation regarding the role of Network Tolling on the Sydney Motorway Network; and
 - Additional revenue from Network Tolling should be hypothecated to funding the missing links and additions to the Sydney Motorway Network.

- **The Legislative Assembly Committee on Transport should recommend that the NSW Government take on a lead role in supporting the Heavy Vehicle Charging and Investment process.**
 - The NSW Government should continue to be a leading voice in the HVCI process, seeking to drive reform on a national level. New South Wales should seek to be the host jurisdiction for any future trials for heavy vehicle charging – including the continued pursuit of the proposed High Productivity Vehicle access pilot scheme on the Hume Highway under a direct charging arrangement; and
 - When the issue is brought to COAG the NSW Government should take on a lead role, championing the policy of heavy vehicle charging with the other states and territories.

1.2 About Infrastructure Partnerships Australia

IPA is the nation's peak infrastructure body. Our mission is to advocate the best solutions to Australia's infrastructure challenges, equipping the nation with the assets and services we need to secure enduring and strong economic growth and importantly, to meet national social objectives.

Our Membership is comprised of the most senior industry leaders across the spectrum of the infrastructure sector, including financiers, constructors, operators and advisors. Importantly, a significant portion of our Membership is comprised of government agencies.

IPA is a meeting place for the public and private sectors to debate the policies and priority projects that will build Australia for the challenges ahead.

2. THE PROBLEM

The substantial challenges facing the New South Wales land transport network – excessive peak urban demand, unpriced externalities, declining revenue and an acute and growing backlog of unfunded infrastructure projects – are symptoms of a system where the cost of use is disconnected from the price that is charged.

In Sydney, 93 per cent of passenger journeys and the majority of non-bulk freight movements are transported by road⁹, including around 86 per cent of containers to and from Port Botany.¹⁰ Road infrastructure is therefore of huge value to the State's economy. A 2009 study by Ernst and Young estimated the economic value of the Sydney Motorway Network alone to be \$22.7 billion.¹¹

As it stands, the New South Wales road network is operating beyond its efficient capacity for increasing portions of the day, with negative impacts on the economy. Severe congestion in expanding peak periods, a growing backlog of capital and maintenance investments, a declining capacity to fund investment from road related income and a poor alignment of costs and benefits, all point to a systemic challenge requiring immediate and sustained reform.

The current model used to price road access in New South Wales, aside from the tolled Sydney Motorway Network, bears only a limited relation to the actual costs of providing and maintaining the infrastructure. The result is a sub-optimal pricing structure which fails to effectively manage demand, is unable to adequately price the externalities associated with motoring and has resulted in an increasing shortfall in the revenue needed to fund critical transport investments.

The following section details the problems surrounding the existing framework, pointing to a compelling argument for the *Legislative Assembly Committee on Transport and Infrastructure* to recommend reform options for the way roads are priced and investment in the transport network is funded in New South Wales. It begins with a brief overview of the existing charging framework for road use in New South Wales before detailing the limitations of the structure and the resulting weaknesses and challenges faced by the State.

⁹ Infrastructure NSW 2012, *State Infrastructure Strategy*, p. 77. Available at: http://www.infrastructure.nsw.gov.au/pdfs/SIS_Report_Complete_Print.pdf

¹⁰ NSW Government 2012, *Draft NSW Freight and Ports Strategy*, p. 68. Available at: <http://freightandportsstrategy.transport.nsw.gov.au/wp-content/uploads/2012/11/TfNSW%20Freights%20and%20Ports%20Strategy%20-%20web%20version%20-%20main%20doc.pdf>

¹¹ Ernst & Young 2008, *The economic contribution of Sydney's toll roads to NSW and Australia*, p. 5.

2.1 Overview of Current Road Pricing and Funding Framework

Passenger and freight road use in New South Wales is subject to a range of taxes and charges for access to, and use of, the road network.

The charges currently incurred by road users include:

- Fuel Excise – set nationally, paid per litre of fuel purchased (currently 38.14c per litre), paid at the point of sale – but not decoupled from the full cost of fuel;
- Registration – depending on the state, these can vary by type of vehicle, fuel type, vehicle weight or vehicle usage profile. Some states also offer discounts for certain concession classes;
- Stamp duty – depending on the state, varying by vehicle value, paid on initial purchase of the vehicle or transfer; and
- Other charges such as vehicle transfer administration fees (paid on change of ownership) and number plate fees (paid on first vehicle registration)¹².

In addition, road users within Sydney pay direct charges, in the form of facility based tolls, to the public and private sector for usage of specific corridors. The tolls form an important mechanism to meet the costs of financing, designing, constructing, operating and maintaining specific roads.

Heavy vehicles are subject to the same basic structure of charges as light vehicles through a combination of fixed access charges (registration) and consumption based charges (fuel excise) calculated under the PAYGO framework.¹³ Around \$2.7 billion was collected through the PAYGO mechanism in 2012-13.¹⁴ Under the PAYGO model around 40 per cent of charges are recovered through fixed registration charges – meaning the framework embeds proportionally high fixed access charges and consumption based charges which, like those for light vehicles, do not take account of where and when that consumption occurs.

In 2011-12 the Australian Government collected circa \$14.2 billion¹⁵ from excise duties on petrol and diesel fuels¹⁶ while in the same year the NSW Government collected \$2.4 billion

¹² Infrastructure Partnerships Australia 2013, *Road Pricing and Transport Infrastructure Funding: Reform Pathways for Australia* (unpublished).

¹³ National Transport Commission 2012, *How are heavy vehicle charges calculated?* Available at: <http://www.ntc.gov.au/viewpage.aspx?documentid=2311>.

¹⁴ National Transport Commission 2012, *Heavy Vehicles Charges 2012/13*. Available at: <http://www.ntc.gov.au/viewpage.aspx?documentid=2095>

¹⁵ Australian Government 2012, *2012-13 Federal Budget, Statement 5: Revenue*, p. 5-24. Available at: http://www.budget.gov.au/2012-13/content/bp1/download/bp1_bst5.pdf.

¹⁶ In 2010-11, fuel tax credit payments amounted to \$5.1 billion. The various schemes include the fuel tax credits scheme, product stewardship for oil program and the cleaner fuels grants scheme. Light vehicles, including vehicles used for business, are generally not entitled to fuel tax credits. (Australian Taxation Office, Annual Report 2010-11)

from road users through a combination of annual motor vehicle registration fees, stamp duties and parking levies.¹⁷

The path through which this revenue is reinvested back into the road network is complex and ambiguous, making it difficult for road users to understand how motoring taxes are invested back into the network and what flows to other government priorities. For example though the largest recipient of road-related revenue is the Commonwealth Government, responsibility for the provision and maintenance of 80 per cent of the total Australian road network rests with local governments.¹⁸

Despite the quantum of revenue raised through the ‘tax and rego’ model, the system does not provide effective price signals for either road users or road providers. The fuel excise portion of payments provides a relatively blunt consumption based signal with fuel use being a proxy for distance travelled, but takes no account of the relative fuel efficiency, weight and characteristics of neither the vehicle, nor the location or time of use. Thus, users have no effective pricing signal to understand their own impact on the broader network. The opaque nature of the charging mechanism, and the lack of a direct link between pricing and consumption, means that roads are effectively ‘free at the point of use’.

Equally, for road providers the system does not generate effective signals to properly align demand for the network, with supply of infrastructure – or a reliable funding base with which to deliver that supply.

Together, the lack of effective rational price signals contribute significantly to the market failures and limitations detailed below.

2.2 Limitations of Current Road Pricing and Funding Framework

The limitations of the system are exhibited in four areas: the prevalence of economically damaging urban congestion, a growing backlog of required capital and maintenance investments, a declining revenue base from key charging mechanisms and a poor alignment of the costs and benefits of using the road network. The following sections detail the cause and impact of each of these four areas.

2.2.1 Economically Damaging Urban Congestion

In addition to the direct costs paid by road users – such as the costs of operating a vehicle, road tolls and taxes and charges levied by governments – there are wider costs resulting from road use that are not factored into the current pricing framework. These costs, known

¹⁷ NSW Government 2012, *2012-13 Budget Chapter 5: General Government Revenue*, p. 5-10. Available at:

http://www.budget.nsw.gov.au/__data/assets/pdf_file/0008/18296/bp2_Ch5.pdf

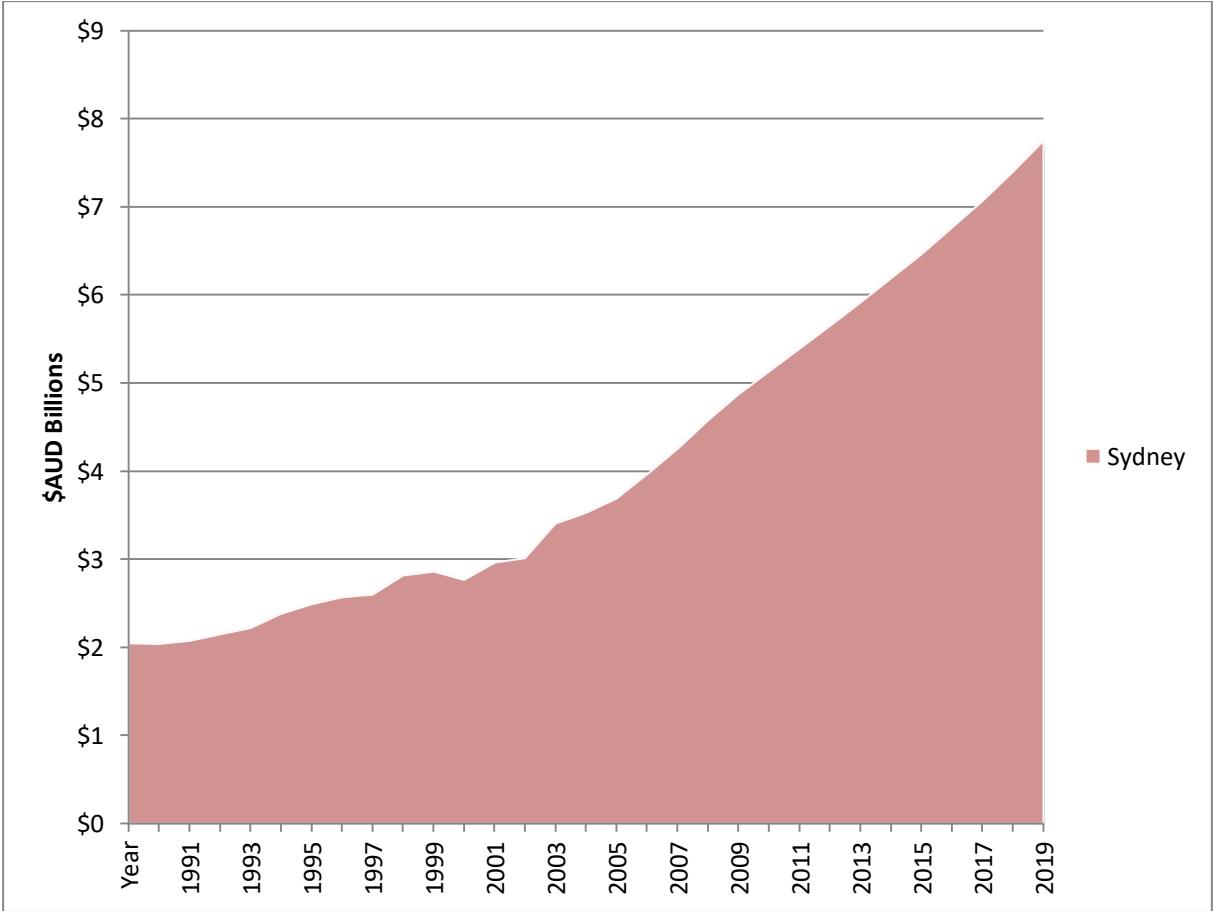
¹⁸ Parliament of Victoria 2010, *Road Safety Committee Inquiry into Federal-State Road Funding Arrangements*, p. xi. Available at:

<http://www.parliament.vic.gov.au/rsc/article/1125>

as externalities, include factors such as the cost of delay to other users caused by each individual user during peak usage periods, the damage caused to road infrastructure not paid for through charges and air and noise pollution where the impacts are experienced by the broader community not just the polluter. As these costs are not effectively internalised in existing charges they must be borne by other road users and the wider community.

The absence of effective price signals directly impacts the performance of the New South Wales road network, where at particular times the demand for road space exceeds the capacity of the network, the most tangible evidence of this being the substantial level of congestion experienced on Sydney’s roads. The Bureau of Infrastructure, Transport and Regional Economics (BITRE) estimated that the avoidable social cost of congestion for Sydney had grown from \$2 billion in 1992 to exceed \$5.6 billion in 2013, a burden borne across the economy by households and businesses. As can be seen in Figure 1, by 2020 the avoidable social cost of congestion is projected to grow to \$7.8 billion in Sydney and \$20 billion nationwide.¹⁹

Figure 1: Avoidable Social Costs of Congestion for Sydney 1990-2020



Source: Bureau of Transport and Regional Economics, Working Paper 71

¹⁹ Bureau of Infrastructure, Transport & Regional Economics 2007, *Estimating urban traffic and congestion cost trends for Australian cities*, p. 109.

Congestion represents a huge cost to business in terms of lost productivity; both through time lost to delay and in business trip variability where a lack of supply chain certainty leads to lost productivity and substantial deadweight costs imposed on businesses.

Figure 2 presents a breakdown of the cost of congestion for Sydney in 2005 and 2020. The breakdown indicates that business carries the largest cost of congestion, business time costs makes up 38.5 per cent of the avoidable cost of congestion. On a no change basis, congestion will cost Sydney businesses over \$3 billion in 2020.²⁰

Figure 2: Breakdown of the costs of congestion for Sydneysiders

TYPES OF COSTS	PER CENT OF TOTAL	COST IN 2005	COST IN 2020
Private time costs - losses from trip delay and travel time variability	36.5%	\$1.2775 billion	\$2.847 billion
Business time costs – trip delay plus variability	38.5%	\$1.3475 billion	\$3.003 billion
Vehicle operating costs – including fuel and maintenance	13%	\$455 million	\$1.014 billion
Air pollution damage – including CO ₂ emissions	12%	\$420 million	\$936 million
Sydney total	100%	\$3.5 billion	\$7.8 billion

Source: Infrastructure Partnerships Australia

In the context of the increasing population and growing burden of urban congestion, it is crucial that a more rational approach to pricing, which better aligns charging to usage, is adopted in New South Wales.

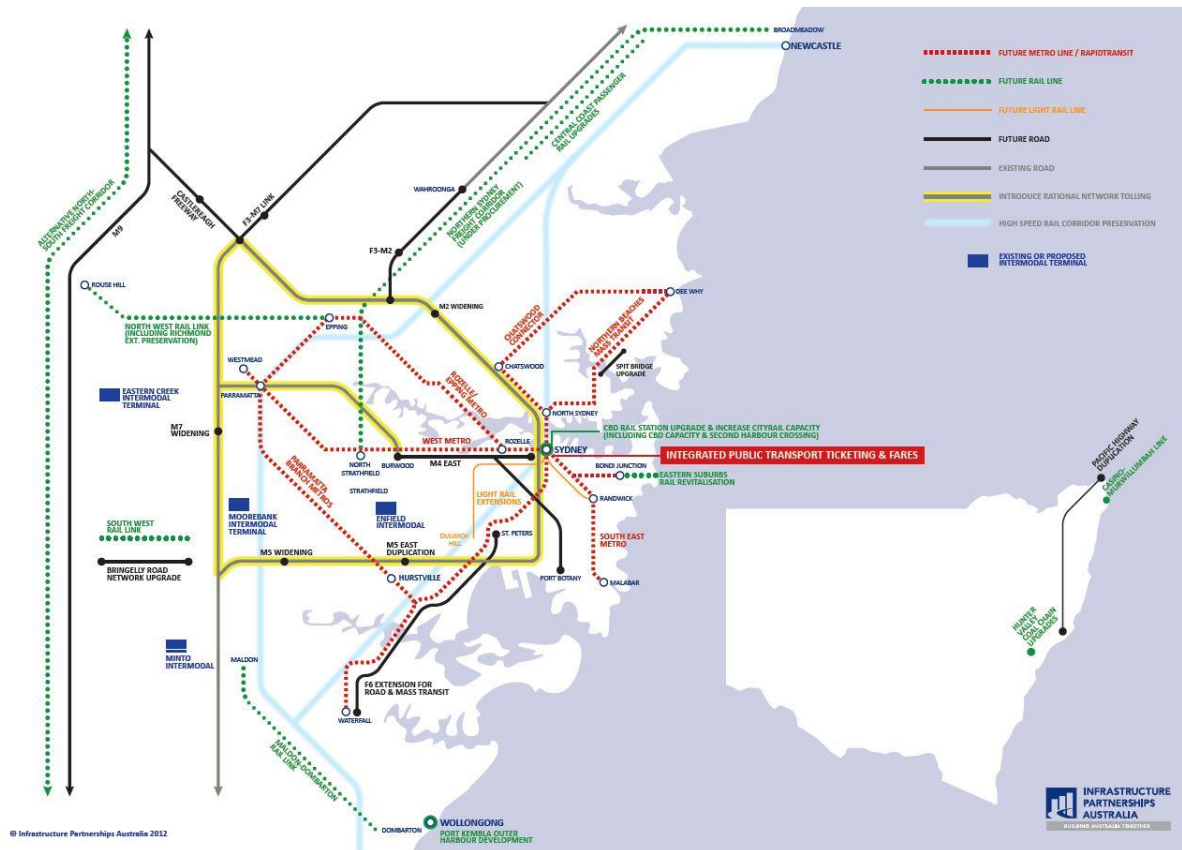
2.2.3 New South Wales’ Growing Project and Maintenance Backlog

The provision of transport infrastructure within New South Wales has also failed to keep pace with the demand for capacity.

In New South Wales in the growing list of undelivered transport infrastructure priorities and the large road maintenance backlog across the State is well known. Figure 4 was developed as part of IPA’s 2012 major report, *Fixing NSW: A Long-Term Vision for Better Infrastructure*, to demonstrate the sheer quantity and diversity of transport projects which require evaluation prioritisation and delivery across New South Wales.

²⁰ Infrastructure Partnerships Australia 2009, *Urban Transport Challenge: Driving Reform on Sydney’s Roads*, p. 20. Available at: <http://www.infrastructure.org.au/Content/DrivingreformonSydneyroads.aspx>

Figure 4: New South Wales Transport Prioritisation Map



Source: Infrastructure Partnerships Australia, *Fixing NSW: A Long-Term Vision for Better Infrastructure*, 2012

A similar backlog exists in terms of the maintenance of the State’s existing road infrastructure. New South Wales councils have identified a cumulative funding gap in excess of \$600 million per annum for the maintenance of locally managed roads.²¹

Unfortunately, the existing road charging framework is unable to deliver the sustainable stream of revenue required to fund the maintenance and augmentation of the State’s transport network over the long-term.

2.2.4 Limitations of the existing revenue base

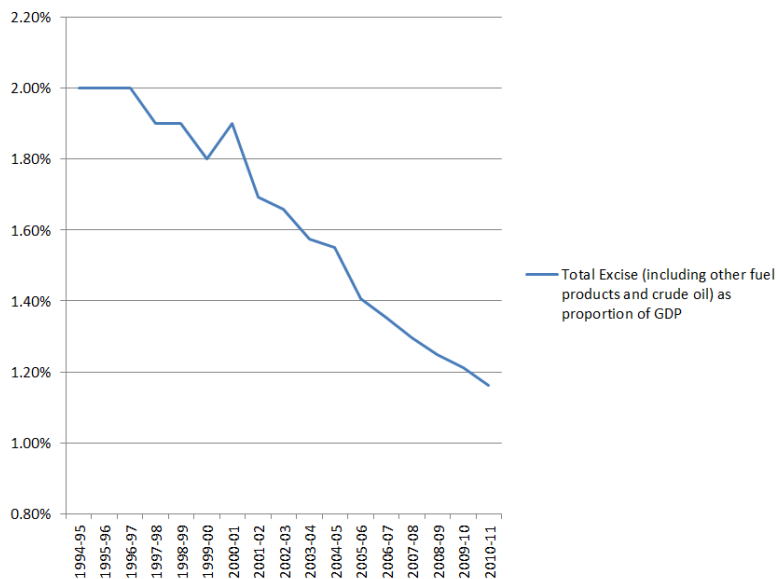
The shortage of available funding in a finite State budget is compounded by the declining returns delivered under the existing road pricing regime at the Commonwealth level. The increasing fuel efficiency of the national vehicle fleet, combined with the decision to cease

²¹ NSW Government 2012, *NSW Long Term Transport Master Plan*, p. 318. Available at: <http://haveyoursay.nsw.gov.au/article/nsw-long-term-transport-master-plan-released-today>

indexation of Fuel Excise in 2001 has resulted in a structural decline in the significance of revenue delivered under the Fuel Excise regime.

The level of revenue returned from Fuel Excise has declined dramatically as a proportion of GDP over the decade from 2001-02. Figure 3 charts the declining revenue returned by fuel excise as a proportion of GDP.

Figure 3: Total Excise (including fuel products and crude oil) as a proportion of GDP



Source: IPA Analysis, Budget Paper 1, Commonwealth Budget 2011-12

A trend of increasing fuel efficiency, including an average 8.4 per cent reduction of fuel consumption by new light vehicles between 2001 and 2008²² combined with a static excise rate is likely to place continued downward pressure on Fuel Excise as a revenue source.

Whilst this issue relates to the Commonwealth taxation revenue, a declining national revenue base from Fuel Excise is likely to have an impact on investment in New South Wales as the gap widens between what is collected from road users and what is required to fund the network.

²² Bureau of Infrastructure, Transport & Regional Economics 2009, *Fuel consumption by new passenger vehicles in Australia 1979–2008*, Information Sheet 30. Available at: http://www.bitre.gov.au/publications/2009/files/is_030.pdf

2.2.5 Inequitable distribution of costs and benefits

The inability of the existing road charging framework to effectively price road use has led to a series of inequities between different road users and poor alignment of costs and benefits.

The use of fixed registration charges mean the cost of using the New South Wales' road network diminishes with every additional kilometre that is travelled. Frequent road users are incentivised to drive more, as the marginal cost of road usage diminishes with every additional kilometre travelled.²³

Equally, though fuel excise varies with the level of vehicle usage, the tax is unable to distinguish between the time and location of use. The result is that a litre of fuel used to drive in a densely populated metropolitan area during peak periods is taxed at the same level as someone driving on a rural road at an off peak time. The consequence is that though road users in low traffic areas do not contribute to urban congestion, they make an indirect contribution to funding the capital investments required to cater for peak demand, while at the same time sharing the burden of the indirect economic costs of congestion to which they do not contribute.

Finally, inequity occurs as a result of the current structure of Sydney's motorway network. Tolls apply to nine sections of the Sydney Orbital Network and the East-West corridor, however approximately 50 per cent of the motorway network remains untolled and cashback applies for private vehicle use on the M5. The resulting complexity of the system has led to unintended and inequitable outcomes for some motorists.

For instance, motorists traveling the 74 kilometre return journey along the southern Orbital corridor from the region near the southwest growth centre to the CBD pay \$6.00 in tolls. This is due to the cashback scheme, the untolled M5 East and Southern Cross Drive and single direction toll on the Eastern Distributor. This equates to the equivalent of tolls being paid for 6 kilometres or 8 per cent of the journey. By contrast, motorists travelling the 70 kilometre return journey on the northern corridor from the region near the northwest growth centre to the CBD pay between \$27.62 and \$29.12 in tolls for their return journey, dependant on the time of their journey. This equates to the equivalent of tolls for 51.4 kilometres or 73 per cent of their return journey.

These differential pricing structures reflect to different degrees the cost of financing, designing, constructing and operating individual portions of the network but, when considered across the network, can be viewed as complex and to a degree inadequate in the recovery of the true costs of the use of the motorway network.

²³ Infrastructure Partnerships Australia 2010, *Urban Transport Challenge: A discussion paper on a role for road pricing in the Australian context*, p. 27. Available at: <http://www.infrastructure.org.au/Content/RoleforroadpricingintheAustraliancontext.aspx>

The differential pricing regimes across the network also gives rise to issues of equity where motorists using different sections of the network pay vastly different sums for similar functionality. This perception of unfairness has been compounded by the Cashback Scheme and the 2010 decision by the former NSW Government to remove all tolls on the M4 when the concession period ended.

Any reform of the existing tolled network would require negotiation with existing motorway concessionaires in order to ensure the protection of existing concession entitlements and to ensure the continued attractiveness of the New South Wales motorway network to private capital.

3. OPTIONS FOR REFORM

The challenges outlined in the preceding section provide a compelling case for reform of the way roads are priced, and investment directed, in New South Wales. A more rational approach to road pricing Australia-wide will ultimately be required. However, action on this issue will unquestionably be challenging, requiring reform and consensus at all levels of Australia's government and a mature and reasoned discussion with the public regarding the benefits delivered by a rational approach to pricing road use. New South Wales should not let a conservative pace of reform at the national level delay approaches within the State that could benefit users, providers and the economy.

The following section will detail the potential benefits delivered under a rational approach to road pricing and then outline a suite of important reforms, to be considered by the Committee, that will enable New South Wales, and Australia, to begin to transition towards a road access regime based on rational road pricing.

3.1 Rational road pricing

Rational road pricing is best understood as an umbrella concept, based on the user-pays principle, which describes any system that directly charges motorists for use of a road or network of roads.²⁴

Though the central principle of road pricing is agreed upon (a rational and direct approach to road charges) in practice the implementation of road pricing can take many different forms, depending on the objectives of the scheme's designers, the coverage of the network and the classes of vehicles included. For example, the focus of the scheme may be to raise revenue for investment in public transport or it may be to control congestion through increased demand management.

Similarly, different schemes may cover a small collection of high-use road corridors or the entire network. Finally, the scheme may only include vehicles over a certain weight or may cover all vehicles using the road network.

Depending on the objective and structure of an individual road pricing regime, the introduction of direct road pricing may deliver one or all of the following benefits:

- **Demand Management:** The application of a direct price for road use can enable transport planners to more effectively manage demand for limited road space by influencing drivers to travel at particular times, on particular routes or to reduce discretionary travel;
- **Price Externalities:** The use of variable road pricing, which accounts for when, where and for how the road is used, means that the wider costs of road use – road damage,

²⁴ Scott Wilson 2013, *What is Road Pricing?* Available at: <http://roadpricing.blogspot.com.au/>

congestion and environmental damage – can be factored into the price of consuming road infrastructure;

- **Increased Use of Alternative Transport Modes:** Correcting artificial pricing disparities between modes, such as private vehicles and public transport, can remove market distortions, in turn encouraging a shift to the more economically efficient mode; and
- **Secure Investment Revenue:** By more directly linking the costs of the network with the charges paid by the user, a rational road pricing framework, unlike the existing charging regime, would be positioned to generate a sustainable and transparent revenue stream, which has the capacity to match the ongoing cost of maintaining and extending the network with demand for increased capacity.

Under a rational road pricing framework those who are prepared to pay to use urban roads at peak times could expect to benefit from less congested roads and more consistent journey times; while those who have the flexibility to take other modes or travel at different times benefit from a reduced cost of travel. The result is a more efficient road network, which better marries the demand of road users with the capacity of the infrastructure.

Road pricing is not a new or untested policy concept, having been raised several times over the past two decades in Australia and implemented to differing extents in a number of overseas jurisdictions. However, a functioning rational road pricing system has not eventuated in Australia.

Recent domestic policy developments have generated interest and put the policy back on the agenda.

- In 2009 the Council of Australian Governments (COAG) initiated the COAG Road Reform Plan (renamed the Heavy Vehicle Charging and Investment (HVCI) Reform), to conduct a review of current heavy vehicle user charges and to investigate the feasibility of alternative charging models for heavy vehicles.²⁵ The review is ongoing;
- In May 2010 the Henry Tax Review recommended “*State taxes on motor vehicle use and ownership, including motor vehicle registration, transfer (stamp) duty and taxi licence fees, should be replaced with efficient user charges where possible*”²⁶; and
- Within New South Wales, the long-term planning documents released by *Infrastructure NSW*²⁷ and *Transport for NSW*²⁸ in 2012 identified variable road pricing

²⁵ Heavy Vehicle Charging and Investment Reform 2012, *Project Background*. Available at: <http://www.roadreform.gov.au/AboutUs/ProjectBackground.aspx>

²⁶ Australia’s Future Tax System 2010, *Final Report: Part 2 – Detailed Analysis – Volume 2*, p. 680. Available at: http://taxreview.treasury.gov.au/content/downloads/final_report_part_2/AFTS_Final_Report_Part_2_Chapter_G.pdf

as a policy option to be considered by the NSW Government – an option known as ‘Network Tolling’.

3.2 Network Tolling

Network Tolling in Sydney was the subject of IPA’s 2009 major report *Urban Transport Challenge: Driving reform on Sydney’s roads* which recommended “a new model which allows the Sydney Motorway Network to operate under a single tolling structure” to deliver a more rational transport pricing outcome.

The Sydney Motorway Network is the principle high capacity urban corridor within metropolitan Sydney. In 2009 it was estimated the corridor had an economic value of \$22.7 billion and contributed more than \$2 billion to the New South Wales economy each year.²⁹ The Motorway Network is comprised of two key road corridors (see Figure 5):

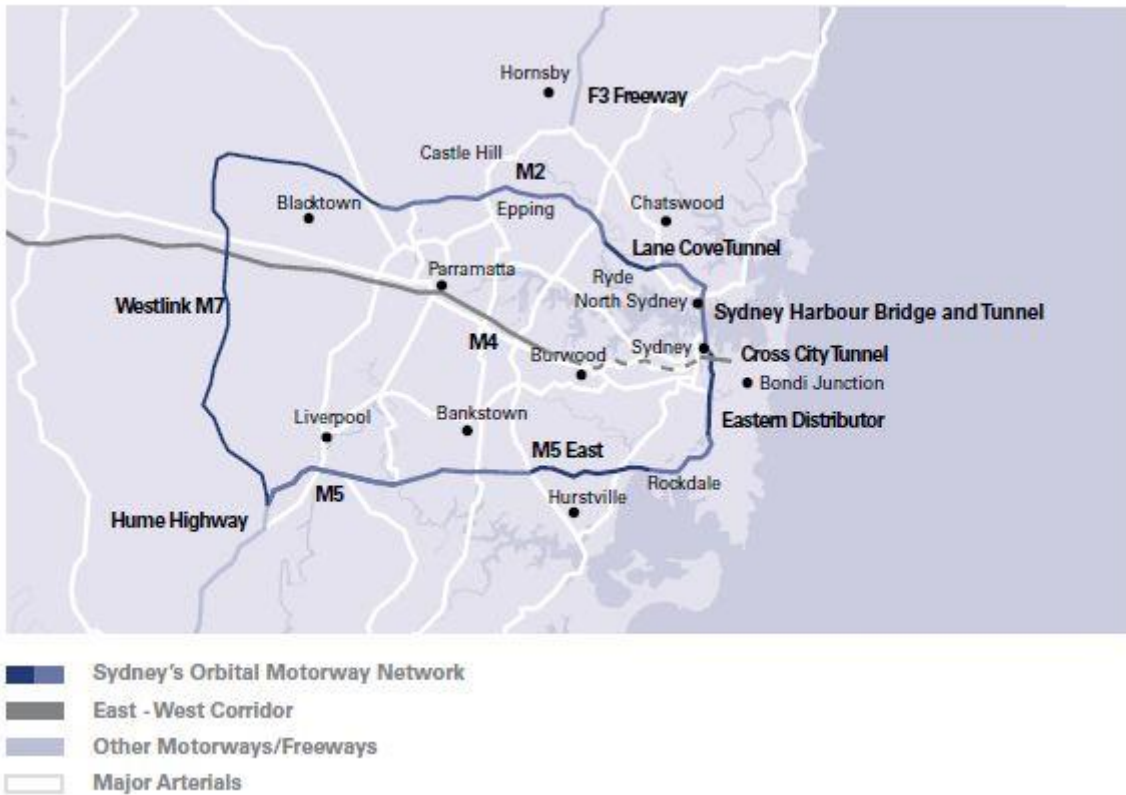
- **The Orbital Network:** A circular ring of motorways comprised of a series of linked bridges, tunnels, toll roads and freeways that circumnavigate the city’s densely populated inner-west; and
- **The East-West Corridor:** Bisecting the Orbital network, the East-West Corridor link Sydney’s Eastern Suburbs and CBD with the city’s far western suburbs. The corridor is comprised of publicly and privately owned roads, including the privately owned and tolled Cross City Tunnel.

²⁷ Infrastructure NSW 2012, *20 Year State Infrastructure Strategy*, p. 77. Available at: http://www.infrastructure.nsw.gov.au/pdfs/SIS_Report_Complete_Print.pdf

²⁸ Transport for NSW 2012, *NSW Long Term Transport Master Plan*, p. 138. Available at: <http://www.transport.nsw.gov.au/sites/default/files/b2b/publications/nsw-transport-masterplan-final.pdf>

²⁹ Ernst & Young 2008, *The economic contribution of Sydney’s toll roads to NSW and Australia*, p. 5.

Figure 5: Sydney Motorway Network



Source: Urban Transport Challenge: Driving Reform on Sydney's Roads

Tolls apply to nine sections of the Sydney Orbital Network and the East-West corridor. These tolls are applied to recover the costs of constructing, financing, operating and maintaining the motorway.

To date government policies have largely focused on supply side solutions to address congestion; specifically providing new road capacity through projects such as highway duplications and network additions. Supply side additions remain hugely important, but addressing only the supply side of Sydney's congestion challenge will not solve the problem. The existing and projected levels of congestion indicate that a new solution, which includes better equity, better demand management and a sustained and targeted investment programme to deliver transport links, is required.

The *Legislative Assembly Committee on Transport and Infrastructure* should recommend the implementation of a network-wide tolling regime for the Sydney Motorway Network which better reflects a balance between the benefits users derive and the costs they pay. A network wide tolling regime has the potential to address;

- Current disparities in equity and fairness of tolls across the network;
- Augmentation of supply side funding for the additions and upgrades required on the network; and

- Implementation of demand management strategies through structures such as time of day tolling.

Currently the tolls that apply to the privately owned sections of the Sydney Motorway Network are based on several separate commercial agreements between the Government and the private sector for the concession and operation of each particular asset. This process has led to the network being broken up into individual sections, with each tolled section representing a stand-alone project.

The tolls paid by users are reflective of the cost of providing the individual piece of infrastructure, and a commercial rate of return based on the risk profile of that asset. The result is a disparate tolling regime where users of the Lane Cove Tunnel in a light vehicle pay \$0.83/kilometre where the same vehicle would pay \$0/kilometre on the tolled portion of the M5. This inequity has been compounded by the Cashback Scheme and the regrettable 2010 decision to remove all tolls on the M4 corridor.

The existence of multiple concession contracts, each individually negotiated, makes it difficult for both toll road owners and government to vary tolls in order to encourage a particular type of driver behaviour, such as driving at off peak times. Nonetheless IPA's discussions with equity holders and operators indicate that there is an appetite for reform, so long as the legitimate commercial interests of the existing toll road owners and operators are protected.

It is clear that reform is needed to counter inequity between motorists, to promote new investment in the network's missing road links and to address the growing problem of congestion. Under a rationalised Network Tolling regime the various segments of the network would be progressively integrated into a more harmonised pricing framework that could be set at a rate to manage demand and reduce congestion for a best of network outcome.

The application of a network toll – including its extension to some currently untolled segments of the network – could also provide a valuable source of additional revenue for investment in new infrastructure, such as the current missing links of the Sydney Motorway Network.

The implementation of Network Tolling on the Sydney Motorway Network will be a complex and politically sensitive reform. It is for this reason that IPA believes a staged approach, focused on ensuring consensus between government and motorway investors and fostering understanding from the motoring public, must be adopted.

Figure 6 details an indicative four year timeline for the NSW Government to implement a network tolling regime on the Sydney Motorway Network.

Figure 6: Network Tolling Indicative Timeline

Action	Description	Indicative Timing
The <i>Legislative Assembly Committee on Transport and Infrastructure</i> recommends Network Tolling be implemented on the Sydney Motorway Network.	A staged implementation approach to Network Tolling will enable consensus on the framework to be created and foster public support.	Q3 -2013
All toll roads in Sydney are converted to a cashless tolling regime.	The continued existence of cash based tolling facilities will make paying a variable network toll difficult and confusing for road users. The introduction of fully electronic free flow tolling on the Sydney Motorway Network is therefore an important foundation step to enable to introduction of variable NetworkTolling. NSW Government to begin discussions with concessionaires, focusing on the opportunities and limitations for the delivery of tolling reform.	Q3 - 2013
NSW Government tasks Transport for NSW to prepare a detailed options paper for public release, which defines the potential objectives of a Network Tolling scheme on the Sydney Motorway Network.	The NSW Government must determine and communicate the aims of the reform based on a balance three objectives. <ul style="list-style-type: none"> - Funding infrastructure; - Efficient network operation; and - Equitable charging framework. 	Q4 - 2013
Community and industry consultation begins to determine principles and design of a rationalised tolling regime.	It is important that any changes to the existing regime are progressed following consensus being reached between the NSW Government and motorway concessionaires and an extensive public education	2014-2015

	campaign to explain the benefits of the reform to the public.	
The staged implementation of Network Tolling on the Sydney Motorway Network begins, with each delivery stage contingent on the delivery of complimentary transport priorities.	Due to the complexity of this reform it is logical to introduce Network Tolling to the Sydney Motorway Network in a series of stages, providing the NSW Government with the opportunity to identify and address implementation problems. Public support for the reform is more likely if changes to existing tolling regimes are delivered to meet provision of planned road and public transport infrastructure projects.	2016-2020
Full Network Tolling in operation on the Sydney Motorway Network.	With a more uniform tolling regime in operation across the network the NSW Government will be in a position to understand the potential benefits of time of day tolling to better manage demand.	2020

Source: IPA Analysis

A copy of IPA's paper *Urban Transport Challenge: Driving Reform on Sydney's Roads* is attached as annexure three.

3.3 Hypothecation

Hypothecation – the dedication of the revenue from a specific income stream for a specific expenditure purpose – represents an opportunity for governments to liberate additional funding to invest in improving the capacity and quality of road and land transport infrastructure, while providing users with a more visible link between what they pay and investment in the network.

The implementation of hypothecation is also regarded as an important enabling step in the transition towards rational road pricing. International experience of large-scale road user charging suggests hypothecation of revenues to fund investment in land transport has been a key determinant of public support for a rationalised consumption based system of charging. Both the London Congestion Charge and the German Heavy Vehicle Charging scheme used forms of hypothecation to land transport as mechanisms to provide additional network capacity.

The *Legislative Assembly Committee on Transport and Infrastructure* should recommend that the application of Network Tolling on the Sydney Motorway Network be matched with the corresponding decision to hypothecate any additional revenue from the scheme toward funding the delivery of supporting transport infrastructure and missing links in the network.

The hypothecation of revenue from a Network Tolling regime, by creating a direct and explicit link between the cost using the road network and the funding of transport infrastructure, would provide users and taxpayers with a clear incentive to support reform of tolling and infrastructure delivery. International experience suggests that once this link has been established, road users will be more inclined to accept changes to the charging framework, based on the knowledge that the charges they pay will be reinvested back into the transport network.

3.4 Heavy Vehicle Charging

Heavy vehicles generate substantially more damage to road pavement surfaces than other vehicles, meaning that corridors heavily utilised by heavy vehicle classes require increased investment for road maintenance or higher build standards than would otherwise be required. Rational road pricing of heavy vehicles seeks to price these additional costs by applying a rational road usage charge on heavy vehicles travelling on all or parts of the road network.

Internationally, several well-functioning heavy vehicle pricing frameworks are in place.

In Switzerland, the performance-related Heavy Vehicle Fee (HVF) system, in place since 2001, sees all vehicles over 3.5 tonnes charged a toll on all Swiss roads based on distance, weight and emissions.³⁰ Unlike other systems, which have focused on recovering the infrastructure costs created by heavy vehicles, the HVF scheme was introduced in response to intense public opposition to the increasing noise and disturbance resulting from truck traffic. The toll rate is therefore calculated to include the costs of health care, accidents, damage to buildings and noise as well as infrastructure costs.³¹

The Swiss scheme has largely been deemed a success. During its first year of operation volume of truck trips decreased, with heavy vehicle kilometres declining from growth trends of 5 per cent a year to a decrease of minus five per cent a year as industry transitioned to higher capacity vehicles, in response to the charge.³²

³⁰ Broaddus, A & Gertz, C 2008, 'Tolling Heavy Goods Vehicles: Overview of European Practice and Lessons from German Experience', *Transportation Research Record: Journal of the Transportation Research Board*, p. 108.

³¹ Broaddus, A & Gertz, C 2008, 'Tolling Heavy Goods Vehicles: Overview of European Practice and Lessons from German Experience', *Transportation Research Record: Journal of the Transportation Research Board*, p. 108.

³² *Ibid.*

Consensus around the need to implement a national whole-of-system heavy vehicle road pricing framework has grown substantially within Australia over the past decade. The HVCI programme (formally the Council of Australian Governments Road Reform Plan (CRRP)) was established in 2007 to conduct a review of heavy vehicle user charges and to investigate the feasibility of alternative charging models for heavy vehicles. The review process is ongoing, with the HVCI due to release a regulatory impact statement by the middle of this year before COAG makes a decision regarding whether to proceed with the design and implementation of a national heavy vehicle road pricing framework.

For this reason the *Legislative Assembly Committee on Transport and Infrastructure* should further recommend the NSW Government pursue a lead role in supporting the HVCI process. By championing reform of heavy vehicle road pricing at future COAG meetings and supporting the implementation of heavy vehicle road pricing, for example offering sections of the New South Wales road network as trial sites for any new regime.

4. CONCLUSION

Infrastructure Partnerships Australia thanks the Committee for the opportunity to comment on this important policy issue. Sydney's chronic congestion, a declining revenue base and the looming challenge posed by the increasing size of the State's population, all indicate that the time has come for New South Wales to implement a more effective approach to road access pricing.

There is no question that reform to road user charging within New South Wales will be complex and politically divisive. The implementation of comprehensive rational road pricing will entail negotiation and reform to all three tiers of Australia's governments and a robust and mature debate with the public and business.

In light of the complexity of these reforms, IPA recommends that the Committee adopt a staged approach to this issue, focused on implementing on the ground reform within New South Wales and advocating broader long term reform at the national level.

- **The Legislative Assembly Committee on Transport and Infrastructure should recommend the staged implementation of Network Tolling on the Sydney Motorway Network.**
 - Implementation should be completed in line with the indicative 2020 timeframe outlined within this submission;
 - In line with this timeframe, the NSW Government should task Transport for NSW to prepare a detailed options paper for industry and community consultation regarding the role of Network Tolling on the Sydney Motorway Network; and
 - Additional revenue from Network Tolling should be hypothecated to funding the missing links and additions to the Sydney Motorway Network.

- **The Legislative Assembly Committee on Transport should recommend that the NSW Government take on a lead role in supporting the Heavy Vehicle Charging and Investment process.**
 - The NSW Government should continue to be a leading voice in the HVCI process, seeking to drive reform on a national level. New South Wales should seek to be the host jurisdiction for any future trials for heavy vehicle charging – including the continued pursuit of the proposed High Productivity Vehicle access pilot scheme on the Hume Highway under a direct charging arrangement; and
 - When the issue is brought to COAG the NSW Government should take on a lead role, championing the policy of heavy vehicle charging with the other States and Territories.

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Executive Summary

Urban congestion is one of the greatest challenges facing Australia. The solution will require a new approach which includes better demand management and significant, sustained and targeted investment in new transport links.

Roads will always be the fundamental backbone of urban transport networks. Roads are critical to the movement of freight and passengers and underpin economic growth and social connectedness. And roads are not only for private vehicles. Roughly half of Sydney's urban public transport is conducted on roads.

Each day freight, passenger and public transport vehicles travel over 120 million kilometres within the greater Sydney area. Passenger kilometres travelled in Sydney will soar by a further 38 per cent by 2020 – the third highest growth across all capital cities, behind Brisbane (46 per cent) and Darwin (40 per cent).

Australia has recently embarked upon a welcome debate about the role of a national road pricing scheme in funding infrastructure and shaping demand for limited road space. While this debate is welcome, such significant reform is likely to be a long-term proposition - while Sydney faces spiralling congestion which requires immediate action.

The time has now come for debate about the use of tolls to help manage demand across the Sydney Motorway Network. Under a variable tolling model, the price is increased to shape demand during peaks and reduced to stimulate demand when traffic on the network is low.

The Sydney Motorway Network is already the most advanced road network in the country. It forms the arteries of the State's economy; and provides a vital link for inter and intra state journeys. Analysts recently estimated the corridor has an economic value of \$22.7 billion and contributes more than \$2 billion to the New South Wales economy each year.

Even as Sydney begins to grapple with its urban transport challenge, the cost of congestion continues to mount, already exceeding \$4 billion per annum. The lack of cohesion between road segments across the network contributes to perceptions of inequity, with motorists in some regions reimbursed road charges by taxpayers, while others pay relative high daily tolls, because they travel across several segments.

Under a customer service model, motorists would be charged a floating toll, pegged to the number of vehicles using the network. It would see a reduction of tolls during quiet periods of low demand, and increased charges at times of high demand.

The various segments of the network would be integrated into a single pricing system that would be set at a rate to ensure the most efficient use of the network at all times, maintaining traffic at optimal levels. This new, integrated pricing model would greatly improve the efficiency and effectiveness of this infrastructure for commuters and businesses alike.

The use of demand management will be critical in ensuring efficient use of Sydney's road space, which is a finite resource. Pricing is used effectively in other infrastructure classes, such as electricity and water. Of course, to ensure Sydney's transport network is effective over the longer term, demand management must be accompanied by renewed investment in critical, priority infrastructure.

The application of a network toll, including its extension to currently untolled sections of the Sydney Motorway Network, could provide a valuable source of additional revenue for investment in new infrastructure. This tolling model could provide public investment to seed the development of new road and public transport options, as the city grows and demand increases.

Despite the underlying need and inherent value of tolling reform, it is critical that any change is progressed by consensus and agreement between government and motorway investors. Any move to reform the Network would need to be predicated on the protection of the legitimate commercial interests of existing concessions - and take account of potential new costs and risks posed by bold reform.

This paper proposes a revenue-sharing approach, which ensures existing concession holders are no worse off than under current arrangements.

Over the longer term, Australia will consider the introduction of a broad-based national road pricing system. The introduction of a national road pricing scheme would present a platform for the efficient regulation of infrastructure use, as well as a source for government revenue.

Critical to the development of a national road pricing system would be thorough consideration of the interaction of such a scheme with established motorways across urban Australia - including those which comprise the Sydney Motorway Network.

The implementation of such a large and complex scheme, as outlined by Treasury Secretary Ken Henry, could take many years to consider and implement. The introduction of a network toll for the Sydney Motorway Network provides a complementary strategy to drive more efficient use of infrastructure in Sydney in the shorter term.

Recommendations

It is clear that Sydney can - through considered reform - drive better efficiency across its motorway network.

This paper considers the fundamental principles for the development of a new system of tolling that provides improved equity and efficiency across the Sydney Motorway Network. This model could also facilitate improved transport infrastructure to meet Sydney's urban transport challenge.

Sydney would benefit from a new model which allows the Sydney Motorway Network to operate as under a single tolling structure. A fully flexible network toll is desirable; however the complexity of implementation should not be underestimated.

The principle recommendation of this paper is that the New South Wales Government and motorway operators consider and agree to implement a variable, time of day tolling system for Sydney's various motorways.

In the medium term, to support a more efficient and equitable road network, this paper recommends:

- 1 The New South Wales Government commits to a customer service focused model of tolling on the Sydney Motorway Network.

Government, in partnership with industry, must agree to a framework of guiding principles to govern a network toll. Principle aims of the new network tolling regime should include:

- the alleviation of congestion across the Sydney Motorway Network.
- delivering travel time reliability and predictability to users of the Network.

- the hypothecation of surplus revenue for the development of public transport and road infrastructure to accommodate growth in demand.
- maintaining appropriate levels of return for motorway owners, reflective of the commercial terms of existing concession agreements and new risks that may emerge as a result of any new tolling arrangement (e.g. increased revenue leakage and costs of establishing the network).

- 2 Government, industry and the community must work together to examine the implementation of customer service focused network tolling for the Sydney Motorway Network, potentially based on the implementation of a fully dynamic toll.

As an initial step, the New South Wales Roads and Traffic Authority (RTA) should form a working group, incorporating motorway owners and operators, to investigate a practical process of implementation.

- 3 The New South Wales Government must prepare and commit to a detailed implementation strategy, incorporating key milestones and stages to ensure smooth transition to the new scheme.

A network toll must integrate with the long-term transport plan for the Sydney region, including staging and the direction of investment of additional network toll revenue to priority public transport and road projects.

- 4 Implementation of reforms to the tolling arrangements must be accompanied by a community awareness campaign, outlining the proposed changes to the New South Wales community. The New South Wales Government should undertake this campaign in partnership with motorway owners and operators, together with consumer groups.



1. Introduction

Sydney is Australia's key economic hub. The city accommodates around a quarter of Australia's population and delivers 25 per cent of Australia's gross domestic product. Sydney's economy is twice the size of New Zealand's and equal to Asia's major city states like Hong Kong and Singapore.

Successive governments have delivered ambitious transport plans, yet a range of key projects that should constitute the transport spine of Australia's most economically significant city remain unbuilt.

The failure to match population and economic growth to the development of transport infrastructure now leaves Sydney facing rapidly increasing congestion, impacting social and economic outcomes and the environment.

Since the completion of the Sydney Harbour Bridge in 1932, daily patronage has increased from 10,000 crossings per day to more than 160,000. To accommodate demand additional lanes have been added, the Harbour Tunnel commissioned and tolling technologies have advanced to allow free flow, time of day tolls. Despite these and other changes, demand for the limited road space on the Bridge has hit saturation; and travel times have become longer, more unpredictable and more stressful. In short, the very objective of the project – creating an effective link between the CBD and North Sydney – has become compromised.

This is not unique to the Harbour Bridge; several of Sydney's roads including the Eastern Distributor, M4 Western Motorway, the M5 East, M5 South Western Motorway and the Hills M2 regularly exceed capacity during peaks.

Restoring Sydney's mobility presents two seemingly simple, yet interlinked options: the construction of additional capacity and better use of existing road space.

There is relative consensus about the need for new road projects. Industry, motorist and community groups have long campaigned for progress on major road projects including:

- the M4 East;
- F3-Sydney Orbital Link,
- F6 Extension; and
- Spit Bridge alternative.

But Sydney cannot increase capacity infinitely. Bottlenecks like the CBD and harbour crossings where there is little opportunity for network expansion or expansion would be at a prohibitively high cost, present substantial physical barriers to the capacity enhancement approach.

The time has come for debate about the use of tolls to manage demand across the Sydney road network. Under a variable tolling model, the price is increased to shape demand during peaks and reduced to stimulate demand when there are less vehicles using the network. One model is to do this in discrete, predictable peak and off-peak tranches. Another is a dynamic model where the focus is directed at guaranteeing a quality of service.

The New South Wales Government recently applied a time of day based system on Sydney's harbour crossings. This modest experiment shows that tolls can provide an effective price signal to road users, leading to 'smoothing' of demand peaks by encouraging the increased use of excess capacity during quiet periods

This paper considers the application of a system of road pricing to the Sydney Motorway Network that gives greater regard to the value that individual users place on accessing a reliable road network. The system of pricing discussed in the paper provides an alternative to the existing approach, which uses tolls to recover the costs of the construction and maintenance of the network.

Adopting a network approach to tolling could allow cost-effective completion and expansion of the Network, and improve the effectiveness of Sydney's public road network. The network model would:

- set tolls with the objective of keeping demand at an optimal level
- provide certainty, reliability and predictability of travel time
- allow the collection of additional revenue to be used for the development of priority infrastructure.

Road tolls are regulated through complex and rigid contracts and the re-negotiation of these contracts would be necessary to allow Sydney's motorways to operate as a network.

This paper proposes a revenue sharing approach which protects the commercial interests of concession holders, while using network tolling to optimise utilisation and generate additional revenues that would be invested in developing new public transport and completion of the network.

2. Sydney's Road Network

2.1 Sydney's Changing Road Network

2.1.1 The Early Road Network

Sydney's earliest road network developed organically following ridgelines or the path of least resistance. The arrival of Governor Lachlan Macquarie in 1810 led to the first focus on developing a planned transport network. One of Macquarie's earliest reforms was the assignment of street names, widening and realignment of major thoroughfares and the removal of surplus streets.

Tolls also have a long history in New South Wales.

The first toll bridge was constructed in 1802 over South Creek in Windsor by a private citizen, Andrew Thompson, who financed its construction and maintenance in return for the right to collect a toll for the use of the bridge over a 14-year period. This arrangement in effect marked the first private sector contribution to Sydney's road estate.

In 1810, James Harper was contracted to build a tolled road from Sydney's George Street to connect to the bridge at Windsor. This road featured toll gates at Windsor, Rouse Hill and Parramatta and in effect, created a network of toll roads.

By 1877, both the colony and various municipalities levied tolls to assist in the maintenance of the road network. Various tollbars were constructed and operated on public roads across Sydney in places including:

- Oxford St, Bondi Junction
- Bronte Rd, Waverley
- Anzac Parade, Randwick
- Hyde Park, Sydney
- Bunnerong Road, Kingsford
- Anzac Parade, Moore Park
- A'Beckett Creek, Parramatta
- Rushcutters Bay
- Barrack Hill; and
- Rouse Hill

The colony's tolling system ended in 1877, driven in large part by the arrival of the steam tram. The introduction and expansion of the tram network resulted in such a dramatic reduction in traffic volumes that the collection of tolls became costly and inefficient.

2.1.2 The Modern Road Network

Sydney's modern road network was laid out in the 1951 County of Cumberland Plan. This Plan integrated previous planning documents and instruments to deliver a master plan for greater Sydney. The plan mapped out an evolved system of radial motorways and inner city distributors, allowing road users to either bypass or access the CBD as required.

Over the proceeding half-century, the Cumberland Plan was adapted, appended and amended on at least six occasions, forming the basis of 'new' transport plans for Sydney. The most recent example is the 2006 Urban Transport Statement. In spite of these amendments, the majority of the plan's fundamental links have now been delivered and form the basis of the Sydney Motorway Network.

The plan's strategic reservation of transport corridors for future development has been of significant importance to the successful completion of the Cumberland Plan over the longer term.

▼ **Figure 1**

The Road Network of the County of Cumberland Plan

Source: The County of Cumberland Council (1956)



By the early 1980s, the need for new connections to service growth in Sydney's south, west and north-west became apparent. The 1987 Roads 2000 plan mapped the development of an orbital road corridor for Sydney. A fundamental aspect of the plan was the creation of a circular ring of motorways, the Orbital Network, bisected by an east-west corridor. The Orbital Network formed a logical solution to the challenges posed by a radial road network, allowing for the movement of goods and people between suburban and metropolitan centres.

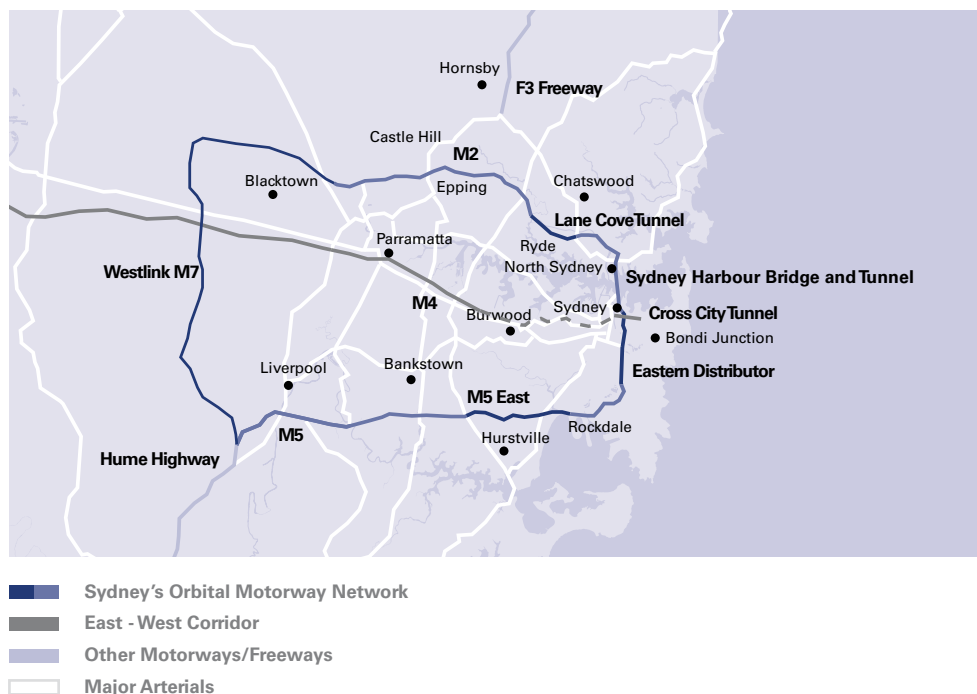
2.1.3 Beyond the Orbital Network

The Roads 2000 plan has largely been completed principally due to the delivery of these assets through privately financed toll roads. The Sydney Harbour Bridge and untolled sections of the network are publicly owned and operated, with the remainder developed on Crown land under long-term concessions by the private sector through Public Private Partnerships (PPP). These PPP motorways have played a critical role in reducing travel times and alleviating congestion in Australia's most heavily populated city.

▼ **Figure 2**

Sydney Orbital and East-West Corridor Motorways Networks

Source: NSW Roads and Traffic Authority (2009)



The resulting Orbital Network is comprised of a series of linked bridges, tunnels, toll roads and freeways. The network provides a motorway-grade, free-flowing road network circumnavigating the city's densely populated inner-west.

▼ **Table 1**

The Constituent Motorways of the Sydney Orbital Network

ROAD	OWNER/CONCESSIONAIRE	TOLL
Sydney Harbour Bridge (Bradfield Highway)	New South Wales Government	Yes
Sydney Harbour Tunnel	Private Sector (Sydney Harbour Tunnel Company)	Yes
Cahill Expressway	New South Wales Government	No
The Eastern Distributor	Private Sector (Airport Motorways Limited)	Yes
Southern Cross Drive	New South Wales Government	No
General Holmes Drive	New South Wales Government	No
M5 East Tunnel	New South Wales Government	No
M5 South-Western Motorway	Private Sector (Interlink Roads)	Yes
Westlink M7	Private Sector (Westlink M7)	Yes
Hills M2	Private Sector (Hills M2 Motorway)	Yes
Lane Cove Tunnel	Private Sector (Connector Motorways)	Yes
Warringah Freeway	New South Wales Government	No
Gore Hill Freeway	New South Wales Government	No
Falcon Street Gateway*	Private Sector (Connector Motorways)	Yes

*Falcon Street Gateway is a tolled ramp linking the untolled Warringah Freeway to the neighbouring road network.

The Orbital is bisected by the east-west corridor, which links Sydney's eastern suburbs and CBD to Parramatta and Penrith in the city's far-west. The corridor is comprised of a number of publicly and privately owned roads, several of which are tolled. This corridor remains incomplete and does not offer motorway conditions for its entire length, notably through the absence of the long-planned M4 East Motorway. Both the M4 Motorway and the Cross City Tunnel are direct feeders into the Orbital Network.

▼ **Table 2**

The Constituent Motorways and Roads of the Sydney East-West Corridor

ROAD	OWNER/CONCESSIONAIRE	TOLL
New South Head Road	New South Wales Government	No
Cross City Tunnel	Private Sector (CCT Motorway Group)	Yes
The Western Distributor	New South Wales Government	No
Victoria Road	New South Wales Government	No
City West Link	New South Wales Government	No
Wattle Street	New South Wales Government	No
Parramatta Road	New South Wales Government	No
M4 – Western Motorway	Private Sector (Statewide Roads)	Yes
F4 – Western Motorway	New South Wales Government	No

The Orbital Network and the east-west corridor together constitute the Sydney Motorway Network. The Motorway Network is the principle high capacity urban corridor within metropolitan Sydney, however, the corridor remains incomplete with the sections of the east-west corridor between Strathfield and the CBD below motorway grade.

The driving conditions on the corridor, particularly the high number of intersections – approximately 80 within 12 kilometres – are not conducive to the application of a corridor-specific toll utilising the established electronic tag arrangements.

Subsequently until such a time that full motorway conditions are extended to this corridor, potentially through the completion of the M4 East or a similar project, this corridor should remain untolled. The application of new network tolling arrangements for the Sydney Motorway Network should not apply to this segment of the corridor until such time that a motorway grade solution for the corridor is completed.

2.1.4 The Role of the Private Sector

Throughout the past two decades, New South Wales has led the world in the use of PPPs to deliver motorway projects. Central to this success has been bipartisan support for innovative private financing funded by ‘user-pays’ models.

The ability to harness private investment in public infrastructure has allowed complex motorway projects to be delivered decades ahead of the limited capacity of the New South Wales Government balance sheet. The continuing involvement of the private sector in the operation of the Network is desirable and indeed a certainty, with current concessions for assets on the Network ranging from less than one to more than 38 years.

▼ **Table 3**

Concession Contract Periods on the Sydney Motorway Network

Source: NSW Roads and Traffic Authority (2009)

	SHT	M4	M5	M2	ED	CCT	M7	LCT
Concession start year	1987	1992	1992	1997	1999	2005	2005	2007
Cost (m)	\$750	\$246	\$380	\$644	\$700	\$680	\$1,540	\$1,142
Concession end year	2022	2010	2023	2042	2048	2035	2037	2037
Concession period (years)	35	18	31	45	49	30	31	30

The delivery of the Sydney Harbour Tunnel in 1987 marked an important shift toward private sector involvement in Sydney’s road projects. The Tunnel was proposed by an unsolicited bid and delivered under a Build Own Operate Transfer (BOOT) model. Under the terms of the concession, the private sector assumed project risk. The State Government placed a floor under patronage risk through a revenue stream agreement, which sees tolls from the Harbour Bridge support revenue for the Tunnel.

PPPs have been used to deliver eight motorways and tunnel projects in Sydney. These projects account for some 161 kilometres of roadway, representing almost one per cent of the State Government's total road network.

The majority of Sydney motorway PPPs have been successful. The use of private finance ensured early project delivery; but has also secured innovation in construction, operation and design. Private innovation has delivered sustainable design, which incorporates the provision of cycling and public transport facilities, as well as the development and use of electronic tolling.

The use of PPPs has also been critical in securing community and government support for projects, such as Westlink M7. The project was jointly funded by the private sector, the New South Wales and Commonwealth Governments and has been strongly supported by the local community throughout its construction and operation. That road has played a critical role in economic development in adjoining areas, including the development of transport and logistics industries around Eastern Creek.

The first of Sydney's modern PPPs is due to expire in 2010 when the M4 Western Motorway will be returned to State Government ownership.

In a report released in October 2009, the New South Wales Auditor General found the good management and goodwill of the concession holders had ensured the asset would be handed back to taxpayers in good condition.

However, the Auditor-General warned if the handback of the motorway was accompanied by removal of the toll, more motorists would want to use the corridor than capacity would allow - leading to significant congestion. Obviously, retention of the M4 toll to manage demand along the corridor is the only sensible option. In any case, the return of the Motorway and removal of the toll by the NSW Government may provide a useful case study of the effect of price signals in managing demand and may assist the public debate over tolling reform across the entire network.

The PPP model has evolved considerably from the collared risk model used to procure the Sydney Harbour Tunnel. Fiscal reforms and debt stabilisation programs like the General Government Debt Elimination Act (1995) and the Fiscal Responsibility Act (2005) led to a focus on procuring roads at no cost to government. This approach ended with the release of the Review of Future Provision of Motorways in New South Wales report, known as the Richmond Review, following the collapse of the initial Cross City Tunnel concessionaire.

The well-publicised failure of projects like the Cross City Tunnel holds lessons for investors and government alike. However, in spite of public controversy, such projects also show the value of risk transfer gained through a PPP model. The use of a PPP protected taxpayers from the impact of overly optimistic patronage forecasts. Rather, it was private investors who lost equity when the project failed, while taxpayers have enjoyed continued access to a world-class road tunnel, under the same terms laid out in the contract.

2.2 The Unfinished Network – the ‘Missing Links’

In spite of the successful delivery of large sections of the Orbital Network, significant missing links remain across Sydney’s road network. The completion of the Lane Cove Tunnel in 2007 completed the fundamental sections of the Sydney Orbital Network – but key feeder corridors remain incomplete. These include:

- **The M4 East:** completes the east-west corridor from the Blue Mountains to the eastern suburbs. Current planning sees this also incorporating a link to the airport and port precinct at Botany.
- **The F3-Orbital Link:** joins the F3 Freeway to the Hills M2 and/or Westlink M7.
- **The F6/M6 Extension:** connects the M5 to the southern suburbs and Illawarra.

The growth in population and economic activity in the Sydney basin means the completion of these missing links is a national priority. The economic, environmental and social dividends of a complete, functional motorway network will be significant and will benefit the national economy.

However, it is also clear that New South Wales cannot continue to commission and operate individual assets in apparent isolation from the broader road network. The current approach of commissioning individual assets that operate within a broader network has clear limitations, including:

- Inflexible contracts and limited incentives to renegotiate;
- Tolls that do not provide equity to motorists;
- Piecemeal asset development leaving clear gaps, or missing links, in the network.

This approach does not deliver optimal efficiency or functionality and could discourage the development of costly or complex projects, due to the complexities of developing a tolling regime to support the project.



3. The Case for Change

Sydney's Orbital Network forms the road transport backbone of Australia's largest and most economically significant city. A 2008 analysis commissioned by Transurban and undertaken by Ernst & Young concluded Sydney's toll road network was a key economic driver and contributed \$1.8 billion to gross state product in 2007. The study found by 2020, the value delivered by the road network would grow to \$3.4 billion per annum. But this vital economic network is under significant, sustained and growing pressure.

Each day freight, passenger and public transport vehicles travel over 120 million kilometres within the greater Sydney area. Passenger kilometres travelled in Sydney will soar by a further 38 per cent by 2020 – the third highest growth across all capital cities, behind Brisbane (46 per cent) and Darwin (40 per cent).

Sydney also sits at the centre of the nation's most valuable intercity freight corridor, the recently renamed Network 1, which links Sydney to Brisbane and Melbourne. The Federal Government estimates urban road freight in Sydney accounts for nearly 30 million tonne kilometres each day – one quarter of the total transport task.

Existing congestion and growing demand pressures now require bold reform to manage demand and major augmentations and expansions to the network's capacity.

3.1 Drivers of Demand

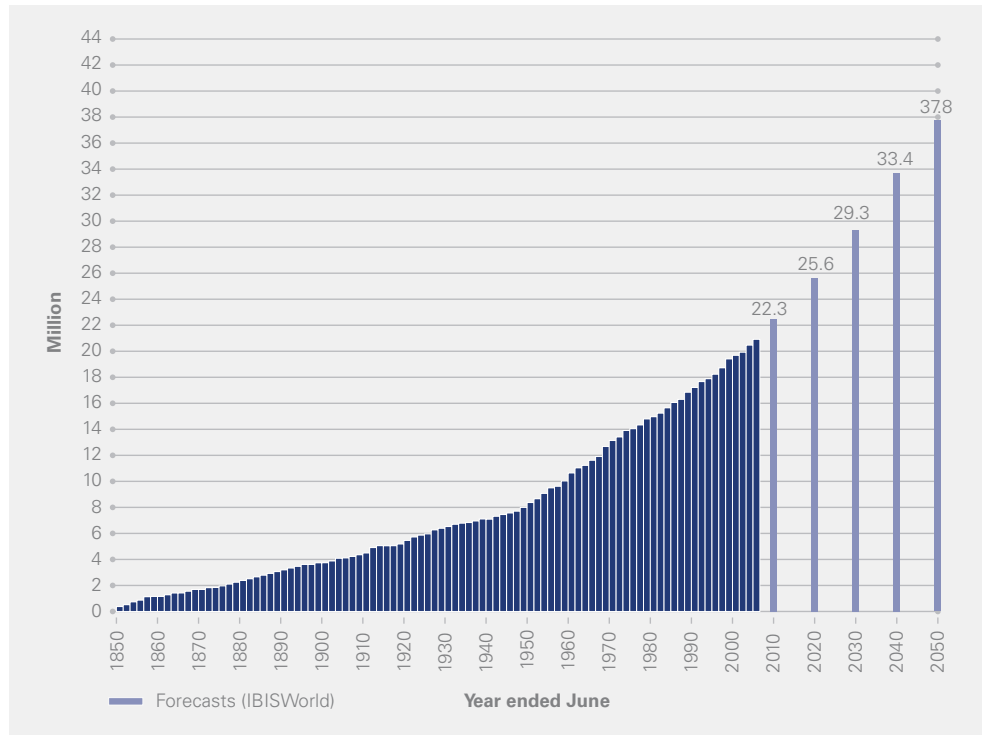
Australia is facing unprecedented growth in demand for transport across all modes. In Sydney, a growing and ageing population, economic development and poor public transport options will combine to further drive demand for transport services. Key demand pressures include:

- **Broad Population Growth** – Modelling by IBISWorld finds that Australia's population will reach 37.8 million by 2051, between the high and medium Australian Bureau of Statistics (ABS) projections (recognising the recent trend towards stronger than forecast population growth). The ABS estimates that New South Wales' population will increase by 3.3 million to 11.78 million by 2056. This growth will exacerbate demand pressures on Sydney's transport infrastructure.

▼ Figure 3

Australian Population 1850 - 2051

Source: IBISWorld (2008)

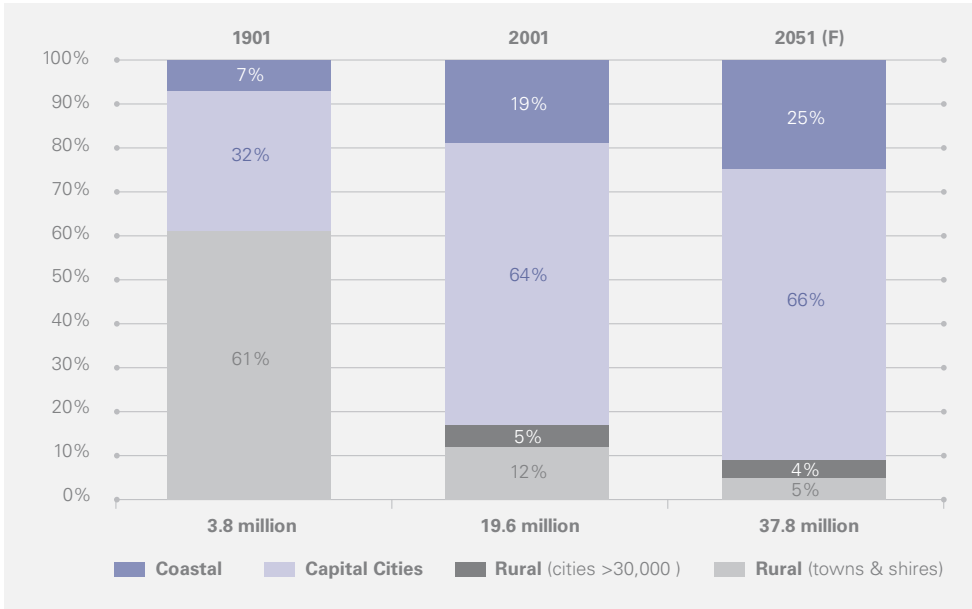


- **Demographic Trends** – Australia is already one of the most urbanised nations in the developed world. It is expected the flow of people from rural and regional areas to major cities will continue. Sydney alone already houses more than 20 per cent of the national population. According to IBIS World’s modelling, two thirds of Australians will reside in capital cities by 2050 – up from 64 per cent in 2001. In absolute terms, the population of Australia’s capital cities will surge from 12.5 million people to 24.9 million people by 2050. According to the ABS, Sydney’s population will rise from 4.3 million in 2009 to 7.6 million in 2056.

▼ **Figure 4**

Demographic Trends impacting Australian Communities, 1901 - 2051

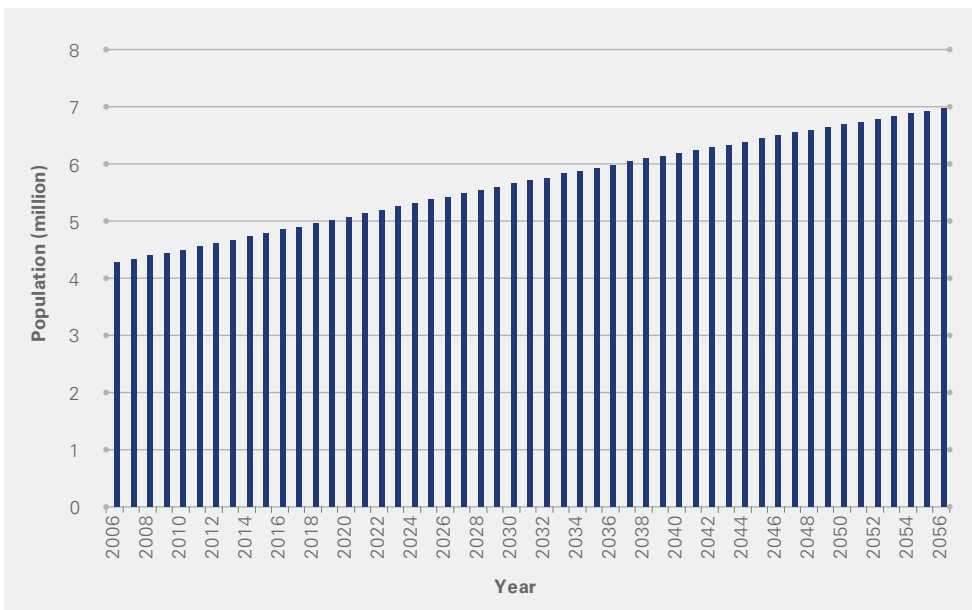
Source: IBISWorld (2008)



▼ **Figure 5**

Population of Sydney, 2006 - 2056

Source: ABS (2008)

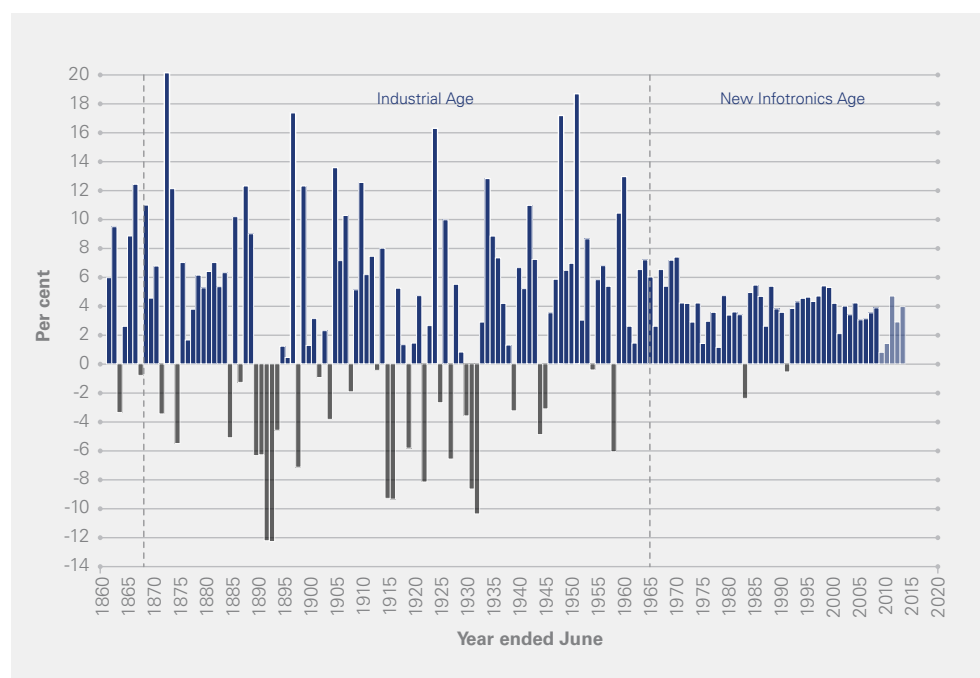


- **Increased Dependence on Road Transport** – In spite of large legacy public transport networks, Sydney’s passenger movement task is dominated by the use of private motor vehicles. On a business as usual scenario, where there are no major reforms to road and public transport capacity and management, mobility will continue to be underpinned by road vehicle transport. Current estimates show that if public transport were to double over the next two decades, road use would continue to grow substantially.
- **Economic Growth** – Despite current economic uncertainty, Australia will return to strong underlying long-term growth trends over the short term, increasing demand for transport, including freight services.

▼ **Figure 6**

Australia’s Economic Growth (Real GDP), 1860 - 2013

Source: IBISWorld (2009)

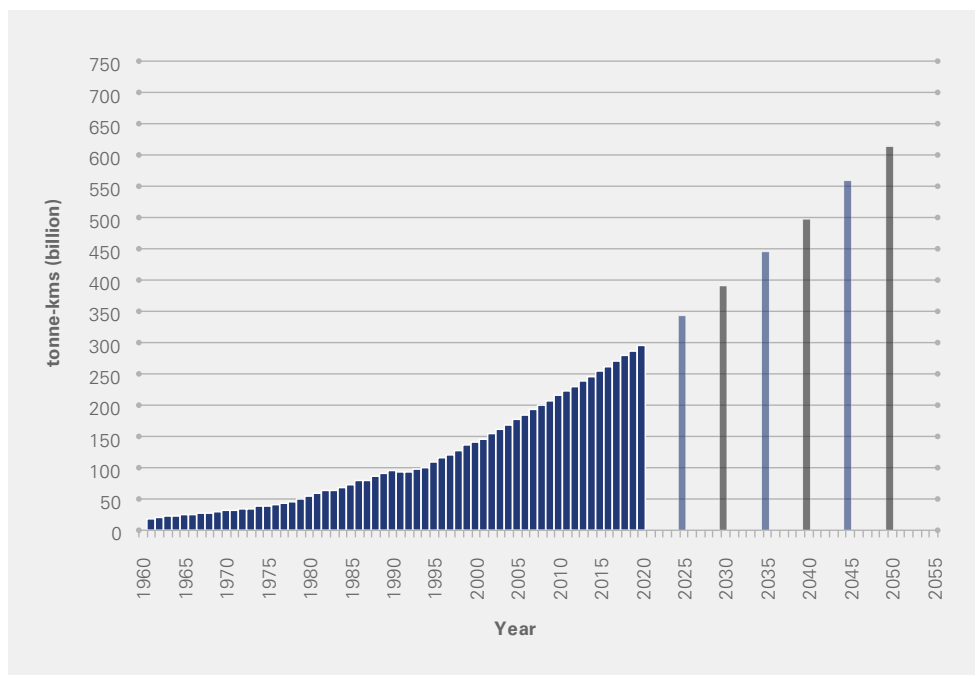


- **Freight Growth** – The national freight task will increase threefold to 1,540 billion tonne kilometres per annum by 2050. Over this period, road freight will enjoy slower growth, doubling over the same period, as long distance haulage will increasingly access rail and sea transport. However, urban freight will grow from 10 per cent to over 15 per cent of the total freight task, underscored by demand for consumer goods and personalised freight services. Even with a world-class intermodal network, the growth in localised freight will inevitably increase the freight task across Sydney.

▼ **Figure 7**

Growth in Australian Road Freight, 1960 – 2050

Source: IBISWorld (2008)



3.2 The Cost of Congestion

The term congestion is ascribed to everything from slow moving traffic and traffic jams to the impact from motor vehicle accidents. However, each of these is in fact a symptom of congestion. Congestion occurs when traffic demand exceeds the optimal throughput of vehicles on a given segment of road.

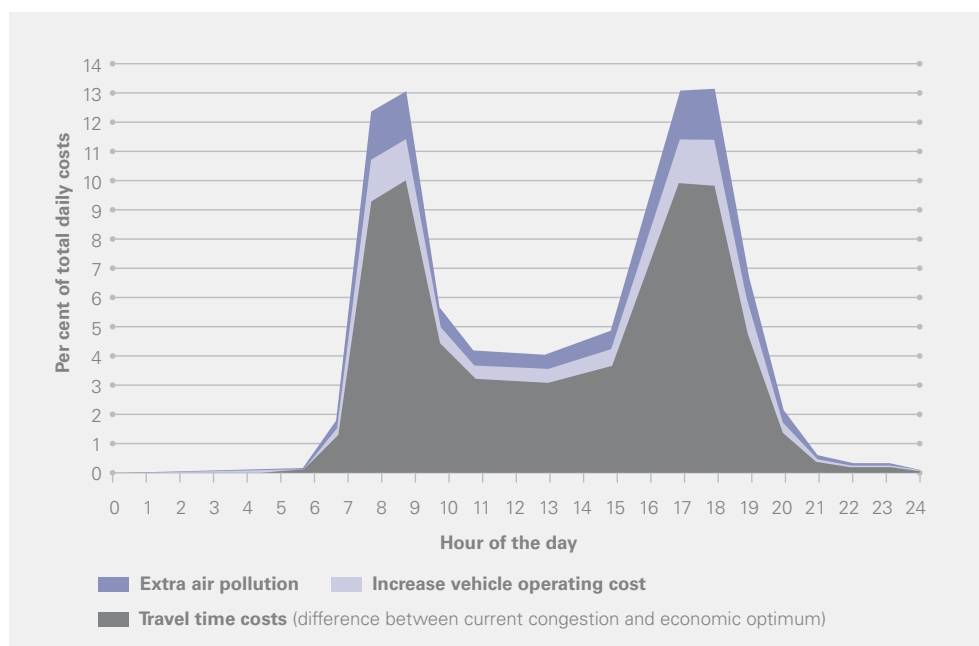
Congestion is the process whereby the number of vehicles attempting to access limited road space exceeds the capacity of the road segment. As a result the vehicles impede one another's journey, resulting in the breakdown of the speed-flow relationship and in turn, further reduce throughput. Congestion causes traffic flow to break down, with traffic moving well below speed limits, which in turn reduces the overall capacity of the road and compounds the problem.

Congestion does not develop evenly across the entire road network. Indeed, at any particular section of the motorway traffic can vary throughout the day as demand for that section of the broader network fluctuates. On all but the most heavily used freight corridors, demand for road space between midnight and dawn is miniscule.

▼ **Figure 8**

Typical Day Profile of Avoidable Social Costs of Congestion

Source: BTRE (2007) Working Paper 71 - Estimating urban traffic and congestion cost trends for Australian cities', Australian Government, <http://www.bitre.gov.au/publications/49/Files/wp71.pdf>, last visited 16 November 2009



The tendency for traffic to ebb and peak, including significant periods where the road is underutilised, indicates that in some instances the addition of further capacity to the network may not be required. Better use of existing road space outside of peak times could provide an opportunity to reduce congestion.

3.2.1 The Symptoms of Congestion

The symptoms of congestion are evident to Sydney's motorists; stop-start traffic, traffic speeds well below speed limits and long queues of vehicles. However the real cost of congestion is much greater and more complex than what is visible to the commuter.

The cost of congestion extends well beyond the individual commuter and radiates throughout the economy and community. A commuter delayed by congestion may be late to collect their children from day care. This commuter would incur both a direct cost in lost time and indirect costs through increased vehicle maintenance and the like; however they also incur an additional cost for child care. In this way, the cost of congestion is passed through the entire economy.

Congestion costs impact business productivity, putting a handbrake on the capacity of industry to prosper. From handymen to doctors, lawyers to delivery drivers, every additional minute a worker spends in traffic is a minute they must make up elsewhere in their day.

Congestion also has social costs. Just as congestion reduces productivity during the working day, it also reduces the time that commuters have available to spend with family, contributing to community organisations and charities, playing sport and enjoying leisure time.

Motor vehicles are also a major source of pollution, including greenhouse gas emissions. The National Carbon Inventory estimates emissions from transport accounts for around 14 per cent of Australia's total national emissions. One practical step to reduce the emission profile of motor vehicles can be made through improving the driving conditions of vehicles on roads by reducing congestion.

The Bureau of Infrastructure, Transport and Regional Economics (BITRE), undertook a major study of the costs of congestion on Australia's capital cities in 2005. BITRE identified four key costs of congestion including:

- **Extra Travel Time:** travel time above that for a vehicle travelling under less congested conditions;
- **Extra Travel Time Variability:** where congestion can result in trip times becoming less certain, meaning commuters must allow a greater amount of travel time than the average journey time;
- **Increased Vehicle Operating Costs:** through higher rates of fuel consumption and greater engine wear. A RACQ field test report showed a 30 per cent increase in fuel consumption between free-flow versus stop-start conditions and through greater wear on vehicles. Another study, conducted by Integrated Management Information Systems (IMIS) on Melbourne's Eastlink, showed costs could be as high as 40 per cent;
- **Poorer Air Quality:** vehicles operating in congested conditions emit higher rates of noxious pollutants than under more free flowing conditions, leading to higher health and environmental costs.

Beyond those costs identified by BITRE, a number of additional costs have not been measured, such as:

- **Reduced Personal Safety:** congestion including stop-start traffic, reduced vehicle spacing and unnecessary merging and weaving – can result in additional vehicle accidents;
- **Poorer Personal Health:** high stress environments like heavy traffic, can increase stress, anger and frustration.

3.2.2 Modelling the Cost of Congestion

BITRE undertook a major study of the costs of congestion on Australia's capital cities. *Estimating Urban Traffic and Congestion Cost Trends for Australian Cities* determined an aggregate of the avoidable costs of congestion across Australia's capital cities would more than double over the 15 years between 2005 and 2020, from \$9.39 billion to an estimated \$20.4 billion. The true cost of congestion is difficult to quantify and the work undertaken by BITRE examined only a portion of the total costs incurred by the community as a result of congestion.

As the components of congestion costs can vary, so too does the methodology for the calculation of congestion costs. The BITRE study utilised three methodologies:

- **Total Cost of Congestion Estimate:**

- incorporates the costs borne by the vehicle's driver and external costs borne by the community and other drivers;
- compares the actual experience of drivers compared to estimated free-flow speeds;
- this measure does not recognise the cost-effectiveness of providing certain infrastructure and is a theoretical best case, not necessarily achievable.
- this approach calculated that the annual cost of congestion calculated as total annual delay was \$11.1 billion over the eight capital cities for 2005, rising to more than \$23 billion by 2020.

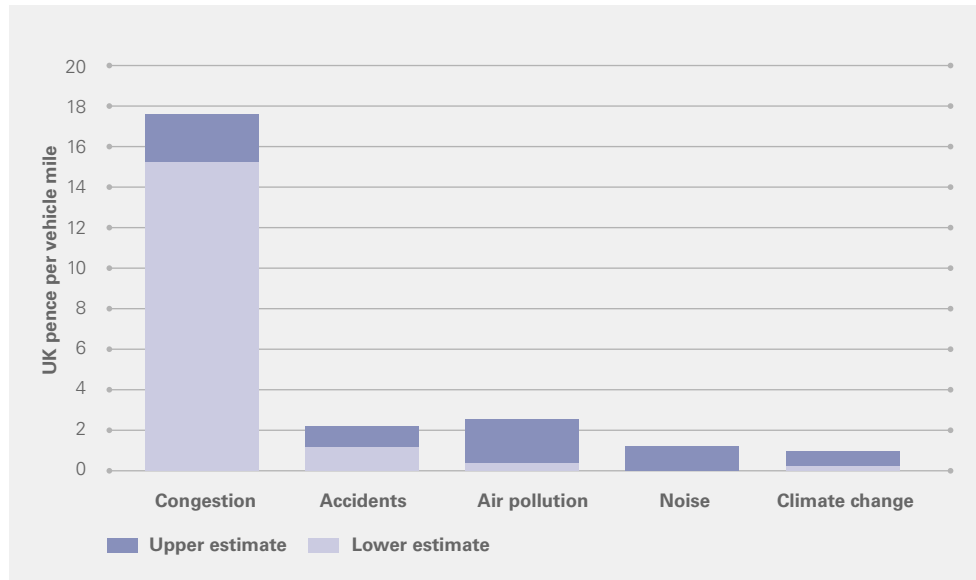
- **External Cost of Congestion Estimate:**

- measures the costs that emerge from congestion but not borne by the vehicle's driver, commonly referred to as externalities. These costs can include environmental costs (such as air pollution) and additional costs road users imposes on the time of others.
- this approach does not provide an exhaustive analysis of externalities suggesting the actual cost of congestion may be higher than indicated in the study. Externalities include the impacts of travel time on other drivers, which constitute the majority of the costs of congestion and other costs, such as extra air pollution damage costs, estimated as \$1.1 billion in 2005.
- in the 2002 study *Paying for Road Use*, the United Kingdom Commission for Integrated Transport found externalities accounted for up to a third of the total costs of congestion. The *Paying for Road Use* study incorporated a range of externalities, such as road trauma and noise, not analysed by BITRE.

▼ **Figure 9**

The Costs of Road User Externalities

Source: United Kingdom Commission for Integrated Transport (2002),⁴



- **Deadweight Loss Cost of Congestion:**

- measures the cost of doing nothing.
- tries to quantify the cost of journeys that contribute to congestion, where the value of the journey being taken (such as the delivery of a particular good) does not exceed the cost of the journey being taken.
- infers that the value of a vehicle's journey can vary dependent on the reason for that journey – for instance the delivery of stationery to an office, would be less critical than the delivery of blood supplies to a hospital.
- BITRE determined the dead weight costs of congestion equalled about \$5.6 billion in 2005, rising to \$12.6 billion by 2020.

The study concluded the deadweight loss cost approach provided the most accurate value for the costs of congestion that could be recovered through mitigative action. The measure was subsequently used to determine the overall cost of congestion for each capital city.

Several other studies have been undertaken examining the costs of congestion on the Australian community; however the BITRE provides the most rigorous examination, despite the opportunity for a more comprehensive exploration of externalities.

3.2.3 The Cost of Congestion in Sydney

Weekday (and increasingly weekend) congestion across the Motorway Network demonstrates that demand is above optimal levels, and indeed exceeds capacity on some road segments. BITRE found the aggregate cost of the congestion in Sydney exceeded \$3.5 billion in 2005 – the highest in any capital city. Worse, without reform these costs are expected to grow rapidly, doubling to more than \$7.8 billion to 2020.

These figures show congestion has a significant impact on the New South Wales economy. While the total cost of congestion may not be recoverable, it is noteworthy that the cost is similar to the annual economic benefit delivered by major economic assets like Port Botany and the Network itself.

The cost of congestion is an important indicator of the potential economic uplift that can be delivered by addressing excess demand.

▼ **Table 4**

Costs of Congestion on Sydneysiders

Source: BTRE (2007)

TYPES OF COSTS	PER CENT OF TOTAL	COST IN 2005	COST IN 2020
Private time costs - losses from trip delay and travel time variability	36.5%	\$1.2775 billion	\$2.847 billion
Business time costs – trip delay plus variability	38.5%	\$1.3475 billion	\$3.003 billion
Vehicle operating costs – including fuel and maintenance	13%	\$455 million	\$1.014 billion
Air pollution damage – including CO ₂ emissions	12%	\$420 million	\$936 million
Sydney total	100%	\$3.5 billion	\$7.8 billion

Without action, increasing demand will exacerbate capacity constraints on Sydney's road network. This will directly increase congestion and its economic cost, travel times, carbon emissions, compromise road safety and increase vehicle operating and maintenance costs for commuters.

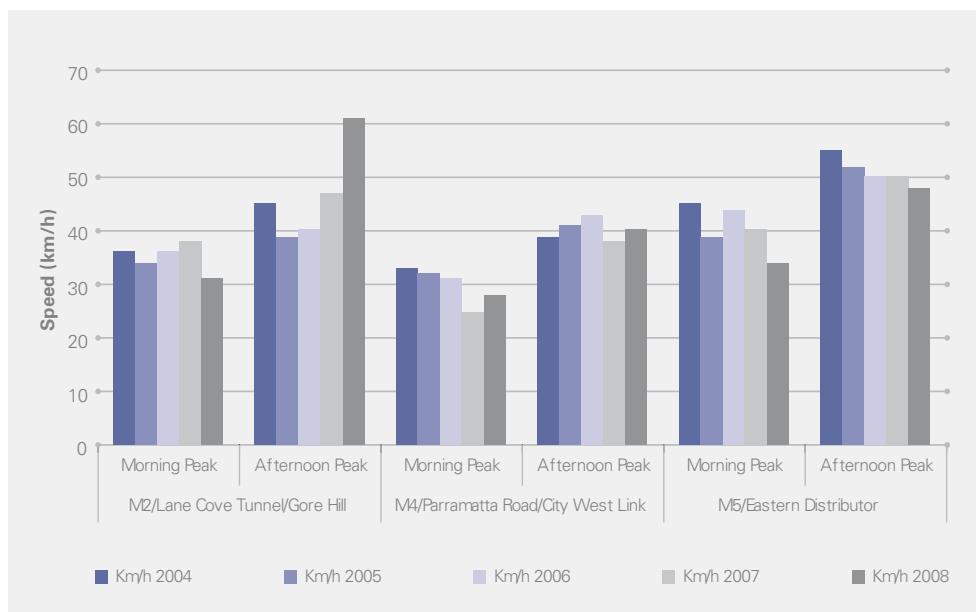
3.2.4 Travel Times

A 2008 study by the New South Wales Auditor General found travel times on Sydney's seven busiest road corridors are below 30 kilometres per hour, with many assets within the Motorway Network experiencing congestion. Several of the roads that constitute the Motorway Network are among the most congested in the country with speeds averaging just 30 and 50 per cent of the sign posted speed limit in the morning and afternoon peaks respectively.

▼ **Figure 10**

Average Speed Trend for Seven Major Routes to and from Sydney

Source: Adapted from NSW Auditor General (2008)



3.3 Is the Current System Broken?

Congestion on individual sections of the Orbital Network impacts on the efficiency of the broader network. On some sections of the network, congestion already causes traffic ‘tail-backs’ which impact other sections of the Motorway Network and feeder roads during peak periods. Under a business as usual scenario, congestion on the Network and untolled feeder roads will increase congestion across the broader network, increasing negative economic and social costs for the community at large.

Without fundamental reform, key regional transport corridors which link the CBD with important employment centres like Parramatta, Macquarie Park and Eastern Creek and residential hubs such as Rouse Hill, Camden and Leppington will be severely impacted by growing demand. The relative distance of rail connections versus nearby motorway connections means that transport (including public transport) in these regions will continue to be dominated by road use.

Without substantial access to provide for new demand for road transport and to limit growth, congestion will continue to climb in these corridors, eventually resulting in reduced desirability of these locations for business and residential use.

3.4 Why Hasn't it Been Fixed?

The development of transport infrastructure in New South Wales is widely regarded to have stalled since the completion of the Orbital Network in 2007. Excepting recent progress on the M2 widening, other planned and long awaited enhancements to the Orbital and adjacent road network have failed to materialise.

Uncertainty surrounding the state's project priorities, the global financial crisis and the recent experience of difficult projects like the Cross City Tunnel and Lane Cove Tunnel have all played a part in slow progress toward the next generation of road projects.

However, a reduced political appetite for the next generation of major road projects, coupled with the scale, complexity and balance sheet impact of major road projects have also undoubtedly contributed to delay.

The newly amalgamated New South Wales Department of Transport and Infrastructure recently committed to the development of a 25-year integrated transport plan – the Transport Blueprint - for the Sydney to 2036. The Blueprint aims to link transport planning with land use in the region over the period.

Infrastructure Partnerships Australia has contributed to the development of the Blueprint through a submission outlining key principles that should underpin project development and the identification of key transport projects across modes. The submission identifies a number of major projects identified as government priorities.

▼ **Table 5**

Current Status of Major Road Projects in Sydney

PROJECT	DESCRIPTION
M4 East Stage 1	<p>Stage 1 links to the Anzac Bridge. The New South Wales Government has identified the development of a tunnel to link the M4 Motorway with several eastern portals. In 2002, 2003, 2005 and again in 2008, the New South Wales Government foreshadowed the construction of the motorway. Stage 1 links to the CBD.</p> <p>Infrastructure Australia listed the M4 East Stage 1 as a project requiring further analysis in its Report to the Council of Australian Governments in 2008.</p>
M4 East Stage 2 - Marrickville Tunnel	<p>The New South Wales Government has identified the development of a tunnel to link the M4 Motorway with several eastern portals. In 2002, 2003, 2005 and 2008 the New South Wales Government advocated the construction of the motorway. Stage 2 links to Port Botany</p> <p>Infrastructure Australia listed the M4 East Stage 2 as a project requiring further analysis its Report to the Council of Australian Governments in 2008.</p>
M4 East Stage 3	<p>The New South Wales Government has advocated for the development of a tunnel linking the M4 Motorway with several eastern portals. During 2002, 2003, 2005 and 2008 the New South Wales Government advocated the construction of the motorway. Stage 3 links to the Gladesville Bridge and has been considered as part of the New South Wales Government discussions with Infrastructure Australia.</p>
F3-Hills-M2 Link	<p>The Australian Government commissioned a review of a link between the Orbital Network and the F3 Freeway during 2004. The Review was completed and recommended two routes – one linking to Westlink M7 and the other to the Hills-M2 motorways.</p> <p>Infrastructure Australia listed the F3-Hills-M2 Link as a critical project requiring further analysis in its Report to the Council of Australian Governments in 2008.</p>
F3-Westlink M7 Link	<p>The Australian Government commissioned a review of a link between the Orbital Network and the F3 Freeway during 2004. The review was completed and recommended two routes – one linking to Westlink M7 and the other to the Hills-M2 motorways.</p>
Spit Bridge Corridor Improvements	<p>The New South Wales Government announced plans to widen the Spit Bridge during 2002. These plans were subsequently dropped during 2007.</p> <p>A private consortium provided a proposal to government for a tunnel linking the existing bridge with the Orbital during 2008 however the Government rejected the plan in early 2009.</p>
F6 Extension	<p>A longstanding reservation of a corridor linking the F6 Freeway to the Orbital Network through the Sutherland and Kogarah local government areas.</p> <p>The planned development of the corridor was cancelled by the New South Wales Government during 2002 and the land reserves earmarked for sale. The Government put the motorway back on the agenda in 2005 when it cancelled the sale of land and signalled its possible development as a dual carriageway road.</p>
M5 Widening	<p>The initial construction of the motorway included provision for its widening to three lanes when demand reached capacity. During 2007, the New South Wales Government committed to the project.</p> <p>Infrastructure Australia listed the M5 widening as a critical project requiring further analysis its Report to the Council of Australian Governments in 2008.</p> <p>In November 2009, the New South Wales Government announced the commencement of community and industry consultation for the expansion of the M5 corridor including the M5 widening.</p>
M5 East Duplication	<p>In May 2008, former Premier Morris Iemma announced a feasibility study to examine the duplication of the M5 East in order to increase freight movements on the corridor.</p> <p>In November 2009, the New South Wales Government announced the commencement of community and industry consultation for the expansion of the M5 Corridor including the M5 East duplication.</p>
M2 Widening	<p>The New South Wales Government announced it would proceed with enhancements to the M2 Motorway, including physical widening to a third lane, during 2007. During October 2009, the New South Wales Government announced in-principle agreement regarding the scope of works for the widening. Work is expected to commence in 2010.</p>

3.5 How Can the Road System be Fixed?

There are two key and integrally linked options which must be taken in concert to improve the efficiency of Sydney's road network:

- Increase the network capacity through network enhancements and completing the 'missing links', and;
- Improve efficiency of the existing network through demand management practices.

3.5.1 Increasing Network Capacity

Sydney's transport infrastructure has not kept pace with the city's rapid growth. Both road and public transport infrastructure must be upgraded if New South Wales is to position itself for the next round of productivity enhancements and social development. In recognising the role that both private transport and mass transit will have over coming decades, it is critical to recognise the importance of roads in delivery of both modes of transport.

The road network is a vital facilitator of transport in Sydney, supporting both the use of the private motor car and public transport services provided by buses. Indeed, buses account for approximately 950,000 personal public transport movements in Sydney each day, on par with the one million rail-based journeys over the same period.

In addition to the important role roads play in the passenger transport task, road freight accounts for over 40 per cent of the total freight task and provides an irreplaceable service transporting goods from railway depots to department stores, supermarkets and homes. Over the past five years, the New South Wales and Australian governments have identified (and in some instances commenced planning) a range of road projects to alleviate congestion on some of the city's busiest corridors. The addition of new capacity on the network through widening motorways and the construction of new segments of roadway, will aid in reducing congestion on the network.

Enhancement of the network's capacity through the construction of new assets is a critical part of meeting the growing passenger and freight task on Sydney's roads; but we will reach a point where physical limitations will restrict the ability to build new roads. Sydney simply cannot continue to build its way out of trouble – demand management is also an important option.

3.5.2 The Potential Role of Tolls in Managing Demand

Tolls in New South Wales have conventionally been used to recover the cost of construction, maintenance and operation of road infrastructure. Initially, tolls were levied for the general maintenance and construction of the broader state road network. More recently they have been applied to specific segments of the network to recover the costs of construction and operation of that asset. However, tolls can also be used to deliver a price signal to encourage a range of behaviours.

The time has come for New South Wales to consider how tolls can be used to do more than simply finance the construction and maintenance of a motorway. In other parts of the world, price signals have been used to successfully drive changes in behaviour. Differential tolls have been used to both manage peak demand and change purchasing decisions toward low emission and renewable fuel vehicles.

In addition to price, there are a range of additional measures which have been used overseas to influence driver behaviour. For instance, variable price HOT (High Occupancy Toll) lanes – where a toll is charged to assure level of service – transit lanes or toll discounts for hybrid cars encourage particular driver behaviour by rewarding desirable decisions.

The current tolling regime on the Sydney Orbital Network provide an awkward combination of these two functions. The majority of Sydney's motorways are structured to recover the costs of the asset and its maintenance. However, the introduction of time of day tolling on the harbour crossings in 2009 represents a marked (though modest) shift toward the use of pricing to change road use patterns.

A price signal acts to ration finite road space during times of high demand. To ease congestion during demand peaks, the price must be set high enough to ration access to optimal traffic volumes. Price is only one method to ration access. Alternative models for limiting demand without the use of price signals can include ramp-metering, used on some freeways in Melbourne, or the issuing of permits to a limited number of road users to enable restricted access, such as what occurred in Singapore during the 1970s.

While alternative models to ration road capacity exist, the use of a price signal is preferable because it is highly flexible and allows users to make an informed decision based on their particular situation. It provides choice as users may elect on one journey to pay to access the road, while on another journey they may not, choosing instead to utilise a more congested free road to get to the same destination.

The other benefit of pricing to ration access is it allows an efficient identification and pricing of externalities, such as emissions and impacts on other road users. When priced, these costs can be recovered and invested to offset the impacts of road use.

The use of tolling to influence behaviour on the Motorway Network could be facilitated by the pre-existence of:

- A tolling regime supported by existing infrastructure;
- General consumer awareness and acceptance of tolling, and;
- Free surface roads operating in parallel to a significant proportion of the network, giving road users a choice in accessing the tolled network.

With the avoidable social costs from congestion projected to increase rapidly and double by 2020, there is an opportunity to deliver windfall social and economic gains by optimising the utilisation of Sydney's road network through a move to a demand management-based tolling regime.



4. The Use of Tolls to Optimise Utilisation

Sydney would benefit from a transition from a tolling system that primarily seeks to recover costs, to one that encourages the optimal use of the Network by maximising network-wide efficiency.

Maximising throughput across the Motorway Network offers the capacity to more fully realise the potential economic, social and environmental benefits offered by the network. The introduction of a new system of tolling to the Network could improve its current function and also potentially assist in funding new, complementary road and public transport assets.

A key benefit offered by a new way of pricing Sydney's road infrastructure is the ability to drive new sources of revenue for the stretched public sector by recovering the deadweight cost of congestion. These new revenues could be applied to seeding or delivering enhancements to Sydney's struggling road and public transport networks.

Importantly, a new source of revenue offers a new opportunity to fund the transport infrastructure which will be identified by the New South Wales Transport Blueprint.

4.1 Achieving Operational Harmonisation

Incremental delivery of the Orbital Network has allowed the public and private sectors to marshal the resources and capital required for these mega projects. But it has also delivered operational challenges and constrained flexibility in managing the broader network.

While operational issues have largely been positively progressed through commercial agreement, the more substantial issue of pricing disparity requires fundamental and complex changes to concession agreements.

4.2 The Process for Toll Setting in Sydney

Tolls currently apply to nine sections of the Sydney Orbital Network and East-West corridor, including all eight privately owned motorways. The tolls that apply to these private assets are determined by the concession deeds that form the basis of the commercial agreement for the ownership and operation of each asset.

The current process for setting tolls within the concession deeds has two distinct features:

- The network broken up into individual sections, with each section reflecting a stand-alone project, and;
- Each component is financially viable on a stand-alone basis, with tolls reflecting the cost of delivering and operating each component.

Due to the Sydney Harbour Tunnel duplicating the only tolled government owned section of the Motorway Network, the Sydney Harbour Bridge; the New South Wales Government applies the same rate of toll to both harbour crossings, ensuring competitive neutrality between the two assets.

The historic process for toll determination in Sydney has not been based on cost but rather the opposite. In setting tolls, the Roads and Traffic Authority examines the potential benefits that can be derived from a project and then determines what would be a reasonable expense for the project, calculating a toll in order to deliver these benefits. The 2005 Richmond Review described this process as a “benefit-cost analysis which grosses up the benefits for the expected number of road users.” Generally, the predetermined toll is included as a benchmark in Requests for Tender and Environmental Impact Statement documentation – if the predetermined level of toll is sufficient to covers costs, the private sector would bid to operate the concession.

Variations of this approach have applied on some projects, such as the Cross City Tunnel where other factors, such as upfront contributions to government, influenced the selection of private sector partners, although the contracted toll varied considerably from the benchmark.

While this approach has been central in the development of many successful motorway PPPs in Sydney, the Richmond Review stated this approach was less effective for short, high cost projects. “[The prevailing approach is] likely to work best where a long road delivers substantial travel time savings and less well when a short road delivers indefinite benefits.” A number of Sydney’s missing link motorways are projects that fall into the latter category, making private sector participation under the prevailing approach to tolling arrangements difficult.

The segmentation of the Network into individual projects has been a necessary approach, but it has had unintended consequences, including:

- tolling where the rate of toll for short highly engineered projects is excessive – resulting in low demand due to pricing to recover the costs of individual assets or high demand and congestion on long overland assets.
- restricted capacity to reform pricing as the road network evolves and expands due to the rigid, contractual application of tolls to individual projects.
- tolls on one section of the Network that give little or no regard to demand for or capacity on neighbouring sections of the road network.
- tolls which cannot be adjusted outside of the concession deed to encourage particular driver behaviour, such as the use of hybrid cars or multiple occupancy vehicles.
- the inability of toll road owners to vary asset tolls to encourage particular driver behaviour, such as reducing tolls in off-peak times.
- the impact of multiple tolls on a single corridor – such as the journey from the north-west to the city – cannot to be addressed through commercial agreement between concession holders.
- measures to address community concerns (for example, the Cashback scheme on the M4 and M5) have resulted an inconsistent application of price signals and inequity for Sydney’s motorists.

The complexity of the current tolling regime restricts the ability to move to a new tolling system and to develop further projects to boost network capacity. Without reform to the current toll determination process, fiscal constraints facing the New South Wales Government might continue to frustrate the next series of road projects, even where they would be financially viable within a coherent network.

It is important to note that the process of developing large motorway networks in a series of interconnected projects has no international precedent. The adopted project-by-project approach was best-practice at the time of contractual close. However, with the benefit of hindsight, limitations of this approach are becoming apparent.

While there are good historical reasons for the current structure of tolls, we need to ask whether it is possible to move to an alternative model which would:

- Allow for more optimal use of the current network, and;
- Make it easier to undertake new investments to complete the network.

4.3 How Can the Tolling Regime be More Efficient?

An efficient tolling regime can be defined as one that effectively balances demand for and the availability of road space. In this way an efficient tolling regime addresses congestion. An efficient tolling regime may take two forms:

- **Demand Reduction:** this can be achieved by relatively blunt measures, such as fixed tolls that increase during periods of high demand, such as morning and afternoon peaks. This approach can be useful in shifting demand to quieter shoulder and off-peak periods. However, fixed toll schedules are not able to respond to unplanned or irregular events, such as accidents, which can substantially impede traffic flow.
- **Quality of Service:** guarantees a service standard, such as the minimum speed of travel. In order to be effective, this approach requires tolls to be dynamically variable, rapidly changing if service quality shifts. For instance, if quality of service drops, there must be a rapid diversion of vehicles to restore service quality. This change must then be communicated to potential road users to effectively regulate demand, and therefore reduce congestion.

Congestion and the under-utilisation of various sections of the Motorway Network at various times of the day shows the current pricing structure does not provide clear signals for optimal use of Sydney's road network.

Adjusting toll charges to match road capacity and consumer need would have a positive impact on the efficiency of the network and reduce the social and economic costs of congestion. With the exception of the Harbour Bridge, toll charges on Sydney's roads have been set to reflect the average capital and operating costs of each project per vehicle. The majority of Sydney's toll roads (with the exception of the Sydney Harbour Bridge and Tunnel) operate using fixed toll charges and therefore do not provide an effective price signal to consumers regarding time or type of use.

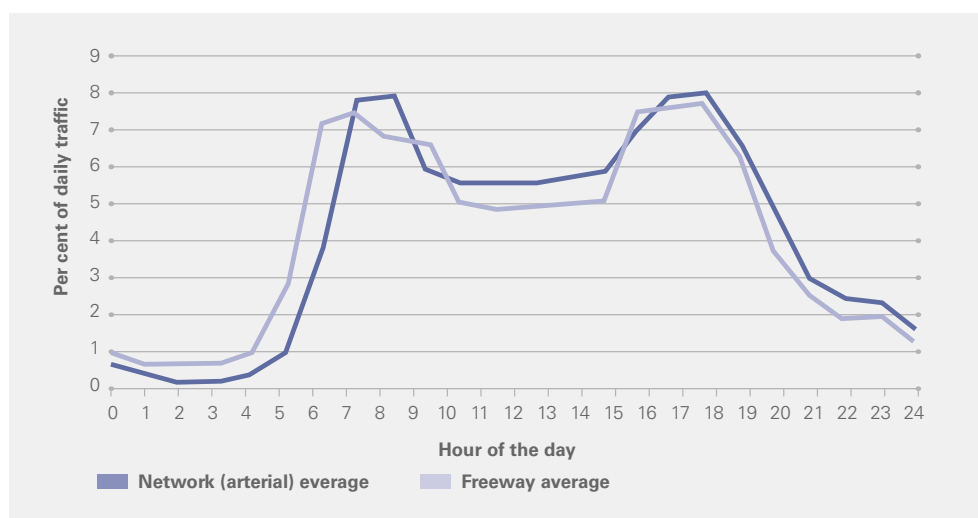
The use of pricing to manage congestion means in effect a tolling regime which varies according to demand, or as a substitute for demand, the time of day. As shown in Figure 11, demand for roads varies significantly across a 24-hour period, marked by peaks during morning and afternoon.

As the road network's capacity remains constant, a pricing structure which does not reflect variable demand inevitably leads to over-utilisation and congestion in peak periods, while leaving spare capacity during off peak demand periods. A toll charge which changes according to demand is more likely to optimise utilisation of the road network than a fixed toll, as it creates a price incentive for commuters to switch to alternative transport modes, or to prioritise the timing of their journey.

▼ **Figure 11**

Hourly Traffic Volumes for Typical Metropolitan Travel

Source: BTRE (2007)



However, time-of-day is only one aspect of pricing flexibility. Tolls can also be used to distribute traffic more efficiently along a network. Some parts of the road network in Sydney are more congested than others. Tolls can be used to encourage greater utilisation of the less congested parts of the network, just as they can be used to manage the demand on the more congested parts.

This is not to suggest that road tolls must be infinitely variable across the entire network in order to enhance network performance. Efficient pricing requires achieving balance between practicality and optimal price signals, in turn demanding an understanding of the networked nature of the road system. It requires that toll charges on individual roads be set within the context of the network by considering both the benefits and costs that charging a toll on a particular road segment imposes—not just on users of that specific road, but also on other road users and society in general.

The introduction of a variable tolling regime on the Sydney Motorway Network which gives due regard to the relationship between demand and price will result in twin benefits of:

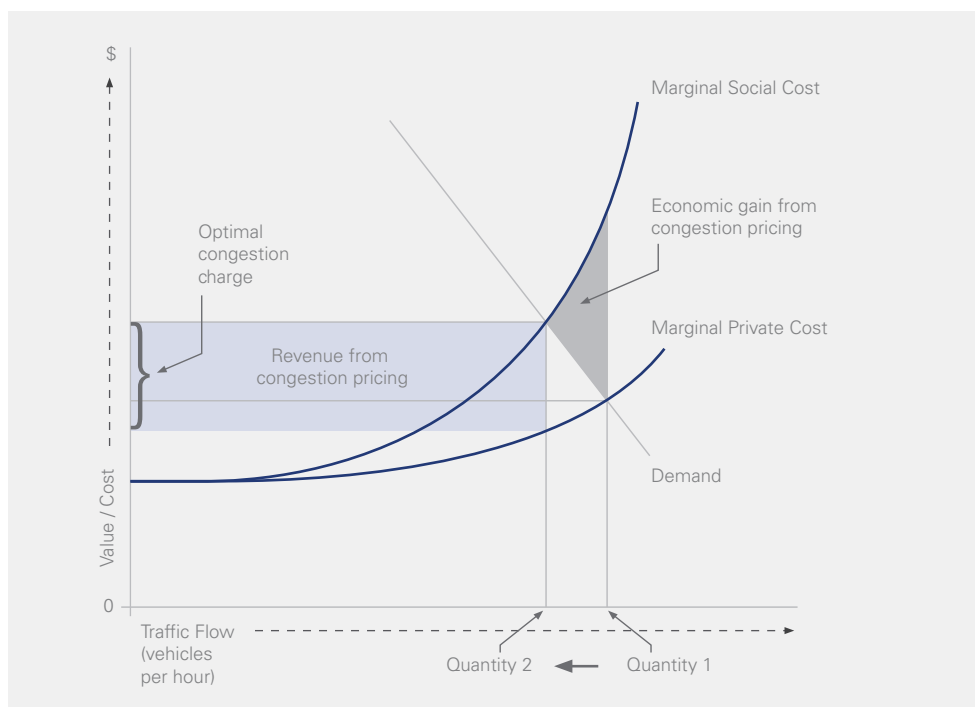
- a direct increase in revenue derived through price increases levied to blunt demand during peaks, maintaining demand at optimal levels; and potential patronage growth supported by capacity augmentation, and;
- gains associated with various economic, environmental and social factors such as reduced greenhouse gas emissions, reduced accidents and noise.

Figure 11 demonstrates the economically optimal settings for a congestion charge. The figure illustrates the two potential gains from the introduction of a congestion-linked charge and the subsequent decrease in vehicle flow per hour. The first is the economic gain derived by the direct reduction in the costs of congestion. The second is the revenue generated by the charge itself.

▼ **Figure 12**

Economically Optimal Congestion Charging

Source: BITRE (2008)



In Sydney's case, achieving optimal use of the road system will likely involve reducing tolls on some sections of the network and increasing them on others. It is therefore critical that owners and operators of the network are compensated for any potential reduction in the return on their initial investment in the network.

4.4 Use of Network Tolling to Promote New Investment

A primary consideration is the opportunity for fully dynamic tolling to advance new projects to drive a better functioning road network. A number of vital projects which may not be viable without government funding could become viable if New South Wales is able to capture the benefits from the wider effect they have on network use, and therefore toll revenue, as well as externalities.

Major network augmentations will feed traffic into the rest of the network and reduce congestion. For example, the construction of the M4 East could have two effects:

- The extended section would feed additional volumes of traffic flow into the Cross City Tunnel, the Eastern Distributor and the M5 corridor, increasing revenue on those concessions.
- It would reduce congestion on the M4, allowing greater traffic flow and greater revenue (if tolls were kept on this motorway beyond their planned removal in 2010).

Under a model in which the Network is operated as a whole network, decisions to complete vital extensions like the M4 East would depend on whether its costs could be recovered through a combination of the new toll and additional revenue contributed from the network tolling regime. By contrast, to proceed on a stand-alone basis under the status quo, the project would have to depend on its own tolls and a significant taxpayer contribution.

A second consideration in moving to a network tolling framework is the perceived value of tolls. In deciding how to respond to the price signals sent by tolls, road users make decisions about the incremental value of the road on which they will travel. For example, the tolled Falcon Street Gateway has been criticised for its high cost per kilometre and is therefore underutilised, even though the toll reflects the actual cost of the project. People perceive levying a toll for 150 metres of roadway as unreasonable.

Value perception presents a significant issue in financing additional projects to increase the capacity, accessibility and functionality of the Motorway Network. Many important projects involve completing relatively small interconnections on the network. In spite of their relatively small size, these projects may well present unique and complex engineering and construction issues, increasing their cost and therefore, the toll required to finance these projects. This increases the risk that motorists will not appreciate the additional cost relative to the additional benefit of the new connection if the toll is based on recovering the full incremental cost. This could be the case even if the incremental benefits of the section for the entire network exceed the costs.

Other networks — such as payment networks or telecommunications networks — design prices carefully to recover costs from those elements of the network where consumers are relatively price insensitive, or where additional value is perceived or obvious. Overall, this ensures optimal utilisation of the network, while enabling overall costs to be recovered. The same logic should apply to road networks.

The underutilisation of the Lane Cove Tunnel and the Cross City Tunnel illustrates this problem. While both projects represent fundamental elements of the overall Motorway Network, the need to recover their costs on a concession specific basis has resulted in pricing strategies which were not perceived as delivering value for money, and which did not fit into the overall network context.

5. A New Model for Tolling

Like all customers, motorists should be able to expect their payment for access will deliver an agreed level of service. Ideally, motorists should be able to expect:

- to be able to drive at a minimum speed;
- access a well maintained, high quality road;
- to avoid congestion and other hazards; and,
- receive prompt assistance from incident response vehicles in the event of a breakdown.

Many motorway operators provide these services as part of their concession agreement for operation and maintenance of an asset, however a range of additional services are offered by motorway operators as part of their customer service offering.

Having accepted the underlying requirement for Sydney to move to a new system of tolling that encourages the optimal use of the network, this section examines the principles which should be considered in designing a new tolling model for Sydney.

5.1 Models for Tolling

Tolling a segment of road can be undertaken in a variety of ways. A common model is to charge road users for access to a particular segment of road, but tolls can also be structured to charge for access to an area and movement within an area. The three basic models of tolling are:

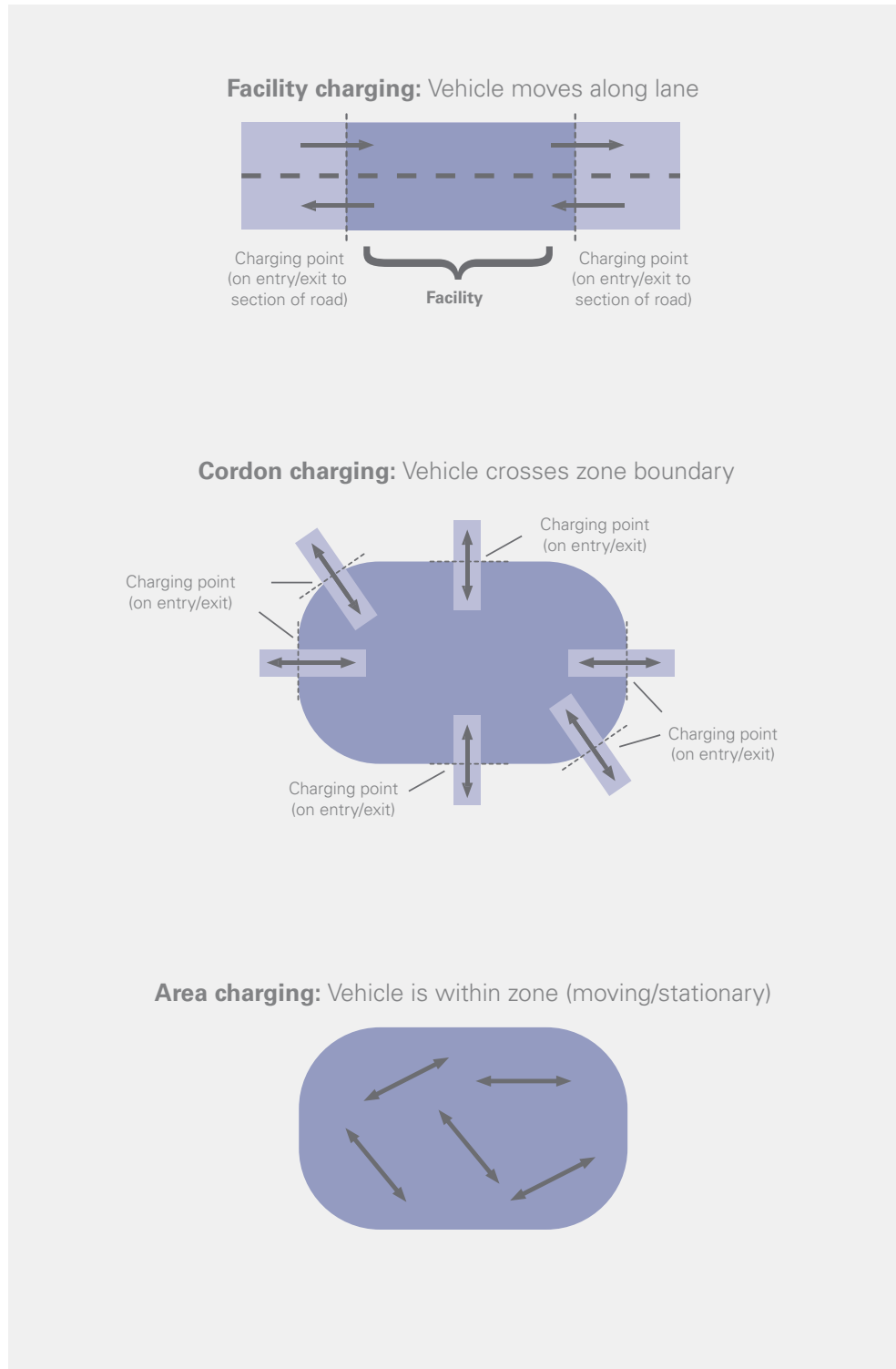
- **A Facility Charge** – levied on a motorist that passes through a particular section of road. A facility charge can apply to an entire road, such as the tolls on the Sydney Motorway Network, or specific lanes within a road, such as the High Occupancy Toll (HOT) or High Occupancy Vehicle (HOV) lanes used in the USA.
- **A Cordon Charge** – a driver is tolled when passing a border (either in or out) indicating a limited area. Europe's first toll cordon was introduced in Bergen, Norway in 1986.
- **An Area Charge** – when a motorist is charged for journeys into or within a demarcated area. The London congestion charge charges road users for movements within the congestion zone as well as into the zone.

Each of these tolling models superimposes boundaries on geographic regions for the purpose of tolling; therefore influencing the decision to access specific assets or areas.

▼ **Figure 13**

Broad Classification of Road Tolls

Source: BITRE (2008)



5.2 Types of Variable Road Toll

Beyond the use of geographic boundaries, tolls and other charges can also be applied to a range of additional behaviours by road users. Time of day tolling on the Sydney Harbour Bridge and Tunnel are the only examples of tolling designed to influence behaviour on Sydney's road network.

While not designed to discourage use by particular vehicles, tolls for access to many of the segments of the Motorway Network vary based on vehicle class thereby providing a disincentive for particular vehicle types to use the Network. For example, from July 1, 2009 heavy vehicles travelling the Hills-M2 pay approximately three times more than a passenger vehicle. The use of particular vehicle classes also attract charges from the Commonwealth and state governments, such as licence and registration fees based on vehicle class.

There are numerous international examples of behaviour-based tolling regimes include Colorado's I-25 High Occupancy Vehicle (HOV) and High Occupancy Tolloed (HOT) Express Lanes. Starting in 2006, single occupant vehicles are charged to use express lanes, but multiple occupant vehicles, buses and motorcycles access the same lane without charge. Several other innovative models are planned or operational in the US. Examples include California's Freeway 10, and Georgia's I-20 east of I-75/85, I-285. Plans also exist for the further roll-out of HOV lanes in some European cities.

These tolling models provide a framework to drive change to deliver desired economic and social outcomes on tolled motorways. These models are predicated on reducing congestion and rewarding desired behaviours.

Key tolling models to effect change are described below.

5.2.1 Influencers of Route Choice

- **Segment** – road networks, particularly motorways, can be divided into tolled segments. The value for a section may vary due to construction cost, length, capacity or numerous other factors. The various concession deeds on the Sydney Orbital Network act as segments, as do the dual tolls on the Hills M2 (Pennant Hills and Macquarie Park)
- **Distance** – vehicles are charged a rate per kilometre travelled, which is calculated dependent on their entry and exit points on the network. Applies on the Westlink M7 Motorway.
- **Nodal** – applies a charge based on the capacity of traffic to be passed through a node, portal or gateway, to another section of the road network. A nodal toll typically applies where traffic must travel the length of the segment, prior to being given the option to leave the motorway. This could be the distance between intersections, motorway off-ramps or changed traffic conditions (such as the introduction of additional lanes).

Nodal tolling recognises the requirement to travel a full segment and delineates prices based on attributing values, such as capacity, speed limit and on-road conditions, of each section.

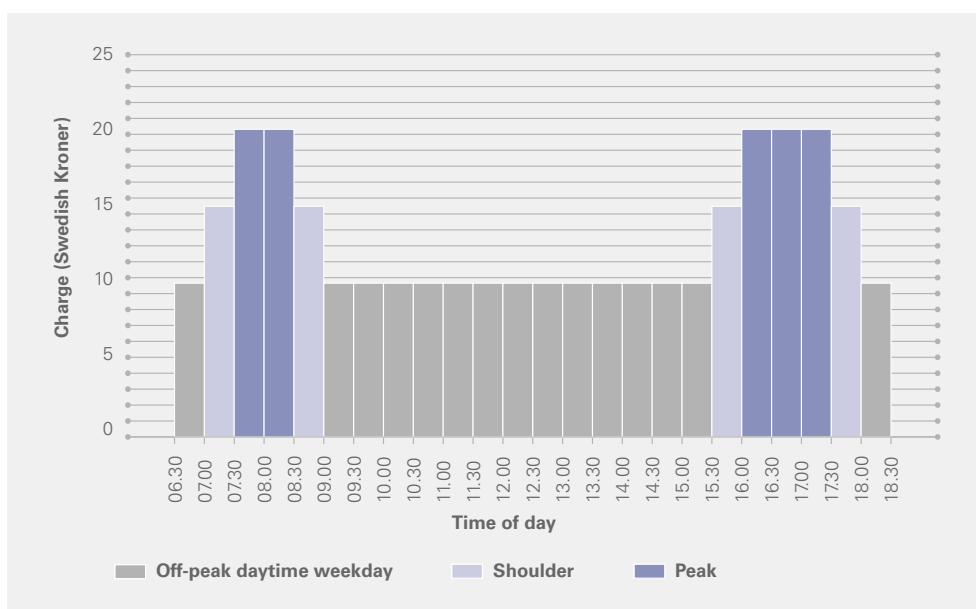
5.2.2 Influencers of Departure Time

- **Time of Day** – demand for travel is relatively predictable, meaning that congestion occurs in predictable patterns across the day. Time of day tolling sees lower tolls charged at times of low demand to spread demand across the day. Time of day tolling is used in many cities, including a cordon time of day charge in Stockholm and a time of day charge on the SR91 Express Lanes in Orange County, California.

▼ **Figure 14**

Time of Day Tolling – Stockholm Congestion Charging System

Source: BITRE (2008)



- **Fully Dynamic to Traffic** – This tolling model effectively auctions road space and sees the rate of toll change moment by moment to maintain free flow traffic. Theoretically, this allows demand to be managed to ensure optimal use of the roadway. Internationally, there are already examples of roads that have fully flexible, dynamically variable tolls. The world's first dynamic road pricing system was applied to two tidal flow lanes of the ten lane I-15 in San Diego, California in 1998. Fully dynamic tolling is also used on MN/I-394 west of Minneapolis, Minnesota and WA167 in Washington State.

5.2.3 Influencers of Vehicle Type

- **Vehicle Size or Class** – Tolls already vary according to vehicle class (for example, motorbike, passenger cars, heavy vehicles and buses) on many – but not all – of Sydney's motorways. Similar systems utilising vehicle weight or number of axles are used across Australia to determine indirect fees and charges and internationally to determine tolls.

The Maryland Transportation Authority Bay Bridge 50/301 offers five rates of toll, varying according to the number of axles, ranging from US\$2.50 to US\$18.00. Similarly the LA-1 Expressway has eight rates of toll varying by axle number between US\$2.50 and US\$12.00. Prior to its conclusion in 2005, Trondheim's cordon charge featured a heavy vehicle rate, which doubled the toll for those vehicles over 3.5 tonnes.

- **Engine Capacity**– similar to vehicle class and size however based on vehicle engine specifications, like capacity or fuel consumption.
- **Fuel Type** – vehicles utilising particular fuel types, such as alternate or renewable fuels like biodiesel, or low emission fuels, such as LPG, receive discounted tolls. By doing so regulators can encourage the adoption of renewable and low emission fuels and reduce the environmental costs of congestion. The Georgia Department of Transportation Atlanta HOV projects including I-20, east of I-75/85, I-285; also provides toll-free access for 'Certified Alternative Fuel Vehicles'. The London Congestion Charge provides exemptions for electric, hybrid and some alternate fuel and LPG vehicles.

Reduced tolls for vehicles with low engine capacities or utilising alternative fuels may be appropriate in recognition of the reduced social costs of these vehicles associated with air pollution. However, as alternative fuels are increasingly adopted by road users, it is likely over the longer term that it may be necessary to review advantageous tolling arrangements for these vehicles. Such a review would be appropriate considering the principle aim of such a scheme is to reduce the total cost of congestion to society, not only the costs associated with air pollution.

Variable charges for vehicle types, while widespread, also need to be carefully designed to ensure that classification of the vehicle types can easily occur.

5.2.4 Influencers of Trip Frequency

- **Vehicle Occupancy** – High Occupancy Vehicle (HOV), or car-pool lanes, are utilised in various jurisdictions with and without tolls attached to their use. Under this model, access or toll is dependent on the number of occupants within a vehicle. Typically single occupant vehicles pay the highest rate of toll, with lower charges for dual and treble occupancy.
- **Trip Caps** – an equity measure which can limit the impact of multiple or distance based tolls. This approach encourages longer journeys, smoothing the impact of multiple charges on users from outlying areas. Caps can also be used, where appropriate, to discourage the use of a network for short 'local' journeys by providing a discount rate for longer journeys. A trip cap applies on the distance-tolled Westlink M7 Motorway in Sydney.
- **Trip Frequency** – a discounted toll for particular users who access the network multiple times within a specific period. By discounting frequent use, road users, such as heavy vehicles, mass transit or taxis, can be encouraged to use the tolled network rather than diverting to free routes during periods of low demand.



6 Principles for Introducing Network Tolling

The theoretical benefit of moving to a pricing regime that optimises traffic flow is unambiguous. However, the relationship between supply and demand for road space is more complex.

The Sydney Motorway Network is a complex system of interconnected roads, with each serving a variety of roles. For instance, Southern Cross Drive is situated between the CBD and Sydney's air and sea ports and serves as a high value connection between the city and many tens of millions of airport and container port users. However, the road is also the key commuter link for drivers from Sydney's southern and south western suburbs.

In determining the appropriate application of a tolling regime to the Motorway Network it is therefore important to consider the role of the Network's roads in delivering Sydney's broader transport objectives.

6.1 The Relevance of the Road Hierarchy

Similar to the circulatory system in the human body, road systems work best when they operate according to a hierarchy of assets that serve distinct functions. As with arteries, veins and capillaries, the hierarchy of road assets needs high capacity motorways, arterials and local road connections. The position of a road within the hierarchy is essential to determine the broad objectives for its design and management. Specifically:

- **Motorway Networks** - deliver high throughput – or high speeds and large volumes - over long distances. To ensure roads can fulfil this role, they often have few or no turning movements, a few well-spaced entrances and exits, grade-separated intersections and restrict entry for cyclists and pedestrians. These roads do not serve an access-way function but are the 'heavy lifters' of the traffic network. The Sydney Motorway Network, most highways and the interstate network (e.g. Network 1) are constituting motorways.
- **Arterial Roads** - provide high volume links between the motorways and lower hierarchy roads. There are some intersections, which may include traffic lights limiting access for use by through-traffic. Arterials should be protected from deterioration of function by inappropriate development. Major feeders to the Sydney Motorway Network are arterial roads, such as Pennant Hills Road, Victoria Road and King Georges Road.
- **Lower Hierarchy/Local Roads** – serve as either "collectors" or provide access to higher capacity roads. These should be designed to be low-speed environments, have many entrances and exits, and provide for a mix of modes, traffic types and speeds. These lower order roads form the majority of the road estate and criss-cross suburban Sydney. They principally service local traffic.

6.2 Principles of Traffic Flow & Optimising Asset Use

While real road conditions are complex, in simple terms each road asset has an optimal traffic flow which garners the most efficient throughput of vehicles per hour. The capacity of a road is determined by a range of features, such as:

- **Sign Posted Speeds** – speed restrictions limit throughput by regulating the vehicles that can pass through the roadway per hour.
- **Road Alignment** – the camber of turns or level of incline impact on the speed at which a particular road may be safely traversed.
- **Frequency of Interchanges** - interchanges generate weaving and merging of vehicles, impacting steady flow and reducing travel speed and increasing the risk of accidents.
- **Road Surface** – high quality road surfaces which are free of debris and well-maintained allow vehicles to travel at a higher speed safely.
- **Lane Width** – motorists have a propensity to travel slowly where they feel 'squeezed' by nearby travellers.
- **Visual Amenity** – where line of sight or vision is restricted drivers may slow to offset reduced reaction times.
- **Weather Conditions** – conditions, such as rain, snow or the position of the sun may also inhibit the capacity of roads by encouraging drivers to reduce their speed and increase the distance between vehicles.

These factors are interrelated and can significantly influence driver behaviour, impacting on the throughput of traffic. Throughput is derived from the speed and density (distance vehicles travel from other vehicles) of traffic. Each road has a finite capacity – the maximum hourly rate of vehicles – which is determined by these factors. Once traffic volumes exceed the road's capacity, throughput can decline dramatically.

When there are almost no cars on the motorway (traffic density approaches zero), the flow is zero and speed is high. As traffic density increases, speeds remain free speed, and traffic flow increases. As traffic density increases further, above the capacity of the road, the various factors mentioned above begin to impact drivers and speeds drop gradually. The impact of these features is typically felt before the capacity of the road is reached.

The principle of traffic flow recognises the existence of a point at which the maximum capacity of the road can be achieved. Two traffic flow factors are critical considerations:

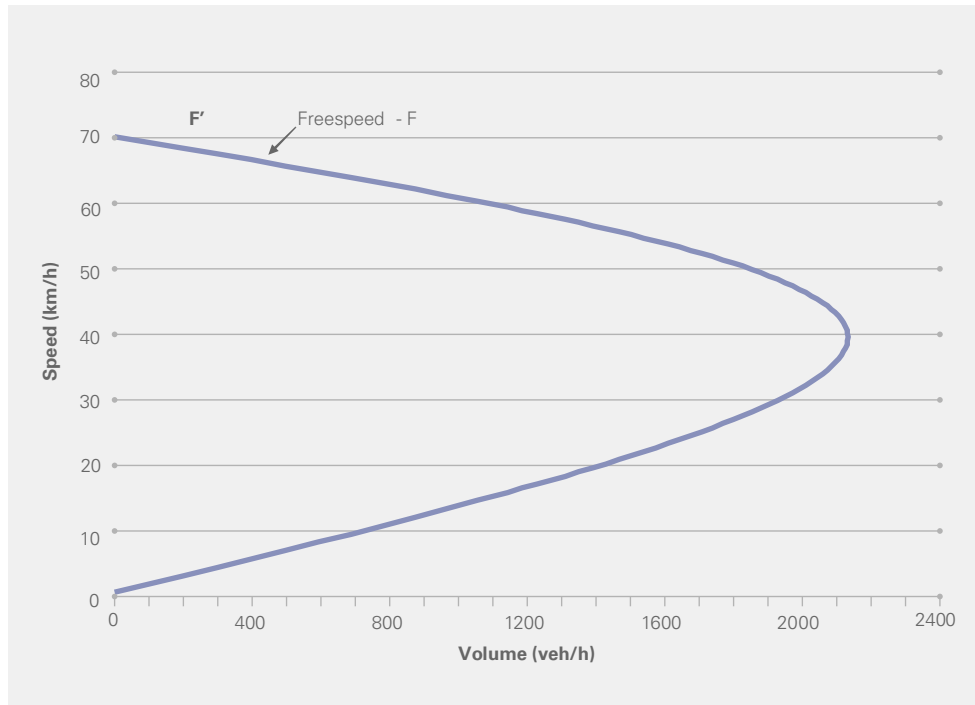
- Once flow reaches a critical point, adding further traffic results in dramatic reductions of speed and flow. The maximum throughput is at a specific critical flow.
- Traffic density can climb so high that traffic completely stops, flow returns to zero and there is no movement of traffic. At this point, minimum throughput occurs.

The greatest value can be obtained from the road network if traffic is held within the density required for maximum flow on each link. Recognising that the role of motorway networks is to provide maximum throughput levels, the maintenance of traffic throughput at optimal levels is an important component of the efficient operation of these roads.

This principle is essential in recognising that owners and operators of road infrastructure do not benefit from the infinite growth of traffic. Indeed, as demand for an asset grows beyond the capacity of an asset the revenue of the motorway owner will decline.

▼ **Figure 15**

The Relationships between Road Speed and Volume



6.3 Reducing User Costs & Responses to Road Pricing

The cost of using the road network is not simply tolls. Rather, the direct cost to the user is a generalised cost comprising the toll (if any) plus the costs of travel time, vehicle operation, road trauma and value of comfort, increased safety, improved environmental values or other preferences for the vehicle occupants. While toll roads carry a higher direct cost for access, free roads may carry a higher total costs due to factors such as increased travel time and cost.

Ideally, road users will take account of both factors and assess real journey cost and alternatives such as public transport against the value they will derive from the journey. However, this is not always the case.

In theory, users should seek to minimise their generalised cost when selecting a route through the network. In practice, users can perceive and treat the various costs quite differently. Upfront dollar costs, like tolls, have a greater impact than costs that come later, like fuel and maintenance.

Alongside differing views of upfront and deferred dollar costs, the cost time can be viewed differently by the motorists, companies and the wider economy. International experience has shown that some users selecting to travel on a congested “free” route do not choose the least cost option. They choose to pay more in other costs like time and fuel than the cost of a given toll.

These seemingly irrational choices occur because users are not aware of actual journey costs or because they may not fully value their time or opportunity costs. For road pricing to be effective, it must be accompanied by an effective package of measures to deliver pricing information to commuters about the total costs of various options for each specific trip.

Furthermore, in order for road users to respond sufficiently to a variable toll, it is essential that variations in tolls are effectively communicated. The use of multiple, coordinated media (such as web, text, voice and video messages and traffic information boards) to provide up to date, real time toll prices is essential.

Road pricing is a complex issue, and requires careful packaging. How and when charges are made can have as much effect on behaviour as the level of those charges.

6.4 Price Elasticity of Demand

Price elasticity of demand is the relationship between price and demand for a given segment of road. Elasticity varies from journey to journey, from motorway to motorway, and even between sections on the same motorway. The larger the system to which a price is applied, the more complex and sensitive the issue of elasticity becomes.

The greater the capacity of the user to access an alternative, the more elastic their demand will be. In order to demonstrate the relationship between price and demand elasticity, it is useful to consider a worker and their daily commute. If the worker:

- has a requirement to make the journey in order to remain employed – the choice to make the journey is highly inelastic;
- receives a high disposable income – the choice to make the journey is highly inelastic;
- can access a parallel road network – the journey choice is highly elastic;
- lives in a region with public transport – the journey choice is highly elastic.

Governments and the private sector have put a lot of work into determining demand forecasts based on the price elasticity of road networks. This is known as traffic modelling.

The use and development of traffic modelling is a critical and controversial component of the engagement of the private sector in motorway development. The Richmond Review said traffic modelling is "at the heart of decisions to set toll levels based on user preferences". Despite the use of world-class techniques within government and the private sector, ongoing concerns as to the accuracy of models requires further attention from government.

This paper supports the views of the Richmond Review that it has become more difficult to determine accurate data for potential users and specific projects under the current system of motorway development with rigid commercial sectioning.

As a result of the complexity of price elasticity, this paper argues that under the current system of rigid commercial sectioning, it has become more difficult to fund the remaining projects feeding into and within the network as it comes closer to completion. A key reason is that the lower cost and therefore lower toll sections of the Motorway Network have been completed, leaving high cost segments for completion.

Subsequently, the missing links within the network – for instance the high cost M4 East – would require a relatively high toll to recover the costs associated with the construction and maintenance of the asset, when contrast against rate of toll on the adjacent M4 Western Motorway.

In order to offset the requirement for high tolls on high cost projects, such as the M4 East, it may be possible for industry and government to reach agreement on a revenue sharing scheme whereby all parties stand to gain from the development of the project. Such an agreement would recognise the overall positive affect on network utilisation and functionality that would occur as a result of the completion of the project.

6.5 Creating a Network within a Network

This paper focuses on the use of network management, particularly tolling, to improve the utilisation of the Sydney Motorway Network. However, the Network does not exist in isolation. The Network is an important component of the broader road estate of the city. In principle, a pricing regime should seek to optimise throughput on both the free and tolled sections of the road network.

The Council of Australian Governments (COAG) led by the Australian Government has undertaken a program of work examining the application of road pricing systems to the broader Australian road estate since 2006. COAG has focused primarily on the application of a nationally consistent set of fees and charges to heavy vehicles, however that agenda has broadened to include passenger vehicles since 2008. The Review of a Future Tax System (the Henry Review) has played an important role in the broadening of the road pricing agenda through the release of two papers examining broad base road pricing:

- A Conceptual Framework for the Reform of Taxes Relates to Roads and Transport, June 2009
- Urban Congestion – Why ‘Free’ Roads are Costly, July 2009

The introduction of a national road pricing system would need to give due regard to existing commercial arrangements for road projects such as the Sydney Motorway Network and similar privately financed roads in Victoria and Queensland. The introduction of a national road pricing system would likely require the renegotiation of concession agreements associated with private roads in order to preserve existing commercial terms.

The introduction of a network tolling regime to the Sydney Motorway Network provides a way forward following the introduction of a national road pricing system, by providing a framework for contract renegotiation that both increases the functionality of the network and provides a model for service-based road charging, beyond the prevailing notion of cost recovery.

Since the operation of the Motorway Network is impacted by the capacity for traffic to be interchanged with the rest of the road network, an optimal pricing regime would give regard to the demand and capacity of both the Motorway Network and the adjacent road estate. It is therefore critical that the determination of a new pricing system for either gives due regard to the impacts on the other. Critically, a new tolling regime for the Network must:

- Retain sufficient flexibility for inclusion, or simple interaction, with a national road pricing scheme in the future;
- Retain the capacity to deliver on its principle aim – improved customer service through assured service levels – under a national road pricing scheme.

6.5.1 Road Pricing

Road pricing theoretically provides the greatest net benefit from the total road assets. It involves pricing all links of the road network to achieve that end.

While it is theoretically optimal, in practice no country in the world has yet achieved such a dramatic shift in the way that the entire road estate is managed and funded. The Dutch Government has committed to the implementation of a nationwide road pricing system based on a per kilometre charge calculated by environmental and economic efficiency of a vehicle, as well as peak period surcharge. The system is planned for introduction in 2018, an earlier version having been delayed for political reasons.

To charge all roads electronically requires a vehicle identification system to record vehicle movements across a sector, which is likely to have a high setup cost. Back office systems for charging and billing are required to manage the large number of transactions. Such a system has to be integrated with existing charging mechanisms to avoid double charging. Consumer and privacy issues must also be addressed.

The complexity of developing and implementing an acceptable overall road pricing system would inevitably mean that progress would likely be slow. While road pricing may become an option in the future, the introduction of such a comprehensive model is not necessary to address the problems affecting Sydney's Motorway Network.

Some international models exist for the application of cordon or area charges to large geographic regions for instance the London and Singapore congestion charges. Experience from these schemes could be drawn on for an Australian system.

In the absence of a unified national road pricing system for Australia, the development of a network toll for the Sydney Motorway Network offers many of the same potential benefits.

7 Barriers to Implementing Network Pricing

7.1 Barriers to Greater Network Harmonisation

A network-wide approach to pricing would both optimise the use of the existing network and enable additions to the network, but the institutional and political history of the Motorway Network means that transition to a new arrangement will not be easy. In this section we describe the main barriers to achieving better results, including:

- equity concerns of users and communities
 - the application of tolls to currently untolled sections of the orbital
 - the removal of the Cashback scheme
 - the introduction of fully electronic tolling
- risks to operators from changing commercial agreements
 - the cost of implementation
 - the collection of tolls under a network model
 - the distribution of tolls to asset owners
 - revenue sharing between asset owners
 - compensation for disadvantaged asset owners
 - engaging concessionaires
 - commercial review periods
- the complexity of the new traffic model

Furthermore, it is critical that the implementation of network pricing is seen as a single overall solution for increasing efficiency and improving equity on the entire road network. The selection of individual measures that are necessary to move to a network toll must be seen as a package. If single components were to be implemented without regard for the broader package, such as the increase in toll prices without investment in transport alternatives such as public transport, network efficiency and equity for road users may in effect be further eroded.

7.2 Equity Concerns of Users and Communities

Despite the long history of the use of road tolls in Sydney and the broader Australian community, the concept of user-pays charges for road use sits uneasily with the community. A recent review by the BITRE identified a series of commonly held community attitudes towards road pricing. These include:

- **Perceived Unfairness** – the perception that users of one segment of the road are charged more than others;
- **Doubts over Effectiveness** - views that congestion is not serious or is better dealt with by other measures;
- **Additional Costs** - concern that new road-use charges will simply be another tax because they will be ineffective in influencing driving behaviour;
- **Privacy Concerns** - the technology cannot be trusted and will impinge on privacy;
- **Traffic Diversion** - toll charges could cause congestion to be diverted to areas outside the charging zone area.

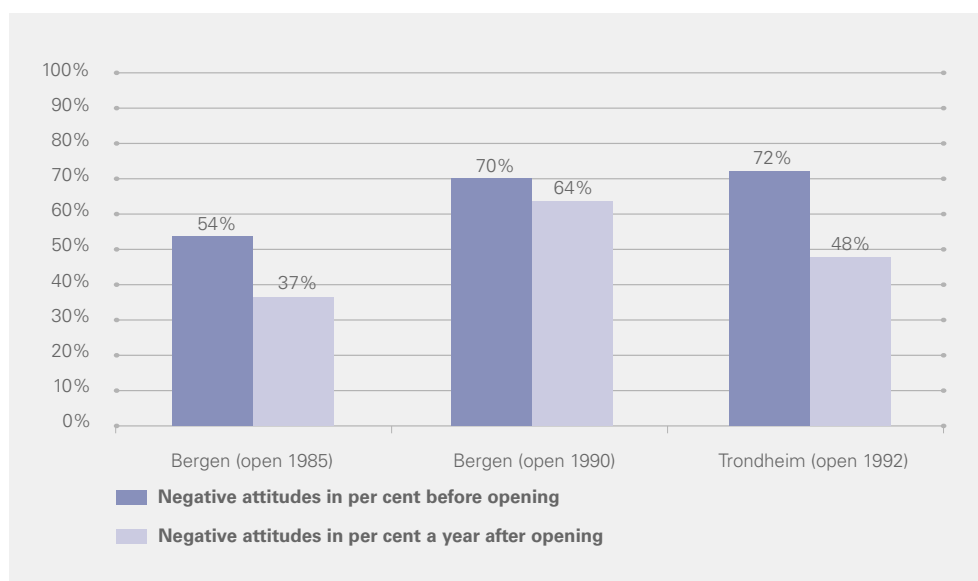
Reforming the current approach to pricing Sydney’s roads will require a significant change to habits and perceptions about paying road tolls. Achieving acceptance will clearly require a seasoned public debate which spells out the need for change; the benefits from reform to individuals and the broader community; and particularly, the growing cost of inaction.

Norway’s three largest cities, Oslo, Bergen and Trondheim, implemented cordon tolling systems during the 1990s. In the year following their introduction, two of the three cities had experienced a significant increase in the acceptance of the new tolling regime. High acceptance of the changes was attributed to the demonstration of clear improvements in the service offering associated with the tolls and the use of addition revenue in the improvement of the network. Oslo – which did not promote the benefits of the new system – continued to experience relatively high levels of community concern.

▼ **Figure 16**

Users Attitudes before and After the Introduction of New Urban Tolls in Norway

Source: Odeck and Brathen (2001)



The beginning of a broader debate about road pricing by the Henry Tax Review, coupled with the introduction of a variable toll on the Harbour crossings and the preparation of the New South Wales Transport Blueprint provides a window of opportunity for reasoned public debate about the most appropriate tolling regime for the Motorway Network.

7.2.1 The Application of Tolls to Currently Untolled Sections of the Motorway Network

The Motorway Network incorporates a mix of public and privately owned and operated roadways, and a mix of tolled and untolled sections. All untolled segments are publicly owned and principally include links between the CBD and the major outer-metropolitan motorway links. These untolled links include the Gore Hill and Warringah Freeways as well as Southern Cross Drive and the M5 East, which link to the Lane Cove Tunnel and Hills-M2 and M5 South Western Motorway respectively.

These untolled sections of the Orbital are notoriously affected by high levels of congestion during peak hour conditions. From its first day of operation on June 19, 1968, the Warringah Freeway has experienced consistent morning peak hour congestion. Similarly, the M5 East is well known for peak hour congestion, with a community-based grassroots campaign calling for the widening of the road. The principal New South Wales road users' group, the National Road and Motorists Association (NRMA), has described the M5 East as the M5 corridor's 'Achilles Heel' due to the bottleneck that forms on the free section of road.

While not carrying express costs for users through tolls, these sections of the Network carry disproportionate costs for users of the broader network and community. For instance, congestion caused by excess demand for the M5 East results in a congestion 'tail back' onto the M5 South Western motorway and into feeder and distributor arterial road networks.

Despite the ongoing and persistent impacts of congestion on untolled sections of the Network, the community may be reluctant to support introduction of new user charges to these sections of the network. In particular, users of these sections may feel the application of new tolls fails to recognise previous contributions to the cost of the development of the network through payment of fuel excise, goods and services tax on petrol sales, vehicle registration and licensing costs. The introduction of a customer service-based, guaranteed service tolling model, which supports optimising the asset's use and raises additional revenue to be used on new infrastructure, provides an opportunity to allay these concerns by demonstrating a value-adding use of the toll revenue.

Applying tolls to currently 'free' sections of the network also has the potential to unlock substantial efficiencies through the broader network of motorways and potentially, the adjacent untolled network.

The New South Wales Government will need to make decisions on the appropriateness of continuing to provide operational management and maintenance of these roadways. While the RTA has considerable experience in the operation of the road network – including these assets – the private sector has played an important role in the introduction of innovative management practices to the operation of Sydney's motorways and has the potential to apply these strategies to additional segments if management was contracted out.

Beyond the provision of operational and maintenance support for these assets, government could consider a potential role for these assets in offsetting costs that may be incurred by some operators during transition to a network tolling regime. Under this model, the government might consider the temporary addition of some segments of existing road to existing concession deeds, transitioning the call on revenue collection to the private sector.

7.2.2 The Removal of the Cashback Scheme

Recent history shows that a poor introduction or articulation of tolling can see it lifted to a significant political issue. The election of Labor's Bob Carr to Premier in 1995, was in part attributed to a pre-election promise to scrap tolls on the M4 Western and M5 South Western Motorways. Following the election, Carr stepped away from this commitment due to contractual complexities, instead implementing a refund scheme for private vehicles, known as 'Cashback'.

Cashback reduces the impact of road tolls on private users of the network, and artificially contributes to the overuse of the M4 and M5 motorways, compounding congestion on these corridors. These motorways attract patronage that is respectively 14 and 16 per cent higher than forecast, though it remains unclear as to what proportion of that increase can be attributed to the Cashback scheme.

The location of the affected roads in Sydney's 'mortgage belt' in the southwest and west of the city means residents are particularly sensitive to price variations and are likely to alter their behaviour based on price changes. In addition to potential price elasticity, these areas are relatively well serviced by public transport. The M4 corridor is already serviced by a heavy rail connection; the south west has existing heavy rail and will benefit significantly from the construction of the South West Rail Link, which was revived in November 2009.

Cashback remains a major barrier to optimising use of Sydney's road network. The traffic inducing characteristics of the scheme compounds the impacts of congestion on both the Motorway Network and connected roads. The scheme also provides a perverse incentive not to undertake much needed capacity enhancements, as increased use will exert pressure on state finances to increase reimbursements to motorists. The removal of the Cashback scheme, as part of a broader reform of the tolling regime, would help to improve equity in the current tolling regime while reducing pressure on the State budget.

Cashback has also increased the perceived unfairness of existing tolling arrangements in the community. Drivers who commonly use motorways not covered by the scheme, principally the Hills M2, have argued for the extension of the scheme to cover that corridor or its removal all together.

The removal of Cashback in isolation from complementary measures such as network augmentation, could potentially impact on the underlying financial position of the M4 and M5 concession-holders.

7.2.3 The Introduction of Fully Electronic Tolling

The motorways in the Sydney network have historically been strong innovators in the use and development of electronic tolling technology. Sydney's first electronic tag was introduced to the Sydney Harbour Tunnel during 1994 and subsequent motorways successively implemented new technology, evolving to free-flow tolling on all motorways in 2006.

Electronic tolling is a critical element of the efficient operation of the Sydney Motorway Network. The use of electronic tolling including magnetic strip, smartcard and more recently windscreen-mounted tags (eTAG), number-plate matching technology and casual user passes (ePASS) offer significant time savings over the use of cash.

▼ **Table 6**

The Evolution of Electronic Tolling in Sydney

DATE	DEVELOPMENT
1992	M4 Motorway opens. The M4 features magnetic strip based electronic toll.
1994	Sydney's first electronic tag introduced for Sydney Harbour Tunnel. A single lane provided for payment via tag.
1997	M4 Motorway introduces Tollpass. A smart chip-based electronic toll payment technology.
1999	State Governments across Australia agreed to the introduction of a common set of protocols for future toll road technology. These protocols provide the basis for interoperable tolling systems across all motorways in Australia. Based on the CENN European Standard for electronic tolling.
2001	M5 motorway introduces one lane of free-flow tolling to eastbound traffic.
2003	M4 introduces bi-directional freeflow tolling. M5 introduces freeflow tolling to westbound traffic.
2004	M5 Motorway removes easycards (mag-strip)
2005	Sydney's first fully electronic toll road, the Cross City Tunnel, begins operation.
2006	Free-flow tolling introduced to the Hills M2 Motorway.
2007	Sydney Harbour Tunnel becomes the first motorway to completely remove cash payment, and as a result goes fully electronic.
2008	Full ePASS operability for the Sydney Motorway Network becomes operational. Sydney Harbour Bridge removes cash booths, and as a result renders the Harbour Crossing corridor completely cashless.

The use of electronic toll collection is a valuable strategy to reduce the occurrence of queuing at cash toll booths. The use of cash toll booths negatively impact traffic flow due to users fumbling with spare change, possessing insufficient or incorrect change and the physical delay associated with inserting the coins.

Removal of remaining cash-based tolling facilities, such as those on the Hills M2, Eastern Distributor, M4 Motorway and M5 South Western Motorway, offer the potential to improve traffic conditions where constraints exist or queuing for cash facilities interrupts free-flow tolling lanes. The removal of cash facilities from these motorways, with the corresponding uplift in motorway capacity, is a critical step in maximising the efficiency of these motorways.

The implementation of fully cashless motorway operations represents a practical step towards removing physical restrictions to traffic flow on motorway. However, it is possible to derive similar benefits for road users through the construction of cash collection facilities, separate to the main traffic lanes. The principle restriction of continued cash collection on Sydney's Motorway Network is access to sufficient land area for the construction of additional cash facilities.

The construction of collection facilities to support the payment of cash tolls at each section of the network where a change in capacity and toll occurs, would be a further challenge to the retention of cash. The added complexity of requiring cash payments for a flexible toll suggests the use of fully electronic tolling as a more desirable outcome for the Network.

7.3 Risks to Operators from Changing Commercial Agreements

A move toward a new, network-based system of tolling for the Motorway Network will require changes to the existing concession contracts. Introducing a new tolling system for the Network will result in changes to the method by which revenue is both collected and distributed to motorway concession holders.

While the introduction of the Cashback program, which essentially resulted in the introduction of a shadow toll for the affected motorways, did not require a renegotiation of concession deeds, network tolling is likely to change the implied profitability of various sections of the network. The introduction of congestion-based pricing would:

- Reduce peak-time patronage on some sections of the network, while increasing it on others
- Increase implied tolls for some sections of the network, while lowering them for others.

Hence, some concessionaires could benefit from price optimisation, while others could potentially experience reduced long term revenue streams. In theory, both risks and benefits of the network pricing approach could be shared between the government, the community, the road users and various service providers on the network.

The previous sections of this paper are largely devoted to analysing methods by which tolls might be collected; but the distribution of this revenue is equally important.

Renegotiation of concession agreements brings with it inherent risks for the government and concession holders. As the various concession agreements that apply to the motorways within the Sydney Motorway Network were negotiated at different times, feature varying conditions and compensation arrangements, the individual concessions would need to be separately renegotiated and may feature different compromises.

The regulatory and economic circumstances that currently prevail are not likely to have also existed at the time of the initial contract negotiations, and concessionaires may seek to receive new rates of return. For instance, changing costs of finance, operational and maintenance standards, occupational health and safety standards, internal rates of return,

material adverse effect clauses and government transport policies may impact negotiations and therefore require rates of return that reflect the new risk environment.

In order to reduce the risk to motorway owners from the renegotiation of concession deeds, the key principles in negotiating changes would be to ensure that:

- changes in risk profiles for the concession holder and the state are fully understood and valued;
- a concession holder's current and future returns to investors is not compromised; and
- concession holders share in potential future development benefits if they share risk.

7.3.1 The Cost of Implementation

The implementation of a network tolling system is likely to result in a series of establishment costs including the development and rollout of new equipment and a community information campaign to explain the new tolling arrangement.

A fundamental step in determining the cost of implementation of a network tolling regime is the identification of the most appropriate technology to support the change. During 2007, the US State of Oregon conducted a pilot study of the implementation of a state-wide road pricing system. The study found the cost of a full roll-out would be approximately US\$33 million. However, international experience has shown the costs of establishing a city-based scheme can range as high as \$260 million, or two and a half times the annual revenue of a scheme.

▼ **Table 7**

International Examples of Scheme Establishment and Operating Costs

Source: Michael Replogle (2008)

US DOLLARS	CAPITAL COSTS	OPERATING COSTS (ANNUAL)	REVENUES (ANNUAL)
URBAN SCHEMES			
London	\$180 M.	\$180 M.	\$360 M.
Stockholm	\$260 M.	\$26 M.	\$105 M.
Singapore	\$130 M.	\$9 M.	\$52 M.
NATIONAL SCHEMES			
Germany: 2005	\$2,880 M.	\$810 M.	\$2,860 M.
Austria: 2004	\$485 M.	\$46 M.	\$1,000 M.
Switzerland: 2001	\$270 M.	\$46 M.	\$1,050 M.

It is likely the cost of implementing a variable toll on the Sydney Motorway Network would be considerably less than the international experiences given in Table 9, due to the existence of the current interoperable tolling regime.

The New South Wales Government should seek to recover the costs associated with the development and implementation of the new system through additional revenue derived after implementation.

The development of a new tolling system should hypothecate all additional revenue to the expansion of Sydney's transportation system, including the city's public transport system and the Motorway Network. As an initial step, this revenue could reasonably be used for the purpose of establishing the network scheme.

7.3.2 The Collection of Tolls under a Network Model

The New South Wales Government has acted as the primary collector of tolls following the reintroduction of user pays road charges following the completion of the Sydney Harbour Bridge. Following the development of the M4 Western and M5 South Western Motorways in 1992, the private sector took over direct responsibility for the collection of tolls and their internal reconciliation as revenue.

The New South Wales Roads and Traffic Authority continues to be the largest provider of eTAGs, with an 80 per cent market share. Private sector operators provide the balance of eTAGS, although their share is growing. There has also been significant consolidation in the private tolling sector, with Transurban a significant shareholder in each private sector toll provider, including Roam, Roam Express and eWay.

Under current arrangements, concession holders are responsible for toll collection on their motorway segment. When a customer uses a tollroad, their trip is captured by the concession holder for that tollroad. The trip details are passed on to the tag issuer who bills the customer. The customer pays the toll to the tag issuer. If the tag issuer is the concession holder, the concession holder receives the full benefit of the toll. If the tag issuer is not the concession holder, the tag issuer passes the toll on to the concession holder, less an administration ('roaming') fee. The tag issuer may be entitled to charge other service fees to the customer for additional services.

On fully electronic tollroads, ePass casual passes are also issued for non-tag travel. These passes are available on all tollroads and utilise number plate matching technology. Similar roaming fee arrangements also apply to passes, as well as a fee for manual data matching.

Under a network tolling model, the industry and government could consider the opportunity to derive additional value for money from toll collection contracts, for instance through the consolidation of the existing tolling contracts into a single or reduced number of toll service provider contract.

7.3.3 The Distribution of Tolls to Asset Owners

In essence, network tolling is akin to integrated ticketing in public transport. Revenue is collected across the entire network and is shared among service providers on the basis of patronage numbers, agreed costs and other negotiated factors. As interstate and international experience with the integration of public transport ticketing has shown, the negotiation of a system with the right incentives for participation which allows the reconciliation of revenue is not easy. But experience shows that it is possible, as long as the right commercial conditions are created.

Sharing toll revenue between asset owners should not be a major barrier to the implementation of the system. Critically, current concession holders will need to be guaranteed that they will be no worse off under a network tolling system than under the terms of their existing contracts, in both a commercial and risk-sharing sense. Recognising the current contractual terms vary between concessions, it may be necessary to create individual incentives for each concession holder.

Beyond the maintenance of expected returns, the move to a new tolling arrangement could consider new upside, downside risk sharing arrangements to provide certainty for the operation of the network following the addition of new complementary assets. Such provision could include consideration of an ensured revenue stream agreement, or a similar mechanism.

The reconciliation methodology could take into account a range of factors, including vehicle volume carried and marginal costs, as well as ensuring that data integration functions are fully remunerated. Several potential models exist for the distribution of revenue from the network toll to owners of individual assets, these include:

Patronage Risk Models

- **Maintain Current Arrangement (Actual Use):** under current arrangements, concession holders receive a revenue stream derived from direct use of their asset (with the exception being the Sydney Harbour Tunnel). Under a network toll model, the road user would be charged a new rate of toll, however the asset operators would continue to receive the current rate of toll per vehicle.
- **Actual Use at New Toll Rate:** concession holders receive the actual revenue derived from the use of the network under the new toll structure.
- **Shadow Toll:** a shadow toll is a patronage based revenue stream whereby the government provides the concession holder an agreed revenue stream, based on the actual number of road users. The rate of shadow toll may or may not be reflective of the price actually charged to road users.
- **Proportional – Percentage of Vehicles:** The concession holder receives a revenue stream based on the proportion of vehicles that access a segment of the whole network, who utilise the concessionaire's asset.

- **Proportional – Percentage of Vehicle/Kilometres:** the concession holder receives a revenue stream based on the percentage of total trips per vehicle kilometre undertaken on their segment of the network.

Non-Patronage Risk Models

- **Availability Payment:** the move to an availability payment model would be a fundamental shift from the established patronage risk based model which operates across most of the Motorway Network. Under this model, concession holders receive regular service payments for meeting predetermined performance standards. Common performance standards include days of operation and pavement quality, however there may be up to several hundred conditions that must be met to receive full payment. Availability payments would be set to a level where operators would be no worse off than under the current approach.
- **Proportional – Percentage of Network Lanes:** similar to an availability model concession holders could be compensated for the proportion of the toll network length they operate. Performance factors could be required to be met to receive payment.
- **Proportional – Percentage of Network Cost:** this model would also operate like an availability payment, however concession holders would be compensated based on the replacement or operational cost of the assets they operate within the Network. The asset cost could be calculated using factors such as net present value of the concession contract or initial cost.

Alternative Models

- In addition to the principle considerations which determine revenue streams for concession holders, other factors such as levies for heavy vehicles and other imposts can make a significant contribution to revenue collection. Reforms could potentially include performance payments for achieving broader community outcomes, such as reduced emission profiles.

7.3.4 Compensation for Disadvantaged Asset Owners

In theory, it would be relatively straightforward to imagine how motorway owners could agree to optimal network pricing and share the gains between them in a way which leaves everyone at least as well off as before. However, in practice, such an arrangement will be difficult to negotiate and implement. Concessionaires are generally aware of the likely long-term revenue stream that can be derived from their existing contracts and would need to be convinced about how they would be compensated if they agree to adjust current toll charges. The determination of a toll level that achieves optimal use of each asset through price signals provides the opportunity to derive the most sustainable long term revenue stream for operators.

As we have discussed, network pricing is likely to lead to increased revenue for some toll

operators and decreased revenue for others. Indeed, it is possible and likely that some motorway operators may benefit from a network toll approach over the short-term, but be disadvantaged over the longer term or vice versa. Beyond the short-term impacts of variation in the use of the network, the longer term implications of price indexation require further investigation.

The critical factor in implementing network tolling will be whether those that would require compensation would agree to join such a regime. Equally, those operators who would benefit from network tolling may have an incentive to hold out in order to negotiate more favourable terms.

In order to ensure the optimal use of the network as a whole, concessionaires of roads where price optimisation leads to increased profits may be encouraged to compensate concessionaires on other toll roads that are adversely affected. In cases where efficient network prices increase profits on a given road, but where the concession consortium's profits are capped by a profit sharing agreement with the government, the redistribution to adversely affected parties would, to some extent, have to come from government.

Under a network tolling proposal it would be possible to change the current compensation arrangement to provide new incentives to both concession holders and their partners. This potential change would require agreed variations from existing concession arrangements and therefore motorway owners must be appropriately compensated. In recognising the importance of compensation for existing concession holders, it is critical to recognise that existing concession arrangements could not be changed without appropriate negotiation and compensation where appropriate.

7.3.5 Engaging Concessionaires

The success of the implementation of a network tolling regime will depend on support from all existing motorway network concession holders. In order to promote engagement from all owners it will be essential for government to commitment to a series of incentives to remove the potential for the erosion of motorway revenue.

The development of incentives for motorway concessionaires could include:

- **Revenue Sharing** – the introduction of demand-based tolling is likely to result in the revenue increases on some network assets, while others segments will experience a reduction. Government and private operators could potentially reach agreement on a sharing agreement for revenue uplift as a result of the new tolling regime.
- **Extension of Concession Terms** – the New South Wales Government recently agreed to the extension of concession terms for the owners of the Hills-M2 following negotiations on a widening project for that asset.
- **Capital Enhancements** – the expenditure of public funds or surplus revenue collected through the network tolling system on asset enhancements or augmentations, such as motorway widening, could support additional revenue collection through facilitating greater asset use.

- **Additional Motorway Entrances and Exits** – the government may allow concessionaires to construction new entrances and exits on existing motorways thereby increasing ease of use. This may in turn increase the attractiveness of the use of the motorway network for specific journeys.
- **New Toll Points** – a new dynamic tolling regime would require the construction of new tolling points to reflect the variable toll over motorway segments. As a result of new toll points motorway owners may collect additional tolls for some journeys.
- **Tolling Untolled Network Segments** – numerous publicly owned sections of the network are currently tolled. Transferring the right to levy tolls on these sections of the network to private operators this revenue may offset revenue decline or costs on other motorway segments.

It is likely that the development of agreement with concessionaires for the implementation of a network toll will require intense negotiation and the development of incentives for owners and operators that reflect the individual contractual arrangements and past revenue performance that applies on each asset.

7.3.6 Commercial Review Period

The introduction of a network toll represents a substantial reform for the Motorway Network. In order to secure the support of motorway owners and operators, as well as the community, the introduction of a scheme may initially be limited to a trial period or the terms of the agreement open to renegotiation after the trial. For instance, such a clause could state that if a concessionaire could show that revenue from an asset's operation declines more than a predefined percentage below the agreed forecast revenue for the period under the old tolling regime, then the State could have an option to either:

- cancel the operation of the networking tolling regime; or,
- compensate the concession holder through redefining the tolling arrangement and providing compensation.

The inclusion of a trial period and clear review mechanism may also increase potential uncertainty for investors, however it also serves to protect operators.

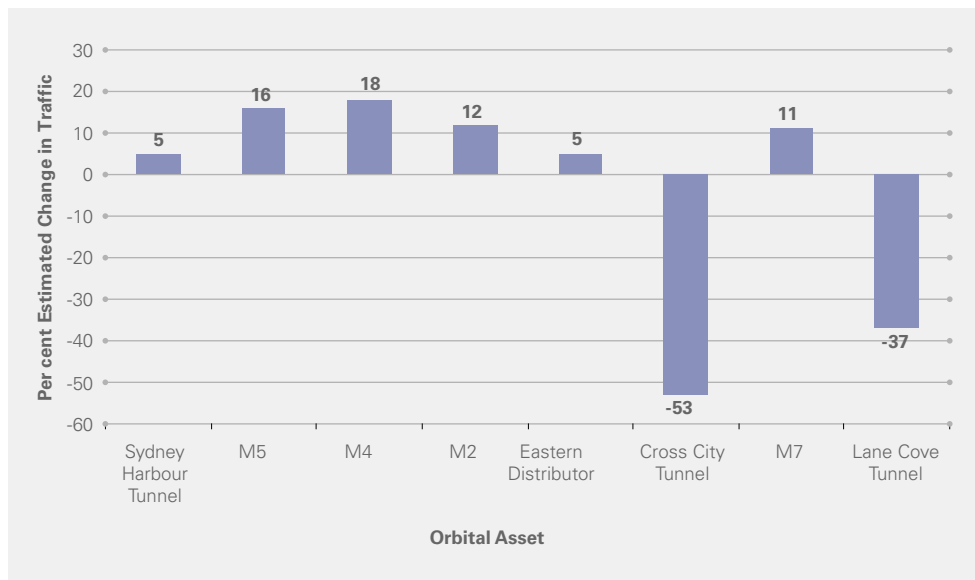
7.4 Complexity of the Traffic Model

As Richmond observed during his review of the operation of the Sydney Motorway Network, despite best practice patronage forecasting, there are real and ongoing concerns about the accuracy of these forecasts. In the Economic Contribution of Sydney's Toll Roads to New South Wales and Australia, Ernst and Young demonstrated significant variation in actual traffic results from the levels forecast during project tendering. The paper concluded that average traffic volumes across the privately held network assets were 6 per cent higher than forecast, however variation could be as high as 50 per cent. One of the key recommendations of that study was the need for improvements to traffic modelling.

▼ **Figure 17**

Adjustment in Traffic Levels on Motorway Network Assets Based on Actual Performance

Source: Ernst and Young (2008)



The development of a network approach for the tolling of the Motorway Network would require an integrated traffic model to facilitate a tolling regime that delivers optimal traffic levels across more than two hundred segments of the Motorway Network on daily, weekly and yearly operating cycles.

Development of a traffic model to facilitate the determination of optimal toll levels would require significant investment from the public and private sectors, building on the valuable knowledge of all participants in the network's operations. The development of such a model would be a critical first step to the development of a network toll regime.

As with all traffic models, forecasts build from experience, so as the model is developed it will become more accurate over time.



8 The Way Forward – A Practical Option for Sydney

The Sydney Motorway Network is in need of major renewal. The existing network of motorways is regularly impacted by congestion, important road links remain incomplete and pressure on the network is set to grow considerably over coming decades. A fundamental change in the way the Motorway Network is operated is required to meet these challenges and ensure the Network can provide its maximum contribution to the state's economy.

This paper considered a range of policy options to support the implementation of a new system of pricing to maximise capacity on the Network and to provide additional revenue for investment in expanding network capacity and alternative transport options, including passenger and freight rail.

The Australian Government's Review of a Future Tax System (Henry Tax Review) has highlighted the opportunity for national road pricing reform in Australia. The introduction of a national road pricing system should be designed to ensure the most effective use of the transport network, including the pricing of externalities. It is important that a national road pricing system balances the costs and benefits of the provision of transport infrastructure against the revenue requirements of the nation – a new road pricing system must deliver more than taxation.

Steps toward a national road pricing system are likely to be incremental and measured. Practical steps toward the introduction of tolling reform on the Sydney Motorway Network could be pursued over a shorter period. Practical steps to move to a network tolling regime might include:

- providing a basis for integration in future contracts;
- removing existing toll refund schemes;
- renegotiating existing concession contracts; and,
- the introduction of network tolling.

8.1 Provide a Basis for Integration in Future Contracts

In order to facilitate the move to a network tolling environment, government should commit to engage on the basic building blocks for integration – including flexible contractual arrangements, cooperative reform to tolling arrangements and the distribution of revenues.

While the inclusion of flexibility in commercial contracts might create short-term uncertainty, the inclusion of robust, transparent principles for a future network tolling arrangement may act to increase certainty for the series of proposed projects, whose development has stalled due to significant costs.

8.1.1 Determine the Basis for the Allocation of Additional Revenue

This paper has identified the likely creation of additional revenue for motorway owners, when averaged across the network, following the introduction of a network tolling regime. In order to facilitate the introduction of network tolling, the New South Wales Government must identify a preferred model for both:

- allocating revenue between motorway owners – including the RTA; and,
- determining priority projects for investment of additional revenue.

Section 7.3.3 identifies a number of potential models for the distribution of toll revenues between concession holders and the government under a network toll model. Central to the development of a model that will be acceptable to concession holders and successful over the longer term is the maintenance of revenue at levels at least consistent with levels of return under the existing concession deed. The New South Wales Government and concession holders should commence negotiations in order to determine an appropriate model for revenue sharing and compensation for disadvantaged motorway owners.

In addition to the reconciliation of arrangements for the distribution of funds between operators reflective of use, a network tolling model will facilitate investment in the development of existing and planned network enhancement projects as well as complementary projects that will enhance overall network capacity. The distribution of these funds should occur on priority basis, focused on development of projects with the greatest potential to contribute to the New South Wales economy.

In practice, this means a potential government contribution to each future projects should be considered against the contribution that project makes to the overall value of the Motorway Network. When evaluating new projects, it is important to consider the benefits to the total public and private network, especially in terms of determining the best sequencing of projects.

By increasing the capacity of motorways in the network, bottlenecks that reduce capacity on other sections of the network can be removed and traffic can be encouraged to utilise the motorway, rather than local road networks. Both these factors will alter the viability of the project, particularly if it can attract financial contributions from other directly affected network toll operators and from the public sector, compared to treating it as a stand-alone project that requires full cost recovery.

At least ten significant 'missing links' have been identified by the Commonwealth or state governments for development in the short term. It is essential that the New South Wales Government commits to a strategy for the prioritisation and funding of these projects.

The New South Wales Transport Blueprint, providing integrated transport and land use planning, is an important and welcome step. The industry looks forward to continuing consultation on the Blueprint and the selection of funding and procurement models to ensure its timely delivery.

8.1.2 Contractual Flexibility

The incorporation of provisions to support the eventual integration of these projects into a single network is an important step to ensuring a road network can be delivered at least economic cost. The rigidity of existing concession deeds, in particular the failure to provide a mechanism for negotiation of variations in contractual arrangements and the lack of any contractual review milestones and process, serve as a significant barrier to the implementation of network tolling.

To facilitate the development of an appropriate clause for inclusion in new concession deeds, the state government should consult with concession holders and, where appropriate, potential industry participants. The introduction of contract flexibility should aim to:

- provide guiding principles for the implementation of network tolling;
- provide a mechanism for the renegotiation of tolling arrangements following the introduction of network tolling; and,
- reduce contractual uncertainty by limiting triggers for contract renegotiation.

8.2 Remove Existing Toll Refund Schemes

Cashback serves to increase demand on the M4 Western and M5 South Western Motorways, placing unnecessary demands on these assets. The scheme stimulates unsustainable levels of demand for these motorways, adding to congestion during peak periods. For instance, the M4 Western Motorway corridor consistently offers the slowest average speed across all of Sydney's motorways.

Removal of Cashback will perform two important roles:

- **Release State Finances for Alternative Uses** - this revenue could be used to support the planning and development of new infrastructure - or the design and implementation of a network tolling arrangement;
- **Reduce Demand for Congested Sections of the Network** – the removal of Cashback will suppress demand for these sections of the network, reducing congestion on two of the state's busiest roads, and further illustrating the role of pricing to manage surplus demand.

8.3 Renegotiate Existing Concession Agreements

The requirement for the renegotiation of existing concession agreements is a likely outcome of the introduction of network tolling. The renegotiation of these agreements will involve complex negotiation between government and concession holders.

In order to expedite these negotiations, the agreement on basic principles such as the assurance that no operator will be worse off under the new arrangement, will greatly aid resolution. The involvement of current operators in planning for integration of future contracts will also assist by clearly articulating the desired outcomes for future contracts. This should be done in advance of the more complex negotiations over changes to existing concession deeds.

Critical to the success of a network tolling regime is the commitment from all current operators of network assets to participate in the new scheme. Without this consensus, the introduction of a new tolling regime could serve to further complicate arrangements on the Motorway Network.

More work is required to determine the necessary refinements to the existing PPP contracts that would be required for a move to an integrated network.

8.4 Introduction of Network Tolling

During the implementation phase the network tolling system, the introduction will need to balance road user certainty against optimal traffic throughput. While the final implementation strategy will be dependent on considerations including technologies and the model of tolling, several guiding principles should be maintained during implementation:

- **Supporting Community Engagement** - The requirements and benefits of reform - and changes to tolling levels - will need to be clearly articulated to the community before and during implementation.
- **Staged Roll-out** – the introduction of the new tolling regime may be staged across vehicle classes or motorway assets, for instance the East-West Corridor, which is largely distinct from the interlinked Orbital Network. The expiry of the existing concession arrangements for the M4 Western Motorway in early 2010, may assist in the staged roll-out of a new tolling regime by avoiding the complexity of concession renegotiation.

9 Conclusion

The introduction of network tolling to the Sydney Motorway Network has the potential to significantly enhance the operation of the Network and deliver substantial economic, social and environmental benefits.

Network tolling provides a practical and short-term option for improving utilisation of the Sydney Motorway Network without placing substantial cost pressures on the state budget. Indeed, if well designed and implemented the development of an efficient tolling regime for the Network could potentially contribute a new revenue stream to fund infrastructure.

At the heart of reform is the fact that current arrangements satisfy neither motorists, nor government nor indeed, the private sector.

The introduction of a customer service-based model centred on the delivery of travel time certainty, reliability and predictability is a real option for the development of network tolling in Sydney. The customer-service model addresses many of the barriers to the introduction of network tolling – such as user equity and concession holder certainty – while also unleashing the maximum contribution of the network to New South Wales.

In order to facilitate the move to a more equitable system for the use of tolls on the Sydney Motorway Network, this paper recommends:

1. The New South Wales Government commit to a customer service focused model of tolling on the Sydney Motorway Network.

Government, in partnership with industry, must agree to a framework of guiding principles to govern a network toll. Principle aims of the new network tolling regime should include:

- the alleviation of congestion on the Sydney Motorway Network;
- delivering travel time reliability and predictability to users of the Network;
- the hypothecation of surplus revenue for the development of public transport and road infrastructure to accommodate growth in demand;
- maintaining appropriate levels of return to motorway owners reflecting the commercial terms of existing concession agreements and new risks that may emerge as a result of any new tolling arrangement (e.g. increased revenue leakage and costs of establishing the network).

2. Government, industry and the community must work together to immediately examine the implementation of customer service focused network tolling for the Sydney Motorway Network, potentially based on the implementation of a fully dynamic toll.

As an initial step, the New South Wales Roads and Traffic Authority (RTA) should form a working group, incorporating motorway owners and operators, to investigate a practical process of implementation.

3. The New South Wales Government must prepare and commit to a detailed implementation strategy, incorporating key milestones and stages to ensure smooth transition to the new scheme.

A network toll must integrate with the long-term transport plan for the Sydney region, including staging and the direction of investment of additional network toll revenue to priority public transport and road projects.

4. Implementation of reforms to the tolling arrangements must be accompanied by a community awareness campaign, outlining the proposed changes to the New South Wales community. The New South Wales Government should undertake this campaign in partnership with motorway owners and operators, together with consumer groups.

Appendix A: Background to Sydney Toll Roads

ABB.	MOTORWAY	PREFERRED TOLL PROVIDER	TOLL CHARGE – NORTHBOUND	TOLL CHARGE - SOUTHBOUND	TOLL PAYMENT		
					Cash	e-Tag	e-Pass
SHB	Sydney Harbour Bridge	RTA e-Toll Pass	(untolled)	Variable (time of day)		✓	✓
SHT	Sydney Harbour Tunnel	RTA e-Toll Pass	(untolled)	Variable (time of day)		✓	✓
ED	Eastern Distributor	Roam Express e-Way	Flat rate	(untolled)	✓	✓	✓
M5	South Western Motorway	e-Way	Flat rate/Cashback	Flat rate/Cashback	✓	✓	✓
M4	Western Motorway	e-Way	Flat rate/Cashback	Flat rate/Cashback	✓	✓	✓
M7	Westlink	Roam	Distance based	Distance based		✓	✓
M2	Hills M2 - Macquarie Park	Roam Express	Flat rate	Flat rate	✓	✓	✓
M2	Hills M2 - Pennant Hills Rd	Roam Express	Flat rate	Flat rate	✓	✓	✓
LCT	Lane Cove Tunnel	Roam Express	Flat rate	Flat rate		✓	✓
FSG	Falcon Street Gateway	Roam Express	Flat rate	Flat rate		✓	✓
CCT	Cross City Tunnel - Main tunnel	e-Way	Flat rate	Flat rate		✓	✓
CCT	Cross City Tunnel - Sir John Young Cres	e-Way	Flat rate	Flat rate		✓	✓

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Committee for Sydney

To Professor Allan Fels AO and Dr David Cousins AM,

Re: NSW Toll Review

The Committee for Sydney thanks the NSW Government for the opportunity for input into the current NSW Toll Review.

The Committee for Sydney is the city's peak advocacy and urban policy think tank. We are an independent non-partisan organisation with more than 150 members. We are advocates for the whole of Sydney, developing solutions to the most important problems we face. Our goal is to help Greater Sydney be the best city in the world.

Our submission aims to provide a wide-ranging consideration of the role that road user charging in Sydney plays. In developing our submission, we have consulted with a range of our members.

Introduction

Sydneysiders spend too much time and money sitting in traffic. At the time of writing, 9am on a Thursday morning, there are 496 traffic jams across Greater Sydney, with more than 300 kilometers of queued cars.¹ This has huge costs on our economy and environment, as well as on our social and physical wellbeing.

The toll review presents a major opportunity to address traffic on Sydney's roads by changing the way we charge for road use. While much of the public debate on tolls has been focused on the cost of them, we have not been considering the cost of the alternative – traffic. The NSW Government should develop a clear objective of reducing private car use through tolls, or a road user charge.

The simple reality is that as Sydney grows to 8 million people by the middle of the century, we will not be able to move this many people around the city quickly using cars. Instead of most trips being taken by car in Sydney, it is essential that most trips are taken by public or active transport. To achieve this, we of course need to invest in public transport, but we will also need to think differently about road user charging.

In our view, it's time to think big and start a broader conversation about road user charging. This is important for two reasons:

- Reducing traffic congestion and shifting mode share can only be achieved through a price on the road
- The federal government will look to implement road user charging to compensate for lost income from the fuel excise tax – as we will soon have fuel efficiency standards and will eventually shift to electric vehicles.

¹ TomTom Traffic Index, Sydney Traffic, <https://www.tomtom.com/traffic-index/sydney-traffic/>

The NSW Government has a rare opportunity to be ambitious and lead the way on road user charging in Australia, setting a standard for other states and the federal government.

In what follows, we outline the important role tolls play in alleviating traffic and why toll relief isn't as good as it sounds. We then put forward several options for changing how we charge for the use of roads in Sydney, as well as other options for cost-of-travel relief. We also suggest ways to manage traffic in our town centres and CBDs without introducing an additional cordon charge.

This is not the first time the Committee for Sydney has advocated for this issue. In 2016, we released "[A Fork in the Road: A new direction for congestion management in Sydney](#)". This report, while being 8 years old, remains broadly correct in its assessment of the problems and recommendations for the solutions to congestion on our roads.

Some of the ideas put forward are bold and would require strong political intention to implement. The ideas we put forward can be implemented by themselves, or alongside each other – some will make others more achievable. We hope Sydneysiders and the NSW Government will accept the challenge.

Our definitions

Toll – a charge payable to use a specific road

Road user charging – a charge payable to use all roads

Cordon charge – a charge payable to use roads within a specific area

As we stated in 2016: supply alone cannot address congestion

If free tickets to a concert are offered to the first 400 people in a queue, you'll get 400 people standing in line, many content to camp out overnight. They are paying with time to save money. Current road pricing policy requires all motorists to act exactly like these concert-goers.

Motorists are made to pay for road use in time spent in traffic, even though some of them would rather do the opposite and our cities would be safer and more efficient if they were able to. Prevailing road pricing policy requires motorists to save money, which is a renewable resource, by expending time, the least renewable resource of all. Congestion is the result of under-pricing, leading to queues.

Visualise a major commuting road so heavily congested each morning that traffic crawls for 30 minutes or more. If that road were somehow magically doubled in capacity overnight, it's fair to assume the next day the traffic would flow rapidly because the same number of drivers would have twice as much road space.

But very soon, and sometimes immediately, word gets around that this road was uncongested. Drivers who had formerly travelled before or after the peak hour to avoid congestion would shift back into that peak period. Other drivers who had been using alternative routes would shift onto this now convenient road.

Some commuters who had been using transit would start driving on this road during peak periods. This is how induced demand works. It's about the push and pull factors around queuing and access to services. And just as with other queues, if the line is long for a certain free or under-priced service, many customers will decide to come back when it's shorter.

If it is a short queue, by joining it they make it longer for others. Pricing is the only thing which changes the fundamental dynamics of this situation.

Tolls or traffic – pick one

Sydney would not have the motorway network it has today without tolls. Tolls fund the construction and maintenance of roads without government having to reach into their own pocket.

But more importantly to the long-term success of our transport network, tolls – and road user charging more broadly – are some of the best mechanisms to reduce traffic congestion. Decades of research have shown us that, perhaps counterintuitively, investing in public transport alone does not reduce the number of cars on the road. Only a road price will achieve a sustained reduction in traffic. Essentially by setting 'the right price', some people will choose to avoid tolls and take another route or not drive at all.

Using tolls, or any other form of road user charging, to influence mode choice has been and remains politically unpopular in NSW and Australia. The imposition of tolls on some roads and not on others has led to reasonable questions about the equity and fairness of tolls, particularly for people who live in parts of Sydney that are impossible to access without a car.

Sydney's expansive motorway network has been required by urban sprawl and has also enabled urban sprawl. This has locked-in car dependency for a large portion of our population. Public transport is not viable in low-density suburbs, because there are not enough people to support frequent and reliable services. So, many people in Sydney have no choice but to drive.

This is not to say that we should be able to use some or all roads for free – indeed we often already pay through time spent in traffic. Just as we pay a fare to catch the train, ferry or bus, we should also pay a fare to drive on the roads. While consumers currently pay when driving through petrol excise, this mechanism is poorly targeted at reducing congestion. Dynamic pricing, which sets a higher price when there is higher demand, should be used to manage peak periods on the roads – not just on existing toll roads.

In questioning the equity and fairness of tolls, we cannot forget that tolls – and any form of road user charging – help to manage traffic. If we make it cheaper for people to drive, more people will drive, meaning more people will be stuck in traffic for longer. This will also affect the equity of our city as traffic will most impact those living furthest away. Reducing tolls will simply shift the cost of driving from people's money to people's time.

The risk of inducing more traffic is that people may assume Sydney needs more roads. But building more roads just creates more traffic – both by making car travel more efficient and by enabling urban

sprawl which requires car travel. So instead of focusing on toll relief, we should be thinking about how we can use pricing to influence mode share and land use patterns.

Toll relief is a poor use of public money as it shifts the burden from one cost (money) to another (time spent in traffic). Traffic congestion is a massive drain on economic productivity and has a high environmental cost. But the immediate impact of traffic on people is less time spent with family and friends, and less time doing fun activities.

Big ideas for the future of road pricing

1. Provide vouchers instead of toll relief

To have a bigger impact on addressing people's cost-of-travel than current toll relief (measured in both dollars and time), the NSW Government could instead provide broader transport vouchers.

Depending on costs, the vouchers could be for everyone, or just for people who live in areas with low or no access to public transport. There could be various options for how people can spend the value of their transport voucher. Options could include paying a toll bill, topping up an opal card, or paying a deposit on an e-bike. Even a voucher that provides cash for any use may deliver better public policy outcomes than the existing toll relief.

Providing toll relief removes the best thing about a toll – a price signal – which ensures reduced congestion. Instead, a voucher that provides the same or similar amount of money to people experiencing high cost of living would allow them to spend the money on other uses and modes, while retaining the price signal to keep traffic low.

During Covid, the NSW Government rolled out several vouchers that were easily accessible through the Service NSW app. Now that people know how vouchers work, and there is a system in place to administer them, the NSW Government could set up transport vouchers instead of toll relief.

2. Introduce a road user charge based on people's access to public transport

In our view, the introduction of a per kilometer road user charge in Sydney would have the biggest impact on reducing traffic. We can see this impact in practice by looking at how people use carshare. Carshare users typically reduce their annual vehicle kilometers travelled by up to half², because they pay a fee – both for the time they hire the care and per kilometre driven – every time they use a vehicle. This means they tend to shift their mode choice from the car to active or public transport for more trips.

² Boyle, P. 2016. The impact of car share services in Australia, International Car sharing Association, accessed via: [https://carsharing.org/wp-content/uploads/2016/01/The -Impact of-Car-Share-Services-in-Australia.pdf](https://carsharing.org/wp-content/uploads/2016/01/The-Impact-of-Car-Share-Services-in-Australia.pdf)

To ensure that people who live in locations with low public transport accessibility aren't disadvantaged by the introduction of a per kilometer road user charge, we could tie per kilometer rates to the level of public transport accessibility at people's home address.

This would mean people who have good access to public transport pay a higher rate per kilometer than people with poor access to public transport. In setting the rates, government would need to consider the extra kilometers people in low density locations are required to drive to ensure they do not end up paying more. To do this, government would need to come up with an agreed upon measure of public transport accessibility.

This option does not only seek to address inequities that may arise from the introduction of a per kilometer road user charge, but it also seeks to send a signal to government on where more public transport is needed, as well as encourage more dense land use patterns.

If this option were introduced, government may also consider concessional rates or exemptions for certain types of road users – such as freight, tradies, carshare vehicles³ and carers – and for vehicle emission standards.

3. Introduce a road user charge based on household income

To ensure price signals are not blunt and have the same impact on people with disparate incomes, government could also consider introducing a road user charge that is means tested – where a per kilometer rate is tied to household income.

This would mean aligning the 'price signal' of a road user charge to a proportion of a person's income. The price should still be set to disincentive driving while taking into account different household incomes.

In setting the rates, government would need to consider the extra kilometers people in low density locations are required to drive to ensure they do not end up paying more. Low density neighbourhoods also tend to have lower-income households.

As with the above idea, if this option were introduced, government may also consider concessional rates or exemptions for certain types of road users – such as carshare vehicles⁴, freight, tradies and carers – and for vehicle emission standards.

4. Consider alternatives to cordon charging in CBDs and town centres

³ There is an anticompetitive market for carshare organisations under the current tolling system. GoGet Carshare, who own and maintain their entire fleet are not eligible for toll relief, whereas Uber Carshare, who do not own the majority of their fleet – but manage and facilitate the sharing of people's private cars – are eligible for toll relief. Any toll concessions or allowances should be the same for any carshare organisation.

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Cordon charging – often referred to as congestion charging – is a politically divisive topic in Sydney, although it is a common form of road user charging in cities around the world like London and Singapore. In our view, there are alternatives that are more politically palatable and still deliver a similar policy outcome.

To manage the number of cars entering our CBDs and town centres, we could implement alternative mechanisms for travel demand management.

The biggest issue with cordon charging is deciding what town centres and CBDs should have cordon charging, where the boundary should be, and whether the rate should be the same for all centres or not. It would require careful consultation between local and state government, as well as the community. At the same time, introducing cordon charges along with a per kilometer road user charge would be politically difficult.

In our view, there are a number of other mechanisms that could first be introduced to reduce car traffic in town centres and CBDs. These include:

- Increasing and expanding the parking space levy
- Reducing traffic speeds to less than 30km per hour in major CBDs
- Reviewing and updating the Sydney Coordinated Adaptive Traffic System (SCATS) to prioritise people over cars – meaning more frequent and longer pedestrian crossing signals
- Replacing some car traffic lanes with bike paths, wider footpaths, street furniture and trees
- In-lane stopping for buses.

5. Review the cost of all transport modes to encourage sustainable trips

To ensure we don't review the cost of tolls in isolation and accidentally make driving a cheaper option than public transport, we should review the cost of travel in Sydney more broadly. Such a review should take into account the cost of travel for all modes in both peak and off-peak periods, and over certain distances.

Reviewing the cost of all transport modes in Sydney would help inform how we can use pricing to manage demand of all modes, as well as to shift mode share towards more sustainable transport options. This task is crucial to help Sydney meet its net-zero targets, as well as to reduce the burden of sitting in traffic.

6. Price parallel surface roads

Where we have built high-quality, underground motorways across Sydney, we should be encouraging people to use them more than the surface road they run parallel to. These surface roads – for example Parramatta Road – tend to be poor for commuters and for local residents.

We could reclaim Sydney's high streets if we reduce the number of cars and freight on these routes. One way of doing this is by introducing a price on these parallel roads and routes running above motorways, potentially offsetting this revenue by reducing the cost of the motorways.

It's important to remember that part of the value of the development of WestConnex was to return the surface streets for other uses. Introducing a price on parallel surface roads will make it easier for government to achieve this.

Thankyou

Thank you again for the opportunity to provide input. Should you have any questions or want to discuss our submission in more detail, please do not hesitate to reach out to Harri Bancroft, Public Policy Advisor, via harri@sydney.org.au, or Eamon Waterford, CEO, via eamon@sydney.org.au.

Kind regards,



Eamon Waterford
CEO
The Committee for Sydney



Grattan Institute

Submission to the 2023 Independent Toll Review

Marion Terrill

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Grattan Institute Submission to the 2023 Independent Toll Review No. 2023-00, July 2023

This submission was written by Marion Terrill.

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Introduction

The NSW toll road network needs to change. With 13 toll roads, toll prices locked-in for up to 37 years – and falling most heavily on drivers from Sydney’s western suburbs – and hundreds of millions of dollars per year in driver bailouts, it is a mess.

A new scheme needs to strike a three-way balance. It should support Sydney’s economic and social vibrancy, while finding a fairer way to apportion who pays how much, and limiting the cost to the taxpayer of unpicking long-term contracts.

A new scheme should set peak-period charges that vary by location, and offer free or cheap use of the roads when they are not overly busy. It should build in a mechanism for updating tolling rates from time to time when road conditions change.

An urban motorway network that supports vibrant Sydney (QA1, B4)

People flock to Sydney from other parts of Australia and around the world. This creates a tension for the NSW government: on the one hand, Sydney has significant economic advantages over smaller centres, and offers people a greater range and diversity of jobs, and leisure and cultural activities. But on the other hand, with Sydney at its current size and growing, there is inevitably more crowding and growing congestion.

Regardless of the history of the current tolled network, the future network needs to preserve and support Sydney as a city where people can feasibly travel from one part to another within a reasonable time-frame and with reasonable predictability. This is what it means to be a large vibrant city, rather than a set of disconnected villages.

The urban motorway network that supports Sydney must be managed differently.

The cost-recovery model that underpinned the NSW tolled network is broken. The idea had been to move away from taxpayers fully funding roads, and instead to share the costs between taxpayers and drivers. The private sector would build and operate these roads, charging drivers tolls that were written into contracts and mostly rose by CPI or 4 per cent per year, whichever was the higher.

But, in hindsight, taxpayers did not get full cost recovery; NSW is on its third toll relief scheme, and it’s possible that taxpayer-funded compensation will be paid to toll companies. It’s clear that tolls won’t fully fund roads.

A better way to envisage the goal of efficient road use is to focus on congestion.

Given that the roads have already been built, the design of a tolling system is most relevantly about efficient use of the roads that already exist. For a large city such as Sydney, excessive congestion is annoying to drivers and costly to the economy.

Most attempts at congestion-busting come with a big price tag, and associated tax burden. Building new roads in large cities can involve not only normal construction but also the costs of compensating the owners of properties acquired to accommodate the road, tunnelling costs, and the costs of major disruption.

Congestion charging can have a similar effect on traffic as new roads, but without the price tag or the associated higher taxes or the delays caused by construction work. By way of illustration, previous Grattan Institute research found speed increases of about 1 per cent across the network could be expected from a Sydney CBD congestion charging cordon – about the same speed increase expected from major urban road projects under construction or consideration.¹

1. Terrill et al (2019a, pp. 29–30).

In practical terms, tolling for congestion management means tolls should vary by time of day and location, and when conditions change, toll rates should change too.

Tolls should vary by time of day (QB1, C2)

Congestion toll rates should be set at a level that encourages people to take account of their own contribution to congestion, but no more. The aim should be the change the behaviour of drivers who are flexible about when, where, or how they travel. An efficient system is one that gets the biggest reduction in excessive congestion for the least cost and hassle to those affected.

Outside peak times and places, tolls should be very low or zero; it makes no sense to deter traffic when there's enough road space to go around. In peak periods, it's different: tolls should be set at a rate sufficient to encourage those drivers who are most able to be flexible to save money by taking their trip at a different time, by a different route, or by public transport. You don't need to deter too many drivers to maintain a steady flow of traffic and reasonably predictable trip times.

Of course, the tolls that would achieve this cannot be known precisely in advance. But it is not critical to get the tolls exactly right. Charges that are close to an ideal level are better than very high charges, as in some parts of the network today, which deter too many drivers, and near-enough charges are also better than zero, as in other parts. When it comes to congestion management, the greatest gains lie with deterring the most flexible drivers.²

The NSW government should run structured experiments to see how drivers respond to prices, and regularly recalibrate the tolls to be as low as possible while still keeping the city moving. They do this in Singapore, and it works.

2. Terrill et al (2019b, p. 58).

Tolls should change from time to time as conditions change (QB2)

It is critical that toll rates change when conditions change. Short-term changes, such as the response to the pandemic, alter traffic dramatically, but traffic patterns also change over the decades in response to changing patterns of work, travel, and settlement.

The switch to lower-emitting vehicles is also likely to affect the amount of driving, because the cost of any given trip in a low-emissions vehicle is significantly lower than the same trip in a petrol or diesel vehicle. In Australia, a 10 per cent reduction in the price of petrol can be expected to increase driving by about 1-to-1.4 per cent in the short term, and 2.5 per cent over the longer term;³ the impact of cheaper running costs for electric vehicles is likely to be broadly similar.

The state government should ask the Independent Pricing and Regulatory Tribunal (IPART) to advise on the initial levels of the charges, as well as if, when, and by how much charges should be changed over time. IPART should use traffic statistics such as the number of vehicles travelling specific stretches of motorway network within the relevant time periods, and average travel times between indicative origins and destinations. With regular monitoring of these traffic statistics, IPART should discern any sustained and material deviation from benchmarks to trigger a more detailed review of the level of the charge. This approach retains some objectivity and some distance from government, although the government would still retain the capacity to manage its network.

There is merit in starting with a charge that the government believes may be a little below rather than a little above the ideal. That is because the tolling would occur not on a blank slate, but in addition to various other measures such as the CBD parking levy and public transport fares that vary by time of day. It would be prudent for the

3. Breunig and Gisz (2008).

government to leave room to learn as it goes, and refine the scheme in light of the community's response.

Tolls should vary by location across the whole network (QC1)

Only the government is concerned with the network as a whole, and managing the road network is a key responsibility of government.

While each of the toll prices currently in operation may, on their own, have made some kind of sense, the problem today is that there are 13 toll roads, with prices set in a bewildering variety of ways; it's unsurprising that the system is not a coherent network.

It's important that the charges make sense to drivers. For this reason, it would be more consistent and intuitive if all urban motorways were included in the tolled network, not just those that happened to have been built in the past two decades as toll roads. Including all comparable corridors but setting tolls at more affordable rates would go some way to reversing the current inequitable burden of tolls.

Drivers should be easily able to discover the tolls they will be charged on particular routes at particular times of day.

Equity is important, but means-tested tolls are not the best approach (QC1, G3-6)

With congestion tolls, some people would elect not to take a particular trip because the expense was not worth it for them. But even today, some people elect not to take a trip because tolls cost too much or congestion is too costly in terms of the time spent. Either way, some trips do not happen that would occur if roads flowed freely and cost nothing.

If tolls were set to at modest levels in peak periods and zero in off-peak periods, it would change which trips were deterred. If the roads are expensive to use, whether fast or slow, they deter people who need

to travel but lack the means to pay. If roads are free to use, but slow, people who are not in a rush won't mind as much as those who are. Congestion in peak periods bothers retirees and shoppers less than it does commuters and tradespeople.

If there is a modest charge for peak-period trips, coupled with free or cheap use at other times, a bigger share of the peak-period traffic will be tradespeople, delivery drivers, and other commercial traffic, and people who need to be at work at a particular time. Those who can be flexible are more likely to save money by travelling at other times.

Of course, no one is prohibited from travel by a congestion charge. If someone needs to go to hospital, pick up a sick child from school, or collect a relative from the airport, they will stand a better chance of getting there quickly in peak periods if there is a congestion toll. This has been evident in the US, where more than half of drivers have used tolled express lanes on Interstates 495 and 95 in Washington D.C., even though only 5 per cent of drivers use them daily.⁴

Previous Grattan Institute analysis found that while the distributional impacts of congestion charging should be taken seriously, the evidence suggested that the impacts would be modest. Most relevant to the NSW toll review was the finding that it is typically higher-income workers who drive further to work, and those who drive long distances tend to have higher incomes.⁵ In addition, car ownership is lower for lower-income families; in Sydney, a quarter of households with a weekly household equivalised income of less than \$500 in 2016 did not own a car, whereas for households with incomes greater than \$1,500 per week, vehicle ownership was at 94 per cent.⁶

A key protection for low-income drivers is to set tolls at modest rates. Beyond that, assistance is problematic, largely because

4. Terrill et al (2019b, p. 30).

5. Terrill et al (2019a, p. 36).

6. Full details are in Terrill et al (ibid, Chapter 4).

such assistance makes most sense if it is well-calibrated to the driver's means, and responsive to changes in circumstances such as gaining or losing a job, partnering or separating, and so on. Detailed personal financial and family information is not routinely held by the NSW government, or private tolling authorities, and drivers may be reluctant to share it for the purposes of toll discounts. Of course, public transport concessions are provided on a rough-and-ready basis; if the government was inclined to take a similar approach for congestion tolls, it should not offer concessions to seniors except pensioners, and it should certainly not offer concessions to people simply on the basis that they are or were employees of Transport for NSW.

Inevitably, the government will be confronted with some challenging personal stories if it overhauls the tolling system. What about a nurse, say, who lives in western Sydney, works 30km away in the eastern suburbs, does school drop-off, and has no realistic public transport option? In the near term, there is little that she or the government can do. But longer term, there are options. The government could reduce or abolish stamp duty, which is a brake on selling up and buying a better-located home. And it could ease restrictions on where homes and businesses can be established. Tolling policy can only do so much.

Tolls should leave reducing carbon emissions and air pollution to other policy instruments (QC6, C7, D1-4)

Congestion is not the only social cost of driving. Driving petrol and diesel vehicles produces exhaust-pipe pollutants and carbon emissions.

It is widely recognised that light and heavy road vehicles contribute about 15 per cent of Australia's carbon emissions. What's less well-recognised is the harm to health caused by exhaust-pipe pollution; not only does it cause respiratory problems, but also coronary heart disease, strokes, bladder cancer, type-2 diabetes, and reduced

cognitive function. These effects are more pronounced among the elderly, the chronically ill, and children – including unborn children.

While a comprehensive road tolling system could take account of these social harms, there are strong arguments against.

Most importantly, the switch to electric vehicles will address both carbon emissions and exhaust-pipe pollution. While uptake is modest at present, the federal government's proposed fuel efficiency standard for light vehicles should speed the uptake of electric and hybrid vehicles in the next five-to-10 years.

Heavy vehicles are slower to switch to electric. Grattan Institute has estimated that a realistic goal would be for all new rigid trucks and 70 per cent of new articulated trucks sold to be electric by 2040. In the meantime, the federal government could introduce engine- and tyre-specific standards, as a way to get much of the gains in efficiency and reduced emissions. And the NSW government could consider introducing a low-emissions zone in metropolitan Sydney, which would prevent the high-polluting pre-2003 diesel trucks from driving in heavily populated areas.

Toll multipliers of 1.5 and 3 for light commercial vehicles and heavy vehicles respectively are reasonable, reflecting that they take up more space on the road, accelerate more slowly, and their bulk obstructs visibility for drivers behind and beside them.⁷

Other road user charging schemes (QC8)

Fuel taxes, levied by the federal government, are expected to decline over time as drivers switch from petrol and diesel vehicles to electric.

The anticipated structural decline in fuel tax revenue offers an opportunity for state governments to take over responsibility for taxes

7. Terrill et al (2019b, p. 14).

on driving from the federal government. States have the power to charge different rates in different areas, unlike the federal government, which is prohibited from taxing in a way that discriminates between states or parts of states.⁸

The NSW government has power to charge more efficiently for road use, and the opportunity to do so is now.

8. Australian Constitution s.51(ii).

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Action for Public Transport NSW



Action for Public Transport (N.S.W.) Inc.

P O Box K606
Haymarket NSW 1240
14 July 2023

Independent Toll Review
NSW Treasury

Submitted via website <https://www.nsw.gov.au/have-your-say/toll-review>

Submission for Independent Toll Review

Who we are

Action for Public Transport (NSW) or "APTNSW" is a transport advocacy group which has been active in Sydney since 1974. We promote the interests of beneficiaries of public transport - passengers and the wider community alike.

Discussion

If a city wants to get the best value out of its transport system, there are well-known principles to follow. Nevertheless this submission will describe principles for running an urban transport system well. For example, we [the people of greater Sydney] should be reducing vehicle ownership charges and emphasising vehicle usage charges but that does not necessarily mean that anyone should be paying more to drive or that total revenue collected from vehicle owners should change.

We note that, according to its web page, the Review will examine the basis for setting motorway tolls in Sydney and the impact of toll relief measures. The express terms of reference and our responses to them are:-

- **Specifically, the Review will consider the appropriate structure and level of tolls for the future having regard to their efficiency, fairness, simplicity and transparency, the historical concession agreements with providers, and the interface with all modes of transport.**

Response:

- Is "efficiency" used in the economic sense? Economic efficiency means that tolls are aimed directly at road usage. Any rebate system, however socially desirable it might be, reduces the economic efficiency.
- Does fairness mean fairness as between different classes of payers? Or does it mean charges which are low enough to not cause discomfort to the payers?
- Simplicity might work against efficiency.
- What does transparency mean in relation to road tolls?
- Consistency with existing agreements: These agreements have never been fully released. However, it is understood that the agreements list many possible events which would be a trigger for re-negotiation of the agreements, such as adjusting public transport facilities in a way that attracts passengers off a tollway. It is regrettable that the State's hands are tied in a way that prevents appropriate application of planning principles.
- Interface with all modes of transport: do not forget car parking. Large volumes of cars demand large areas of car park. Free parking anywhere costs money to provide and run. The 2005 book by Donald Shoup *The High Cost of Free Parking* contains a useful discussion.

However, Action for Public Transport suggests that another consideration should be the environmental and social benefits to be gained by encouraging drivers to use public transport where and when available. Tolls are known to influence travel choices.

- **It will take into account the extent to which tolls should reflect the capital and operating costs of road provision, the impact different users have on road sustainability, and the use of roads throughout the day.**

Response:

Transport will always be subsidised. But tolls could easily be used to make the transport system more efficient. Tolling would have to extend to roads that have never been tolled. To answer a question posed recently in *Sydney Morning Herald* (14 June), yes, the Anzac Bridge should be tolled. We quote from an opinion piece by David Hensher published in the same newspaper on 11 March 2016:

A congestion charge will help unclog Sydney's roads and save drivers money

....

At the Institute of Transport and Logistics Studies we showed a while ago that for the Sydney metropolitan area, if you halved registration charges and introduced a 5¢ per kilometre peak period charge, then almost every driver would be better off financially (as would state Treasury, though the federal government would lose out on some fuel excise due to reduced distance travelled by cars).

It would result in a 6 per cent drop in peak traffic (similar to traffic drop during school holidays), which makes a huge difference to the performance of the road network. It also a way of ensuring that those who benefit for the time savings under the new reform also pay.

To convince people we are talking sense, take a simple example of typical peak period kilometres in Sydney per year (4000 kilometres out of the typical yearly average 12,500 kilometres for private cars). Halving registration charges should save on average \$200 a year and 4000 kilometres with a peak charge at 5¢ per kilometre is \$200 so it is cost neutral. We could reduce registration charges even more, as per the view of Infrastructure Australia, and then saving to motorists is greater than \$200 (possibly as great as \$500).

We know from our surveys of commuters and non-commuters (and yes, at least 35 per cent of peak period car trips in Sydney are not commuting trips) that there are at least 6 per cent (and we believe more) of people who can and would switch to travel outside of the peak if the price incentives are there.

Over time we should review and increase the distance-based charge once the time benefits are revealed and experienced. Additional revenue can be used to fund much needed road and public transport infrastructure while delivering significant travel time savings on our roads.

....

The research described by Professor Hensher is interesting, especially as it finds that modest adjustments to road costs could reduce peak traffic volumes by 6% and that this would have a very beneficial effect on peak-hour congestion. However, the charge levied should reflect traffic conditions such as peak versus after-midnight. Given that nowadays practically every vehicle in Sydney carries a toll tag, it would be feasible to add toll points to existing main roads in a way that estimated each vehicle's road usage. Needless to say, the tolls charged by these new toll points would vary depending on traffic conditions and would be much lower after midnight than in peak hours. Also, newer parts of Sydney don't have adequate public transport and therefore it would be unreasonable to price those commuters out of their cars. Ironically, those are the same commuters who need to drive furthest.

We cannot specify how much the new tolls should be. However, based on the finding reported above that 5¢/km would make a worthwhile difference to peak-hour traffic congestion, perhaps tolls totalling about 50¢ on 10km trips and proportionally more on longer trips would achieve a similar result. Imposing higher tolls on longer trips should, by giving motorists an incentive to minimise longer road trips, encourage a shift away from such trips. This could be very beneficial for Sydney's air pollution and traffic congestion problems.

The reader should understand the qualitative difference between short trips and long trips. Short trips, such as those within a finite region e.g. Northern Beaches, are typically areal in nature and can be in any direction. Such trips often do not radiate from or towards the centre of an urban region. The single-occupant car is good at servicing these short trips; a concentration of travel in particular directions is desirable for public transport to work efficiently. Contrast with longer trips most of which parallel well-beaten routes between the centres of urban regions. It is feasible to run public transport along those routes and in many parts of Sydney the public transport is already there.

Some time ago we prepared the attached map showing how Sydney's geography would allow much broader tolling in eastern Sydney with only the minor capital expenditure of erecting more toll points at carefully-selected locations. These points would of course be programmed with varying tolls according to traffic conditions prevailing at different times of day. We do not think that broader tolling would be helpful in western Sydney which has developed with a reliance on near-universal car travel.

- **Toll relief measures help to ensure the affordability of tolls for motorists. The Review will consider the appropriate targeting of relief, fairness for the whole community in funding relief, and how to ensure the community rather than toll road owners benefit from toll relief measures.**

Response:

Unfortunately, most or all toll road proposals around Sydney were assessed on the basis of financial benefits and costs to the proponent rather than environmental and social benefits and economic benefits and costs to the State. This should change.

- **Tolls need to be readily understandable, simple to pay by motorists and administratively efficient to collect.**

Response:

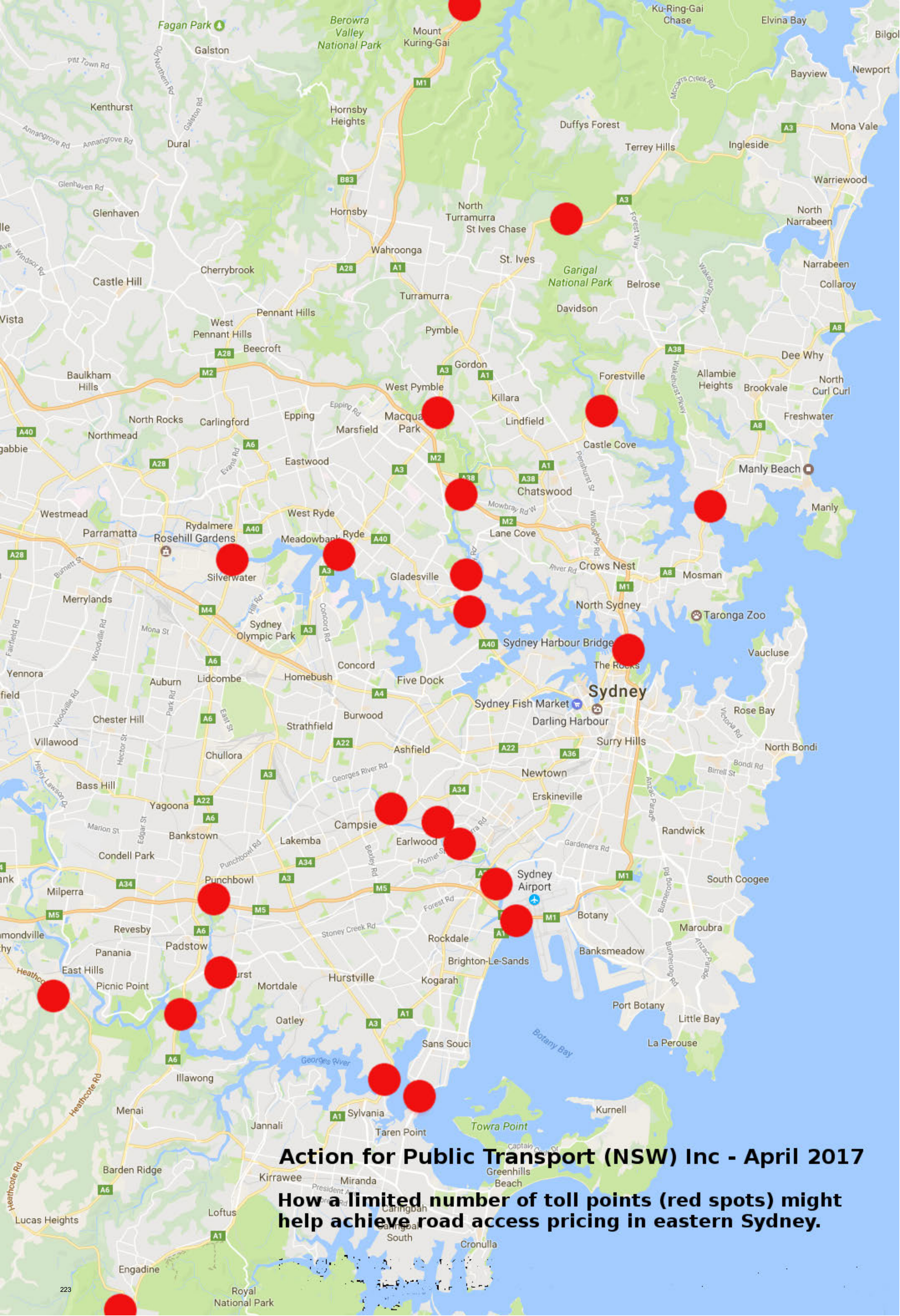
We do not respond to this matter.

- **The Review will consider the scope for competition and regulation to influence road tolls and the efficiency of service performance by providers.**

Response:

We do not respond to this matter.

Jim Donovan
Secretary
Action for Public Transport (NSW) Inc.



Action for Public Transport (NSW) Inc - April 2017

How a limited number of toll points (red spots) might help achieve road access pricing in eastern Sydney.



Epping Civic Trust

The Epping Civic Trust is a representative organisation for residents of Epping and nearby suburbs. Epping residents are deeply frustrated by the high level of through-commuter traffic on Epping Rd, which hinders local residents' movement within Epping, and reduces the east-west connectivity across the Northern railway line and the Epping railway bridge.

The high cost of the M2 toll means that over 80% of the traffic on Epping Rd is due to non-local commuters. Thus we request a reduction of the M2 tolls and improved access to the M2.

The cost of tolls on the M2 should be set with consideration of the congestion on Epping Rd. (Item C4)

Distance-based tolls and time-of-day pricing on the M2 (Item B3)

A new west-bound on-ramp from Beecroft Rd to the M2 to facilitate usage of the M2

Additional noise mitigation is needed for the M2 in Carlingford, Epping and Beecroft.



Campervan and Motorhome Club of Australia

26 July 2023

NSW Road Toll Reforms Needed

The following is in response to the NSW Government Road Toll Review.

The Campervan & Motorhome Club of Australia (CMCA) is the largest consumer organisation dedicated to the recreational vehicle sector in Australia however our endeavours to have the NSW Road Toll system issues resolved also involves other like-minded groups such as the National Association of Caravan Clubs (NACC), Australian Caravan Club (ACC) and the Australian Touring RV Club (ATRVC). The collective number is totalling over 100,000 travelling consumers, who are imploring the Government to make change to the current system. There are currently over 800,000 recreational vehicles (RV) currently registered in Australia, with most being located in NSW and Queensland.

CMCA, through its above partners, has previously communicated with the NSW Government however our previous efforts have fallen on deaf ears. Now through pressure from members within each Club, we are starting to gain traction.

We have requested the Government to have Transurban adopt a fairer categorisation of vehicles and not base vehicles on an arbitrarily determined dimensional classification.

Every driver knows that there are in addition to trucks and cars many recreational vehicles on our roads. The Government should have and failed to establish a fairer classification process, by developing a middle tier which will include vehicles between 2.8 – 3.5 metres in height. This would cater for a large percentage of RVs which are currently categorised under "All other vehicles". Other states have better vehicle categories which also include identifying recreational vehicles.

1. We are seeking a new categorisation of recreational vehicles to be placed in the system recognising vehicles between 2.81 metres to 3.5 metres in height.
2. We are seeking all vehicle recognitions/detections be done through the registration plate of the vehicle not through scanning of height or length.

Currently any vehicle over 2.8m in height is charged the same toll amount as a B-double truck. Recreational vehicles should not be charged as B double trucks when in Queensland and Victoria their governments had no trouble in identifying each recreational vehicle and charge accordingly.

I personally as Chief Executive Officer of the Campervan & Motorhome Club of Australia Limited, met with the Minister at the time Hon Natalie Ward and the Shadow Minister John Graham to present a case seeking recognition of the need to introduce the missing categorisation of recreational vehicle to ensure a fairer system for all recreational vehicles using NSW Tolls Roads regardless of the home address of each driver. Mr Graham did speak in support to understand our case, however at the time was not in power to make much change, however said if they did win at the election, they would look at the review process and this is where we are today.

At the meeting with the previous NSW Minister of Metropolitan Roads, Ms Ward only seemed to be worried about who was going to make up the financial difference if there was to be a change. This was a puzzling response as the aim of delivering toll roads is to get more people to use them and reduce the traffic on the old suburban road network. We were looking at fairness.

We presented two major issues:

1. People are avoiding tolls, using arterial roads causing more road damage and congestion. The amenity of so many communities is being heavily impacted in several key areas already highlighted in the current review.

2. By making a new category (Recreational Vehicles) there is greater chance in having those drivers use toll roads when drivers are charged the right price the first time without a cumbersome rebate scheme that was introduced without regard to recreational vehicle users and ignored interstate drivers being overcharged.

Currently:

Class A	Vehicles 2.8 metres or less in height and 12.5 metres or less in length.
Class B	All other vehicles

New proposal:

Class A	Vehicles 2.8 metres or less in height and 12.5 metres or less in length.
Class B	Recreational Vehicles between 2.81 metres to 3.5 metres in height or between 12.51 metres 16 metres in length.
Class C	All other vehicles

The second component is a simple process:

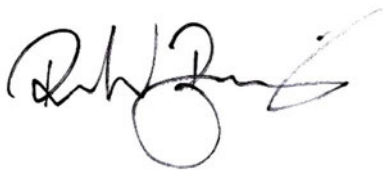
Instead of using the tolling point to detect dimensions, motorists require the **vehicle registration details** to determine the appropriate Class and toll. Registration plates are already photographed at each tolling point, so it would be a simple process to use the registration details for determining the correct toll. This would be a much fairer and more ethical approach enabling the toll operator to justify the different charges that would be attributable in each category. Motorists would then understand that charges would essentially be based on the impact on the road structure of each vehicle category.

Interstate drivers of recreational vehicles are currently and knowingly overcharged by the NSW government on NSW toll roads. Only residents of NSW can get a rebate for this constant daily overcharging that the NSW government and the current minister endorses. This outrageous revenue raising is wrong must be corrected in the interests of all Australian motorists.

Every driver should be charged a fair toll on all toll roads throughout Australia. In NSW if this error is not corrected, we will have this ongoing daily problem until 2060 and the time to act is now and correct this unfairness. You will see by our suggestion is that we require a middle category which will meet all consumer needs.

We are seeking recognition of a fairer and ethical approach to toll charges for recreational vehicles from Transurban just like in other states on the east coast. The immediate introduction of a recreational vehicle category and then then the immediate scrapping of overcharging and with it the cumbersome rebate system to be in the best interest of all RV drivers in NSW including interstate travellers using NSW roads.

Kind regards,

A handwritten signature in black ink, appearing to read 'Richard Barwick', with a large circular flourish at the bottom.

Richard Barwick
Chief Executive Officer



BMW Touring Club of NSW

2023 Independent Tolling Review

BMW Touring Club of NSW Submission

27th July 2023

Justin Dorward
Secretary

Introduction

The BMWTCNSW has its origin in 1965 when a BMW Owners Club was already in existence with activities restricted solely to owners of the marque. This did not sit well with some members who had friends that by choice or circumstance did not have a BMW motorcycle. By 1964, some of this group, including Bill Cooper began having meetings outside the BMW Owners Club. Along with Bill, at various times, these meetings included Wendy Cooper, Terry Pailthorpe, Terry Lauer and Rob Popplewell.

They'd meet at Bill and Wendy's place in Rydalmere and at one of these meetings, they decided to form a BMW-related club of their own without the compulsory BMW ownership requirement. Sometime between May and August 1965, a new organisation was started in the name of BMW but included the word "Touring" to reinforce the primary objective of all who gathered to form the new club.

The first formal meeting established the committee positions including:

- Bill Cooper – President (R50)
- Terry Lauer – Secretary
- Wendy Cooper – Treasurer
- Terry Pailthorpe (R60)
- Rob Popplewell – (Yamaha YDS 3)
- Ron (BSA Outfit plus a BM)
- Dr Pat (250 BM)

Others soon joined this more flexible group with Paul Evans (R60) making it to the second formal meeting, which was held at the Rydalmere Scout Hall and following meetings in Parramatta. All considered, there were approximately 30 members by the late 60s with rapid growth occurring in the 1970s. Today, the BMWTCNSW enjoys hundreds of members, many boasting membership tenure of decades.

Since the early 1960s, BMW motorcycles have earned a well-deserved reputation for reliability and comfort to tour New South Wales' vast distances. The bikes have got bigger, better, faster and come with all manner of rider aids, but their reputation remains.

The ethos of the club remains unchanged. We love our BMWs, and everyone is still welcome to join us regardless of what you ride. Throughout the years the club has created several popular mainstay events and rallies for members to enjoy.

Overarching concepts

It is the contention of the BMWTCNSW that there has been no consideration for how motorcycles differ in the context of motorways and tolls. For example, classifying a motorcycle as a two-axle vehicle, like a car, ignores pertinent factors that would have motorcyclists charged a fair toll price.

Although motorcycles constitute approximately 4% of all registered road users, acknowledging the differences in motorway toll policy will potentially bring New South Wales closer in line with various other Australian state authorities.

Responses

A1 - What issues do you see with the current tolling regimes across Sydney?

Motorcyclists are not charged a fair toll based on motorcycle-specific factors, such as:

- Reduced wear and tear, since motorcycles weigh significantly lighter than average cars,
- Increased flow efficiency,

A2 - How do these issues affect you?

Motorcyclists pay a disproportionate and unfair toll, which does not recognise the considerably lower road wear and tear. In an ecosystem where heavy vehicles are penalised for the extra costs associated with such road wear and tear, motorcyclists receive no reduced-rate consideration for less-than-average road wear and tear.

A significant proportion of commuting motorcyclists within the motorway network reduce congestion since they represent one single-occupant car (each) that is not in use at that time.

A3 - What do you think can be done about them?

A consistent and fair calculation of a toll for motorcyclists as a percentage of any published car tolls. This creates a concern of further complicating an already (existing) complex and convoluted pricing model, but ought to be a mandatory concern and consideration in the development of any future streamlined toll pricing structure.

A4 - For toll reform in New South Wales, what would success look like to you?

A network-wide discount rate is equally applicable across all motorways for motorcyclists, irrespective of how the toll is charged.

B1 - What factors are important in determining the level of tolls?

The road wear and tear, per vehicle type, must represent a significant component of determining tolls. Opportunity for increased traffic flow ought to be considered since more motorcycles can flow through the same roadway in the same amount of time than cars.

C3 - Pricing Options - Should tolls on existing motorways or on future motorways be subject to on-going independent prices oversight, say by IPART (Independent Pricing and Regulatory Tribunal)? If so, how?

Yes. Tolls should not be considered separate or external to pricing oversight already legislated in other industries.

C1 - Criteria for Assessing Tolls - Efficiency - Should tolls be set on a network basis? What are the pros and cons of doing this rather than setting tolls for individual parts of the motorway network as is now the case?

Yes. Whether the toll is constituted by an access charge plus per kilometer pricing, dynamic pricing, or other mechanism, the justification of motorcycles receiving a reduced rate is not negated by any price structure.

C7 - Criteria for Assessing Tolls - Efficiency - Should vehicle emissions be considered in setting road tolls?

Yes. As smaller engines achieve greater mileage than cars, motorcycles inherently generate less pollution.

Summary

The NSW Government may define motorcycle-specific criteria to ascertain how best to create a fair toll environment. While motorcycles represent just 4% of registered vehicles in NSW, as of 31st March 2022, 653,256 people (Licensing Statistics, 2023) held a class R license, which is a significant community of stakeholders and motorway customers.

It may be prudent - all things considered - to toll motorcyclists using motorways, yet it may be most efficient to not develop special policies and dedicated systems to cater to these unique needs and instead recommend outright to negate motorcyclists from having to pay tolls.



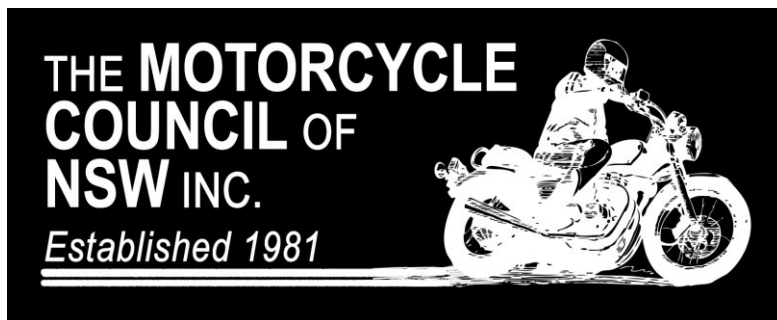
National Association of Caravan Clubs

Refund of tolls for caravans and 5th wheelers is cumbersome and inequitable. Same applies to motorhomes for which there is no relief available. The tolling regime in NSW does not align with either Victoria or Qld where dimensional based toll categories are not used. The toll categories in NSW are limited to 2 being motor vehicles and heavy trucks. When dimensional restrictions are applied as in NSW, motorhomes and other vehicles under 4.5t are classed as heavy vehicles simply because their air conditioner puts them above 2.8m high. Representations to Transurban to introduce a "mid" category have been unsuccessful. This submission is being made on behalf of the National Association of Caravan Clubs which has over 5,000 members.

The Motorcycle Council of NSW

Tolling Review Submission

27th July 2023



Submission to:-
Independent Tolling Review
Professor Allan Fels AO and Dr David Cousins AM

The Motorcycle Council of NSW
PO Box 517 Parramatta NSW 2124
enquiries@mccofnsw.org.au
www.mccofnsw.org.au

About The Motorcycle Council of NSW

The Motorcycle Council of NSW Inc. (MCC) is an internationally recognised umbrella group for motorcycle clubs, associations and ride groups, in the state of New South Wales.

Established in 1981, the MCC is recognised as the peak motorcycle representative body in NSW and Subject Matter Experts on many complex issues dealing with motorcycling including crash data and statistics, traffic data and congestion information.

The MCC has published documentation that has been referenced worldwide by overseas motorcycling and traffic bodies and has produced video training films that have been utilised and referred to by many overseas trainers, researchers and ride associations.

MCC is the peak representative body for motorcycling in the state of NSW representing over 60 motorcycle clubs, which have a total membership of over 41,000 motorcyclists.

We wish to thank the Independent Tolling Review for the opportunity to present this submission and the views of our member clubs on tolling in NSW.

Should you require further information on the information contained within this submission please contact the MCC.

Brian Wood

Secretary



Introductory Comments

Toll Classes

Currently in NSW, motorcycles are charged the same toll as a car, yet there is no plausible reason why motorcyclists are charged the same rate as car drivers.

In NSW, the class of your vehicle determines the tolls you pay. Class A is typically cars and Class B is typically trucks. However, the actual definition of these classes varies depending on the tollway <https://www.linkt.com.au/help/using-toll-roads/what-is-my-vehicle-class/sydney>? The Sydney Harbour Bridge and Sydney Tunnel only have one Class.

In addition to this explanation the Transport for NSW's my E-Toll webpage <https://www.myetoll.transport.nsw.gov.au/help-and-faqs/vehicle-classes> offers a different classification of Class 2 and Class 4 with reference to Class 3 being used in Victoria and Queensland.

Class	Description	Example
Car or Motorcycle (Class 2)	For NSW registered vehicles less than 2.8m high, with no more than two axles.	
Truck or Bus (Class 4)	For NSW registered vehicles higher than 2.8m and/or have more than two axles.	

Note: Interstate toll roads also set a 'Class 3' toll rate for Victorian and Queensland registered light commercial vehicles. Generally, these commercial vehicles have dimensions similar to a two-axle rigid truck with a gross vehicle mass of between 1.5 tonnes and 4.5 tonnes.

This Transport for NSW webpage fails to mention that Queensland has a Class 1 category specifically for motorcycles <https://www.linkt.com.au/using-toll-roads/about-brisbane-toll-roads/toll-pricing/brisbane> nor does it mention that Victoria also has a category specifically for motorcycles <http://www.gazette.vic.gov.au/gazette/Gazettes2021/GG2021G024.pdf#page=44>

In the interests of fairness, NSW needs to introduce a Class 1 Motorcycle, so a motorcycle specific toll can be charged as is the case in Victoria and Queensland.

Additional cost to implement a specific motorcycle toll

No additional equipment would be required to collect a motorcycle specific toll

Current equipment is able to read a motorcycle numberplate and then process this information to charge the correct account. As motorcyclists are not required to carry an E-Tag, systems are already able to distinguish a motorcycle from other vehicles so as not to apply a charge for numberplate matching. The only change required would be the ability to charge a different rate. This ability already exists to be able to differentiate between a car and truck toll.

The Government's Approach

When the Motorcycle Council of NSW has questioned government why motorcycles are charged the same toll as a car, the reason given is:-

- *“While a motorcycle is smaller than a car, it occupies the same length of road on a motorway while travelling at high speeds to ensure it can come to a stop safely. For this reason, it attracts the same amount of tolls as cars.”*

The MCC has supplied research that determined that a motorcycle in free running motorway occupies only half the space of a car. (see the MCC's response to Question B1 for detail)

The MCC has repeatedly asked for evidence to support this false claim but none has been provided by government.

In 2020 large caravans started to be charged at the same rate as a truck. This resulted in the Minister for Roads granting a rebate.

The decision to introduce a rebate supports the view that the classification of vehicles is deeply embedded in the Public Private Partnership contracts that established the tollways, otherwise why wouldn't the Minister just instruct the tollway operators to revert to the previous practice of charging large caravans at the car rate rather than introduce a rebate.

If it is appropriate to give large caravan owners a rebate, then it is appropriate to give motorcyclists a rebate.

Before the introduction of the Sydney Harbour Tunnel the car toll on the Harbour Bridge was 20 cents and the toll for a motorcycle 5 cents. It is the Motorcycle Council of NSW's view that a motorcycle toll should be a quarter of that of a car.



The Motorcycle Council of NSW's responses to the specific questions asked in the Discussion Paper are as follows. Responses are not provided to all questions.

Section A **General Questions**

A1 What issues do you see with the current tolling regimes across Sydney?

There is no valid reason why a motorcycle is charged the same rate as a car. Cars are not charged the same rate as a truck as they are quite different in:-

- size,
- weight,
- road space occupied
- benefit gained by using a toll road.

Similarly, motorcycle are quite different to cars in:-

- size,
- weight,
- road space occupied
- benefit gained by using a toll road.

These differences are recognised in Victoria and Queensland where there is a separate, lower toll for motorcycles.

A2 How do these issues affect you?

Motorcyclists are charged more than is reasonable.

A3 What do you think can be done about them?

For many years The Motorcycle Council of NSW has tried to engage with authorities so that a separate tolling Class be introduced for motorcycles, but it has no success in engaging in a meaningful dialogue.

The issue appears to be that the vehicle Classes A and B, are written into the Private Public Partnership agreements for each of the tollways and the government is either reluctant or unable to change these and introduce a separate Class for motorcycles.

This reluctance or inability to change the Classes was demonstrated when vehicles towing large caravans started to be charged as a Class B (truck) rather than a Class A (Car). Rather than instruct the tolling companies to continue charging the Class A toll, a rebate was introduced so those affected were compensated for the difference.

Introducing a rebate for motorcycles is probably the best way of resolving this issue in the short term, in the long term a Class 1 Motorcycle needs to be introduced.

A4 For toll reform in New South Wales, what would success look like to you?

Motorcyclists pay a toll that is fair and reasonable by way of receiving a rebate or the introduction of a specific Class for motorcycles.

Section B **Determination of Tolls**

B1 What factors are important in determining the level of tolls?

a/how much road space a vehicle occupies.

How much road space a vehicle occupies is normally expressed in terms of Passenger Car Equivalent or Units (pcu). A car has a pcu value of unity

A report by Professor Marcus Wigan titled "Motorcycle Transport, Powered Two Wheelers in Victoria" prepared for VicRoads concludes on page 49 that "The best available figure for Motorcycle pcu in free running motorway conditions is currently 0.5 ± 0.1 "

A copy of Professor Wigan's report can be found at:- https://mccofnsw.org.au/wp-content/uploads/2009/01/mwigan-motorcycles-as-transport-1-00-Oxford2000Vol1_1f.pdf

While the value of 0.5 is for free flowing traffic, as the traffic becomes more congested and motorcycles legally lane filter, the pcu for this situation would be zero.

Therefore, a motorcycle toll based on how much road space it occupies, would be somewhere between half and zero of that of a car toll.

b/ The benefit users gained by using a tollway

The setting of tolls is based on Transport for NSW's "[Principles and Guidelines for Economic Appraisal of Transport Investment and Initiatives, June 2018](#)", however Table 1 of Appendix 4, the Value of Travel Time does not include motorcycles.

Therefore, it is necessary to use the information available to calculate the benefit to a motorcyclist.

Table 1 sets the car occupancy in urban areas as 1.4. While motorcycles can carry a pillion, the frequency of this occurring is low so the 'occupancy' rate for a motorcycle would be about 1.1.

Table 1 also gives the value of travel time for a private car as \$16.89 per person per hour. As the toll on the M5 at the time set at \$4.71 then this toll represents a time saving of 17 minutes.

As motorcycles can legally lane filter and use bus lanes, the time saving for a motorcyclist using a tollway would be less than that for a car occupant. The saving of half that of a car, or 8.5 minutes, would be a reasonable estimate.

Taking into consideration the reduced occupancy rate and the reduced saving in time, a motorcycle toll should be around a third of that of a car.

c/ Cost to provide and maintain the infrastructure

As a motorcycle size and weight is more akin to that of a bicycle than a car, the cost to provide infrastructure for motorcyclists would be more akin to that of providing cycleways than it would be to provide a tollway for a car.

As bicycles are not charged to use cycleway facilities on or beside tollways, this would suggest that the toll for a motorcyclist should be somewhere between that of a bicycle and that of a car.

The American Association of State Highway Officials (AASHO) equation for road wear, called the 'Generalised Fourth Power Law' is often used to compare the damage caused by vehicles of different weights.

Using the Generalised Fourth Power Law, a passenger car that has an axle load of 800kg compared to a motorcycle with an axle load of 100kg, the passenger car would cause 4,000 times the road wear and tear as a motorcycle.

B2 How should the Government be influencing the setting of tolls?

The MCC doesn't offer a response to this question

B3 What improvements would you like to see in the way road tolls are set?

The introduction of a separate Vehicle Class for motorcycles

B4 Do you believe the tolls across the motorway network should pay for upgrades to the network (e.g. an increase of 5c/km distance charge for a widening to the M2)?

The MCC doesn't offer a response to this question.

Section C-1 **Competition and regulation**

C1 How do you think competition could influence road tolls and the efficiency of service performance by providers?

The MCC doesn't offer a response to this question.

C2 What scope is there to increase the influence of competition in the tolling industry?

The MCC doesn't offer a response to this question.

C3 Should tolls on existing motorways or on future motorways be subject to on-going independent prices oversight, say by IPART (Independent Pricing and Regulatory Tribunal)? If so, how?

The MCC doesn't offer a response to this question.

Section C-2 **Criteria for assessing tolls - efficiency**

C1 Should tolls be set on a network basis? What are the pros and cons of doing this rather than setting tolls for individual parts of the motorway network as is now the case?

The MCC doesn't offer a response to this question

C2 Should tolls should vary according to traffic flow e.g. higher in peak periods and lower in off peak periods?

Yes, in peak times when traffic is more density and motorcycles start to legally lane filter, they should be charged less as they occupy less road space and are reducing congestion.

C3 Should tolls be set on a per kilometre basis, with or without a fixed access charge?

The MCC doesn't offer a response to this question.

C4 Should tolls be set having regard to levels of congestion on the wider road network (i.e. including non-motorway) roads?

When motorcycles legally lane filter they occupy less road space and therefore reduce congestion for all road users. Motorcycle tolls should reflect this to encourage more to ride motorcycles and scooters. A study done in Leuven in Belgium found that if motorcycle replaced 10% of cars congestion would decrease by 40%.

C5 Cordon A CBD zone could potentially improve the local road network in the CBD with less cars, faster travel times, greater use of public transport, and a more pedestrian friendly environment.

Do you think a CBD zone or other cordon zone pricing area would be desirable and/or feasible in Sydney?

Response:- Yes, the Congestion Charge Zone in Central London has worked successfully for many years. Motorcycles have been exempt from the charge since its introduction in recognition of their many benefits, in particular, their ability to reduce congestion.

Are there other things that government could do to better achieve the desired outcomes of reducing congestion in particular areas?

Response:- encourage the use of motorcycles and scooters as a means to reduce congestion.

C6 What tolling arrangements should apply to trucks on motorways?

Trucks should be charged depending on their:-

- size,
- weight,
- road space occupied
- benefit gained by using a toll road.

C7 Should vehicle emissions be considered in setting road tolls?

The MCC doesn't offer a response to this question.

C8 Road user pricing There is an emerging view that road user pricing will need to be introduced across Australia, to replace the reducing revenue from a reducing fuel excise tax, due to the

increasing uptake of hybrids and fully electric vehicles. What implications, if any, do you see this having on for motorway tolls and how should this Review respond to the issue?

The MCC doesn't offer a response to this question.

Section D **Heavy vehicles**

D1 Heavy vehicles create more wear and tear on the roads and contribute to congestion with light vehicles. Do current toll multipliers for trucks accurately reflect vehicle capacity in relation to wear and tear per tonne of freight moved?

The American Association of State Highway Officials (AASHO) equation for road wear, called the 'Generalised Fourth Power Law' is often used to compare the damage caused by vehicles of different weights. This approach would indicate that the current multipliers are insufficient.

D2 Do current toll multipliers provide sufficient incentive for the use of more productive vehicles?

The MCC doesn't offer a response to this question.

D3 Are there sufficient incentives/requirements for heavy vehicles to use the motorways rather than the non-motorway network, eg for safer, more sustainable and productive outcomes?

The MCC doesn't offer a response to this question

D4 Is there scope to improve road use efficiency by modifying non-toll restrictions on the use of trucks?

The MCC doesn't offer a response to this question

Section E **Public transport**

E1 What interrelationships can be identified between tolls and public transport?

The MCC doesn't offer a response to this question

E2 Should buses be treated the same as trucks when determining what they are tolled?

The MCC doesn't offer a response to this question

Section F **Criteria for assessing tolls - simplicity**

F1 Currently tolls are expressed in a number of different ways e.g. fixed amounts, distance (per kilometre) based, distance based with a fixed (access) component. Does it matter that this variation exists?

The MCC doesn't offer a response to this question

Section G **Criteria for assessing tolls - fairness**

G1 Is it appropriate that users pay road tolls?

Yes

G2 Are road tolls value for money? Why, or why not?

Motorcycle tolls are not value for money as they aren't set to reflect motorcycle characteristics such:-

- size,
- weight,
- road space occupied
- benefit gained by using a toll road.

G3 Are road tolls fair for all motorists? Could they be made fairer? If so, how?

Road tolls are not fair for all motorists. They could be made fairer by introducing a specific Class for motorcycles with an appropriate toll or alternatively introducing a rebate so motorcyclists pay a toll

G4 Should the Government provide a subsidy to enable cheaper tolls?

Yes, motorcyclists need to receive a subsidy so they pay a fair toll. A toll a quarter of that of a car would be fair.

G5 Toll relief Temporary toll relief measures are expected to be in place for the next two years. If toll relief is to continue to be made available directly to motorists, should it be means tested?

The MCC doesn't offer a response to this question

G6 Could toll relief measures be removed if tolls were set differently to now?

The MCC doesn't offer a response to this question

G7 How can it be ensured that the benefit toll operators receive from increased traffic as a result of toll relief paid by Government is passed back to the community?

The MCC doesn't offer a response to this question

G8 Can the collection of tolls be improved by consolidating notices and other measures?

The MCC doesn't offer a response to this question

Section H **Criteria for assessing tolls – transparency**

H1 To what extent does the level of the tolls influence the use of a motorways?

The MCC doesn't offer a response to this question

H2 What information would assist you make better decisions as to whether to use a toll road?

The MCC doesn't offer a response to this question.

End of Document



National Roads and Motorists Association



09 August 2023

Professor Allan Fels AO
Dr David Cousins AM
2023 Independent Toll Review

VIA EMAIL: Tolling_PMO@transport.nsw.gov.au

Dear Professor Fels & Dr Cousins

Submission to the 2023 Independent Toll Review

Please find attached a submission from the NRMA to the 2023 Independent Toll Review.

As the largest mutual in Australia with more than 2.9 million Members, the NRMA works with government, industry and community to advocate for continued improvements to Australia's road and transport networks to ensure safety, efficiency and equitability.

Through collaboration, the NRMA strives to ensure that mobility networks and associated infrastructure and services are considered holistically to improve planning, utilisation and productivity.

Should further information on the NRMA's submission be required, please do not hesitate to contact Mr Wal Setkiewicz, Principal Advisor, Infrastructure & Economics, at Wal.Setkiewicz@mynrma.com.au.

Yours faithfully

A handwritten signature in black ink, appearing to read 'R Giltinan'. The signature is fluid and cursive, with a large loop at the end.

Robert Giltinan
Director of Policy & Public Affairs



Submission to the 2023 Independent Toll Review

A Brief History (NSW)

- Governments have commissioned user pays funded motorways and privately financed projects in developing the road tolling network.
- A number of different tolling approaches have existed in NSW since the 1960s, with the old F3 and F6 motorway tolls being a single point facility charge. Specified concession agreements have been in place since 1987 for the Sydney Harbour Tunnel.
- The terms of these agreements include the toll levels, and escalation and length of the concession period. Each agreement has also included conditions dealing with debt servicing levels, connectivity issues with adjacent road networks, and road safety requirements.
- The application of major user pays arrangements have been developed over time and are as follows:
 - Cross City Tunnel and Lane Cove Tunnel – (multiple toll points, developed under the Public Private Partnership (PPP) model);
 - F3 and F6 (single point facility charge);
 - M2 construction (multiple toll points, developed under the PPP model);
 - M2 upgrade and M5 West widening (PPP model via contract variations to existing concessions);
 - M4 and M5 (fixed charge, developed under the PPP model);
 - M5 East (publicly funded with no toll);
 - M7 (capped distance-based tolling);
 - NorthConnex (adjacent PPP corridor road contract variations, unsolicited proposal);
 - Sydney Harbour Tunnel (time of day charge, unsolicited proposal, adjacent corridor roads tolled to fund enhancements);
 - WestConnex (adjacent corridor roads tolled to fund enhancements).

NRMA Policy

The NRMA supports the availability of all funding models to maximise investment in road and transport infrastructure, including:

- Community Pays: taxation revenue;
- Beneficiary Pays: value capture, third party revenue streams (e.g. advertising) and levies;
- User Pays: tolls, public transport fares and/or a potential broad-based road user charging scheme.

User pays tolling needs to:

- Be fair and equitable;
- Provide value for money;
- Encourage greater mobility choice;
- Reinvest all revenue into roads and public transport;
- Have independent and transparent oversight;
- Utilise smart technologies.



The NRMA supports the application of user pays funding models to bring forward infrastructure delivery where the charge represents value for money and real benefits to the community. Benefits could take the form of:

- Improved transport network performance;
- Improved asset quality or safety;
- Reduced travel times on the network;
- New access (e.g. on and off ramps);
- Environmental improvements, including greenhouse gas emissions reduction;
- Productivity benefits, including reduced cost of congestion;
- Economy-wide benefits, including business and residential development opportunities.

Calculation, indexation and application of user charges must:

- Be made transparent to the road user, including the user charge at commencement, the cost escalation mechanism, and the length of the toll agreement;
- Consider wear and tear caused by use of different vehicle types, including light and heavy commercial vehicles and two-wheeled vehicles;
- Encourage and provide greater mobility choice;
- Make provision for future demand and use, including associated investment requirements;
- Where capital improvements have been undertaken to a previously tolled motorway and a new toll is introduced, that the cost escalation and length of the toll should be made fully transparent;
- Benefit the motorist paying the toll in terms of travel time savings and reliability.

Mechanisms to vary user charges should be independently calculated (e.g. by IPART) and relate to:

- Whole of life asset costs and maintenance;
- Incentives for behavioural change.

The NRMA would like to see a fundamental change in the way infrastructure is funded, moving to a broad-based road user charging scheme because our current arrangements:

- Are not delivering adequate investment in new infrastructure to support population changes;
- Provide inadequate asset maintenance, which is reducing the safety, quality and productivity of current infrastructure;
- Will see a declining revenue base due to fuel efficiencies and electric vehicles (fuel excise).

Commercial Vehicles

Commercial vehicles, in particular heavy freight vehicles, rely on motorways to support the safe and efficient movement of goods across the city, state and country. The freight task is currently heavily reliant on the road network; the NRMA supports a review of associated pricing and other policy levers to optimise the efficiency of commercial vehicle movements on motorways.

Separating the movement of light and heavy vehicles by altering current use patterns where practical could deliver congestion benefits, time savings and lower operating costs for users of the network.

The NRMA supports pricing and policy levers that will encourage commercial vehicles to prioritise using the motorway network during periods of low occupancy.



Vehicle Classifications and Two-wheeled Vehicles

While a number of toll pricing options are being considered, including network pricing (with zones), time of day pricing, dynamic or real-time pricing, cordon pricing and heavy vehicle tolls, the NRMA supports a review of vehicle classifications and tolls associated with two-wheeled vehicles.

It is widely acknowledged that toll pricing considers the costs associated with road wear and tear, however vehicle classifications and tolls across motorways in Sydney do not currently suitably consider lighter weight, two-wheeled vehicles.

Tolling networks in Victoria and Queensland charge motorcycles half that of a regular passenger light vehicle, and tolls in Sydney (e.g. Sydney Harbour Bridge) have, historically, been lower for motorcycles.

Road User Charging and Ultra Low Emissions Vehicles

The NRMA extends in-principle support to progressing Road User Charging (RUC) reform while encouraging the transition to Ultra Low Emissions Vehicles (ULEVs).

However, any new or additional impost on the purchase or use of these vehicles in the short term would be counterproductive and would act to discourage the purchase of cleaner and more efficient vehicles.

Governments currently investigating road pricing reform policies need to consider the economic and societal benefits of ULEVs, and avoid inadvertently putting in place additional barriers to their adoption.

At the state and territory level, any shift to a distance-based charging system should incentivise the uptake of ULEVs in all operating environments, including urban, regional and rural; initial reform could be enabled by replacing government registration charges, and preferably also stamp duty.

This approach places no additional impost on ULEVs in the short term while purchase prices remain high, and does not preclude a cross-jurisdictional commitment to ensure national consistency and simplicity.

A trial or pilot of this type of model on a voluntary, opt-in basis would be supported by the NRMA.

Once recognised, distance-based charging should evolve to consider further use factors to improve equity and road network efficiency, including location, time of day and vehicle type; price adjustments should also be considered over time to ensure sustainable funding for roads and transport infrastructure and maintenance.






ULEVs contribute to government revenue through a combination of GST, LCT, stamp duty and registration, and should be supported by governments in the short term; transitioning to ULEVs also shifts consumer fuel spending towards Australian-made energy, supporting Australian industry.

ULEVs similarly provide indirect societal benefits, including lower vehicle emissions, better air quality and improved national security.

Putting downward pressure on initial purchase prices while investing in supporting infrastructure will encourage more motorists to consider ULEVs. Addressing high purchase prices compared with overseas markets and tackling range anxiety continue to be priorities for the NRMA.

Note: Ultra Low Emissions Vehicles (ULEVs) include Battery Electric Vehicles (BEVs), Plug-in Hybrid Electric Vehicles (PHEVs) and Fuel Cell Electric Vehicles (FCEVs).

Road User Charging Phased Implementation Plan

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
 <p>Rationalise the tolled motorway network</p>	 <p>Replace fixed charges, including registration and stamp duty, with a distance-based charge.</p>	 <p>Replace fuel excise with a distance-based charge, including caps to ensure cost neutrality.</p>	 <p>Introduce variable charging based on location, time of day, and vehicle type.</p>	 <p>Adjust charges over time to ensure sustainable roads and transport funding.</p>
<p>Network-wide charging will improve simplicity, consistency and user equity.</p> <p>Multiple trip charging caps could benefit rationalisation and support heavy users.</p>	<p>Distance-based charging will remove inefficient and inequitable fixed charges.</p> <p>Distance-based charging can underpin further road pricing reform.</p>	<p>Distance-based charging will remove a regressive and unsustainable tax.</p> <p>Distance-based charging at the state and territory level would effectively administer a 'tax switch', giving states greater control over decision making that impacts their road network.</p>	<p>Variable charging will improve user equity and enable dynamic traffic management.</p> <p>Network efficiency will enhance asset utilisation.</p>	<p>Enables flexible charging based on consumer propensity to pay and funding requirements.</p> <p>Enables improved decision making in relation to capital expenditure and maintenance.</p>



NRMA Key Messaging

- The NRMA supports the consideration of all funding options, including user pays tolling, in accelerating the delivery of infrastructure.
- User pays tolling needs to be transparent, equitable, and independently assessed to ensure that motorists are receiving a benefit for the toll they are paying.
- Due to fiscal constraints and the increasing cost of building new infrastructure, the NRMA accepts that tolls may need to be levied on new motorways.
- The NRMA's preference is that there should be no reintroduction of tolls to fund upgrades to existing motorways unless there is a major enhancement to the motorway that results in improved journey times.
- The NRMA believes that all tolls and tolling arrangements should be the subject of independent and transparent oversight to ensure value for money.
- Sydney is now close to having a connected and functional motorway network, which provides the opportunity to look at pricing as a total network concept.
- Toll road development has mostly been on a project-by-project basis, which has given rise over time to pricing inefficiencies. Rationalisation of the motorway network in Sydney can support the alleviation of disparate pricing, inconsistencies and inequity for users.
- The NRMA strongly believes the country must transition to a comprehensive user pays model to deliver fair outcomes for motorists in funding the road network.
- The need for reform will only become more apparent with more fuel efficient vehicles, including electric vehicles, entering the Australian market.
- A complete review of all existing motoring vehicle taxes and charges would be required to assess what type of road user charging models could be implemented to secure long term investment in the road network and how it interacts with public transport.
- Consideration of how tolling charges fit into any proposed road user charging model will need to be carefully considered.

NRMA Statement to the NSW Parliament on Road Tolling Regimes

A safe and functional road network is one of the primary underpinnings of our economy, critical in supporting the safe and efficient movement of people and goods.

In regard to tolled motorways, the NRMA would like to bring three opportunities in particular to the attention of the Committee.

- *Firstly, we are now close to having a connected and functional motorway network, which provides the opportunity to look at pricing as a total network concept.*
- *Secondly, more transparency around the conditions for price setting and independent oversight of concessions would improve public knowledge and confidence.*
- *And thirdly, a toll-free period of one month for new motorways or major enhancements to existing motorways would give motorists the opportunity to utilise and evaluate potential benefits.*

Tolled roads are a key component of the road network, providing access to important institutional and private funding to ensure we have access to the best available and most efficient road infrastructure – for motorists, and also freight and logistics.

Over the past several decades, governments have increasingly relied on private sector investment to support roads and transport, bringing projects forward and increasing travel choice.



Private sector involvement supports broad economic outcomes and will continue to play a vital role alleviating pressures on government budgets so that public funds can be increasingly directed to social infrastructure and services.

While tolled roads are a key component of the road network, development has mostly been on a project-by-project basis, which has given rise over time to pricing inefficiencies given new road and transport projects and therefore dated assumptions.

Pricing structures are effectively anchored to concessions and have been put in place to be reflective of project-specific considerations, which has increasingly brought to light disparate pricing, inconsistencies and inequity for users.

Primarily due to geographic location, NRMA Members in Western Sydney, South West, North West and the Blue Mountains feel most disadvantaged by toll roads.

Given current pricing structures, Members in Western Sydney in particular are more likely to actively avoid using toll roads than in any other area.

Further to these issues, there is a lack of public understanding around price setting for toll roads.

Less than 10 per cent of NRMA Members understand how tolls are calculated.

Governments over many years have sought to address pricing inconsistencies through a number of ad hoc initiatives, including rebates and reductions, however it is becoming increasingly necessary to look at broader and more substantive reform, with a holistic view of toll roads, as well as the entire road network.

The overwhelming majority of NRMA Members support tolling reform.

Broad road pricing reform based on a more progressive model, underpinned by a 'user pays' approach, provides the opportunity to holistically and continually consider current and emerging mobility needs while consolidating and rationalising current fixed, distance-based and time of day tolling charges.

Most NRMA Members support a 'user pays' approach to tolling.

While toll road consolidation and rationalisation could provide significant community and economic benefits, the NRMA ultimately supports a network-wide road pricing model which factors in distance, location, time of day and vehicle type, where price adjustments can be considered over time to ensure sustainable funding for roads and transport infrastructure and maintenance.

Such a model could also benefit from multiple trip pricing caps.

With the NSW Parliament recently passing the Electric Vehicles (Revenue Arrangements) Bill 2021, we now have legislation in place to support such reform.

The NRMA is committed to continuing to work with the NSW Parliament, private toll road operators, policymakers and other stakeholders to progress network-wide pricing reform and other key issues to improve equity and provide motorists a simpler proposition.

The NRMA is equally committed to educating and publicly highlighting the need for change to lower some of the barriers that effectively need to be overcome to support acceptance and implementation.



Bus NSW



BusNSW Submission to Independent Tolling Review

July 2023

Acknowledgement of Country

BusNSW would like to acknowledge the Darug people who are the Traditional Custodians of the land where the BusNSW office is located in North Parramatta, NSW.

We would also like to pay respect to the Elders of the Darug Nation, past, present and emerging, and extend that respect to other Aboriginal people.

Introduction

BusNSW is the peak body for the NSW private bus and coach industry. Our members provide essential services and provide a key interface with the travelling public. BusNSW's mission is to foster the efficient and sustainable growth of public transport in NSW, and to promote the benefits of bus and coach travel.

BusNSW members provide bus services under Transport for NSW contracts in Sydney metropolitan and outer-metropolitan areas, and in NSW rural and regional areas. They also provide "non-contracted" services in the Long Distance, Tourist and Charter (LDTC) sector.

Buses play a vital role in passenger transport across NSW. In terms of passenger movements (including dedicated school services), buses account for nearly half of all passenger trips.

The cost of operating and maintaining bus services (i.e., contract payments) accounts for approximately 15 per cent of the government's operating expenditure for public transport in NSW. Buses do not involve the substantial capital costs of heavy and light rail, which means they are a very cost-effective way to move people.

In addition to providing *regular passenger and school services* as part of the public transport network, buses and coaches transport individuals on *long distance and tourist services*. They also make a significant contribution to the community by providing transport for school, social, sporting and seniors groups via *charter services*.

The bus and coach industry is highly regulated with operators having to comply with the National Heavy Vehicle Law, as well as NSW Passenger Transport and Road Transport legislation. The NSW *Bus Operator Accreditation Scheme* includes an audit regime for operators of a "Public Passenger Bus Service" in NSW, which is in addition to vehicles being inspected twice yearly under the NHVR managed *Heavy Vehicle Inspection Scheme*.

Road tolls impact the bus and coach industry in two main ways.

1. *Regular passenger and school services* which are contracted by Transport for NSW and operate on toll roads in Sydney are impacted indirectly. Whilst toll costs are reimbursed by the NSW Government via Greater Sydney Bus Contracts, there is an administrative process that requires the operator to pay the toll road owner to use the roads. Furthermore, the NSW Government is paying for buses to use a government asset and the funding could be reinvested into services if contractual arrangements with toll road owners were varied.
2. Non-contracted Services are impacted directly as toll costs need to be passed on to individual customers using *long distance and tourist services*, and group clients using *charter services*. This is further explained below.

BusNSW notes that following the Inquiry into Road Tolling Regimes in 2022, Portfolio Committee No. 6 recommended “***That the NSW Government implement a scheme to ensure that buses are not required to pay tolls when carrying passengers***”. It was disappointing that the NSW Government only supported this in part as follows.

- *Buses providing public transport passenger services on scheduled routes are an important part of the Government's public transport network. The cost of any tolls incurred while providing public transport passenger services is reimbursed under the contracts to operate the services. Private coach operators are required to pay tolls for commercial trips in the same way that other private companies who rely on the motorway network for their business operation. Private coach operators may also be able to claim the cost of tolls as an input and apply a tax deduction as a result.*

BusNSW understands that the Independent Toll Review will look to make toll roads simpler and fairer across Sydney’s motorway network.

Specifically, the terms of reference will address:

- The structure and level of tolls in New South Wales in the future, looking at their efficiency, fairness, simplicity and transparency, existing agreements with providers and the impact on all forms of transport.
- The extent to which tolls should reflect the capital and operating costs of roads, the impact different users have on road sustainability and the use of roads throughout the day.
- The appropriate targeting of relief to provide fairness for the whole community and how to ensure the community, rather than toll road owners, benefit from toll relief.
- Whether tolls are understandable, simple for motorists to pay and administratively efficient to collect.
- The scope for competition and regulation to influence road tolls and the efficiency of service performance by provider.

This is an important issue for the bus and coach industry which considers that the current tolling regime in Sydney is inequitable and a significant barrier to productivity.

BusNSW provides the following information for the Independent Toll Review's consideration. Our submission is in line with the Terms of Reference and addresses the points below.

1. The structure and level of tolls in New South Wales in the future, looking at their efficiency, fairness, simplicity and transparency, existing agreements with providers and the impact on all forms of transport.

Buses and coaches in NSW are subject to exactly the same charges as trucks. In other words, buses like trucks generally pay three times the toll of cars. Tolling needs to recognise the difference between the task performed by trucks and buses. While buses and coaches, as "heavy vehicles", are charged the same tolls as trucks, there are triple bottom line benefits (social, environmental, and financial) provided by buses and coaches that do not apply to freight vehicles.

From a *social* perspective, bus and coach services provide a positive benefit to their local community by safely and efficiently transporting groups of people (including some who have no alternative) within and beyond their communities. Unfortunately, such distinctions are usually forgotten in the tolling debate.

Buses are also a key to managing Australia's *environmental* challenges. Currently, road transport contributes around 15 per cent of total greenhouse gas emissions in Australia, with cars contributing almost 50 per cent of those emissions.

A full bus load of passengers can take more than 45 cars off the road. A shift to bus and coach transport from cars reduces congestion, fuel usage and greenhouse gas emissions. With the NSW Government's announcement of a full transition of the state's contract bus fleet to zero emission buses, the *financial* benefits will be amplified.

Bus and coach operators work in what is an inherently capital-intensive industry with significant financial investments in their equipment and depots. This combined with operating in a highly competitive deregulated market means profit margins are easily compromised with increased costs.

Operators conducting tourist and charter services have little choice but to travel on toll roads to meet their customers booking and travel expectations. This can sometimes result in additional operating costs (including tolls) for which the operator has little ability to seek reimbursement from the customer/client.

BusNSW believes that tolls should not be applied to buses and coaches.

2. The extent to which tolls should reflect the capital and operating costs of roads, the impact different users have on road sustainability and the use of roads throughout the day.

The use of buses is vital to managing the challenges of population growth and congestion, and to facilitate the efficient functioning of cities and the transport network.

It has been estimated that even a conservative shift of 10 per cent to bus patronage from cars in Australia would generate:

- A reduction in the passenger kilometres travelled by car of 2.1 billion per year.
- A reduction in congestion worth almost \$650 million a year to the Australian economy.
- A reduction in the cost of traffic accidents of more than \$100 million.
- Savings to the household of \$176 million in fuel costs.
- A reduction in the health-related costs of air pollution of \$20 million a year.

Despite the benefits provided by public transport to NSW, access and tolling policy seems directed by a view of buses and coaches are just another heavy vehicle. BusNSW believes such a view is short-sighted and reducing toll costs for public transport and group travel is an important transport demand management mechanism that could be used by the NSW Government.

Strategic planning for tolling in Greater Sydney needs to consider the external benefits that buses and coaches can provide. The advent of zero emission buses, added to the number of cars that each bus removes from the road network, makes buses an attractive solution to both congestion and climate change concerns. Such factors need to be considered in the pricing of tolls applied to buses and coaches in NSW. Simply put, the broader societal and community benefits of buses and coaches need to be considered in the process of setting tolls in NSW.

3. The appropriate targeting of relief to provide fairness for the whole community and how to ensure the community, rather than toll road owners, benefit from toll relief.

Toll relief in NSW to ease cost of living pressures for privately registered vehicles does not include tolls paid for heavy vehicles (more than 2794kg tare/unladen weight) and vehicles registered for business use.

For bus services provided under contract to Transport for NSW, the cost of tolls for this sector is generally factored into the bus contracts held by such operators and is partly absorbed by the NSW Government.

For the *Long Distance, Tourist and Charter* (LDTC) sector, operators are not protected by State Government contracts and manage their costs via the fees and hire costs charged to customers. Operators in the LDTC sector have indicated that the cost of tolls is a significant burden as it affects the total price of a job and may impact a client's decision to charter a vehicle or not.

A simple transfer to and from Sydney airport, can include toll charges which represent up to 10 percent of the hire fee. This amount is significant and disproportionate to the journey distance and the customers perceived benefit. Many bus and coach operators are citing that their annual toll fees are now costing more than their fleet registration and compulsory third-party insurance combined.

BusNSW supports:

- The removal of tolls for buses providing *regular passenger and school services* (as well as rail replacement services).
- The implementation of a toll relief program for buses and coaches that use toll roads for *long distance, tourist and charter services* (to remove tolls).
- The appointment of an agency to provide independent advice on the determination of tolls.

4. Whether tolls are understandable, simple for motorists to pay and administratively efficient to collect.

Bus and Coach companies operating tourist and charter services require some flexibility to vary routes due to unplanned events on the road network. Generally, operators quote and are paid for a job prior to departure. The job price usually includes the cost of using toll roads based on pre-planned routes.

Where routes are varied on the day due to changes in customer requirements or due to changes in traffic conditions, this can result in additional operating costs (including tolls) for which the operator has little ability to seek reimbursement from the customer.

Buses and Coaches are also used to replace train services in pre-planned and emergency circumstances. The impact of toll costs on these services provides an additional layer of administration for operators and government.

5. The scope for competition and regulation to influence road tolls and the efficiency of service performance by provider.

A government policy position that supports the removal of tolls for buses and coaches would resolve any issues relating to competition and the performance of toll road owners.

Conclusion

BusNSW believes the bus and coach industry could further increase the triple bottom line benefits of public transport and group travel through the restructuring of the NSW tolling regime competition and regulation to take into consideration the benefits of public transport.

BusNSW also supports:

- Toll pricing to incentivise a shift to high-capacity public passenger vehicles including the consideration of high occupancy toll lanes to link group transport and toll roads.
- The consideration of bus interchanges on any future toll roads, including assessment of *Bus Rapid Transit* (BRT) opportunities in travel corridors.
- Future toll roads to consider the roads interaction with public transport, in particular pedestrian access to and from toll road bus infrastructure.
- Future toll roads to consider opportunity charging infrastructure to accommodate on road charging of Zero Emission Buses providing regular timetable services on toll roads.

The NSW Government has the ability to further increase the social, environmental, and financial benefits of public transport and group travel through the restructuring of the NSW tolling regime.

Thank you for the opportunity to contribute to this important review. If you would like to discuss these comments in more detail, please do not hesitate to contact me on (02) 8839 9500.

Regards,

Matt Threlkeld
Executive Director
BusNSW



Business NSW

BUSINESS NSW

24 July 2023

Professor Allan Fels AO and Dr David Cousins AM
c/o NSW Treasury
52 Martin Place
Sydney NSW 2000

TOLLING REVIEW

Business NSW welcomes the opportunity to respond to the Tolling Review. As NSW's peak business organisation, Business NSW has more than 30,000 member businesses across NSW. We work with businesses spanning all industry sectors including small, medium, and large enterprises. Operating throughout a network in metropolitan and regional NSW, Business NSW represents the needs of business at a local, state and federal level. In relation to this submission, we note that our membership includes both a provider of toll road infrastructure, Transurban, and many businesses who are users of the toll road system.

This submission is based on the [submission provided by Business NSW](#) to the NSW Legislative Council Inquiry into Road Tolling Regimes in 2021. This submission updates the aforementioned submission where relevant, but its key themes and recommendations are consistent with the earlier Inquiry.

The Role of Road Tolling

Toll roads make a valuable contribution to the productivity of the state, enabling major road infrastructure development and managing demand to keep traffic flowing. From the first toll road of 1811 (Parramatta Road) to the delivery of the Sydney Harbour Bridge in 1932, to more recent adaptations of distance based road pricing, NSW has a long history of both public and private innovation in the delivery of road infrastructure.

Business NSW supports a modernisation of road charging regimes. The existing toll road system should be considered alongside the distance-based tax on electric vehicles, signalled in the [NSW Electric Vehicle Strategy](#), as EV uptake becomes more widespread. The interaction of incentives through these two schemes will become increasingly important to their success as time progresses.

Business NSW has considered the viability of a special CBD zone and cordon pricing in the past, but considers this model to be inferior compared to more sophisticated 'dynamic' approaches which can factor in congestion in real time, while also allowing for adjustments on the basis of emissions or other relevant factors.

Road charging has been implemented to achieve several objectives, some of which may work at cross purposes to each other. Tolls are put in place to fund the construction of new

roads, and the operation and maintenance of already-built roads. But they also serve a demand-management function, aiming to match demand from road users with road capacity. This is especially important for the management of heavy vehicles and freight, reducing congestion and allowing for more efficiency in freight logistics.

As the Discussion Paper reflects, Sydney's toll motorway network features a variety of tolling structures which has evolved over time through a patchwork of government policies and contractual arrangements. The prices applied on different roads indicate the tension between those objectives. Some feature peak time surcharges while others do not. Some charge a fixed rate while others have distance-based tolls.

Harmonisation of tolling regimes only makes sense where the balance of these objectives is already aligned. If the balance of capital spend, maintenance and congestion management is different on different roads, it may be appropriate that pricing structures also differ. However, the pricing structures in place do not always reflect a reasoned and recent assessment of these objectives but have also been shaped by concession arrangements put in place in some cases decades earlier. This can lead to a 'postcode lottery' where users making journeys of similar distances, to the same destination, can face very different prices depending on the road(s) they need to use and when the concessions for those tolls were implemented.

This has resulted in 'toll fatigue', driving up the cost of doing business and the cost of living in affected parts of Sydney. It also deters road users from tolled roads, putting increased pressure on untolled routes such as Parramatta Road and Victoria Road, which require reinvention.

A modern approach to pricing

Using technology that was not available when the first toll systems were implemented, it is possible to enact a much more sophisticated tolling regime than the one currently in use. The one-size-fits-all pricing model has the merit of simplicity but does not respond to demand that fluctuates between days and within each day (Figure 1). As [the NSW Productivity Commissioner observed](#), "Current pricing does not fully reflect costs, and does not encourage efficient use of the network. Critically, fees and charges do not reflect exactly when and where congestion arises."

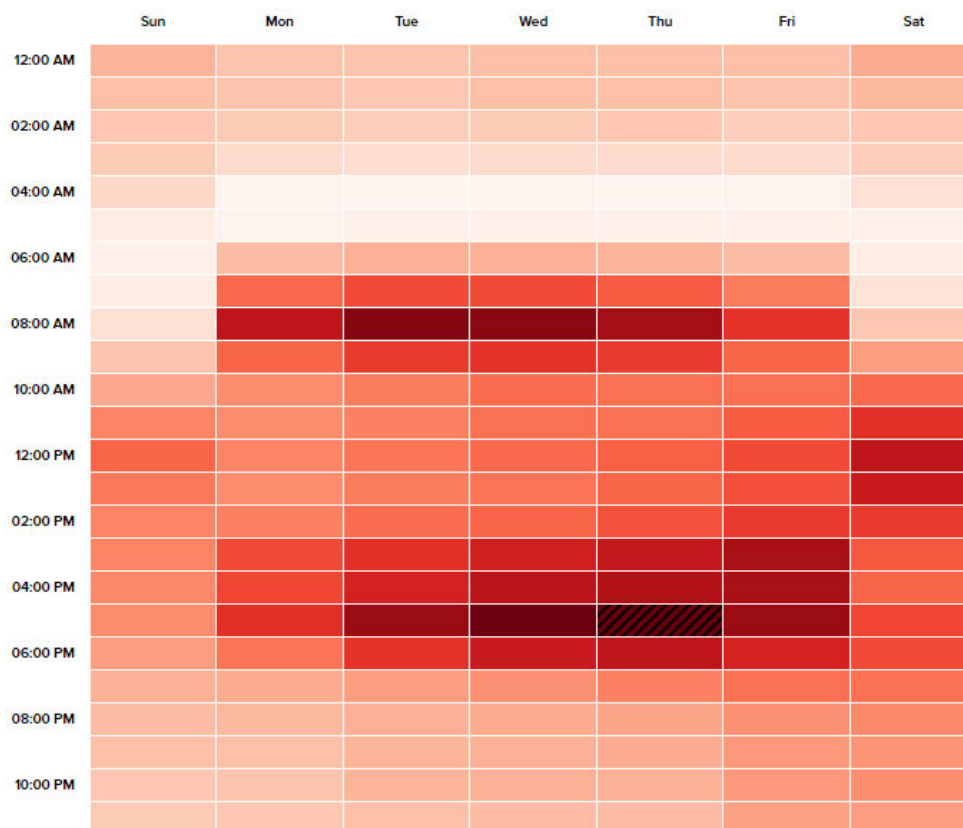


Figure 1: TomTom Sydney Traffic Report, data from 2022
Weekday demand for roads shows two clear peaks. Travel time per 10km.

Business NSW supports the Productivity Commissioner’s recommendations regarding improving the efficiency of road user charging. As indicated earlier, initiatives such as the development of a tax regime for electric vehicles provide the grounds for road charging, vehicles taxes and fuel taxes to be reviewed together. The status quo has arisen from decades of incremental changes and accumulation of policy, rather than any strategic design. The shift from internal combustion to electric vehicles provides a rare opportunity to revisit the interaction of all the elements of vehicle charging and taxation in one place. *Business NSW* encourages this review to consider the wider issues around implementation of road pricing (which will eventually become inescapable in the switch to electric vehicles) and avoid too narrow a focus on tolling alone.

Cost control

Business NSW has historically opposed location-based discount or rebate programs such as the M5 cashback. *Business NSW* views the newly implemented weekly toll cap as being a more appropriate measure to provide a measure of cost certainty to the most frequent users of the toll network, although less preferable than a time-variable pricing structure. Even in a time-variable pricing system, freight users of the network may not have the flexibility to use the roads at the quietest (and thus cheapest) times.

Independent oversight

The Discussion Paper states “there may be a case for further regulation by Government... such as the Independent Pricing and Regulatory Tribunal (IPART)”. *Business NSW* has no objection to a potential role for IPART, at least until such a time as a new comprehensive road pricing regime is devised. Some of Sydney’s toll roads are natural monopolies without viable competition, and so regulatory oversight of pricing is appropriate as occurs with other monopoly utilities.

If you have any questions about our submission or would like to discuss in more detail, please feel free to contact me at simon.moore@businessnsw.com.

Yours sincerely

Simon Moore

Policy Manager, Infrastructure, Business NSW



The Bexley Chamber of Commerce

This submission is made on the behalf the Bexley Chamber of Commerce and is in relation to adverse impacts of the M8 and M5 tolls on traffic conditions around Bexley Town Centre. This was well documented in the August 2022 Legislative Council Road Tolling Regimes Inquiry. Chapter 3 of the Inquiry examined the impact of tolls on the community and industry. M5 toll avoidance and impacts on traffic in Bexley being the subject of case study B. The Inquiries report can be accessed on the NSW Parliamentary website

Prior to opening of the M8, significant changes to daytime parking along Forest and Stoney Creek Roads Bexley were completed by Transport for NSW coming into operation on 17 February 2020. This was clearly to prepare the route as the “free” alternative to the M8. It came with an immediate increase in local traffic as motorists sought to avoid the frequently congested M5 east tunnel. It also had a detrimental impact on trading conditions in our centre.

When the M8 opened on 5 July 2020 the Bexley free alternative to a 9.5 Km section of the M5 came at an additional travel time of only 6 minutes at a saving of \$7.52 for a car or \$22.56 for a truck. This was identified by a representative of Bayside Council in the Legislative Council Inquiry. Clearly the free alternative had been made very attractive due both to local road improvements and the high costs of motorway tolls. Residents, property or business owner on Forest and Stoney Creek Roads and adjacent local streets continue to report disturbed sleep, difficulty driving into and out of premises, loss of trade, impact on property values and rental returns.

A key promise of motorways such as the M5 and M8 is to remove traffic from town centres and surrounding streets. In the case of Bexley Town Centre the reverse is the case. To address this situation our free alternative needs to be less attractive by returning conditions through Bexley to as close as possible to their state prior to February 2020. A good first step here, which would require very little effort, would be to remove the weekend restriction on 24 shop front parking spaces converted to time of day no stopping zones in February 2020. Secondly the M5 and M8 need to be made more attractive through a restructure of the tolling regime. This may include time of day tolling and free tolls at night and on weekends.



Western Sydney Regional Organisation of Councils

21st February 2017

The Hon G Donnelly MLC
 Chair
 General Purpose Standing Committee No. 2
 NSW Legislative Council
 Parliament House
 Macquarie St
 Sydney

Inquiry into road tolling

This submission references material (Submissions) provided to the NSW Parliamentary Inquiry into Road Access Pricing 2013 by the Transport and Infrastructure Committee.

Dear Greg,

Please accept this submission as the Western Sydney Regional Organisation of Councils' (WSROC) contribution to the Inquiry.

Executive Summary

WSROC welcomes the opportunity to make a submission to the Parliamentary Inquiry into toll road pricing.

Western Sydney residents are Sydney's greatest users of toll roads both for commuter and recreational tasks. We travel further, for longer, and more often than other residents of Sydney to access high-value jobs and recreational experiences in the city's East.

Just under 70 per cent of Greater Western Sydney workers commute private vehicle¹ both within and outside the region; making the inquiry into roads pricing a critical one for Western Sydney.

Currently, motorists across the region are paying vastly different sums for similar journey benefits.

For example, users of the M2 pay three to four times more on a return journey to the CBD as users of the M5 motorway; demonstrating exactly why the Legislative Council's inquiry into road tolling is both welcome and sorely needed.

¹ Australian Census 2011. Profile ID. Greater Western Sydney. Method of travel to work. Available from: <http://profile.id.com.au/wsroc/travel-to-work?WebID=200>

However, WSROC also submits that the scope of the Inquiry must be expanded in order to address broader issues of how road tolls can facilitate:

- funding for future road network enhancements;
- delivery of sustainable road maintenance programs;
- fair and equitable access to the road network;
- a more efficient road network; and
- better public transport provision.

WSROC suggests that the NSW Government consider a number of network-wide pricing alternatives to address these inequities and ensure a sustainable funding source for the future, including:

- Distance based tolling with a total journey cap across multiple motorway links;
- Time of day variations to incentivise out of peak travel; and
- A differential tolling scheme where origin/destination is taken into account and commuters that lack public transport alternatives are “compensated” by reduced charges.

Without such considerations, Western Sydney Residents will be forced to endure inequitable road access charges that do not reflect the service quality they are experiencing on our city’s transport network.

About WSROC

Formed in 1973, the Western Sydney Regional Organisation of Councils (WSROC), represents eight councils in Western Sydney, including: Blacktown, Blue Mountains, Cumberland, Fairfield, Hawkesbury, Liverpool, City of Parramatta, and Penrith City Councils.

These local government organisations represent a significant geographical portion of the Sydney metropolitan region, covering over 5000 square kilometres and containing a mix of regional centres and large cities.

Home to around half of Sydney’s population, Western Sydney stretches from the heavily urbanised, multicultural areas of Auburn and Parramatta in the east, to the greenfield growth centres around The Hills, Blacktown and Liverpool, the semi-rural areas of Hawkesbury and the World Heritage listed areas of the Blue Mountains.

Over the past 40 years WSROC has developed a strong reputation for bi-partisan advocacy on behalf of the needs of its councils and residents, especially in the key areas of economic and social development, job creation, transport and infrastructure, planning, health and the environment, and has proven itself a reliable partner in intergovernmental relations, strategic planning, and coordinating joint projects, procurement and services.

Introduction

The Inquiry into road tolling is a welcome, though somewhat limited, step in the ongoing dialogue regarding the need to address road usage charging or road access pricing as a necessary reform in order to:

- fund future road network enhancements;
- deliver sustainable road maintenance programs;

- ensure fair and equitable access to the road network; and
- optimise the benefits from an efficient road network and the Government's investment in public transport.

Questions regarding the use of more sophisticated tolling models that allow demand management through variable pricing are equality legitimate as the funding, sustainability and equity issues. In fact, in certain cities experiencing chronic traffic congestion, the need for an effective demand management tool is the prime concern.

It is noted that the Inquiry appears to be focussed on the existing tolled motorways even though the vast majority of the road transport task, be it private, public, passenger or freight, falls upon the non-tolled sections of the road network. Limiting any road tolling reform just to motorways, that is the focus of this inquiry ignores this critical fact.

It is unfortunate, but nonetheless true, that the default policy of all governments in Australia is to use chronic traffic congestion as the most effective component of the travel demand management strategy for roads. The outcome of this 'policy by default' is to punish road users equally without regard to the legitimacy of their travel or the actual cost of that travel to the community. It does not discriminate between those that have real choices in mode or time-of-travel and those that do not. It does not discriminate between discretionary travel and non-discretionary travel and with few exceptions it certainly does not discriminate between the user of road-based public transport and the private motorist.

If this "default" policy is not bad enough, the nature of road tolling in Sydney is such that the undesirable outcomes previously highlighted are made even worse.

The substantive question for the people of Western Sydney is equity; how do they get fair and equitable access to roads especially for the commute task.

The question of fairness and equity to access the road network generally, and motorways specifically, cannot be addressed to the satisfaction of communities without also looking at cost and pricing distortions inherent in the entire transport network. After all, how is it possible to set appropriate public transport ticket pricing without pricing roads appropriately.

Land prices reflect many factors, including amenity, of which distance from services is a component. With relatively fixed capacity to pay, people make trade-offs which (in general) see those with the least capacity to pay for homes (on land) forced to accept the compromise of less amenity (i.e. Distance from the CBD and in Sydney's case the harbour and the coast) in order to get cheaper land. The workplaces which can afford the highest rents inevitably offer high value jobs and are located close to CBDs.

This trade-off includes the cost of tolls to travel on the motorway network as it stands.

Those with the least capacity to pay, who have been forced to compromise with the lowest cost homes located furthest from the CBD are subjected to the highest costs to travel to gain high value employment closest to Sydney CBD.

Another factor is that public transport is subsidised, the pricing dynamics between roads and public transport means that in many cases public transport is cheaper than tolling charges on the motorways. Unfortunately for many Western Sydney residents public transport is not a practical option.

Commentary

This submission focuses primarily on Item seven of the Terms of Reference. ***“Opportunities to increase the assurance to the public that tolling arrangements represent the fairest possible outcome”.***

The public do not need an assurance of equity and fairness in Sydney’s tolling arrangements because it can be easily demonstrated that they are not. Sydney’s motorway tolling arrangements are an eclectic mix of policy and protocols substantially based on specific financing arrangements driven on the day by questions of economics and politics.

The public requires a genuine dialogue and transparency, not assurances. Notwithstanding that this submission commences with issues very much at the macro level and continues to address specific issues there is a glaring deficiency in the process to develop an informed and engaged community.

Well informed communities are reasonable communities, they are communities willing to work with governments, they are communities who understand that the challenges before their government require their participation in finding solutions. And yet this strategic dialogue with communities is, at the moment, a fragmented, incoherent, project focused process that fails to engage with the very people that are supposed to be beneficiaries of this process.

WSROC makes the following observations and in some cases a firm recommendation to begin a process where equity and fairness is delivered not just to the people of Western Sydney but to all road users.

Some of the observations appear to not favour Western Sydney residents but in the context of “what is good for Sydney is good for Western Sydney” and given the nature of an efficient metropolitan road network in delivering benefits for all it makes sense.

Issues

Strategic inequities

The current system of registration and licensing charges, stamp duty, fuel excise and other taxes for users of roads are inefficient, inequitable, unsustainable and lack effectiveness in contributing to a modern transport network.

Road users that can afford the latest fuel efficient vehicles or the higher cost hybrids pay substantially less to access the road network through reduced fuel excise.

- A Penrith resident driving 65km to their job pays \$29.80 per week² just in fuel excise.
- A road user driving the same distance in a hybrid vehicle pays approx. \$9.90 per week in fuel excise.
- A road user driving an electric or alternate fuel vehicle for unlimited km pays no fuel excise.

Tolls on motorways in a very small way addresses this strategic inequity but much more needs to be done if the public is to be convinced of the “fairness” of the system.

² This is calculated on a Commodore averaging 12 litres per 100km.

Road users do not pay the full cost of roads (nor do users of public transport)

... if we were easily able to compare the cost/value equation across different modes of transport then transport providers, freight operators and commuters, may be making very different transport decisions to the ones made today.³

The costs associated with roads are more than just the cost of their construction. There are also long term maintenance costs, and costs associated with acquiring land for new road projects. Pollution and emissions caused by vehicles also result in health costs, as do road accidents.⁴

The Long Term Transport Master Plan (2012) noted that users do not pay for many of these costs:

Under our current system, there are many costs associated with road use that are not completely borne by the individual road user. These costs include the provision of road maintenance, the cost of pollution from our vehicles, the cost of accidents and the additional time cost to all road users arising from increases in congestion.⁵

It is estimated that the NSW Government recovers less than 70 per cent of its expenditure on roads and related services through user-focused means: road user charges, motor vehicle taxation and tolls on state-owned motorways. Road users are generally not aware of this funding gap.⁶

There is an argument that these costs should be factored in when calculating the actual cost of motor vehicle use. Roads Australia has argued that road users should share greater responsibility for the costs of maintaining and operating the road network through more accurate pricing:

The current pricing signals sent to road users are wrong. There is a strong case to view roads as a utility - not unlike water and electricity - and to make users of the road network more financially accountable for its upkeep, renewal and efficient operation.⁷

Complementing the need for road pricing reform is public transport pricing reform. One example is that because of the relatively fixed nature of the costs of the rail network in 2010/2011 each rail trip cost \$9.45, absurdly this meant that once the price of a rail ticket was factored in a Penrith rail commuter would get a “subsidy” of \$2.99 while a Burwood commuter would receive a “subsidy” of \$5.25 for a trip to the CBD.

WSROC is of the view that a coherent, transparent and sustainable pricing regime is required for the entire transport network and both components (road and public transport pricing) need to be addressed concurrently. This would also represent an opportunity to review policy, including taxes, levies and fees that at the moment contribute to inequities and competing dynamics between roads and public transport.

³ Evans and Peck, *Road pricing: Considerations for Australia*, May 2013, p 10

<http://www.evanspeck.com/site/DefaultSite/filesystem/documents/Insights/Road%20Pricing%20%20Considerations%20for%20Australia.pdf>

⁴ Submission to Parliamentary Inquiry – Road Access Pricing - Action for Public Transport, p 2

⁵ NSW Government, *NSW Long term transport master plan*, December 2012, p 373

⁶ Submission 14, Roads Australia, p 2

⁷ Submission 14, Roads Australia, p 2

Current tolls are inequitable

Our toll road network is inequitable in that some users pay more depending on which motorways they use more frequently. User charges bear no relationship to road users' actual use of roads. There are large differences in the cost per kilometre of using each motorway, and tolls are based on the cost of construction, with resulting inequities for road users.⁸

Infrastructure Partnerships Australia illustrated the inequity of Sydney's current motorway tolls:

... Toll apply to nine sections of the Sydney Orbital Network and the East-West corridor, however approximately 50 per cent of the motorway network remains untolled and cashback applies for private vehicle use on the M5. The resulting complexity of the system has led to unintended and inequitable outcomes for some motorists. ...

The differential pricing regimes across the network also gives rise to issues of equity where motorists using different sections of the network pay vastly different sums for similar functionality.⁹

WSROC has previously illustrated the inequities between;

- Western Sydney residents (limited or no access to practical public transport) with long commutes to their jobs in eastern Sydney and eastern Sydney residents (with many public transport options) with short commutes to their jobs (see Table 1), and
- Roads users within the region, depending on whether you live in the South West, the West and the North West your tolls to and from work are dramatically different (see Table 2).

TABLE 1. Difference in commuter experience between Inner West and Outer West

	Penrith (Glenmore Park)	Five Dock
Leave home	5.26 am – 6.52 am	6.33 am – 7.47am
Arrive work	7.03 am – 8.27 am	7.05 am – 8.28 am
Number of available PT trips	11 *	23 **
Cost	\$8.80 - \$9.36	\$3.50 - \$6.88

Table 1. notes:

* Walking for 15mins at Penrith would make no practical difference to the number of options.

** This is limited to just two bus routes.

** Other bus routes and bus and rail combinations increase available options by more than double the number.

** Walking for just 15 mins at Five Dock dramatically increases the number of options.

⁸ Submission 2, 10,000 Friends of Greater Sydney, p 2

⁹ Submission 15, Infrastructure Partnerships Australia, p 14

TABLE 2. Price of a return journey to Sydney CBD (peak hour)

Motorway	Distance travelled (approx.)	Daily cost	Yearly cost*
M2 (North West Growth Centre to CBD)	70km	\$27.62	\$6,905
M5 (South West Growth Centre to CBD)	70km	\$6.00**	\$1,500
M4 (Penrith to CBD)	55km	\$0.00	\$0.00
Train*** (Penrith/Richmond to CBD)	55-60km	\$15.00	\$3,750

Table2. notes:

*Based on five-day working week (250 days).

**After M5 rebate applied.

*** Based on adult peak fare with daily \$15 cap applied.

The Australian Institute of Traffic Planning and Management supported a review of public transport pricing, including consideration of equitable pricing and current public transport zones:

Under the existing system those who live in the inner and middle areas pay the least for public transport, but generally can afford to pay more. A more equitable zone system and price structure is required to provide an equitable balance, based on affordability. Such a review should have the aim of being revenue neutral in terms of fare box collection when compared to the existing system.¹⁰

The Australian Institute of Traffic Planning and Management submitted that an equitable road access pricing strategy should exempt certain road users, or compensate them:

People in regional areas have little or no public transport and rely on roads for their transport. Consideration should be given to moderation of road user pricing to account for this reliance and, in general, for the longer trips undertaken. Those persons with mobility impairments, who may have no choice but to drive, should be exempt from having to pay to access the road network.¹¹

Finding a solution

Standard tolling across the motorway network¹²

According to the Long Term Transport Master Plan, the introduction of a standard per kilometre toll across Sydney's motorway network 'has the potential to deliver significant benefits' including:

¹⁰ Submission 5, Australian Institute of Traffic Planning and Management, pp 6-7

¹¹ Submission 5, Australian Institute of Traffic Planning and Management, p 2

¹² Sydney's toll roads currently operate with differing toll types - most have a flat rate toll, the M7 a distance based toll, and the Harbour Bridge and Harbour Tunnel a time of day based toll: see

<<http://sydneymotorways.com/tagsandpasses.html>>

Consistency for motorway users – Regardless of the part of the network people use regularly or where they live, motorists’ charges to use the motorways will be directly linked to their level of use of the motorways.

New funds for roads – New funds could be generated and directed towards completing the motorway network, maintaining existing roads and increasing our investment in public transport alternatives.¹³

The introduction of harmonised tolling across Sydney’s motorway network is supported by many within the roads industry. Infrastructure Partnerships Australia argues in favour of a standardised, equitable framework for charging users across the entire motorway network. They felt that this would provide a more effective way to manage demand on the road network, while also raising sufficient funds to maintain current infrastructure and build new roads – to fill in the 'missing links' in our motorway network – as well as improving public transport.

Drivers would also pay a fairer amount for their use of the road network.¹⁴ 10,000 Friends of Greater Sydney echoed this view:

... tolling on the motorway network can be more equitable, used as a traffic management tool and also the basis for increased funds flow to finance new transport infrastructure. If coupled with a modest increase in public transport fares, ... it could form the basis for implementing major enhancements to the Sydney transport network.¹⁵

Such reform would require agreements to be reached with motorway operators under the leadership of the state government to ensure the implementation of network-wide tolling. Existing contracts would need to be renegotiated with motorway concession holders, with incentives and possible compensation for investors.

Consideration would also need to be given to the most appropriate technology for the introduction of integrated tolling on Sydney’s network. The Australian Institute of Traffic Planning and Management highlighted the importance of accurate and affordable technology to record relevant data: ‘Technology that would enable accurate information to be recorded regarding type of vehicle, distance travelled, time of journey and road used would need to be considered.’¹⁶

A harmonised motorway tolling regime coupled with the latest tolling technology would allow major questions of equity to be addressed for the first time in Sydney; for example;

- Charging a road user based on origin and destination information (i.e. commute task or otherwise) would allow for reduced tolls to be charged for those road users with no or restricted access to practical public transport alternatives.
- A journey cap can be applied at the network level for those users who use multiple motorway links.

¹³ NSW Government, *NSW Long term transport master plan*, December 2012, pp 373-374

¹⁴ Submission 15, Infrastructure Partnerships Australia, pp 19-20

¹⁵ Submission 2, 10,000 Friends of Greater Sydney, p 2

¹⁶ Submission 5, Australian Institute of Traffic Planning and Management, p 2

Distance and time-of-day based tolling

It can be argued that standardised distance based tolling on motorways must also be complemented with journey caps and be accompanied by higher charges during peak periods to reduce demand.

According to Infrastructure Partnerships Australia, ‘a network tolling approach ... and provisions for the eventual introduction of time of day price variability, will be crucial to the efficient delivery and effective operation of Sydney’s transport system.’¹⁷

Varying tolls based on the time-of-day would offer a way to manage demand on Sydney’s motorways, by encouraging changes in driver behaviour.¹⁸ Under time of day charging, motorists would plan their journeys in advance, taking into account the time of day, whether the journey is essential, the desired route and mode of travel. It was argued that this would reduce congestion on the road network at peak times. The Australian Institute of Traffic Planning and Management stated that time-of-day tolling would discourage motorists from travelling on certain roads and at certain times of the day and encourage them to explore alternative modes of transport.¹⁹

Equally important is that time-of-day tolling can be structured to incentivise travel outside of peak travel times.

Another possible approach is to introduce distance-based (with journey caps and time-of-day) charging across the entire road network. As noted by Infrastructure Partnerships Australia, road access pricing schemes ‘may cover a small collection of high-use road corridors or the entire network. Finally, the scheme may only include vehicles over a certain weight or may cover all vehicles using the road network.’²⁰

WSROC urges the State Government to investigate the opportunities and challenges from the introduction of a harmonised tolling regime across all of Sydney’s motorways as a first step, based on the following principles;

- Distance based tolling with a total journey cap across multiple motorway links.
- Time of day variations to incentivise out of peak travel.
- A differential tolling scheme where origin/destination is taken into account and commuters that lack public transport alternatives are “compensated” by reduced charges.

WSROC supports in-principle the introduction of equitable distance based charging (subject to the conditions detailed above) across the whole road network, combined with a reduction in, or removal of, vehicle registration charges and the fuel excise.

Conclusion

The current motorway tolling regime can be explained with little effort but far more difficult is explaining the value proposition in using tolled motorways during times of chronic congestion (peak travel times).

¹⁷ Submission 15, Infrastructure Partnerships Australia, p 2

¹⁸ Submission 15, Infrastructure Partnerships Australia, pp 35-36 (“Urban Transport Challenge: Driving reform on Sydney’s roads”)

¹⁹ Submission 5, Australian Institute of Traffic Planning and Management, p 4

²⁰ Submission 15, Infrastructure Partnerships Australia, p 16

Equally difficult is explaining how the current arrangements represent the fairest possible outcomes for the people of Greater Western Sydney, for as has been demonstrated in this submission, they are not.

WSROC urges the NSW Government to look seriously at the introduction of a harmonised tolling regime across all of Sydney's motorways as a first step, based on the following principles;

- **Distance based tolling with a total journey cap across multiple motorway links.**
- **Time of day variations to incentivise out of peak travel.**
- **A differential tolling scheme where origin/destination is taken into account and commuters that lack public transport alternatives are "compensated" by reduced charges.**

If the harmonisation of the tolling arrangements across the Sydney motorway network is not possible then Government should consider a network wide journey rebate for road users based on the aforementioned principles.

WSROC also supports the introduction of distance based charging (subject to the conditions detailed above) across the whole road network, combined with a reduction in, or removal of, vehicle registration charges and the fuel excise.

Charles Casuscelli RFD
CEO



Transport Workers Union NSW



Submission to the Independent Toll Review

27/07/2023

Transport Workers' Union of New South Wales



Transport Workers' Union of NSW

Richard Olsen State Secretary | P: 1800 729 909 | F: 02 8610 8099 | E: info@twunsw.org.au | W: www.twunsw.org.au

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1. About the TWU

1.1 The Transport Workers' Union of New South Wales (TWU) represents tens of thousands of people in Australia's road transport, aviation, oil, waste management, gas, passenger vehicle and freight logistics industries.

1.2 With over one hundred (100) years' experience representing the workers who conduct Australia's crucial passenger and freight transport tasks, the TWU has been proactive in advocating for the establishment and improvement of industry standards which advance the lives and safety of transport workers, their families and the community at large.

2. Introduction

2.1 The TWU welcomes the opportunity to contribute to the 'Independent Toll Review'.

2.2 The TWU also takes this opportunity to congratulate the current NSW government for providing transparency into the failed tolling work completed by the previous Government, and for initiating a review into the tolling system.

2.3 By virtue of the long representational history that the TWU has with contract carriers and small business operators in transport, the TWU is uniquely positioned to advocate for the commercial and operational realities encountered by small businesses, including the impact toll expenses have on their viability across NSW.

2.4 The cost imposition toll roads place on contract carriers and small businesses is a highly contentious issue across the heavy vehicle industry that is consistently raised as a concern with the TWU.

2.5 In light of the transport industry being a highly competitive price taking industry that is marred by the consistent undercutting of rates and conditions in order to secure work, increases in tolled road rates and the development of new toll roads continues to put financial pressure on small business operators who merely seek to complete an honest day's work in an industry where reasonable rates are upheld and safety outcomes are accounted for.

2.6 Like everyone else, small business operators seek to undertake work in view of making a profit and returning from work in the same condition they left in the morning. Unfortunately, the ever-increasing cost impositions small businesses face in the course of work makes this goal a forgone reality.

2.7 The TWU is optimistic that the experiences of transport industry operators explored and outlined in this submission will compel *Professor Allan Fels AO* and *Dr. David Cousins AM*, to make recommendations that account for the plight of small business operators in view of the NSW Government adopting said proposals.

3. The Ability of Trucking Businesses to Afford Increases in Tolling Charges

3.1 Contract carriers and small business operators in the transport industry are especially vulnerable to increases in tolling charges, particularly when giving consideration to the extent



of which those increases are made.

- 3.2 Small business operators in transport are responsible for all costs associated with running and maintaining their vehicle(s), including toll costs.
- 3.3 The TWU is all too familiar with the burdens that toll road costs have on small business operators in the industry. Over the years, though, particularly in recent times, TWU members have been vocal to their union organisers and leadership regarding the truth behind toll cost burdens, and the struggle they face on a daily basis.
- 3.4 Despite operating what could otherwise be considered a profitable business, some operators find themselves paying for tolls on credit. Other cases see operators making many personal sacrifices, or having some sort of necessity to avoid toll roads all together, due to cost.
- 3.5 Indeed, when speaking to small business operators, it becomes increasingly apparent as to why toll costs are having such a significant impact. There are accounts of operators being forced to use toll roads instead of free alternative routes, as it becomes necessary for them to take the fastest possible route. In some instances, drivers have encountered up to fifteen (15) tolled points in a single day.
- 3.6 Contract carriers and small business owners in the industry have expressed that they often face thoughts of 'giving up' or becoming an employee driver, rather than continuing business as an owner operator, as it is becoming increasingly more difficult to operate sustainably.
- 3.7 Many TWU owner driver members cite toll road costs as one of their primary 'cost of living' contributors and concerns.
- 3.8 The 'burden' faced by small businesses in transport can be attributed to the high cost of toll charges that apply to heavy vehicles, the frequency at which heavy vehicle operators need to use toll roads, and by extension, the lack of a daily toll charge cap.
- 3.9 Transurban, in their presentation at the public toll consultation on 11/07/2023, stated that the average weekly cost of toll roads for commercial users is \$101.06.
- 3.10 The figure presented is inconsistent with the real experience of the TWU and its members. It is not unusual, in the TWU's experience, for heavy vehicle operators to be imposed with hundreds of dollars' worth of toll charges in a week, with some extreme accounts in the past of facing hundreds of dollars in a single day.
- 3.11 Richard Olsen, TWU NSW State Secretary, says:

"Too often do we [TWU Officials] hear the concerns of owner drivers, small business operators and truck drivers, across the board, on the cost of tolls in NSW. It has gotten out of hand, and that much is made abundantly clear when owner drivers – those who have been so for decades, even, are facing a situation that constantly has them debating on whether to call it quits.

The excessively high cost of tolls for heavy vehicles are simply too unreasonable for the transport industry to absorb.



When looking at the largest players in the industry – such as Toll Group and others, who have reorganised their routes, and in the past, directed their drivers to avoid toll roads due to costs, the question remains – what of the owner drivers? The small business operators? If the largest, most profitable companies in the industry find little to no value in the use of tolls, then how are the small business families who own a truck supposed to make a living sustainably?”

3.12 Alex Farrugia, Owner Driver and TWU Delegate, shares:

“I have been an Owner Driver for some thirty (30) years, and a TWU member for over twenty-five (25). I operate a one (1)-ton van, and use toll roads on a daily basis. Weekly, I find myself paying at least \$200 in tolls, and it is not uncommon for me to hit the range of \$300. Yearly, I can spend up to \$10,000, though that is a conservative estimate. There are owner drivers in my yard who pay even more than I do. I suppose I am one of the ‘lucky ones’, as I do not pay the Class B rate. Though, considering how much I spend in a year, the fact that such a figure is the result of the Class A rate paints a sobering picture.

To say that tolls are a significant contribution to the ‘cost of living crisis’ for small business operators would be a severe understatement. It’s great that there is an initiative to cap the weekly toll spend for the average commuter. But why are we [owner drivers] being left without any support?

We keep the economy turning – we keep things going. I myself, along with other owner drivers in my yard, transport living organs for life threatening ‘patient on the table’ jobs. We transport organs to the airport for the Royal Flying Doctor Service; we literally meet them at the airport, and sometimes, it requires a police escort... and the only way to get there efficiently is to go through the tolls. In other cases, we’re transporting organs to various hospitals, or blood for the red cross. We transport for police forensics, equipment and parts to mines and rural areas, and more... we keep a range of different applications going. It’s unfair that we’re left high and dry, despite the frequency at which we use toll roads, and just how much we pay overall.

Tolls are costing productivity. Everybody on the road is trying to avoid tolls. Why are operators and truck drivers going on arterial roads instead of tolls? It’s the price. Everything is about productivity; the quicker you are, the more you can make. But sometimes you have to ask yourself – is it worth the cost? When you’re a small business, with a family to take care of, and limited means of cost recovery – no. It’s rarely ever worth the price, but sometimes you just don’t have a choice. After all, we’re [Sydney] the most tolled city in the world. I have to wonder why? Why it is that we’ve seemingly ‘normalised’ that?”

3.13 Walter Koppen, Contract Carrier and Owner Driver of almost 20 years, shares:

“I own and operate a medium sized crane truck... I try to avoid the toll roads due to cost. There are only so many times you can avoid them, though. I use toll roads about three (3) days a week, generally speaking. The lack of cost recovery hurts... it’s easy to spend more than \$100 a day on toll roads alone. I live on the Central Coast. If I need to go out to Ingleburn, I can use the Northconnex, the M2 and the M7... that’s about \$60 one way. If I want to do the same to get back, that figure doubles.



Northconnex is the only toll road I can claim cost recovery for... but the process itself is too difficult. You need to prove that you needed the toll road for the job, and then you need the statement as well, which you'll get a month after actually using the toll road. So, I have to keep tabs on everything I'm doing, which is incredibly impractical in the moment. It's difficult to keep track of jobs relating to toll charges on the move. Times are really tough. The Government have always wanted us [Truck Drivers] to use toll roads – to avoid the back roads. Well, there needs to be an incentive, or some kind of support, because we [Contract Carriers/Owner Drivers] can't do it viably. I don't think I'm making a profit with the truck at the moment... I cannot afford the tolls.

I think there needs to be legislation that allows us [Owner Drivers] to recover costs from the client. The Principal Contractor should pay for tolls. We're [Owner Drivers] 'the little guy.' We can only absorb so many costs, and tolls aren't one of them."

- 3.14 The TWU would make the sincere recommendation to avoid relying solely on averages, as they do not accurately reflect the true cost of frequent toll users, especially in the commercial context.
- 3.15 Gavin Webb, TWU Chief Legal Officer, recalls a situation where vulnerable visa workers approached the TWU with concerns about their engagement as Fleet Operator drivers.
- 3.16 In this particular situation, the workers outlined experiences where they were forced to work well in excess of their visa restrictions. Drivers were directed to falsify fatigue management records and were not allowed to take legislated breaks. Further, drivers were paid well below the site agreement rate and were not receiving payment for allowances they were entitled to. Drivers also explained that the vehicles they were operating were poorly maintained as they did not have the funds.
- 3.17 The TWU investigated the allegations and contacted the Principal Contractor to reinforce the obligation on the Company to ensure all involved throughout the supply chain were engaging in safe workplace practices.
- 3.18 The TWU subsequently conducted a Right of Entry on the Fleet operator to sight and make copies of documents that recorded terms of engagement, pay records and training records.
- 3.19 Mr. Webb recounts:

... "we walked into a desolate office space that had little to no paperwork, with the exception of a tall stack of crumpled papers on the edge of his desk. The director sat in a chair with a laptop in front of him.

I asked the Director to show us copies of pay records. He looked at me blankly.

His hands were visibly shaking as he started fumbling around his computer. He kept repeating the words 'pay records, pay records' to himself whilst looking on his computer.

It quickly became obvious to me that he didn't have the records we were asking for. In fact, when we asked him what records he did keep of the people he engaged, truth be told, he had



nothing.

The Director slowly started to let his guard down as he came to the realisation that we knew what type of workplace practices he was involved in.

Slumped in his chair, the Director pointed to the stack of crumpled papers on his desk and said words to the effect of "those are toll notices. I cannot pay them. I am in so much debt that I cannot afford to pay workers at their base rate, pay for toll expenses and make a profit.'..."

3.20 It should also not be presumed that toll costs are being borne by the large players in the supply chain, such as ALDI, Woolworths and Coles. TWU experience and research shows that those at the top of the supply chain pass on additional costs to those at the bottom; the workers and small businesses.

3.21 This, in turn, has safety impacts on NSW roads; an impact that cannot be underestimated under any means.

3.22 David Wojcik, TWU member and Contract Carrier of more than twelve (12) years, shares:

... "things have definitely changed. When I first started out as an Owner Driver, I was fortunate enough to operate profitably. As the cost of living increased over time, it became more and more challenging – but the big killer? The tolls. The tolls are far too expensive to remain a 'viable' option for us [Owner Drivers]. Far too often, the cost of toll roads outweighs any benefit you get from using them.

I operate a prime mover... I'm already paying a considerable premium to register my vehicle, and then I'd be paying a 3x multiplier to use toll roads. This is why so many owner drivers, small business operators, are 'rat running'. We try to use the toll roads less and less, because of the costs... and aside from the upfront cost you're hit with, there's no means of cost recovery. If I were to use toll roads on a daily basis, it would eradicate my margins completely. I would have little to no profit. Spending in excess of \$100 a day, let alone a week, is all too easy... and I cannot recover that cost.

... yes, it's definitely safer to use the toll roads – after all, you're going, for the most part, straight, for however long, or for any given length of road... so that is 'safer' than it is to weave through 'arterial' roads. There are more potential hazards. Even alternative 'main' roads can be unsafe. Parramatta Road is a great example of this. You go on Parramatta Road, because the M4 is just ridiculous [Toll Price], and you'll be sitting bumper-to-bumper in traffic, and meanwhile, somebody is going to get their side mirror clipped at best... it's all too common. But guess what? Everybody is doing it... everybody is doing it because nobody can pay the tolls. So, is there a safety issue here? Yes... yes there is. But many of us [Owner Drivers] have no other choice if we want to operate profitably."

4. Heavy Vehicle Group Multiplier Revisions and Transparency Regarding Toll Multiplier Determination

4.1 A key area of interest for the TWU is the proposed revision to Heavy Vehicle Group Multipliers.



- 4.2 Currently, all heavy vehicles are grouped into once class (Class B).
- 4.3 The multiplier for Class B vehicles is set at 3x the Class A toll charge.
- 4.4 The definition for Class B describes all vehicles that exceed Class A dimensions.
- 4.5 Tolling work conducted by the previous Government considered axles to be generally correlated with vehicle weight, which is noted to be one of the main contributing factors to road wear and tear. As such, the previous work proposed a revised grouping of heavy vehicles.
- 4.6 The proposition outlined the possibility for new heavy vehicle groups, with the groups ranging from 'Group 2' all the way to 'Group 5'. The cost multiplier would increase as the group number ascends, and Group 5 would be subject to a pricing multiplier 5x that of the Class A toll price – a figure which would result in toll prices far exceeding what they currently are for heavy vehicle operators.
- 4.7 In a previous Tolling Inquiry, the TWU suggested a review into the calculation of heavy vehicle pricing, with intent for the heavy vehicle multiplier to be reduced in pursuit of a fair outcome for operators. This suggestion comes from the view that current toll pricing schemes for heavy vehicles are unfairly distributed – a stance that was born from the TWU's firsthand experience, and a collection of research that has been cultivated over time.
- 4.8 Interestingly, though unsurprisingly, the previous Government has seemingly used the TWU's suggestion to review the calculation of heavy vehicle pricing as a means of bringing forth the 5x multiplier proposal. As such, it is no exaggeration to say that the previous government have deliberately skewed the TWU's suggestion, and have delivered a proposal that fundamentally works against what the TWU had recommended.
- 4.9 The TWU is of the view that a 5x multiplier is completely unfair, and extreme.
- 4.10 Creating a 5x multiplier for the heaviest of vehicles can best be described as egregious. To implement such a multiplier with a view that it is somehow justified or fair would be a decision that could only be born from a lack of understanding on both the context behind heavy vehicles on NSW roads, as well as the financial burdens that small business operators in transport suffer.
- 4.11 It is necessary to highlight that many truck drivers, particularly small business operators, make several trips in a twenty-four (24) hour period that require the use of toll roads. In such instances, it is common for drivers to encounter numerous sets of tolled roads, adding costs up rapidly, as there is no limit to how much a truck driver can be charged for using tolled roads within a 24-hour period.
- 4.12 Furthermore, registration of a heavy vehicle on NSW roads already costs up to 11x more than a standard passenger vehicle. Small business operators in transport already pay this significant premium cost, in addition to exorbitant toll costs.
- 4.13 Specifically, a long combination truck (RT3) has a heavy vehicle registration charge of \$14,829, regardless of axles. A medium combination truck (RT2), with 4 or more axles, has a



vehicle registration charge of \$11,587. An example of a 'smaller' truck, in comparative terms when looking at the aforementioned examples, such as a Short Combination Truck (RT1), with 4 or more axles, costs \$2,230 to register.

4.14 The TWU believes that these significant registration fees should also be taken into account in the context of heavy vehicle charges on toll roads. Registration fees are not a one-time payment – these are annual fees that need to be paid to operate a vehicle on NSW roads legally.

4.15 Wear and tear on roads formed part of the basis behind the previous government's idea to revise heavy vehicle multipliers, and suggest a multiplier of up to 5x. The current 3x multiplier can also be correlated to road wear and tear.

4.16 The previous government also correlated axles with vehicle weight, noting it as the 'key determinant of road wear and tear'. Interestingly, heavy vehicle registration costs consider the following, among other factors;

The number of axles

Gross Vehicle Mass (GVM)

4.17 Heavy vehicle registration charges are also sensitive to the number of axles a vehicle has, with the charge increasing per axle by vehicle type. This means that to operate a heavy vehicle on NSW roads, giving consideration to 'road wear and tear', operators are expected to pay a significant premium for registration of their vehicle (11x in some cases), and increased toll road costs (currently 3x, with an idea from the previous government to increase this multiplier even further for certain types of heavy vehicle).

4.18 The TWU believes that this is entirely unfair. Heavy vehicle operators are already being charged significantly higher than other road users to merely operate their vehicle. To raise the ceiling on the current multiplier for toll road charges would be excessive and inequitable.

4.19 The TWU supports a 'revision' to heavy vehicle multipliers. However, this support doesn't come from a belief that it is necessary to increase charges, but rather, lower the multiplier for certain types of heavy vehicle.

4.20 Simply put, the heavy vehicle multiplier should not be increased, in fact there is a clear case for the current multiplier to be reduced (noting the current Government's policy to reduce the multiplier for heavy vehicles to 2x from 1 January – 31 December 2024), and for there to be no multiplier for vehicles that are smaller, lighter, have less axles, or any combination of said factors.

4.21 Further, the TWU believe it is unfair for all heavy vehicles to pay the same 3x multiplier for toll road use, if 'wear and tear' is one of the main considerations behind the determination of pricing. A type 1 truck (RT0) with 2 axles does not have the same impact on roads as a long combination truck or a prime mover.

4.22 In addition to comparing effects on road 'wear and tear', the TWU find it necessary to highlight that operators of 'smaller' trucks, such as those with two-axles, do not earn a salary or wage



comparable to the operators of a truck like a B-double. Yet, they currently pay the same toll charge of 3x. This is, unequivocally, unfair.

- 4.23 Beyond the aforementioned, the TWU believe that transparency in how multipliers are determined is necessary. Currently, there is no transparency about what methodology, quantitative or qualitative data is considered when setting toll road rates.
- 4.24 This is especially significant considering that toll road rates have, in recent years particularly, been raised at higher than CPI increases, going beyond inflation.
- 4.25 At this time, to the TWU's knowledge, there is no publicly available, substantive data, that identifies and explains the real damage attributed to heavy vehicles on various tolls roads. By extension, there is no publicly available information on the costs encountered in the course of constructing tolled roads to account for the wear and tear heavy vehicles are expected to place on tolled roads, the costs associated with rectifying said damage, nor any other data or justification considered when setting the price for Class B vehicles.
- 4.26 As such, the TWU is of the belief that the rationale (that being road wear and tear) behind the current 3x multiplier is unjustifiable, considered the varying degrees of 'impact' that different types of heavy vehicles have. Additionally, the TWU is of the view that the current 3x multiplier does not represent the fairest possible outcome for all heavy and lighter commercial vehicle operators for all the aforementioned reasons.

5. Heavy Vehicle Night-Time Discounts & the Likelihood of Achieving the Intended Purpose

- 5.1 The previous Government proposed a series of 'Heavy-vehicle night time discounts' that would serve to combat 'rat running'.
- 5.2 Rat running refers to the use of arterial roads and residential streets, rather than toll roads. Heavy vehicle night-time discounts are projected to increase toll road usage through lower costs at certain hours, hence, a decrease in heavy vehicles using arterial roads.
- 5.3 The TWU believes that there is a fundamental flaw in this proposal. Night-time discounts are unlikely to outweigh the costs associated with working the applicable hours, and would also serve to create considerable drawbacks to current operations.
- 5.4 The high cost of labour during night-time hours is a significant barrier to this proposal.
- 5.5 A night-shift truck driver is paid 37% more than day workers. Based on an average worker earning \$30 per hour, this would increase costs by around \$150 per day.
- 5.6 The TWU fail to see how any "discount" could offset this cost. Similarly, owner drivers and small businesses don't have the benefit of shift work allowances, so this would unfairly affect them if they were forced (or encouraged) to work at night without financial compensation.
- 5.7 Savings in tolls would need to, at bare minimum, offset the aforementioned costs to provide any sort of incentive for businesses to operate at night.



- 5.8 This, of course, is without consideration towards the influence of curfews, and the internal changes that companies may need to make in response to increased night-time operations.
- 5.9 Loading dock curfews serve as a notable barrier to the proposition as well. Many heavy vehicle operators and transport companies would find little to no incentive based on this as well. Curfews in many areas would need to be revised, or removed.
- 5.10 Furthermore, the transport industry is highly unsociable. Demanding hours are a significant contributing factor to this issue, and shifting to night-time operations will only make this worse. By extension, the industry may become less appealing than it already is from the outside, which would create difficulties in hiring new employees.
- 5.11 The TWU finds it necessary to outline that night-time driving can present a unique set of risks and challenges for heavy vehicle operators, and such factors need to be considered when attempting to influence the adoption of increased night-time operations.
- 5.12 Research indicates that important aspects of driving capability are impacted whilst driving at night. For example, visual function, one of the most important functions when driving, is reduced under the lighting conditions of night time driving. Sensitivity in this context is further exacerbated by both visual impairment and increasing age¹, the latter of which is particularly concerning considering that transport, in general, is an aged industry.
- 5.13 This is an unsurprising determination, as visibility on roads is critical in maintaining the safety of both drivers and pedestrians.
- 5.14 Another key challenge, or rather, safety issue, that proves common in the context of night time driving is sleepiness and fatigue.
- 5.15 A particular study comparing day and night environments into the severity of driver fatigue in terms of line crossing notes that sleepiness is a contributing factor in many road crashes. Additionally, night driving, or driving in early morning hours, has been attributed to an increased risk of road crashes, proving relevant for professional drivers, among other road users².
- 5.16 The development of sleepiness is a risk present even when an individual has had prior rest. This is because the brain produces a hormone in response to darkness, known as melatonin.
- 5.17 Melatonin is produced at night time as the body's measure to prepare for sleep, which slows down digestive processes and decreases body temperature. Mentally draining tasks, such as driving at night, are often counterproductive in such cases. People whose work finds them sleeping during day-time hours are still vulnerable to the decreased productivity that comes at night³.

¹ Wood, J.M. (2019). Nighttime driving: visual, lighting and visibility challenges. *Ophthalmic and Physiological Optics*.

² Anund, A., Fors, C. and Ahlstrom, C. (2017). The severity of driver fatigue in terms of line crossing: a pilot study comparing day-and night time driving in simulator. *European Transport Research Review*, 9(2).

³ Burns, P. (2020). *How Night Driving Contributes to Drowsiness | Mobile Law Blog*. [online] Burns, Cunningham & Mackey, P.C. Available at: <https://www.bcmlawyers.com/how-night-driving-contributes-to->



5.18 Fatigue is a significant issue that plagues transportation operations across the globe, in contributing to crashes, injuries and deaths⁴.

5.19 The National Road Safety Strategy defines fatigue as 'a loss of alertness that reduces human performance and may or may not end up in sleep or micro-sleeps'. It is also described as

'...one of the leading factors contributing to road crashes and has several problematic effects on driving performance, including slowed reaction time, shorter attention span, less effective memory, narrowing of attention, and less effective reasoning and decision making.'

The National Road Safety Strategy also notes that fatigue is '4 times more likely to contribute to impairment than drugs or alcohol'⁵, further validating it as a legitimate safety concern.

5.20 The TWU believe that it is important to take the aforementioned into account when analysing the viability of heavy vehicle night-time discounts. These are just some of the legitimate challenges and safety concerns that are associated with the environment of night-time driving.

6. Impact of Geographical Distribution of Toll Costs on NSW Drivers

6.1 Sydney is the most tolled city in not just Australia, but the entire world. There is a clear disparity in toll costs paid by motorists, in comparison to other tolled cities, those being Brisbane and Melbourne.

6.2 Sydney motorists are noted to, on average, pay \$4,811.04 a year on tolls. Comparatively, Brisbane and Melbourne share a figure of \$2,964.00⁶, illustrating a significant difference at face value.

6.3 In the context of Sydney itself, there is a clear difference in cost paid by commuters from Western Sydney in comparison to motorists from other regions.

6.4 Transport for NSW has revealed the top 20 highest spending suburbs in terms of average toll spends (for the 2021 financial year).

6.5 Among the top 20, many of the suburbs listed are located in various Western Sydney regions. Some notable western suburbs listed include, but are not limited to, Horsley Park, Silverwater, Orchard Hills, Glendenning, Colebee, Hassall Grove, among others⁷.

[drowsiness/#:-:text=Driving%20while%20drowsy%20puts%20you,and%20how%20to%20protect%20yourself.&text=The%20human%20body%20naturally%20follows%20a%20set%20of%20circadian%20rhythms.](#)

⁴ Bioulac, S. *et al.* (2017). Risk of Motor Vehicle Accidents Related to Sleepiness at the Wheel: A Systematic Review and Meta-Analysis. *Sleep*, [online] 40(10).

⁵ Roadsafety.gov.au. (2023). *Fatigue*. [online] National Road Safety Strategy. Available at: <https://www.roadsafety.gov.au/action-plan/2018-2020/fatigue>.

⁶ Car Running Costs Statistics 2022 | Car Research & Statistics – Budget Direct (2022). *Car Running Costs Statistics 2022 | Car Research & Statistics – Budget Direct*. [online] Budget Direct. Available at: <https://www.budgetdirect.com.au/car-insurance/research/car-owner-cost-statistics.html>.

⁷ Australian Financial Review. (2023). *Parts of Sydney slugged up to \$2000 a year for tolls*. [online] Available at: <https://www.afr.com/companies/transport/would-you-pay-2000-a-year-on-tolls-in-these-suburbs-its-the-norm-20230614-p5dqhe>



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- 6.6 For Western Sydney, there are two (2) methods of charging for toll roads that severely increases the costs for those travelling to, from and between these regions – fixed-point and a distance-based methodology of calculation.
- 6.7 The most traditional method of tolling in NSW is by way of a fixed-point toll which applies from the use of a particular motorway regardless of distance or time travelled.
- 6.8 The fixed-point toll is a flat rate traditional method that disadvantages Western Sydney motorists, as in order to travel to a central destination (e.g., the Sydney Central Business District), the resident will likely encounter various tolled roads that back onto one another, effectively compounding toll charges.
- 6.9 Naturally, this is especially relevant for heavy vehicle operators, considering their toll charges are far greater than standard passenger vehicles.
- 6.10 As aforementioned, there is lack of an incentive that limits the daily, weekly or monthly costs that heavy vehicle operators pay where multiple tolled roads are used in conjunction with one another.
- 6.11 Given that it is common for heavy vehicles, particularly those of a 'smaller' scale, such as delivery vans or trucks with 2-axles, to make deliveries or carry a load that will inherently require the usage of numerous toll roads a day, and in some instances, multiple uses of the same toll road(s) in any given twenty-four (24) hour period, the lack of a limit on toll charges proves to be an especially significant cost imposition that is inequitable in nature.
- 6.12 In light of motorways throughout NSW being owned and operated by various companies, establishing a cap of toll charges for heavy vehicle operators would prove most beneficial when spanning the entire network. With the aforementioned information in this submission, the TWU believes there is a legitimately reasonable case in favour of a need for toll caps for heavy vehicles.
- 6.13 Toll roads such as the M7 and WestConnex operate in accordance with a distance-based methodology whereby those using either road are charged on the basis of the distance travelled.
- 6.14 The distance-based methodology does not account for the fact that Western Sydney motorists live further out from central locations, and as such, are required to travel upon the full gauntlet of tolled roads and pay the maximum associated toll charge in order to access their destination.
- 6.15 In effect, charges calculated via the distance-based methodology punish motorists living, working or frequently travelling to, from and throughout Western Sydney.
- 6.16 Whilst the disproportionate financial burden toll roads place on western Sydney residents is well recorded, too often the plight of small business operators in transport mounting toll costs where they reside, operate from or frequently travel to, from and throughout Western Sydney goes unnoticed.



6.17 Small business operators often encounter dozens of toll points in the course of daily work, and cost recovery is typically a luxury unobtainable.

6.18 Whilst Transurban and the previous NSW Government maintain that free alternative roads are available for travel to, from and between Western Sydney, too often small business operators in transport have little choice in using toll roads, typically due to variables beyond their control, such as a run which cannot be completed within the allocated timeframe through the use of free alternative routes.

7. Concerns Regarding non-toll road restrictions

7.1 The independent toll review discussion paper outlines the idea of 'non-toll road restrictions', citing the example of NorthConnex:

'... For example, trucks and buses more than 12.5 metres long or more than 2.8 metres clearance height travelling between the M1 and M2 must use the NorthConnex tunnels unless they have a genuine delivery or pickup destination only accessible via the Pennant Hills Road.'

The idea then states;

... 'Restrictions on the hours of operation of loading docks around the Sydney CBD also may provide practical limitations on the hours trucks can distribute goods and utilise the motorway network.'

7.2 There are a number of concerns the TWU has with this idea. First and foremost, and perhaps most importantly, the idea of further non-toll road restrictions, with NorthConnex as a reference, implies that heavy vehicle operators are going to be *forced* with further toll charges.

7.3 Additionally, the restricting of heavy vehicles to certain tolled roads, and even hours as implied, is taking away the freedom of choice, and directly contradicts the idea of 'free alternatives' that has been staunchly maintained by Transurban and the previous Government in their comments on NSW tolling regimes.

7.4 Furthermore, restrictions on the hours of operation of loading docks around the Sydney CBD may serve to agitate or disrupt the current state of operations for many businesses.

7.5 Though the idea of non-toll road restrictions currently remains largely unexplained, the implications of what has been expressed does not represent the fairest possible outcome for heavy vehicle operators and small businesses in transport whatsoever.

7.6 It is entirely inequitable, unreasonable and outright unnecessary to, without exaggeration, force further toll charges on a segment of road users who are already paying heavily inflated, unfair costs for the use of toll roads, among other costs associated with operating a heavy vehicle.

8. Toll Road Pricing Principles

8.1 The TWU has thoughts and concerns with the 10 pricing principles from the previous



Government's work.

- 8.2 Among the 10 principles, there are three in particular that stand out in the context of heavy vehicle operators...

Principle 8. *Truck tolls at least three times higher than car tolls.*

Principle 9. *Regulations could be used so trucks use new motorway segments.*

Principle 10. *Untolled alternative arterial roads remain available for customers.*

- 8.3 Principle 8 implies that a 3x multiplier is the *minimum* that could be applied for heavy vehicles. As explained earlier, anything beyond a 3x multiplier is entirely inequitable, though to suggest that 3x would be the minimum is even more so.
- 8.4 Principle 9 implies the initiative to *force* heavy vehicles to use certain motorway segments, which seems to remain relevant with the idea of non-toll road restrictions, at face value. In combination with principle 8, it becomes clear that these ideas are nothing more than an intention to increase Transurban's profits at the expense of truck drivers and small business operators in transport.
- 8.5 Principle 10 suggests that free alternative roads should still be available – something that as outlined previously, both Transurban and the previous Government have consistently maintained in their dialogues on NSW toll roads. However, this principle directly contradicts the idea of non-toll road restrictions, and even principle 9.
- 8.6 As such, the TWU must wonder if there was a genuine intention to leave heavy vehicles with no alternatives to tolled roads whatsoever. Regardless, it can be inferred that there is a clear attempt to squeeze as much revenue from heavy vehicle operators as possible, whilst conveniently masquerading as an initiative that would prove beneficial for motorists.

9. CBD Zone

- 9.1 The previous Government considered the idea of a CBD zone, charging an access fee on entry by motorway and/or arterial road into the CBD. This option was considered under the premise of delivering a "multitude of benefits".
- 9.2 These benefits are noted to include a more pedestrian friendly CBD, reducing the number of cars entering the CBD, potentially increasing average speed in the CBD, and support mode shift to public transport.
- 9.3 It is noted that a CBD Zone in Sydney could only be effective if introduced across all entry points into the CBD, resulting in a charge being levied on previously free roads which access the CBD.
- 9.4 The TWU is concerned that the addition of a toll at every CBD entry point would result in further cost impositions upon motorists, and by extension, heavy vehicle operators.



- 9.5 International examples, such as London, Stockholm and Singapore, all shared similar primary “goals” when developing their CBD Zones, or relevant equivalent. One common goal that was shared was reduced congestion, which would be achieved through deterring road users who refuse to pay tolls.
- 9.6 The initiative described refers to “congestion pricing”⁸. While it has seen success in the aforementioned countries, in relation to the goal, the TWU believes that deterring congestion from the CBD in Sydney will only relocate it elsewhere, which is hardly a “fix” for the overall issue of road congestion.
- 9.7 If there is a desire to eliminate “rat running”, or keep trucks off arterial roads in general, then the establishment of a CBD Zone would be detrimental to such a cause.
- 9.8 Furthermore, as the previous Government showed intent to combat rat-running practiced by heavy vehicles, it can be concluded that the implementation of a CBD zone, that aims to have less congestion in the Sydney CBD, is contradictory to this goal, as the implementation of charged CBD Zone will inherently facilitate further congestion on arterial roads.
- 9.9 As detailed previously, and made apparent through member statements, toll roads are already too expensive, and arterial road usage, though often not as efficient, is typically a far more appealing option for heavy vehicle operators.
- 9.10 If tolled to enter the CBD, small business operators will have no choice but to use alternate routes.
- 9.11 Referring to London’s Cordon Pricing Scheme specifically, there is a £15 (approx. \$28.54 AUD) daily charge if you drive within the Congestion Charge Zone between 7:00-18:00 Monday-Friday, and 12:00-18:00 Sat-Sun. This has been in effect since June 2020.
- 9.12 If such a methodology was to be adopted in a hypothetical CBD Zone for Sydney, then traffic would more than likely be relocated to arterial roads as a consequence of the pricing. Further, if a truck driver needs to use the CBD, and has no other choice, then their toll expenses will only be further compounded.
- 9.13 If a hypothetical CBD Zone were to be implemented, then it would only further highlight the need for cost recovery initiatives relevant to heavy vehicle operators – or some kind of pricing cap.

10. Consultation with the Transport Workers’ Union of NSW with regards to Changes in Tolling Regimes

- 10.1 The TWU notes that despite being the largest representative body of truck drivers and the only union within NSW who has coverage over Contract Carriers, the TWU is unaware of any past attempts by the previous NSW Government to consult with heavy vehicle operators prior to changes being made to tolling regimes, with the exception of parliamentary enquiries.

⁸ Road Pricing in London, Stockholm and Singapore: A Way Forward For New York City. *Tri-State Transportation Campaign*.



- 10.2 In the light of the struggles faced by small businesses in transport, the TWU believe there should be a requirement for consultation prior to changes being introduced in tolling regimes to ensure that tolling arrangements represent the fairest possible outcome and there is increased transparency for the public about how toll charges are set.
- 10.3 The TWU acknowledges that this current independent toll review is a step in the right direction, and would again like to commend the current NSW government for providing transparency into the failed tolling work conducted by the previous Government, and for facilitating this review.
- 10.4 As such, the TWU would like to take this opportunity to reinforce the importance of future consultation with the industry, and the TWU itself.
- 10.5 If changes are to be made that directly affect the lives of small business operators in transport, as well as the financial viability of the business they run, then it is necessary to receive their direct input. Consultation in this regard not only facilitates a fairer outcome and process, but also means that a better outcome overall can be achieved in receiving guidance and feedback by frequent toll road users.

11. General Recommendations

- 11.1 The TWU has general recommendations pertaining to toll roads.
- 11.2 These recommendations include, but are not limited to:
- (a) A review of the multiplier for heavy vehicles to ensure a fair cost for all types of vehicles, with respect to maintaining the fairest possible outcome for heavy vehicle operators. With the information detailed in this report, the TWU make the sincere recommendation to refrain from increasing the heavy vehicle multiplier, and to establish lower multipliers for heavy vehicles and no multiplier for lighter commercial vehicles.
 - (b) Transparency in how the heavy vehicle multiplier is determined or altered, with regards to the formula or philosophy used.
 - (c) A cap on frequency of usage. Specifically, a daily toll price cap for multiple twenty-four (24) hour trips on the network, to maintain fairness for truck drivers required to make multiple trips.
 - (d) Ensure there are free alternatives for all road users, including heavy vehicle drivers.
 - (e) Night-time discounts should consider the financial impact of labour.
- 11.3 The TWU believes these recommendations would provide significant benefit for small businesses in the transport industry, whilst still maintaining fairness across the board.
- 11.4 As such, the TWU makes said recommendations in the context of all topics, factors, thoughts and concerns covered in this submission, with sincerity.



12. Conclusion

- 12.1 The continual rise of toll charges and ever-increasing number of toll roads is a primary factor that places pressure on sustainability and safety of those in the road transport industry.
- 12.2 The TWU believes that this independent toll review is a necessary first step in achieving a fairer outcome for all motorists, but particularly, the small business operators who are continually plagued with unfair toll costs, at a frequency that creates a significant cost imposition.
- 12.3 Further, this independent toll review is a necessary step off the back of the previous Government's work. The TWU is of the view that the previous NSW Government afforded little consideration to the plight of small businesses in the road transport industry.
- 12.4 The current tolling regime in NSW does not represent the fairest possible outcome for truck businesses, as there is little ability for operators to afford increases in tolling charges. Furthermore, the current classifications of Class A and Class B does not account for the varying types of vehicles operating throughout NSW.
- 12.5 Despite that, increasing multipliers further is not the solution, and will only serve to create further cost imposition on small business operators.
- 12.6 The TWU sincerely hopes that this submission, and the overall findings born from the independent toll review, will serve as a catalyst for a review into current tolling regimes, so that necessary changes can be made in achieving a fairer outcome for small business operators in transport.
- 12.7 The TWU will continue advocating to ensure that as a vulnerable class of workers, small business operators are not exploited into the future. Furthermore, the TWU will continue to shine a light on dodgy industry practices to ensure that small businesses are not engaged in a race to the bottom with the rest of the transport industry throughout NSW.

The Hills Shire Council

26 July 2023

Professor Allan Fels AO
Review Chair
Via online submission

Our Ref: 20800092

Dear Professor Fels

The Hills Shire Council submission to 2023 Independent Toll Review

Please find below a copy of Council's submission to the current 2023 Independent Toll Review which should be read in conjunction with the attached copy of the Council Report which was considered at the Ordinary Meeting of 25 July 2023 where Council resolved that the Report and this submission should be submitted to your inquiry.

We look forward to receiving an update when such information is available.

Please find Council's submission as follows:

- **Equity across the network – the main mode of vehicular travel across the Sydney region for our residents often intersects with the toll network – particularly trips to/from the Sydney CBD. To date other regions have been subsidised but not Hills residents.**

At varying times across the history of toll roads in Sydney, residents in the west or south west have had subsidised travel available to them on the M4 and/or the M5. Such subsidies have not been available for travel along the M7 or the M2 which predominantly serve residents either traveling to or from North Western Sydney where The Hills Shire is situated. In Council's submission this is an inequitable outcome and that if such subsidies are to be continued, that Hills residents should be able to access the same subsidies that have historically been available to residents within catchment areas identified for both the M4 and or M5 motorways.

Council acknowledges that residents with extensive toll usage may be entitled to subsidised vehicle registration, however that requires many hundreds of dollars to be expended before the subsidies can be achieved. In our submission, assistance should be available for those residents who access these toll ways as the only way of traveling in a vehicle in a reasonable fashion to and from our Shire and around the Sydney metropolitan region including to the CBD, but that do not travel to a level that would warrant the registration subsidies available to them. In our assessment this would particularly benefit senior members of the community who have potentially lower disposable incomes and are no longer traveling for work, however must meet the same extraordinary burden of high tolls.

- **Toll structures and limits – Hills residents shouldn't be consigned to paying higher tolls simply because the NSW Government has not historically delivered sufficient development outcomes or transport networks in the metropolitan Sydney region, forcing residents to commute further to work. Tolls should be capped so as not to disproportionately penalise remote workers.**

We understand that the Review may have been considering an access fee and then a capping of tolls based on a particular maximum distances or maximum usage to be able to be covered under the fee. Council would support capping of tolls on the basis that our residents primarily need to travel further to work because of historic under-investment in the establishment of employment areas and associated transport networks throughout the broader Sydney metropolitan region consigning our residents to longer journeys to work, which means more expense on private vehicles or public transport. We understand from recent figures that approximately 14% of the Hills Shire's working population travels to the Sydney CBD to work, even if only a proportion of those are paying tolls, that is still an extraordinary expense for our community to bear and that expense should be limited in our submission.

In further support of the above, the majority of Sydney's population growth is to occur in the Greater Western and Southern Sydney regions and yet many of the current employment opportunities require commuting to other parts of Sydney, meaning that an integrated motorway network is a key part of creating an efficient city based on the need to effectively move people and goods. If tolls are structured in such a way as to not put an inequitable barrier in front of this legitimate role, the functioning of the network as a whole has the ability to remove congestion from local roads and regional through traffic from local centres.

Equally, forcing toll users to pay higher tolls based on minimum tolls on various toll roads across the Sydney region is inefficient, punitive and does not take account of the traffic that toll users take off other local and state roads by paying to use an effectively private road network. On this basis, it is submitted that it is not inappropriate for the broader tax base to in part subsidise motorway network travel, allowing lower maximum toll costs to be set. For example, instead of a trip from Marsden Park to the Sydney CBD needing to pay a toll on the M7, M2, the Lane Cove Tunnel and then the Harbour Bridge or Harbour Tunnel amounting to at least \$22.94 for a single passenger vehicle trip of 45.35km (50.584c/km), that toll trip could be limited to a maximum trip distance of 20km resulting in a reduced toll of \$10.11.

- **Transparency of commercial arrangements – like Council operations, asset management information should be published and aligned with budgets so that the performance of the asset can be audited by the NSW Audit Office.**

Council supports actions to publish the contracts that have been put in place historically between the NSW Government and the various private toll providers. We would further submit that those commercial arrangements should be adjusted to include the need to adopt periodic asset management strategies and subordinate asset management plans for various pieces of infrastructures that make up the tolling network. These plans should be publicly available and should be aligned with published budgets so that the performance and expenditure of those private entities is able to be seen by the public and they should be subject, in the same way that Councils are, to auditing by the NSW Audit Office with those reports to be tabled in Parliament. It is also submitted that periodic performance audits should also be carried out on certain features of the network from time to time.

- **The financial parameters of any revised or future commercial arrangement should only be established on a cost recovery basis. Tolls levied for a public purpose should not generate a private profit.**

Further to the above, in Council's submission, tolls levied for a public purpose should not generate a private profit. Tolls should be independently regulated and implemented purely on a cost recovery basis. Whilst we understand the logic of using private debt to forward fund programs that governments have been unable to manage through budget cycles, it is not considered appropriate that this private debt generates profit from a public purpose.

Tolls should also be independently set. We would submit in the same way that a range of public fees and charges including council rates, energy prices and private health insurance outcomes are determined, IPART, or a body similar to IPART, should have a role in harmonising the tolling across Sydney and determining any increases that may or may not be applicable over any point in time. It is also submitted that minimum increases should be removed from contracts on the basis they may not align with market conditions at the time and instead any increases should be in alignment with the adopted budget of the toll infrastructure provider rather than simply on an assessment of an index against their overall costs. This would go towards providing confidence for the public that the program of managing toll ways as well as maintenance, repair and future upgrade was strictly being managed in alignment with budget and the price is not being used to generate profit as opposed to funding much needed works.

- **If the toll road does not perform to the contracted standard – i.e. with substantial delays or substantial periods at reduced speeds or subject to works impediments then a reduced toll should be applied for these periods.**

One of the great frustrations experienced by our residents, and no doubt those all across Sydney, is that the toll roads perform well below the expected standard. In the ordinary course of events if a good or service provided under a contract does not perform to the contracted standard you either contemplate seeking compensation, not charging the full price or discounting those prices associated with substandard level of service. In Council's submission, where the infrastructure does not perform to the contracted standards, it should be subject to a lesser charge i.e. if substantial delays or substantial periods of reduced speed are experienced or road works and or maintenance are required that reduce the performance of the infrastructure beyond a certain point, the toll should be reduced in line with the reduced performance.

- **Buses should pay a reduced toll to incentivise mass transport options.**

Council would support a position that buses should pay a reduced toll to incentivise mass transport options. It seems counter-intuitive that efforts to generate a shift in transport modes would not be subject to the incentives available under a pricing and charging mechanism to encourage that modal shift.

- **Tolls should be expressed clearly and simply for motorists to understand.**

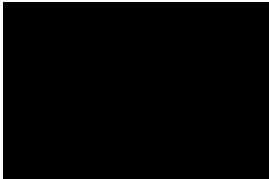
Tolls should be expressed clearly and simply, and efforts should be made to align with mapping software so that it can go further than just saying "tolls required" but can actually demonstrate the toll that would be payable at the particular time of day the traveling is to be undertaken, giving motorists the best benefit of the available information and the ability to more accurately choose their trip.

- **Road users who regularly use toll roads for commuting or regular trips should be able to pre-purchase a bulk number of trips at a discounted rate (e.g. - like the old weekly train ticket option). This would provide certainty of income and usage to the toll road operator and allow them to bring forward income.**

In our submission it would benefit to the toll owners and the companies that maintain their assets if they had an expected usage pattern and an expected or known and available income source to more accurately align with the asset management planning and financing strategy set out above. The ability to allow frequent toll users to pre-purchase a certain number of toll trips at a discount in our submission would facilitate both of these positive outcomes. It would allow the toll owner to receive the benefit of funds paid early and to more accurately plan for maintenance based on a potentially more detailed knowledge of when transport and travel on the infrastructure might be undertaken over the course of any period of time.

Should you or your staff wish to discuss this matter further, please contact Council's Group Manager – Shire Strategy Mr David Reynolds on 9843 0594 or dreynolds@thehills.nsw.gov.au

Yours faithfully



Michael Edgar
GENERAL MANAGER

ITEM 9 **DRAFT SUBMISSION – 2023 INDEPENDENT TOLL REVIEW REPORT**

THEME: Building a Vibrant Community & Prosperous Economy

MEETING DATE: **25 JULY 2023**

COUNCIL MEETING

GROUP: **SHIRE STRATEGY**

GROUP MANAGER – SHIRE STRATEGY

AUTHOR: DAVID REYNOLDS

RESPONSIBLE OFFICER: **GROUP MANAGER – SHIRE STRATEGY**
DAVID REYNOLDS

PURPOSE

To consider a draft submission to the current NSW Government Independent Toll Review.

RECOMMENDATION

The draft submission be adopted and forwarded with this report as Council's submission to the Review.

IMPACTS

Financial

This matter has no direct financial impact upon Council's adopted budget or forward estimates.

LINK TO HILLS SHIRE PLAN

Strategy:

3.3 Ensure Council is accountable to the community and meets legislative requirements and support Council's elected representatives for their role in the community.

Outcomes:

6 Safe, convenient and accessible transport options and a variety of recreational activities that support an active lifestyle

BACKGROUND

The NSW Government recently announced an Independent Toll Review to make toll roads simpler and fairer across Sydney's motorway network. The Toll Review is described as seeking to ensure consistency, fairness and equitability of toll road pricing,

The independent review is being led by Professor Allan Fels AO, former chairman of the Australian Competition & Consumer Commission, and Dr David Cousins AM, former Chair of the Prices Surveillance Authority and Director of Consumer Affairs Victoria.

The Review is subject to Terms of Reference which are attached and informed by a Discussion Paper and a Summary Report of work completed by NSW Treasury and Transport for NSW prior to the election of the new Government. These are also attached for Councillors' reference and submission are able to be made until Friday, 28 July 2023.

The Review will also be informed by public hearings which were held earlier in July. There is no set date by which the Review must report.

REPORT

Prior to its recent election, the now NSW Government committed to the carrying out of an independent review of the Sydney tolling network. Since being elected they have announced the review.

Under its terms of reference, the Review has been asked to examine:

- The structure and level of tolls in New South Wales in the future, looking at their efficiency, fairness, simplicity and transparency, existing agreements with providers and the impact on all forms of transport;
- The extent to which tolls should reflect the capital and operating costs of roads, the impact different users have on road sustainability and the use of roads throughout the day;
- The appropriate targeting of relief to provide fairness for the whole community and how to ensure the community, rather than toll road owners, benefit from toll relief;
- Whether tolls are understandable, simple for motorists to pay and administratively efficient to collect; and
- The scope for competition and regulation to influence road tolls and the efficiency of service performance by provider.

The Review will have regard to the shorter-term toll relief measures the Government will be implementing, which will apply for two years, and assess what longer-term toll relief measures should apply.

The review will also be mindful of the policy positions of the new Government.

The Independent Toll Review will publicly release its final report next year with the Government to consider its recommendations.

Current Toll settings

For many years tolls have been used to collect funds directly from users to pay for infrastructure. This includes funds for both capital construction and upgrading costs as well as ongoing maintenance and operational costs.

Tolls have been used by both government and private entities as a means of paying for required infrastructure. In more recent years, governments have provided very lengthy concessions to corporate entities to deliver this type of infrastructure rather than funding it directly themselves through a mixture of debt, general revenue and/or user fees. The private contracts put in place for these concessions have not been publicly available and so the details of the commercial commitments are not able to be fully described.

The Sydney motorway network is set out below in Figure 1 showing tolled and un-tolled roads.

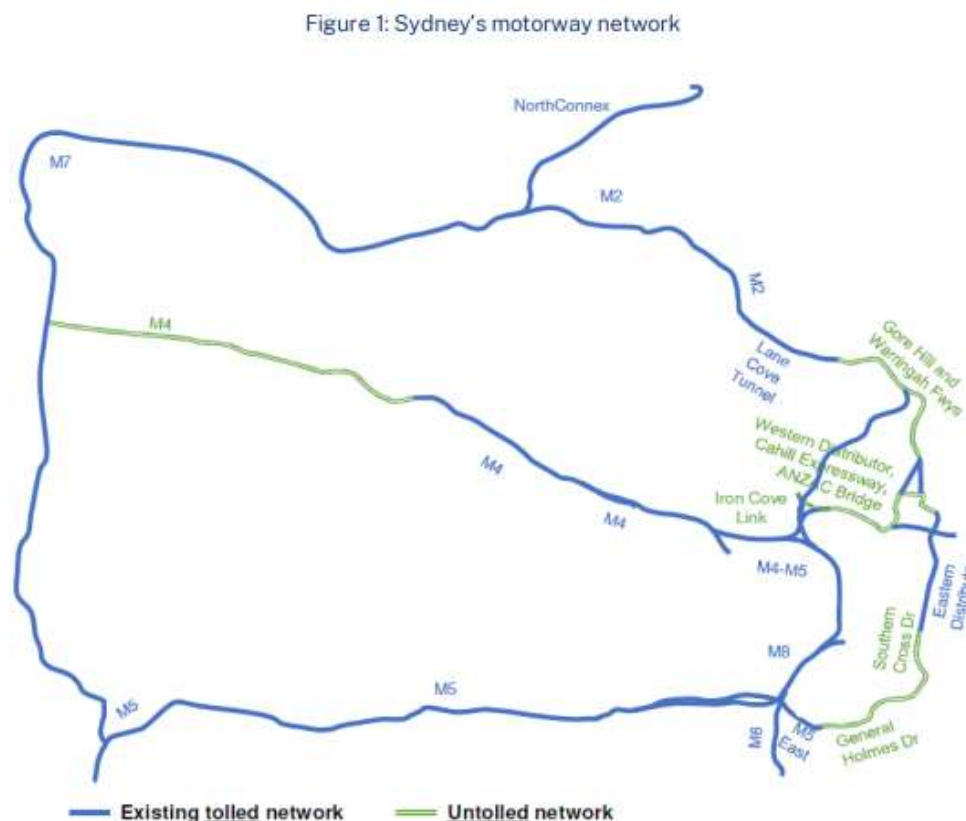


Figure 1 – Source Toll Review Discussion Paper

The tolls levied across the network fall into three categories:

- **Flat rate or fixed toll:** traditional tolling method where there is a fixed toll for use of the motorway, regardless of the distance or time travelled. Flat rate tolls are usually applied where there is a single entry and exit point.
- **Distance-based toll:** the toll is calculated based on the distance travelled on the motorway. Toll gantries are located at entry and exit points on the motorway and record a vehicle's electronic tag or number plate details to calculate the applicable toll.
- **Variable time-of-day toll:** the toll is calculated based on the time of travel. Vehicles travelling outside of peak periods pay a lower toll than vehicles travelling during the peak.

The ownership, concession, retail structures and prices of the network are set out in the Discussion Paper on pages 7-11.

The Discussion Paper also contains a series of general and specific questions that the Review will seek to answer. The specific questions are contained in section 5.1.2 on page 18 and the general questions are included below for reference.

5.1.1 General questions relating to the Toll Review

A	Questions
1	What issues do you see with the current tolling regimes across Sydney?
2	How do these issues affect you?
3	What do you think can be done about them?
4	For toll reform in New South Wales, what would success look like to you?

Council’s submission has been primarily drafted to address these general questions, however, does also consider several of the specific questions also as they relate to our community.

Key issues raised in Council’s submission include:

- Equity across the network – the main mode of vehicular travel across the Sydney region for our residents often intersects with the toll network – particularly trips to/from the Sydney CBD. To date other regions have been subsidised but not Hills residents.
- Toll structures and limits – Hills residents shouldn’t be consigned to paying higher tolls simply because the NSW Government has not historically delivered sufficient development outcomes or transport networks in the metropolitan Sydney region, forcing residents to commute further to work. Tolls should be capped so as not to disproportionately penalise remote workers.
- Transparency of commercial arrangements – like Council operations, asset management information should be published and aligned with budgets so that the performance of the asset can be audited by the NSW Audit Office.
- The financial parameters of any revised or future commercial arrangement should only be established on a cost recovery basis. Tolls levied for a public purpose should not generate a private profit.
- Tolls should be independently set based on an appropriate review procedure by an independent body such as IPART.
- If the toll road does not perform to the contracted standard – i.e. with substantial delays or substantial periods at reduced speeds or subject to works impediments then a reduced toll should be applied for these periods.
- Buses should pay a reduced toll to incentivise mass transport options.
- Tolls should be expressed clearly and simply for motorists to understand.
- Road users who regularly use toll roads for commuting or regular trips should be able to pre-purchase a bulk number of trips at a discounted rate (e.g. - like the old weekly train ticket option). This would provide certainty of income and usage to the toll road operator and allow them to bring forward income to fund planned works.

CONCLUSION

The draft submission raises key points on behalf of Hills Shire residents and should be endorsed for submission along with this report.

ATTACHMENTS

1. Terms of Reference (5 pages)
2. Discussion paper (27 pages)
3. Summary report of previous work undertaken by NSW Treasury and TfNSW (46 pages)
4. Draft submission to Professor Allen Fels - 2023 Independent Toll Review (3 pages)

MINUTES of the duly convened Ordinary Meeting of The Hills Shire Council held in the Council Chambers on 25 July 2023

2. A new Alcohol-Free Zone be established in Rouse Hill along Mile End Road, Resolution Place, Windsor Road and Commercial Road as detailed in the plan at Attachment 5 for a period of four years up to 30 June 2027.

ITEM 7 COMMUNITY PRESCHOOL KINDERGARTEN LEASE RENEWAL

312. RESOLUTION

1. Council agree to the exercise of the option of the Lease with The Hills Community Kindergarten Inc., and Kellyville Pre- School Kindergarten Inc. as detailed in this report and authorise for execution under seal.
2. a) Council agree to a 10 year lease with Kenthurst Pre-School Kindergarten Inc. as detailed in this report subject to the proposed lease being advertised in accordance with section 47 of the Local Government Act, 1993. If any submissions and/ or objections are received, the matter be reported to Council for further consideration.

b) If no submissions or objections are received, Council enter into a lease with Kenthurst Pre-School Kindergarten Inc. and authorise for execution under seal.

ITEM 8 LICENCE TO POSITIVE VIBES FOUNDATION LIMITED – BUILDING 32 BALCOMBE HEIGHTS ESTATE, BAULKHAM HILLS

313. RESOLUTION

1. In accordance with section 47 of the Local Government Act 1993 the licence proposal is to be advertised, and submissions be accepted for a period of up to 28 days. If any submissions and/ or objections are received, the matter be reported back to the Council for consideration.
2. If no submissions or objections are received, Council authorise the General Manager to grant a five (5) year Licence to Positive Vibes Foundation Limited at Building 32, Balcombe Heights Estate, Baulkham Hills under the terms and conditions detailed in this report.

ITEM 9 DRAFT SUBMISSION – 2023 INDEPENDENT TOLL REVIEW REPORT

314. RESOLUTION

The draft submission be adopted and forwarded with this report as Council's submission to the Review.



Canterbury Bankstown Chamber of Commerce

Monday 17th July 2023

Dear Professor, Fels, Dr Cousins,

Thank you for extending an invitation to the Chamber to respond to the 2023 Independent Toll Review.

Canterbury Bankstown is highly reliant on the efficiency of road transport systems. With a highly concentrated population, and a considerable proportion of workers involved in itinerant work locations, there exists a high dependence and usage of the extent road network, and substantial cost barriers to the expansion of this road network.

Consequently, the efficient provision and operation of high efficiency road routes is of critical importance to the Chamber.

Please find the attached submission for your consideration

Submission to the 2023 Independent Toll Review
on behalf of
Canterbury Bankstown Chamber of Commerce

With a high proportion of the working population involved in industries requiring time-efficient transport to, and between work sites, the availability and operation of high-speed/ high-throughput road systems is of critical economic importance to the Canterbury Bankstown area.

Historically situated on major arterial routes, local population densification combined with metropolitan expansion has placed growing traffic loads on legacy road routes. Unlike many other utilities (such as telecommunications), there has been very little technological advancement in road transport management systems, and consequently no meaningful improvement in road network productivity.

Consequently, the Chamber supports any actions that will improve productivity of road users.

That said, care must be taken to ensure any intervention does not place a 'dead hand' on the necessary private and/or public investment (both in roads, and road system technology) to lift productivity. Canterbury Bankstown has benefited greatly from the investment in the creation of the M5 motorway, which has provided positive road user benefits. As evident in other regulatory interventions – such as the power industry – government intervention in commercial markets will often deliver the opposite effect to that intended: A response that focuses on market price interference is highly likely, in the long run, to act against road investment and the goal of improved road user productivity.

The principles that guide this response are therefore:

- Minimalist intervention
- Demonstrable benefits for both road constructors/operators (producers) and road users (consumers)
- A focus on changes delivering the greatest good for the greatest number.

Reflecting on these principles, the greatest opportunity is in the tolling arrangements for the operators of heavy vehicles, who necessarily pass on these costs to downstream consumers.

The tactical opportunity of greatest merit would appear to be the **introduction of time of day based tolling scalars for heavy vehicles**. The reasoning is as follows:

- ***Heavy vehicles currently incur a premium level of tolling (cf. other vehicle types), such that a behavioural response to time-of-day price differentials is likely to be highest in this cohort.*** In contrast, the ability for a salaried employee to vary their work attendance hours, and therefore their car travel times, may be quite limited – with employees with the least bargaining power being at greatest economic risk from time-of-day tolling.
- ***The cost savings arising from heavy transport access to lower road tolls is likely to be shared broadly across the community.*** Heavy transport is a competitive industry, and cost reductions/ increases must be passed on to end consumers. For example, the ability to schedule supermarket deliveries in low (off-peak) tolling periods will ultimately benefit supermarket shoppers in the form of lower prices. In contrast, toll reductions for private motor vehicle drivers are likely to be internalised.
- ***The shifting of heavy vehicle traffic from peak, to off-peak periods via price signals broadly benefits other road users*** by reducing the volume of trucks at peak throughput periods. This benefit to other road users results in cross-elasticity of demand effect that provides multi-level benefits: in that i) improved road performance at peak time encourages additional light vehicle demand, increasing operator revenues; and ii) this revenue uplift can compensate the heavy vehicle tariff function (- i.e. the peak time heavy vehicle rate does not need to increase as a unitary function to offset the lower off-peak rate) and the road operator. Additional public benefits are derived from reduced emissions from heavy vehicles (by moving heavy vehicle use out of stop/start driving periods).

The professionalism of the heavy vehicle industry would be conducive to the systematic awareness of time-of-day tariff signals. Given the use of long-term contracts between transport companies and their customers, any transition would need to allow sufficient time for contract obligations to expire, allowing re-negotiation informed by opportunities provide by the new tariffing.

We trust this feedback will be of use to the Review.

Andrew Walther
Member, CBCC.

Kind regards,



Wally Mehanna | CEO
Canterbury Bankstown Chamber of Commerce
Mobile: 0416 012 747
Email: ceo@cbchamber.org.au
Website: www.cbchamber.org.au



Penrith City Council

Our reference: InfoStore
Contact: Carlie Ryan
Telephone: 4732 8345

27 July 2023

Prof. Allan Fels AO
Review Chair
Independent Toll Review
Transport for NSW

Submitted online: <https://www.nsw.gov.au/have-your-say/toll-review>

Dear Professor Fels

Submission to the Independent Toll Review 2023

Thank you for the opportunity to provide input to the NSW Government's Independent Toll Review.

This submission was endorsed by Council at its Ordinary Meeting on 24 July 2023 and is attached for your consideration.

If you have any questions about this matter, please contact Marianna Kucic, Strategic Partnerships and Policy Manager, on (02) 4732 8586 or marianna.kucic@penrith.city.

Yours sincerely

Carlie Ryan
City Strategy Manager

Attach.

Penrith City Council Submission

Independent Toll Review 2023

Prepared July 2023

Introduction

Penrith City Council welcomes the opportunity to provide input to the NSW Government's Independent Toll Review, which seeks to make toll roads simpler and fairer across Sydney's motorway network.

By 2036, it is expected that nearly half of Sydneysiders will call the Western Parkland City home. Penrith's population is projected to grow to 270,500 residents over the next twenty years. The significant change and projected population growth expected for the Penrith LGA highlights the importance of shaping our city in a way that connects our community through improvements to the road network, public transport and active transport.

In undertaking our Community Strategic Plan, our community expressed to Council that two of its top priorities were better transport and access around the City; and more local jobs and job diversity. Council has dedicated immense resources over the decades to reducing our residents' journey to work. The road network, and indeed toll roads, play an important role in this objective. To this point, this submission outlines the need to balance the delivery of infrastructure whilst seeking to minimise the cumulative impact of tolls for our communities.

Our region is benefitting from the significant amount of State Government investment in infrastructure such as the Western Sydney Aerotropolis and Sydney Metro Western Sydney Airport. We need critical support to build all types of infrastructure to support a growing, skilled community who want more local job opportunities. This includes less congested, higher capacity roads and parking and effective public transport.

A connected city through further infrastructure delivery remains our enduring priority and we acknowledge the necessary funding mechanisms to deliver such

city shaping infrastructure including tolls. Until such time as the delivery of critical infrastructure to enable people to move around Sydney more easily, our community will continue to rely on the motorway network to travel into and through Sydney. As such, toll roads cause a disproportionate cost burden to Western Sydney commuters. Toll roads cause a disproportionate cost burden to Western Sydney commuters. Over 56,000 (or 55.0%) of the working residents of Penrith Local Government Area (LGA) travel outside the area to work. On Census day, over 50% of people in the LGA travelled to work in a private car. Limited access to public transport to undertake these journeys and the nature of people's work (ie. Needing a ute or other vehicle to travel to work) means Penrith City, and Western Sydney generally, has a high car dependency and therefore incur high costs associated with motorway tolling.

We acknowledge the significant investment from successive governments to deliver infrastructure in Western Sydney and the role tolls play to fund this infrastructure. Notwithstanding this critical investment in infrastructure for our growing community, the impact of the cumulative impact of housing growth on the community and the disproportionate delivery of appropriate jobs to match the housing needs to be carefully managed. To this end, our expectation is that a high proportion of the tolls incurred by Western Sydney residents will contribute towards Western Sydney projects.

Council believes that our community wants to see evidence that the money spent on tolls is leading to better community outcomes in the long-term.

Council provides the following comments in respect to the review.

The impact of tolls on Western Sydney residents

Toll roads cause a disproportionate cost burden to Western Sydney commuters. Over 56,000 (or 55.0%) of the working residents of Penrith Local Government Area (LGA) travel outside the area to work. Limited access to public transport to undertake these journeys means Penrith City, and Western Sydney generally, has a high car dependency. On Census Day 2021 in Penrith City, 51.3% of people travelled to work in a private car, 3.1% took public transport and 1.3% rode a bike or walked. During the pandemic, 26.3% worked at home, meaning that the number of people travelling by car was lower than usual. Indeed, at the previous Census in 2016, 71.4% of Penrith workers travelled to work in a private car.

There are also a high proportion of workers in Western Sydney that, by the nature of their jobs, need to use their own vehicles to travel to work (e.g. ute/truck drivers)

and are unable to use public transport. In 2021 and 2016, 1.4% and 1.8% respectively of Penrith City's workers travelled to work by truck – which is double the rate elsewhere.

Current tolling arrangements on the M7, M5 and M2 and the future tolls like the M12 cumulatively represent a significant cost for Western Sydney residents who often use multiple tollways for journeys to work.

The residents of Western Sydney are feeling the pinch of cost of living pressures. Penrith LGA has over 14,800 households (21.4%) who are considered low income households and earn less than \$886 per week. The majority of our low-income households are not residing in social housing and will therefore rely on the private market for housing, where rents are on the increase. The added cost of toll roads, and travel generally, is impacting Penrith residents.

As such, it is our belief that continued increases in housing and population in areas of low effective jobs density overlaid with limited public transport access create a disproportionate cost impact of road tolls on Western Sydney communities. This results in a situation where the further away residents are from their place of work, the more disadvantaged they become.

Minimising impact of tolls

Council believes there are some amendments that could minimise the impact of tolling on Western Sydney residents. When formulating a possible tolling agreement, the NSW Government should:

- Take into account the traveller's origin and destination. Having a distance based tolling scheme does not consider the situation for Western Sydney residents who do not have practical, or effective, public transport options.
- Although flexible working hours are not necessarily available to all, there could be an option to allow flexibility and provide incentives for those that can shift their travel to off-peak periods. An option for this could be rebates that apply to low income workers.
- Promote a "journey" cap instead of individual link caps. Individual link caps are economically and socially inequitable for Western Sydney residents because many people from the region are long distance road users that, in many cases, require travel across multiple motorway links.

Cost recovery approach

Council accepts the need for toll roads and their contribution towards the cost of construction. The fairest approach to tolling is one that seeks to cover the costs of

construction and management, but then reverts to free or low-cost tolls after the initial construction investment is paid off.

Where the Government sees fit to retain tolls in place, profits should be fed back into road network improvements, public transport investment and long-term benefits to the communities that pay those tolls. In the case of Western Sydney, significant investment is needed in road and public transport infrastructure that is critical to our growing City.

We acknowledge the significant investment from successive governments to deliver infrastructure in Western Sydney and the role tolls play to fund this infrastructure. Notwithstanding this critical investment in infrastructure for our growing community, the impact of the cumulative impact of housing growth on the community and the disproportionate delivery of appropriate jobs to match the housing, needs to be carefully managed. To this end, our expectation is that a high proportion of the tolls incurred by Western Sydney residents will contribute towards Western Sydney projects. It is important that an alternate funding mechanism be established, whereby the profits from tolls in perpetuity do not continue to be reaped by private investment companies.

Council's infrastructure priorities

Penrith's population is projected to grow to 270,500 residents over the next twenty years. Penrith will need to attract and enable businesses to grow the number of local jobs for local people to support our growing population and workforce. The significant change and projected population growth expected for the Penrith LGA highlights the importance of connecting our community through improvements to the road network, public transport and active transport.

It is critical that Penrith has the essential infrastructure, services and amenities in place to meet current and future community needs. Central to these needs is transport. As a metropolitan centre, improved connectivity via our transport infrastructure and services is a necessity.

Given the proximity to the airport and national and international freight opportunities, new infrastructure and services are needed to deliver a better-connected region. Council believes that our community wants to see evidence that the money spent on tolls is leading to better community outcomes in the long-term. One example of this is the delivery of the Sydney Metro Western Sydney Airport line to its full extent (Tallawong to MacArthur).

Competition

Scope for competition, growth and reinvestment of funds can only be achieved through an alternate funding model. Public investment in capital can complement private investment through the construction phase, with profit sharing (sunset provisions) used as one means of repaying investment. Retaining the asset in public ownership will open further opportunities for competition in future maintenance, expansion and reinvestment.

Next Steps

Penrith City Council looks forward to ongoing collaboration with the NSW Government with respect to road infrastructure in our fast-growing region.



City of Sydney

Independent Toll Review - Submission



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1. Introduction

1.1. Purpose of this Submission

This document provides the City of Sydney (“the City”) submission to the NSW Government 2023 Independent Toll Review led by Professor Allan Fels AO and Dr David Cousins AM.

It outlines the City’s position on urban motorways, road tolling including potential impacts of toll relief measures, and the range of potential benefits from the road network.

1.2. Overview

The City acknowledges that there are significant cost of living challenges within the community, and it is appropriate that Government respond to support people who need assistance. However, support to address cost of living should not lock the Government into what is effectively a long-term transfer payment to toll road operators for two reasons:

- overall cost of living pressures are expected to abate over time
- governments also need to invest in providing people in Western Sydney with improved land use and public transport options, that will over time reduce car/motorway dependence.

Government has tasked the Independent Toll Review with “*negotiating with tolling operators to drive a good deal for motorists; and ...with looking at long term reform options to overhaul the tolling system in NSW*”.

The City contends that “*a good deal for motorists*” is too simplistic an objective for this Independent Toll Review, given the wide range of costs and benefits associated with road network investment and management (including, but not limited to, motorways). Put simply, achieving a good deal for motorists cannot be at the expense of great, economically vibrant places and achieving a more equitable and sustainable transport system to support Sydney’s future.

The City’s position can be summarised as:

1. No government has managed to build its way out of traffic congestion. Evidence from cities all over the world shows that adding arterial road capacity (without overarching transport pricing regimes) will eventually lead to more driving and more congestion on the road network. NSW is unique but still follows this global pattern, despite investing hundreds of billions of dollars in motorway construction. Most global cities stopped this economically futile pursuit decades ago.
2. Sydney is at a crossroads with the (near) completion of an orbital motorway network. The NSW Government has a unique opportunity to consider how the future motorway network should operate without entrenching private vehicle dependency
3. The motorway network should be managed as part of an integrated transport network. Tolls should incentivise behaviours that support vibrant urban places and their contribution to economic growth, sustainability and social inclusion. Increasing use of bypasses like the Cross City Tunnel is a key example.
4. Ideally, the road tolls should be structured and set to encourage use and travel behaviour on the road network (and motorways more specifically) consistent with the long term Government vision and optimising economic and environmental outcomes :

- a. the current private sector concession agreements should not be an obstacle to optimising the motorway network for freight and commercial vehicle use.
 - b. changes to the concession should not limit the future evolution of Sydney.
5. Optimising the road network is not just optimising travel time savings and minimising congestion. The road network has multiple users, optimisation must be considered in the context of places and different user groups. Any toll reform must also include reallocation of road space in important places from vehicles to people walking, riding and public transport.
 6. As part of Government approval and financial support for the motorways, there are legacy commitments to improve the quality of place along Parramatta Road and Victoria Road, by reallocating road space from vehicles to people walking and cycling. These need to form part of the Government's response to the Inquiry, to ensure fairness across Sydney.
 7. The Review should redress the historic lack of transparency around financing arrangements, as a measure to introduce more fairness into the policy discussion on these issues.
 8. Government should establish a best practice community engagement process to explain any Review findings, and to seek input on their proposed approach to them.

1.3 Terms of Reference

The formal Terms of Reference state:

"The Independent Toll Review has been asked to examine:

- *the structure and level of tolls in New South Wales in the future, looking at their efficiency, fairness, simplicity and transparency, existing agreements with providers and the impact on forms of transport*
- *the extent to which tolls should reflect the capital and operating costs of roads, the impact different users have on road sustainability and the use of roads throughout the day*
- *the appropriate targeting of relief to provide fairness for the whole community and how to ensure the community, rather than toll road owners, benefit from toll relief*
- *whether tolls are understandable, simple for motorists to pay and administratively efficient to collect*
- *the scope for competition and regulation to influence road tolls and the efficiency of service performance by provider.*
- *The Independent Toll Review will have regard to the shorter-term toll relief measures the Government will be implementing, which will apply for two years, and assess what longer-term toll relief measures should apply.*
- *The review will also be mindful of the policy positions of the new Government.*

The Independent Toll Review will publicly release its final report in 2024 with the Government to consider its recommendations".

The City understands from the Discussion Paper that the Independent Toll Review will also be responsible for *"negotiating with tolling operators to drive a good deal for motorists; and be tasked with looking at long term reform options to overhaul the tolling system in NSW including but not limited to potential competition in toll contracts, moving freight on toll roads at night, the intersection of public transport and toll roads, long term concessions, what other jurisdictions are doing and compliance with toll contracts".*

1.4 Understanding key terms

Bypass: A section of road whose primary purpose is to provide access around, rather than through, a major centre.

Motorway: A road link, surface or tunnelled, built to accommodate high volumes and relatively high travel speeds, with few if any intersections at grade, and limited entry and exit points. This includes non-tolled “freeways”.

Tolling: The function of placing a use charge on a section of road, in Australia usually limited to motorways or bridges.

Independent Toll Review: The NSW Government commissioned 2023 Review led by Professor Fels and Dr Cousins.

2. Opportunities, Issues and Recommendations

2.1. Changes to tolling should support NSW Government strategies above maintaining legacy contracts

Issue 1.1: The Independent Toll Review must be conducted within the framework and intent of existing Government transport and place strategies

Sydney's future growth and development is outlined in NSW Government strategies such as the Plan for Three/Six Cities, and District Plans. The role of multi modal transport and access in supporting land use growth and development is clearly articulated in these documents. There are also "place strategies" for key innovation districts, that will help drive Sydney's future economy (examples include Westmead, Tech Central and the Pyrmont Peninsula.)

In response, *Future Transport* and the *Road Safety Action Plan* are the NSW Government's overarching strategies that guide the management and future development of the transport system including the road system. There are place-based transport strategies that translate the overall plan to support key places (Pyrmont, Tech Central etc).

It is not clear if or how Independent Toll Review will consider "optimisation" in the context of this the NSW Government's existing strategic framework.

The current terms of reference are too narrowly focussed on "travel time savings and reducing congestion".

RECOMMENDATION:

The Independent Review should approach Government to expand the terms of reference to include important issues such as improving road safety, achieving mode shift to more sustainable travel modes, reducing carbon emissions, reducing asset maintenance, creating better places, and providing access.

Issue 1.2: The motorway network is nearly complete and Government must ensure that it achieves the desired integrated transport and land use outcomes

The Independent Toll Review provides the best opportunity for Government to set the direction on how the motorway network should operate, and how tolls will influence travel behaviour.

The Independent Toll Review faces a challenge from the legacy concessional arrangements. Nevertheless, it should also consider the objectives of the motorway network within the broader policy framework, and how tolling helps meet objectives.

The Independent Tolling Review should be undertaken within the context of:

- The Government policies, strategies and objectives for the integrated transport network and
- The potential for the Motorway network to support achieving those objectives.

A motorway network can provide a valuable option for the efficient, reliable and safer movement of people and goods to their destination.

Public transport can perform a similar function to a motorway - especially for providing people with access to a centre.

RECOMMENDATION:

The Independent Toll Review should build up objectives for the motorway network through a clear understanding of the role and function of the motorway. Motorway objectives must include road safety, environment and greenhouse emissions, places, economic and financial as well as asset maintenance, optimisation is much more than just minimising travel time or reducing congestion.

1. The function that the motorway should / could provide, such as: fast and reliable longer distance travel for trips not suitable for public transport, centre bypass, access for higher productivity vehicles.
2. The target users for the motorway. For example: commercial and freight vehicles, regional and inter -regional travellers, public transport
3. The travel time on the equivalent, non-motorway route
4. Lastly: the effect of a motorway toll or pricing mechanism and how can it best be used to attract the target users.

Issue 1.3: When tolls do not deliver perceived value for money, they can discourage use of the motorway network and maintain excessive driving on surface streets

Tolls in Sydney have historically been a revenue measure to offset construction costs - rather than a true road price. Travel time savings are key to this, as a supposed aggregate benefit underwriting most business cases; and as an individual's incentive to use the system.

Considering transport as a market, key factors in choosing the motorway product include price, alternatives, but also value for money. For urban motorways, value for money is likely to be a function of:

- Price of the toll for the distance travelled
- Relative travel time savings compared to alternative surface routes
- The ease of access to and from the motorway i.e. the location of entrances/exits.

In the case of the Cross City Tunnel, transport specialists generally agree that:

- the project was unnecessarily long, especially its extent east of the city centre
- the project extent resulted in higher project cost and led to a higher toll (significantly higher per km than other Sydney tolls at the time)
- the access points to the Cross City Tunnel were not suitably located for many trips
- the project was supported by unrealistic traffic projections, requiring a higher per vehicle toll to recoup the construction
- the project viability was undermined by successive government decisions that maintained a time competitive, free, surface route through the city centre.

The impact of the Cross City Tunnel's relative failure on the city centre is discussed at **Issue 1.4**.

RECOMMENDATION:

The Independent Toll Review should consider the example of the Cross City Tunnel if it considers the options of tolls based on entry charge and per km charge – these would be much higher per km for shorter trips. One of the key outcomes of the Review should be arrangements that increase use of the Cross City Tunnel and reduce use of surface routes through the city centre. Potential options are discussed in Section 1.4.

Issue 1.4 Legacy tolling of the Cross City Tunnel results in through traffic reducing the city centre's productivity and amenity

The City, consistent with NSW Government Transport strategy is seeking to reduce vehicle trips in the city centre, and to reallocate road space from vehicles to people walking and cycling in the most economically important place in Australia.

The Cross City Tunnel was built to provide vehicles with a fast and reliable east-west bypass of the city centre. Removal of through traffic from City streets offers the potential to allocate more street space for people to more easily walk, ride or use public transport, key actions in unlocking the economic benefits of the city centre. Whilst the specifics of the final project were not universally supported, the idea of a bypass concept was generally supported at the time.

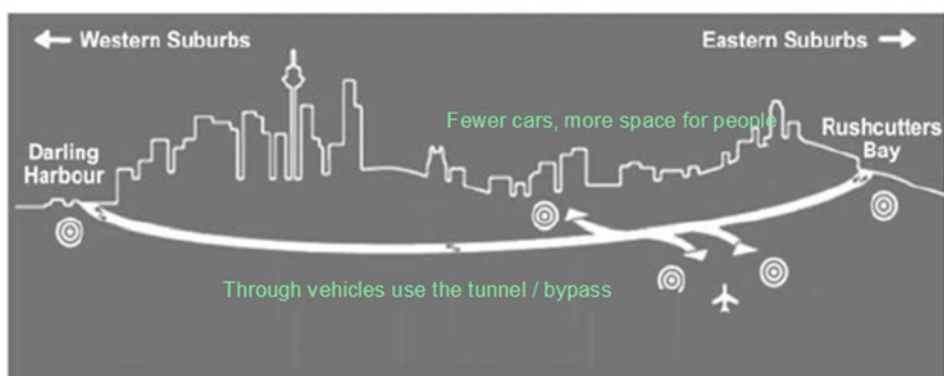


Figure 1. Function of a motorway bypass

However, the project has not achieved its objectives. Successive governments have maintained a free to use surface route with competitive travel times (with major impacts on road users within the city centre).

To achieve the project's initial objectives, there are potential creative options using technology not available in 2005. If the majority of drivers heading east-west use the Cross City Tunnel, there are major benefits for the city centre (primarily accruing to business, and to public transport operators).

RECOMMENDATION:

The Independent Toll Review should include the Cross City Tunnel as a location-specific case study with major impact on the economic performance of the Sydney city centre. It should investigate alternative tolling options for east-west routes across the city centre, including the Cross City Tunnel. The optimal solution will be complex, but potential initial examples include:

“Simple” Change: Remove the Cross City Tunnel toll and charge surface routes (this approach has been proposed repeatedly since the Tunnel opened in 2005).

Minimal Change: Drivers passing existing motorway entry and exit points at New South Head Road and Western Distributor as part of trips across the city centre could be tolled whether or not they use the Cross City tunnel or surface streets. Tolls for surface and bypass options could be set at the level required / appropriate to achieve desired outcomes.

Moderate change: Drivers using key east-west surface streets (including Oxford Street, William Street) only as part of trips across the city centre to/from the Western Distributor could be tolled whether or not they use the Cross City tunnel or surface streets. Tolls for surface and bypass options could be set at the level required / appropriate to achieve desired outcomes

Major change (‘stretch option’): Drivers using a wide range of key east-west surface street as part of trips only across the city centre (including Oxford Street, William Street, Foveaux /

Albion Street, Cleveland Street, Wattle Street, Harris Street) could be tolled whether or not they use the Cross City tunnel or surface streets. Tolls for surface and bypass options could be set at the level required / appropriate to achieve desired outcomes.

Street space in the city centre should be reallocated to improving places, walking, cycling and public transport.

Any additional net tolling revenue that is not required to fulfill Cross City Tunnel contractual arrangements should be allocated to improving public transport accessing the city centre.

2.2. Changes in tolling should optimise the road network for movement and place

Issue 2.1 Motorway network planning, management and pricing is not consistent with the NSW Policy of Movement and Place

The NSW Government's Future Transport outlines a 'movement and place' framework to maximise the value of places and roads. This approach defines streets in relation to both movement and place, with the aim of making the streets as efficient as possible with reference to the customers travelling or accessing a place.



Figure 2: Achieving balance between 'movement' and 'place' in designing vibrant streets

Source: TfNSW Movement and Place Research Hub

The policy recognises that efficiency in this context does not relate solely to vehicle throughput and speed and that efficiency also needs to address the spatial limitation of the corridor and reallocates space to the most space efficient mode. For example, George Street accommodates 100,000 people walking every day, which is equivalent to the number of vehicles on the parallel Western Distributor motorway corridor. The footprint of the Western Distributor is three times the footprint of George Street.

Movement and place is government policy in NSW and reflects the approach being taken in comparable large global cities. Movement and place was not recognised when many of Sydney's motorways were planned, financed or constructed, and is currently not reflected in how the networks are managed and priced.

RECOMMENDATION:

The Independent Toll Review must reflect the NSW Government's movement and place approach to inform the question of how to price and manage the motorways, now they are in operation.

Issue 2.2: Road Pricing (including Cordon charges)

The Independent Toll Review Discussion Paper references road pricing mechanisms such as cordon charges, however notes that the NSW Government has already ruled them out.

The often-cited excuse by officers within NSW Government agencies for not considering the potential merits of pricing is that “road pricing is very political”. The Independent Toll Review should at least consider the potential for and different models of road pricing, even if it does not consider them a near-term solution. Failure to consider risks identifying reforms that are not sufficiently robust or durable to withstand the inevitable future that includes road pricing.

The City welcomes the Independent Toll Review’s insights on this issue, given the opportunity, the issues with current arrangements (Cross City Tunnel) and the apparent success of and support for these types of schemes in other cities.

The City has recently released two extensive transport strategies that canvass the potential benefits of road pricing options such as a cordon charge, as part of comprehensive approaches to addressing the key issues of the climate emergency, and the shortage of public space to support a growing and higher value Sydney city centre.

- Draft *City Access Strategy and Action Plan*:

<https://www.cityofsydney.nsw.gov.au/vision-setting/your-feedback-updated-access-strategy-action-plan>

- Electrification of Transport in the City Strategy and Action Plan.

<https://www.cityofsydney.nsw.gov.au/vision-setting/have-your-say-electrification-of-transport-in-the-city>

RECOMMENDATION:

The Independent toll review should consider all potential options for broader road pricing reform that will maximise the benefits of any changes it proposes for the motorway system and the tolling of it.

Issue 2.3: M4-M5 WestConnex bypass requires a reduction in traffic lanes on Broadway and is an opportunity to transform it into a green avenue for Tech Central

WestConnex projects a 50% reduction in traffic on Broadway. To achieve this benefit, the NSW Government must reduce the traffic capacity on Parramatta Road and of Broadway. Otherwise, as some drivers divert to WestConnex and free up capacity on Broadway, the improved traffic flow and travel times will attract additional drivers to Broadway, inducing traffic.

The NSW Government has determined that Tech Central should be the future focal point of Sydney’s innovation economy. To support this, the City proposes to reclaim Broadway for people, planting and public transport. The proposal will widen footpaths, introduce large trees and provide a bidirectional cycleway. The City supports light rail on Broadway, although recognises that the NSW will need to do further work to develop this option. The rationale for the Broadway concept is Action #1 in the City’s Draft City Access Strategy and Action Plan.

Transport for NSW’s Tech Central Place based Transport Strategy (2021) explicitly links opportunities for these changes on Broadway and Parramatta Road to investment in WestConnex.

Issue 2.4 The Government has failed to deliver community place benefits such Parramatta Road and Victoria Road place improvements

The previous NSW Government failed to deliver promised community benefits such as Parramatta Road and Victoria Road improvements. These improvements were potentially part of the business case, definitely part of political discourse and are opaquely reflected in planning conditions.

Any tolling reform must be “fair” to the broader community. Government investment in a motorway network should include delivering promised place-based benefits not just benefits for motorists who use the motorway.

Issue 2.5: Existing concessional arrangements impact streets at toll road access points

The City has struggled to make even the most basic changes to streets that directly interface with toll road access points. For example, people are unable to cross Moore Park Road at the junction of Anzac Parade because when the Eastern Distributor portal was built all crossing were removed to prioritise free flowing movement of vehicles. This has impacted on safety and connectivity for people walking at this vibrant gateway to the stadium precinct.

TfNSW officers assert (without evidence) that a pedestrian crossing cannot be provided because the concession contracts prevent any delays to people entering the tolled road. If this is really the case, the concession contract is undermining movement of people walking.

The Independent Toll Review should consider the impacts of any reform at a location-specific level. Any reform must not lock the community into a process where vehicle travel times are considered in isolation. The City should be able to evolve to support all modes of transport.

RECOMMENDATION:

The Independent Toll Review should develop a broad package of reform measures that:

- address the need to reallocate street space from vehicles to more space-efficient modes in combination with removing through traffic to tolled motorways. As a minimum, it should ensure that any Review findings or proposals do not undermine concepts such as improving Broadway to support Tech Central
- remove any concession contractual barriers to improving streets for people to walk, ride or catch public transport (real or perceived) so that streets surrounding a motorway access point can be changed over time to meet the needs of an evolving City
- prioritise funding to deliver place based benefits for the community such as the Parramatta Road improvement.

2.3 Fairness, transparency, simplicity and engagement for the community and taxpayers

Issue 3.1 Tolling arrangements should be fair

Any reforms to tolling of the Motorway system should be considered in the context of economic benefit not just finance or cost of living relief.

The road transport system (and motorway network) has the potential to benefit and impact many different customer groups, and the impacts of toll relief should be considered at a systems level not just focus on benefits for motorway users.

For example: if the NSW Government increases funding for toll relief for motorway users, they should also increase funding for improvements for people walking and cycling.

Issue 3.2 Transparency assists perceptions of fairness

The City's view is that fairness is not just about pricing for vehicle users. The concept of fairness is also about burden for taxpayers and the broader community. To assess whether any proposal is fair, stakeholders must be able to understand the actual costs as well as the benefits.

The NSW experience with motorways and PPP's has generally not been "fair" in this regard. In 2021 the NSW Audit Office examined whether Transport for NSW (TfNSW) and Infrastructure NSW (INSW) effectively assessed and justified major scope changes to the WestConnex project since 2014. The NSW Audit office found that:

"Government decisions to separate WestConnex related projects and deliver them outside WestConnex's 2015 business case budget of \$16.812 billion has understated the total cost of

WestConnex achieving its objectives. The rationale for separating these elements from the WestConnex project scope has not been transparent. Together, these projects represent costs of \$4.26 billion funded outside the \$16.812 billion WestConnex budget. “

The City believes the Audit Office’s assessment of the lack of a transparent approach is partly an acknowledgment that the community has less economic and financial expertise and fewer resources to judge the fairness and value for money of these multi-billion dollar city shaping projects.

Issue 3.3: Road tolling simplicity and transparency

The current tolling system is complex and has evolved over time in parallel with the development of the motorway network. Road tolls have been set by Government without community consultation or involvement, and with limited sense of overall network or journey pricing. Given the lack of available data about either costs or revenues it is impossible for the community to meaningfully comment on the benefits of simplicity. To understand the impacts of any proposed changes the tolling system, the Government (and TfNSW) and Transurban would need to disclose the financial details of the various motorway deals and current motorway patronage.

RECOMMENDATION:

The City recommends the Independent Toll Review transparently identifies the true costs of the current concession arrangements, and revenue arrangements so that the community and stakeholders are able to judge the fairness and benefits of a reform to current tolls.

Issue 3.4: Successive Governments in NSW over the past 20 years have been reluctant to engage transparently with the Community about road tolling and public private partnerships

NSW public private partnerships for road concessions have lacked transparency for over 20 years, The NSW Government and the Independent Road Toll Review have an opportunity to provide transparency and respond to Community and stakeholders in an honest and open manner. The current discussion paper is a first step towards the development of a road tolling reform, but without more information about the proposal stakeholders do not have sufficient insight to understand the impacts of a reform.

RECOMMENDATION:

Over the next 12 months, prior to a plan being finalised, the Government should establish a best practice community engagement process to explain any Independent Toll Review findings, and to seek input on the Government’s proposed response. The engagement should interpret complex issues as much as possible, with emphasis on

- objectives of the proposed tolling relief package and its beneficiaries
- financial and economic analysis of the proposals’ impacts and
- a timeline for feedback, review and implementation.

City of Canterbury Bankstown



13 July 2023

Professor Allan Fels AO and Dr David Cousins AM
Review Chair and Deputy Chair
2023 Independent Toll Review

Re: Submission to Independent Toll Review

Canterbury-Bankstown Council (Council) welcomes the opportunity to provide comment on the Independent Toll Review commissioned by the NSW Government.

Council recognises roads are essential corridors linking people to jobs, education, healthcare, goods and services and recreation, and link industries and producers to markets and consumers. They play a vital role in keeping micro and macro economies buoyant.

Council also acknowledges the public private partnerships between the State Government and concessionaires that have enabled the delivery of State led road infrastructure projects across Sydney over the last 30 years and without which Sydney's current motorway network may not have been possible¹.

Council has considered the Independent Toll Review's Terms of Reference and matters raised in the Discussion Paper and submits the following in relation to current road toll regimes and how the Canterbury-Bankstown community, and the broader Sydney west and south west communities, are disproportionately and adversely impacted by them.

Background

Geographically, the City of Canterbury Bankstown (CBCity) is a gateway to Western and Southern Sydney and the M4 Motorway, traversed by major state and regional roads including the M5 Motorway, Hume Highway, King Georges Road, Henry Lawson Drive, Canterbury Road, Roberts Road and Stacey Street. It contains important freight routes and is crossed by three rail lines: the Australian Rail Track Corporation freight line, and the East Hills and Bankstown commuter lines. Under the Sydney Metro Project², stations along the Bankstown Line (to Bankstown station) will be converted from heavy rail to rapid transit standard.

Council's assets include over 900 kilometres of roads and 4,600 traffic management devices. In 2021/22, \$28 million was spent on roads and traffic improvements across CBCity and \$19 million was spent on road asset maintenance³.

Community profile of Canterbury Bankstown

CBCity is one of the most culturally, socially and economically diverse communities in Sydney with 50% of its population born overseas (compared to the respective NSW median of 35%)⁴. Spanning 110km, CBCity is also one of the largest local government areas in

¹ [Road Toll Regimes](#), NSW Legislative Council Portfolio Committee No.6, Report 16, August 2022, p.2.

² Due for completion in 2024.

³ Canterbury-Bankstown *Annual Report 2021/22 Our Assets*, p. 6, 11 and 117

⁴ ABS QuickStats Census Data, 2021 – [Search Census data | Australian Bureau of Statistics \(abs.gov.au\)](#)



NSW by population, with approximately 372,000 residents⁵. The demographics of CBCity are relevant to this submission as the following socio-economic indicators highlight the unfair and inequitable impact of the current road toll regime on the community.

According to the 2021 Australian Bureau of Statistics (ABS) Census data on CBCity's Local Government Area (LGA), unemployment was 7.2% compared to the NSW median of 4.9%, and only 48% of residents participated in the labour force compared with the NSW median of 59%. Of the 48% of residents engaged in the labour force, 58% travelled outside of the LGA for work and 40.5% travelled to work by car as a driver or passenger, noting this figure is likely higher given the LGA was in lockdown at time of the 2021 Census, and residents, if they could, worked from home⁶.

In 2021, the median weekly household income in CBCity was \$1,556, 15% lower than the median weekly household income for NSW at \$1,829. 26% of households in the LGA were spending over 30% of household income on mortgage repayments, compared to the NSW average of 17%, and 43% of households were spending over 30% of household income on private rental rates, compared to the NSW average of 35%⁷.

The ABS Socio-Economic Indexes for Areas (SEIFA) consider disadvantage according to unemployment levels, low incomes, education levels, single parent families, low skilled occupations and poor English proficiency by LGA. Based on the 2021 Census data, SEIFA ranked the Canterbury-Bankstown LGA as the third-most disadvantaged community in Metropolitan Sydney, with neighbouring Cumberland and Fairfield LGAs the second most and most disadvantaged respectively⁸.

Since 2021, the Reserve Bank of Australia has announced 12 interest rate rises, private housing rental rates increased by an average of 15% across Sydney⁹ in 2022 and have increased further by an average of 13% in 2023¹⁰. Over the twelve months to the March 2023 quarter, the Consumer Price Index (CPI) also rose 7.0%¹¹. Council estimates a significant increase in the number of households in the LGA experiencing financial, housing, mortgage or private rental stress resulting from COVID-19 lockdown legacy issues, stagnate wages growth, rising inflation and recent sustained rises in interest rates and private housing rental rates.

These statistics strengthen Council's support of measures that deliver an efficient, fair, simple and transparent toll regime for CBCity commuters that do not further penalise Sydney's already most disadvantaged and vulnerable communities.

⁵ Canterbury-Bankstown Council, *Connective City 2036*, Local Strategic Planning Statement, p. 14

⁶ ABS QuickStats Census Data, 2021 – [Search Census data | Australian Bureau of Statistics \(abs.gov.au\)](https://www.abs.gov.au).

⁷ ABS QuickStats Census Data, 2021 – [Search Census data | Australian Bureau of Statistics \(abs.gov.au\)](https://www.abs.gov.au).

⁸ [SEIFA by Local Government Area | City of Canterbury Bankstown | Community profile \(id.com.au\)](https://www.id.com.au).

⁹ Houses and units combined, SQM Research, [Rents 'explode' across the country, as house prices fall in many Melbourne, Sydney suburbs](https://www.abc.net.au), ABC News, accessed 05/07/2023.

¹⁰ June 2023 Rental Report, Domain - [Domain Rental Report - June 2023 | Domain](https://www.domain.com.au) accessed 06/07/2023.

¹¹ ABS [Consumer Price Index, Australia](https://www.abs.gov.au), March Quarter 2023, released 26/04/2023.



5.1.1 A 1 to 4: General issues relating to the toll regime

Sydney's fragmented road toll regimes are not delivering the community and transport outcomes expected of a world class city, with vulnerable and disadvantaged people in Western and South Western Sydney the most adversely impacted by Sydney's disparate, opaquely determined and excessive road tolls.

In its submission to the 2022 Upper House Inquiry into Road Tolling Regimes, the Western Sydney Regional Organisation of Councils (WSROC) calculated that residents in Western Sydney, Sydney's greatest users of toll roads, were burdened by approximate annual toll expenses of \$9,300 in the north west, \$4,300 in the west, and \$5,100 in the south west¹². Table 2 in the Independent Toll Review's Discussion Paper illustrates that toll expenses will only increase under current toll regimes with annual escalation rates up to the greater of CPI plus 4% until 2040.

These costs and escalation rates of Sydney's tolls are not sustainable for families and small businesses in the most disadvantaged and vulnerable pockets of Western and South Western Sydney.

Current distance-based tolls in Western and South West Sydney further exacerbate inequality and inequity in Sydney's most disadvantaged areas by disproportionately penalising motorway users who travel the greatest distances, on top of persistent rising cost of living pressures, simply because they cannot afford to live closer to employment, service, recreational and public transport hubs.

The entrenched inequity of toll regimes for commuters living in disadvantaged areas is compounded by the increased use of private vehicles as the preferred means of transportation following the COVID-19 pandemic. Transport for NSW (TFNSW) data show a 65% reduction in the use of trains and a 64% reduction in the use of buses across Sydney from 2019 to 2023.¹³ The Bankstown Line has seen a 50% decrease in use, while usage of light rail lines, servicing Sydney's affluent east and inner west, has increased by 54% during the same period.¹⁴

While the decreased use in public transport can be attributed, in part, to flexible working, commuters have generally not returned to public transport in pre-pandemic numbers. The March 2021 *ABS Household Impacts of COVID-19 Survey* found commuter understanding and following of COVID-safe practices, was the main action that would make people more comfortable using public transport.¹⁵

Council supports findings of the 2022 Upper House Inquiry into Road Tolling Regimes that the current regime is unfair, inequitable and 'out of touch with the realities of everyday working people'.¹⁶

¹² WSROC, Submission 35 in Upper House Portfolio Committee No. 6 - Transport and Customer Service Inquiry into Road Tolling Regimes, 23 May 2021, p. 1

¹³ [Public Transport Trips - All Modes](#), Transport for NSW, Transport.nsw.gov.au – accessed 13/07/2023

¹⁴ [Public Transport Trips - All Modes](#), Transport for NSW, Transport.nsw.gov.au – accessed 13/07/2023

¹⁵ *ABS Household Impacts of COVID-19 Survey*, April 2021 - accessed 13/07/2023

¹⁶ [Road Toll Regimes](#), NSW Legislative Council Portfolio Committee No.6, Report 16, August 2022, p.viii



5.1.2 B & C Determination of tolls, competition and regulation

The private concession arrangements previous State Governments entered into with Sydney Transport Partners (STP) ¹⁷ and Transurban to finance Sydney's motorways were, and remain, monopolistic, uncompetitive and have, as a result, not delivered an affordable, accountable, fit for purpose toll regime for commuters in Western and South Western Sydney.

It is unclear, given Transurban's reluctance to release traffic data and the opaque nature of commercial and contractual agreements between previous State Governments and Transurban, how much control and influence the State Government can exert over the determination of tolls, noting concession arrangements for the M4, M5, M8 and the M4-M8 link are locked in until 2060.

The introduction of new toll road providers for future projects and state funded motorways would make toll setting more competitive by disrupting the current Transurban monopoly. As such, Council supports:

- The findings of the 2017 and 2022 Upper House inquiries into Sydney's toll roads that noted the lack of transparency and called for the release of a range of information relevant to investment decisions in toll roads and the sale of tolling concessions¹⁸.
- Recommendation 7 made by the 2022 Upper House Inquiry to compel Transurban to publicly release traffic data and for State Governments to allow sufficient time in their tendering processes for bidders other than Transurban to model traffic forecasts and other relevant commercial considerations.

5.1.2 Criteria for assessing tolls – general comment

The current road toll regime is an overly complex combination of fixed rates and distance-based tolls implemented by STP and Transurban to recover capital and provide operating funds specific for each motorway. This in turn, has created a fragmented motorway network that is not conducive to holistic strategic planning that is necessary to deliver fair and equitable access to an efficient and cohesive road toll network. Nor is the current piecemeal approach conducive to the delivery of sustainable motorway operation and maintenance programs and improved links and access to Sydney's public transport network.

Council is amenable to a zoned network approach with the introduction of simplified toll caps as a welcome alternative to inequitable distance-based tolls and recognises the value in variable time of day or dynamic toll to reduce congestion where public transport options provide alternative commuter options.

¹⁷ STP Consortium consists of Transurban (50%), AusSuper(20%), others (34%) (<https://www.transurban.com/content/dam/investor-centre/06/WestConnex-Acquisition-Equity-Raise.pdf>)

¹⁸Council notes conflicts of interest perceived or real, as a result of the lack of transparency surrounding investment decisions in tolling concession arrangements were exacerbated in February 2023 when Damien Tudehope, former NSW Finance Minister, Minister for Employee Relations and Leader of the Government in the Legislative Council, was forced to resign from his ministerial positions for failing to disclose his superannuation portfolio contained shares in Transurban. Mr Tudehope had previously been involved in former State Government policy decisions about Transurban. Although the then Premier cleared Mr Tudehope of knowingly breaching the Ministerial Code of Conduct, the episode calls into the question the integrity of the previous State Government's relationship with Transurban.



Council has welcomed toll relief measures introduced by current and previous State Government's. These measures are, however, temporary and do not go far enough to ease the financial burden of road tolls on disadvantaged communities, particularly in light of current and compounding cost of living pressures. Council supports a position of ongoing toll relief for low income households and households without reasonable access to public transport alternatives, along with toll escalation rates based solely on real wages growth.

Council questions the utility and purpose of administration fees charged by STP and Transurban, and notes submissions and findings of the 2022 Upper House Inquiry that the system is not working for individuals experiencing hardship or distress with some of Sydney's most vulnerable members in the community incurring toll debts of thousands of dollars made up largely of administration fees.¹⁹

Council supports the eradication of administrative fees for motorway users without payment arrangements and supports Recommendation 8 of the 2022 Upper House Inquiry that STP and Transurban move to consolidated toll notices, as has occurred in Queensland²⁰.

Conclusion

Council is calling on the Review Chair and Deputy Chair to make strong and actionable recommendations to rectify the structural inequality, inequity and opacity that is built into current toll regimes. Council also asks the State Government to act on any subsequent recommendations made by the Independent Toll Review panel that will fairly and effectively connect commuters in Western and South Western Sydney to employment, services and communities and stimulate the local economies of these areas.

Should you require any further information or clarification, please do not hesitate to contact Council's Director City Assets, Mr Anthony Vangi, on 9707 9885.

Yours sincerely

Matthew Stewart
Chief Executive Officer

¹⁹ [Road Toll Regimes](#), NSW Legislative Council Portfolio Committee No.6, Report 16, August 2022, Chapter 5

²⁰ [Road Toll Regimes](#), NSW Legislative Council Portfolio Committee No.6, Report 16, August 2022, p.120

Central Coast Council



27 July 2023

Central Coast Council submission to the 2023 Independent Toll Review

Central Coast Council (**Council**) appreciates the opportunity to provide a submission on the New South Wales (**NSW**) Government's 2023 Independent Toll Review (**the Review**).

Council holds in-principle agreement that the key themes of fair pricing for road users, simplicity of pricing structures and transparency of tolls should be of central focus for the Review. Within this submission, Council will make comment on these themes, taking into account some of the unique factors relating to toll road users living or working in the Central Coast region.

Cost and pricing

The increasing pervasiveness of toll roads in recent years and the expansion of the toll road network in Sydney has increased the cost to the average Central Coast toll road user; be they commuting to work by car, travelling to Sydney for general purposes, or passing through Sydney toward their destination. Regardless of the reason a Central Coast toll road user is using the toll road network, it is apparent that the costs appear to be continuously increasing.

The construction of new motorway developments increases stock to the toll road network, and by default, increases the likelihood of a Central Coast road user to make use of the toll road network. By design, the network aids in getting the user from point A to point B more quickly, but at what cost? In a relatively high inflation environment and with the cost of living continuously rising, this increases financial pressure on community members.

Solutions to these problems are no doubt complex and dependent on the specifics, however, the below options could be considered:

- Regulation of pricing: while competition is noted as an existing solution to managing pricing, regulation of the toll road network by the Independent Pricing and Regulatory Tribunal (IPART) in NSW, or the Australian Competition and Consumer Commission (ACCC) could help to increase transparency, moderate pricing increases against the benefit to the consumer, and have the potential to increase public trust in the current pricing model.
- Taxation model: quality roads are an essential service to be provided by governments to communities across NSW. A taxation model, opposed to the current user-pays model, could be considered in NSW to remove tolls entirely and therefore decrease the impact of the financial burden of the user-pays model on the consumer.
- Incentivising off-peak travel: it is acknowledged that incentivising use of the toll road network outside of peak hours currently exists, however this could be taken further through increased

incentives for those willing to travel outside of peak hours.

- **Price capping:** it is acknowledged that price capping currently exists in the form of a \$60 weekly cap for NSW motorists, which benefits regular toll road users who are using the network multiple times per week. However, consideration could be applied to the provision of a daily cap as an alternative option for toll road users who are irregularly using the toll road network but accumulate high toll charges from return day trips.

Transparency and simplicity

There is general understanding that all toll road users would benefit from increased transparency in understanding the toll cost structure and how profits are distributed to the concessionaire.

As shown in *Table 2: Toll charges, prices and escalations of NSW Toll Roads (as at May 2023, source: Linkt)* of the *2023 Independent Toll Review Discussion Paper*, there are myriad ways that toll charges are calculated. The distinctions between tolling methods, toll class and escalation rates are poorly understood by toll road users. A review of these toll charges, prices and escalations with the intent to simplify could be of great benefit to the toll road user.

A measure to increase transparency and simplicity for the Central Coast toll road user could be to simplify the current toll road calculators available to the public. Current providers expect the toll road user to know exactly which point they will enter the toll road network, and on which motorway, which presumes the toll road user is educated about the toll road network. Improvements could be made which allow the toll road user to input the address of point A and point B, the time of day and date of travel. This information would then be used by the calculator to determine the total cost of the tolls which would be charged to the user for that trip.

Another measure for consideration is collaboration and integration with leading navigation and digital mapping providers (including Google Maps, Ways and others). When the user inputs their trip into the device/mapping software, information on the toll charges for that trip could be provided. This would allow timely and transparent information to the toll road user to help determine whether this is the best travel route for them, depending on their circumstances.

Public transport

Public transport is a critical service for residents of NSW, however in regional or peri-urban areas including the Central Coast, reliable, express connectivity to Sydney could provide improvements and reduced reliance on the toll road network. Where possible, Council would like to see improved connectivity to all areas of Sydney which the toll road network covers to improve the benefit of using public transport for the Central Coast community member.

Final comments

Council acknowledges the work of the NSW Government in conducting an independent review of the Sydney toll road network to optimise the current offering to toll road users. Council expects to see genuine engagement with Central Coast residents who are impacted by tolls in the following stages of the Review to ensure that the voices and experiences of the Central Coast toll road users are heard.

A successful review of the toll road network would ultimately deliver practical, deliverable and targeted measures which would ensure fair pricing to toll road users; the simplification of pricing structures; and improved user-friendly access to information about the toll road network to improve transparency with the community.

Yours sincerely,

David Farmer
Chief Executive Officer
Central Coast Council

Internal Reference: D15779277

Blacktown City Council

Mayor Tony Bleasdale OAM JP – Draft Submission

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(Alt Contact: Robert Grieve T: 0429 319 329 Email: Robert.Grieve@blacktown.nsw.gov.au)

Toll Review - Public Meeting - Penrith 13 July 2023

Issue	Comment
Equity	<p>The high cost of tolls combined with the lack of public transportation options in western Sydney creates a sense of inequity among residents.</p> <p>The high cost of housing has resulted in many people moving to more affordable locations such as western Sydney and Blacktown. However, the higher paying jobs are generally located in the City and these workers therefore pay disproportional higher fees for transport than those living closer to the job opportunities.</p> <p>There is also a lack of adequate public transport in western Sydney. This means many residents are left with no other option than to use their own car and travel via the toll roads.</p> <p>In addition, and given the large number of industrial premises and the number of toll roads intersecting in western Sydney, low- and middle-income residents, including professional drivers and tradesman, often have little option other than to travel on toll roads.</p> <p>Western Sydney residents feel that they are being unfairly burdened by the costs of toll roads, while others benefit from the convenience of living in areas with better public transportation.</p>
Affordability	<p>The high cost of tolls can be a significant financial burden, especially for low-income households.</p> <p>Western Sydney residents are disproportionately affected by high tolls, as they are more likely to rely on their cars due to the lack of accessible public transport and the industrial nature of surrounding businesses.</p> <p>This reliance on cars makes residents more dependent on toll roads, as they are often the only way to get to work, school or other essential destinations.</p>
Transparency	<p>The cost of travel on toll roads consists of multiple fee structures and rates making it exceedingly difficult for the public to calculate the overall cost of a trip.</p> <p>The fee structure should be simplified, consistent and easily understood by the general public so that they can make better informed decisions regarding travel options.</p>
Toll fee structure	<p>Current toll fees are unique to each toll road with no consistency across the road network.</p>

Issue	Comment
	<p>The fee should not be based on the individual toll projects (present case) but rather on the efficient and effective operation and funding of the overall network. On condition Blacktown residents and businesses will not be affected negatively or being worse off, a consistent fee structure should be explored, which is easily understood by the public and is based on a single-entry fee and distance travelled.</p> <p>The fee structure should also be used to manage demand and ensure efficiency of the network. For example, freight vehicles should be discouraged during peak commuter times through higher fees. The fee structure should aim to optimise the traffic flow on the motorway(s) by managing the demand to prevent gridlock.</p>
Fee collection	<p>The fee collection should be seamless and the latest technology should be utilised to achieve an outcome where administrative cost is minimised, and the collection process is simple and efficient. Any collection fee should reflect the real cost of collection and not be based on random penalties being applied.</p>
Rebates	<p>The basis for rebates must be logical (evidence based) and fair taking in account affordability, demographics and access to public transport.</p> <p>The rebates should not work against the ability to use the toll fee to manage the demand and as such should have a reduced fee after a threshold of affordability has been reached and not be totally free (the \$60 per week max toll fee relief is welcomed and supported in the absence of a long-term sustainable relief structure).</p>
The future - provision and management of toll roads	<p>While using tolls to fund road infrastructure allows for the fair 'user pays' principal to apply, it also provides a profitable business venture for the private sector, which creates new funding opportunities for essential road infrastructure to support economic growth and maintain quality of life.</p> <p>However, transport is an essential need and transport systems must be managed (by government) to allow for reasonable and affordable access for all.</p> <p>Toll roads should be supported for the opportunity they provide to create infrastructure for the greater good of all of Sydney. However, toll roads should not be managed and tolled in isolation (the present case) but as part of the overall transport network providing affordable access to all.</p>

Bayside Council

27 July 2023

Our Ref: 23/192558
Our Contact: Bryce Spelta (02) 9562 1670

Re Tolling Review – Bayside Council Submission

Bayside Council welcomes the opportunity to provide comments in relation to the current toll review discussion paper.

Bayside Council residents, business owners and residents have faced serious and continued negative impacts as a direct result of the opening of M8 motorway and subsequent introduction of tolls on the M5 east. Council's long-held view is that the EIS on which the planning approval for this project was based failed to adequately predict the increase in vehicle movements on the surrounding road network resulting from toll avoidance or provide for mitigation measures.

Since the opening of this project and the introduction of tolls significant displacement of traffic has occurred, particularly heavy vehicles into the surrounding neighbourhoods. Council continues to lobby for a return to the previous tolling regime which allowed toll-free travel along this short section formerly known as the M5 East. Failing the removal of the recently introduced toll on this section Council calls for a system similar to the NorthConnex, where trucks are penalised for avoiding the toll route, to be introduced.

Council's submission will focus on the questions relating to 5.1.2 **D Heavy Vehicles** from the discussion paper:

1 Do current toll multipliers for trucks accurately reflect vehicle capacity in relation to wear and tear per tonne of freight moved?

No, though nor should they. There are advantages for the local community in removing heavy vehicles from the local road network in the form of improved amenity, safety, parking and ease of travel.

If tolls were based solely on the amount of wear and tear heavy vehicles impose then they would have to increase dramatically in relation to what cars and light vehicles currently pay. This would have the perverse effect of encouraging even less heavy vehicles to use the tollways and encourage them onto the local road network where they can impose increased wear and tear on that road network at no cost.

2 Do current toll multipliers provide sufficient incentive for the use of more productive vehicles?

In the case of the M5 East, no because there are alternative toll-free routes that can be taken with minimal additional time implications. Multi-trailer vehicles up to super B-double size carrying shipping containers, liquids, and general goods regularly still use surface roads through residential areas to avoid the toll on the M5.

3 Are there sufficient incentives/requirements for heavy vehicles to use the motorways rather than the non-motorway network, eg for safer, more sustainable and productive outcomes?

In Bayside's case and in relation to the M5 East, the clear evidence shows that this must be a resounding no. It is clear that for many freight operators to drive 9.33km and make a time saving of between 5-10 minutes at a cost of \$23.95 does not represent compelling value, and they are choosing to avoid the toll and divert onto surface roads. Traffic analysis of vehicle types using Forest Road and Stoney Creek Road, or a visit to Bexley retail centre will confirm this issue.

4 Is there scope to improve road use efficiency by modifying non-toll restrictions on the use of trucks?

Motorways are designed and constructed to improve transport efficiency, however, are only effective when used for their intended purpose. When heavy vehicles avoid a tollway their negative impact in terms of noise, air quality, reduced safety and congestion ripples through local communities. We need both genuine incentives for using motorways and deterrents for using local connections, especially for heavy vehicles.

Conclusion

Council officers have repeatedly and continually heard from representatives of the elected Council, business owners, the Bexley Chamber of Commerce and residents about the negative impacts on our local area following the introduction of tolls on the M5 East in 2020. Numerous petitions, emails and phone calls have been received during this time from people negatively impacted by increased traffic on alternate toll-free roads throughout Bayside. There have been significant changes in the volumes and mix of traffic on numerous roads including a noticeable increase in heavy vehicle traffic at all times throughout the day and night.

Our community has borne the brunt of traffic diverting from the M5 East onto alternate toll-free routes like Stoney Creek Road, Forest Road and Bexley Road since 2020. Toll avoidance brings costs and impacts including noise for homes and businesses, repairs to properties from increased vibration damage, accelerated road deterioration, increased accidents, rat-running through our residential areas, impact on safety and amenity, increased congestion and travel delays for local trips, loss of convenient on-street parking in local shopping strips and the flow-on effect that many of these impacts have on the local economy, businesses and people's livelihoods.

Bayside Council wants to see local roads returned to local communities, improving air quality and road safety and reducing noise and congestion. Bayside again calls in the most strenuous terms for a return to the previous tolling regime which allowed toll-free travel along this 9.33km corridor formerly known as the M5 East. Failing the removal of the recently introduced toll on this section of motorway Bayside Council calls for a solution like that implemented for NorthConnex, where trucks are penalised for avoiding the toll route. There is a successful precedent for this system, and Council's opinion is that Bayside residents deserve this solution just as much as communities around NorthConnex.

Please contact Bryce Spelta, Manager City Infrastructure, on 9562 1670 if you require any clarification.

Yours sincerely



Bryce Spelta
Manager City Infrastructure

Liverpool City Council

Shannon Cochrane
Manager, Stakeholder and Government Relations
Western Parkland City
Community and Place
Transport for NSW

By email: shannon.cochrane@transport.nsw.gov.au

Dear Shannon

I refer to your email dated 29 June 2023 to the Mr John Ajaka, CEO regarding the recently announced Independent Toll Review to make toll roads simpler and fairer across Sydney's motorway network and the invitation to participate in the public consultation sessions.

The Liverpool Local Government Area (LGA) is in the South-West Sydney, approximately 35 km from Sydney Central Business District. The LGA contains sections of the M5 Motorway (which has a partial toll road), M7 Motorway (toll road) and a portion of the new M12 Motorway which is under construction.

Public transport infrastructure and services in the Liverpool LGA are inefficient and not well connected compared to other parts of the Sydney Metropolitan Area. Hence, residents rely heavily on private vehicles and the arterial road network including the above-mentioned motorways.

Similar to other Western and South-Western Sydney residents, over 70% of Liverpool residents commute long distances to work, at major employment centres including the Sydney's global economic corridor, by private vehicles. This results in residents having to suffer social and transport disadvantages due to long commuting distances.

While Council supports continuous improvements to the Sydney Motorway Network, Council is concerned about increase in toll prices, as it would increase the cost of living.

Western Sydney residents travel longer distances compared to residents of other parts of Sydney metropolitan area, due to the location of Sydney's major employment centres and insufficient public transport services. A distance-based tolling and a special CBD zone and cordon pricing will have significant impacts on Western and South-western Sydney residents compared to residents of other parts of Sydney.

As such, road usage charges or new toll road proposals need to take into consideration social, economic and transport disadvantages of the Western Sydney residents and its impacts on their daily life and living costs. Consultation(s) are required with Councils and community for proposals to change current toll road price structure.

Council recommends that the State Government needs to work closely with the private motorway operator(s) to develop a framework to introduce innovative and cost-effective solutions such as Intelligent Transport System (ITS) and demand management tools to improve traffic efficiency of motorway network and reduce costs of motorway operation. The models should take into consideration of geographic disadvantage, social equity, job accessibility and cost living stress of

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low/medium income community, particularly for those who live in the south-west Sydney. An assessment and evaluation report should be carried out for new toll pricing proposal or initiative and be made available to the public for comment prior to decision being made.

Council has reviewed the discussion paper and provides the following suggestions for consideration:

- a) Review the existing contract agreements with current motorway operators and identify opportunities and mechanisms to provide toll relieve and community benefit programs, particularly when CPI is above 4%.
- b) Council is concerned about the impact of distance based tolling scheme and a special CBD zone and cordon pricing. It is recommended that a flat rate or lower toll road cap be applied to long-distance traveller/users.
- c) The South-West community is to be consulted for feedback on time-of-day pricing and dynamic or real-time pricing and associated benefits.
- d) Road usage charges or new toll road proposal need to take into consideration social, economic and transport disadvantages of the Western Sydney residents.
- e) It is recommended that a wide community consultation and survey is carried out for increase of the current toll price or introduction of a toll to the existing or new motorways.
- f) It is recommended that the State Government works closely with the private motorway operators to develop NSW statewide motorway network models and assessment guidelines which enable the government to evaluate and assess some new motorway initiatives such as new or existing motorway upgrade, intelligent transport system, toll pricing structure, reduction of user costs, and community rebate and benefit programs.

The models should take into consideration of geographic disadvantage, social equity, job accessibility and cost living stress of low/medium income community, particularly for those who live in the south-west Sydney. An assessment and evaluation report should be made available to the public for comment prior any decision being made.

Should you require any further information, please contact Charles Wiafe, Manager Transport Management on wiafec@liverpool.nsw.gov.au.

Yours sincerely



Charles Wiafe
Manager Transport Management

City of Parramatta

2023 Independent Toll Review
c/o Transport for NSW

Email: Tolling_PMO@transport.nsw.gov.au

Our Reference	F2019/00088
Contact	Michael Jollon
Telephone	02 9806 5580
Email	mjollon@cityofparramatta.nsw.gov.au

4 August 2023

To whom it may concern

RE: 2023 Independent Toll Review – Invitation to make a submission

Thank you for inviting City of Parramatta Council to make a submission to the New South Wales Independent Toll Review.

Council officers are pleased to make an officer submission based on policy positions adopted by Council, Councillor feedback solicited following the invitation to make a submission, and Council officers' understanding of the impact of tolled motorways and traffic in our local government area.

Toll avoidance impacts on alternative un-tolled roads results in:

- traffic congestion,
- direct costs to local and state governments, and
- social and environmental costs to communities along alternate routes.

Council as a matter of policy seeks to minimise the above impacts, and ensure equitable access to infrastructure, jobs and services. These are the key issues that should be assessed when considering reforms of tolling on NSW Roads. Further details on how these issues impact on the City of Parramatta local government area are detailed below.

Tolls for short trips on the M2 Motorway to alleviate traffic congestion in Epping

Council considered a report in June 2018 about how toll pricing for short trips on the M2 Motorway negatively impacts the road network in the Epping Town Centre.

The background to the motion was Council's work on the *Epping Planning Review (2016-2018)* that found regional trips (vehicle trips with neither starting nor ending points in Epping) accounted for a significant contribution to peak hour road congestion. Council's analysis found that 89% of peak hour trips on Epping Bridge, a major traffic bottleneck, were non-local trips. A number of these 'through trips' included residents making the short trip from residential areas west of Epping to employment and education in Macquarie Park.

The Motion considered that reducing the high cost of short trips on the M2 Motorway could reduce the amount of traffic through Epping. The Motion compared the cost of two trips on the M2:

- from West link M7/Abbott Road to Macquarie University (Herring Road/ Christie Road), a distance of 16 km, for (currently) \$9.53.
- from Beecroft Road to Macquarie University (Herring Road/Christie Road), a distance of 4 km, for the same price.

Contact us:

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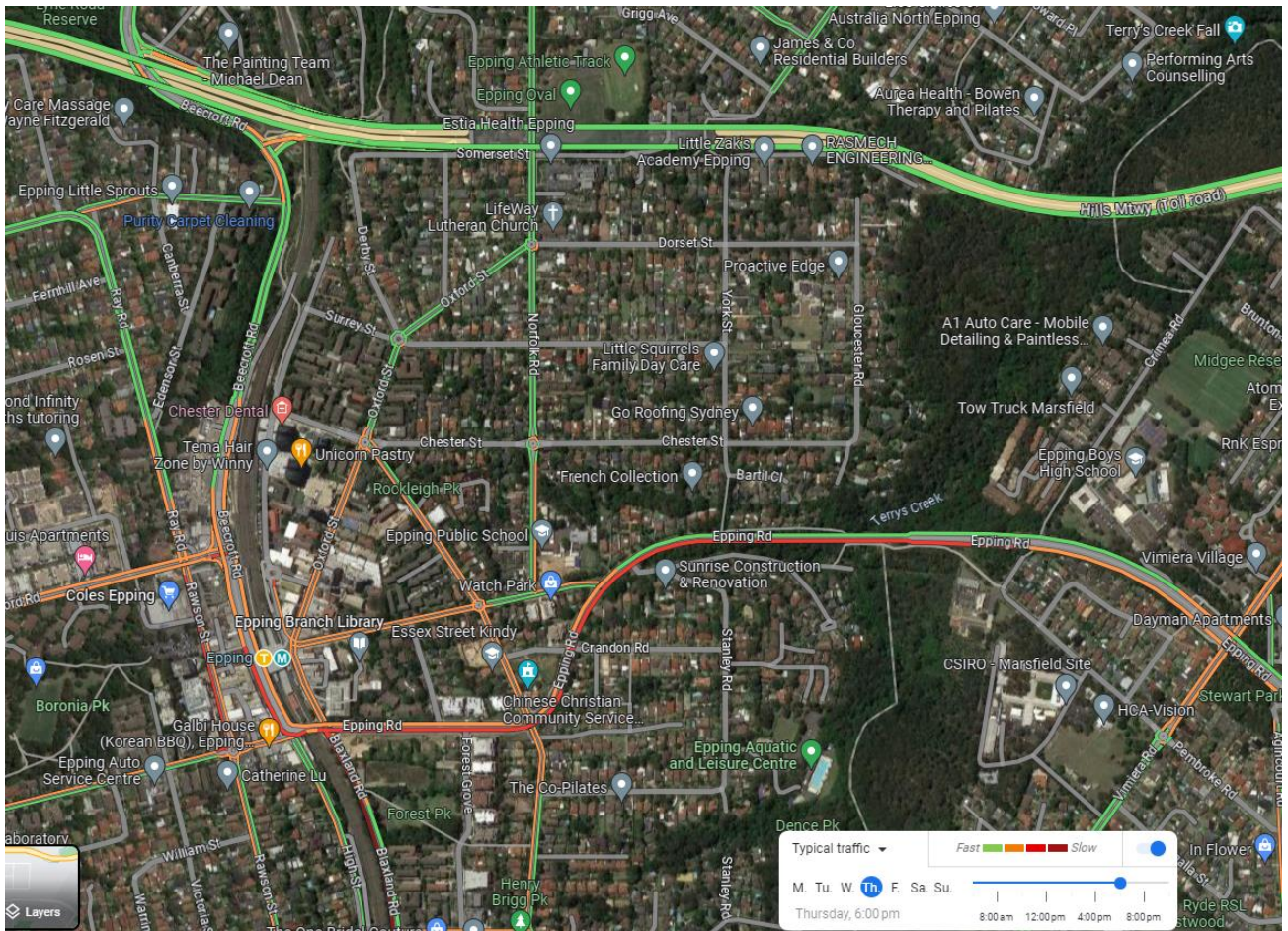
Council ultimately resolved to write to the Minister for Transport to request the State Government, “review the tolling regime along the M2 so that the costs to people undertaking shorter trips is reduced to provide more incentive for motorists to utilise the M2 rather than journey through the Epping Town Centre.”

Council officers understand that the tolling regime on the M2 Motorway was designed with regard to traffic capacity limitations at the Terrys Creek bridge between Epping and Macquarie Park and as noted above, the tolling regime enforces the same charge for all traffic crossing Terrys Creek regardless of length of trip.

Council officers suggest that the case for reducing tolls for short trips on the M2 is now stronger because,

- the motorway has been widened around Terrys Creek. the NSW State Government announced this year it is funding (jointly with the Commonwealth Government) a \$220 million upgrade of Epping Bridge.
- a significant portion of congestion on Epping Bridge continues to be a result of the high cost of short trips on the M2.

The comparative congestion levels between the M2 Motorway and Epping Road between Macquarie Park and Epping/Beecroft are illustrated by the screen grab below from Google Maps. The map shows average 6pm traffic on a Thursday. Westbound traffic is moving quickly (depicted as green) on the M2, while traffic is moving much more slowly (depicted as red) on westbound Epping Road. This shows that the M2 has excess capacity in this peak hour. Reconsideration of pricing presents an opportunity to capture greater usage on the toll road and improve operation on the adjacent arterial.



Comparison of weekday westbound PM traffic speeds along the M2 Motorway and Epping Road, source: google.com/maps

Motorists avoiding tolls on the M4 Motorway negatively impact on Parramatta CBD and Surrounding Centres

Council's Integrated Transport Plan (ITP) for the Parramatta CBD identified that re-introduction of tolling on the M4 with WestConnex improved operations on the M4, but increased traffic on other key roads serving Parramatta CBD, such as the Great Western Highway, due to toll avoidance. The ITP also found that the Church Street eastbound exit ramp was a significant congestion point—this exit is the last toll-free exit on the eastbound M4.

Toll avoidance results in significant economic and social impacts on businesses, workers, visitors to the centre and residents living in and around the centre. Evidence of this impact detailed in the post-implementation *Operational Traffic Performance Review* conducted for the WestConnex M4 Widening, which confirms negative traffic impacts on roads serving the CBD as well as Granville and Auburn centres.

Community and Government costs of toll avoidance

The clearest direct impact of toll avoidance is damage caused to roads used as free alternatives. Most of the alternate routes are State owned and funded arterial roads such as Victoria Road and Parramatta Road in our LGA. On State roads, these costs will impact the NSW Budget.

Council controlled roads are also affected by toll avoidance and particularly by heavy vehicles, which cause the most damage to roads. Council officers have identified Parkes Street and Hassall Street in Parramatta and Rosehill as Council managed roads affected by toll avoidance. While Council does not maintain a comprehensive list of local roads that are affected by toll avoidance or estimate the cost of damage to these roads, the direct impact on the local road network is likely to be significant.

In addition to direct costs for road damage, Council's community bears many indirect costs of toll avoidance. These include degradation of amenity along alternate routes due to increased traffic and heavy vehicles, health impacts due to increased emissions from this traffic, and the slowing of general traffic and public bus services along these routes. In addition to delays on alternate routes, there are secondary impacts around these 'free' alternative routes such as extra delays on cross streets such as Good Street in Granville. Extra traffic on alternate routes also contributes to 'rat-running', as drivers turn to lower order residential streets to avoid congestion on arterial roads. There are also opportunity costs affecting both Council and community as increased traffic on arterial roads precludes desirable options such as tree planting, wider footpaths or bicycle and public transport lanes.

Council resolved in June 2018 to request the Minister for Transport to investigate redirecting the M92 buses to use the M4 Motorway to improve public transport travel times between Parramatta and Sydney Olympic Park.

Council is well-aware of the benefits of express buses along the M2 Motorway brought to nearby communities and recommends that public bus services along the M4 motorway be considered to connect Parramatta and the Olympic Peninsula. Such a connection would allow buses to avoid congestion (some of it caused by toll avoidance) on Parramatta Road and thereby decrease travel times between growing residential precincts and the Parramatta CBD.

Council's Socially Sustainable Parramatta Framework (2017) identifies a role for Council to ensure equitable access to infrastructure our community needs to live well and succeed.

Toll arrangements need to be considered with a view of equity to ensure affordable access to work, leisure and infrastructure that our Western Sydney communities need. Tolling schemes should be calibrated to support other strategic priorities, especially those targeted to equitable outcomes for Western Sydney. Efforts to increase jobs and housing in Western Sydney should be supported by the planning and operation of tolled motorways. Decisions (including planning, operating, and changing tolling schemes) should also support delivery and maximise usage of existing and planned public transport investments.

In summary, Council officers support a review of toll roads and would like to see the following:

1. A reduction in the toll for short trips to including on the M2 Motorway to reduce regional traffic on local and arterial roads.
2. Provision of express bus services along the M4 Motorway like those in the place along the M2 to reduce congestion on local and arterial roads and improve travel times of make public transport.
3. Considering the direct and indirect costs of toll avoidance and rat-running on local and arterial roads so the real costs can be factored into toll schemes.
4. Calibration of tolling schemes to support other strategic priorities, especially those targeted to equitable outcomes for Western Sydney including access to jobs and housing.

Thank you for the opportunity to make this submission on the 2023 Independent Toll Review and if you have any queries, or would like to discuss the matter further, please contact Michael Jollon, Council's Manager of Transport Planning.

Yours faithfully,



Robert Cologne
Group Manager Strategic Land Use Planning

Ombudsman NSW

28 July 2023

Professor Allan Fels AO
Review Chair
NSW Government 2023 Toll Review

Dear Professor Fels AO

NSW Ombudsman submission – ‘2023 Independent Toll Review’ discussion paper

I am writing to make a very brief submission to the 2023 Independent Toll Review.

I have noted the [terms of reference](#) for the review and the related [discussion paper](#). Below I provide information about:

- (a) the mechanisms relating to tolling complaints, and
- (b) an overview of the nature of tolling complaints received by my office in the last 2 years.

As you will appreciate, matters relating to competition and setting the price of tolls are outside the remit of my office. However, by providing below a short account of some of the issues that generate complaints to my office, I hope to contribute to your review to the extent that it relates to issues of service delivery.

The role of the NSW Ombudsman

The NSW Ombudsman is an independent integrity body that pursues fairness for the people of NSW. In particular, we strive to ensure that those entrusted with public power and resources fulfil their responsibilities and treat everyone fairly.

A central function of the NSW Ombudsman is to receive complaints about, to monitor, and to investigate, the conduct of NSW public authorities. This includes State Government departments and agencies, NSW statutory bodies, and local councils.

We aim to identify that public authorities are conducting themselves lawfully, making decisions reasonably, and treating all individuals equitably and fairly. When public authorities fail to do this, we may make findings that they have engaged in ‘maladministration’.¹

How tolling complaints are managed in NSW

In relation to tolling, the NSW Ombudsman can receive complaints about NSW public authorities providing relevant services to the public, including Transport for NSW (TfNSW) (which operates some

¹ More formally, section 26 conduct (referring to section 26 of the *Ombudsman Act 1974* (NSW)), which sets out the various categories of wrong conduct about which the Ombudsman may make findings.

tolled roads, including the Sydney Harbour Bridge and Tunnel), Service NSW (which administers driver licences and vehicle registration, as well as e-tags), and Revenue NSW (which is responsible for fines administration and enforcement).

The NSW Ombudsman does **not** have jurisdiction to receive or deal with complaints about the conduct of private road and toll operators such as Linkt (trademark of Transurban).

A private sector Tolling Customer Ombudsman (TCO) has been established to receive and deal with complaints about Linkt.² These may include issues relating to travel on Sydney roads owned and operated by Linkt³ and issues with Linkt accounts or passes for travel on those toll roads and others.

The TCO is not a statutory body or government agency. The TCO is not a member of the Australian and New Zealand Ombudsman Association (ANZOA).⁴

It provides free dispute resolution services for consumers in relation to toll road operators that have agreed to be part of the scheme. The TCO website states that toll road operators have agreed TCO determinations are binding on them (the operators) but not on consumers.

Complaints about TfNSW cannot be handled by the TCO and the TCO website directs those consumers to the NSW Ombudsman website.⁵ The NSW Ombudsman website includes information about which complaints can be made to the TCO.⁶

Over the past 2 financial years, at least 20%⁷ of contacts to the NSW Ombudsman about tolling issues were classified by us as ‘misdirected’ – meaning that they concerned matters outside of our jurisdiction. When the NSW Ombudsman receives a complaint about Transurban/Linkt, we will if appropriate refer that person to the TCO.

Overview of tolling complaints made to the NSW Ombudsman

In the two years 2021-22 and 2022-23, the NSW Ombudsman received 304 actionable complaints that related to tolls.⁸ In the 2021-22 financial year, the NSW Ombudsman received significantly more complaints compared to the same period in 2022-23.

The higher number of complaints in 2021-22 was primarily related to the implementation of TfNSW’s new tolling account management system, which impacted a large number of TfNSW E-Toll consumers with issues such as incorrect ‘top-up’ debits from linked bank accounts and incorrect transfer of toll fees accrued by a vehicle’s previous owner to the new owner. TfNSW apologised for the error and took action to rectify the issues.⁹

² Tolling Customer Ombudsman (Web Page) <[Home - Tolling Customer Ombudsman \(tollingombudsman.com.au\)](https://www.tollingombudsman.com.au)>.

³ Linkt (Web Page) <[About Sydney toll roads - Linkt](#)>.

⁴ See Schedule 1 of the ANZOA Rules <[anzoa rules current-at-march2022.pdf](#)>, which sets out the independence and other criteria required for recognition as an “ombudsman” eligible for admission to ANZOA.

⁵ See n 2.

⁶ NSW Ombudsman (Web Page) <[Complaints others handle - NSW Ombudsman](#)>.

⁷ The NSW Ombudsman notes the following about data referred to in this submission: searches were made for complaints including the words ‘toll’ or ‘tolling’; data for the 2022-23 financial year has not yet been finalised and is subject to change.

⁸ An actionable complaint is a complaint that we are authorised by legislation to receive and, if necessary, to investigate under the *Ombudsman Act 1974*. This may include complaints about the conduct of Transport for NSW, Service NSW and Revenue NSW. See above note 7 about data.

⁹ Transport for NSW (Web Page) <[Refunds for tolling error expedited | Transport for NSW](#)>.

In relation to that incident, TfNSW had been proactive in alerting our office and providing information about the issues and remedial actions to us. This enabled our staff to be ready to provide up-to-date information and assistance to complainants to respond to and resolve concerns. (In other contexts, we also encourage public authorities within our complaint-handling jurisdiction to proactively contact and brief us when issues or incidents arise that are likely to lead to calls and complaints to our office, so that we can be better placed to quickly and effectively respond and assist in resolving those complaints.)¹⁰

Some tolling-related complaints we receive can raise general fairness concerns about the existence of toll roads, toll increases or challenges in finding alternative (non-tolled) routes. Beyond bringing concerns to the attention of the relevant authorities, we are generally unable to assist in the resolution of these complaints, which relate to policy issues.

However, the majority of tolling-related complaints we receive are of an administrative nature, relating to issues including:

- receiving multiple toll notices for vehicles not owned by the complainant
- delays in processing refunds
- incorrect and unexpected debits from bank accounts
- incorrect and unexplained charges
- incorrect classification of vehicle
- faulty e-tags and related issues such as administration fees and charges for video matching fees
- debt collection issues
- complaint handling and customer services issues such as failure to respond and resolve
- difficulty accessing toll accounts
- difficulty understanding toll statements and details
- fines related to tolls and internal review outcomes.

The NSW Ombudsman has also received complaints about the toll relief program and cashback scheme, including concerns about eligibility, delays in receiving payments, errors and customer service concerns.

While the number of complaints received by the NSW Ombudsman is clearly very low relative to the number of tolling customers in NSW, the above provides an indication of the types of concern raised by members of the public.

¹⁰ See for example our report, '2020 Hindsight – the first 212 months of the COVID-19 pandemic', chapter 5 (Suggestions for the future): https://www.ombo.nsw.gov.au/data/assets/pdf_file/0018/138204/2020-hindsight-the-first-12-months-of-the-COVID-19-pandemic-Special-Report.pdf.

Please contact Christie Allan, Executive Strategy Officer at [REDACTED] if you require further information about my office or this submission.

Yours sincerely



Paul Miller
NSW Ombudsman

Independent Pricing and Regulatory Tribunal

Our reference: 14/645

Contact Jessica Robinson
T (02) 9290 8405
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27 July 2023

Professor Fels
Independent Toll Review
via <https://www.nsw.gov.au/have-your-say/toll-review>

Dear Professor Fels,

IPART submission to 2023 Independent Toll Review discussion paper

Thank you for the opportunity to comment on the Independent Toll Review's discussion paper.

In an environment of rising prices, there is a high level of community concern about the affordability and fairness of tolls. The Tribunal agrees with the position in the discussion paper that if competition is not effective in producing good outcomes for motorists, there may be a case for further regulation of the industry.

IPART would be well-placed to provide additional oversight of tolls. We would bring our extensive experience in regulating transport infrastructure and setting prices for public transport services to such a review. As part of our Opal fare reviews, we undertake modelling and consultation to establish the efficient costs of providing public transport services and to understand the impacts of congestion on travel behaviour in Sydney.

We also have a role in regulating access to freight rail networks. Efficient use of the freight network can drive competition with road to lower freight costs and improve productivity, as well as reduce congestion and improve environmental and health outcomes.


IPART uses a rigorous, transparent and inclusive review process. We actively engage with stakeholders as well as undertake independent research and analysis. When making decisions and recommendations, we focus on protecting consumers from unreasonable price increases, improving providers' efficiency and service quality, encouraging competition, protecting the environment, and ensuring that efficient service providers remain financially viable.

For toll roads, we recognise that toll agreements between governments and private companies determine the base level of tolls and the escalation mechanism to apply over the concession period. Given this, the costs of any changes to tolling arrangements for the whole community is also an important consideration.

Please contact IPART CEO Andrew Nicholls PSM on 0417 027 168 or Jessica Robinson, Director on 02 9290 8405 if you require further information.

Yours sincerely

27/07/2023

X 

Signed by: Carmel Donnelly

Carmel Donnelly PSM
Chair

NSW Ports



nswPorts

NSW Toll Review

NSW Ports Submission

| August 2023 |



Executive Summary

At NSW Ports, our focus is managing the key trade gateways connecting the people and businesses of NSW and Australia to global markets. The efficient movement of freight to and from our ports on Sydney's tolled motorway network is critical to cost-effective and sustainable supply chains.

Truck toll multipliers need to provide the right incentives for the use of higher productivity vehicles. An efficient tolling regime for heavy vehicles is critical to ensuring land transport costs remain low and that freight can move efficiently around the city.

Incentivising off-peak movements

Increasing the number of truck movements during off peak periods (i.e. night time and on weekends) will assist in minimising the impacts of trucks on roads in peak commuter periods and will optimise the use of existing road infrastructure capacity.

The tolling regime across the Sydney motorway network could play a significant role improving the overall supply chain through the lowering of existing heavy vehicle multipliers in off-peak periods. The implementation of dynamic pricing that offers incentives for using toll roads during less congested hours is a way to achieve this.

Modifications to toll road pricing should be accompanied by broader policy reforms that allow key components of the supply chain (i.e. ports, road and rail, warehouses) to operate throughout the 24 hour period whilst also ensuring local amenity is maintained through the implementation of appropriate residential development building standards.

Maintaining fuel supply and security

Port Botany plays a crucial role in fuel supply throughout NSW and handles a third of all refined fuel products imported into the state. Port Botany is also home to the Ampol Banksmeadow distribution facility, connected by pipeline to the Ampol import terminal at Kurnell.

Current NSW regulations do not permit the transport of dangerous goods (including tankers or containerised dangerous goods) through tunnels – as a result, surface roads, outside of the tolled motorway network, are used to avoid tunnels on the motorway network.

It is critical reliable and high-capacity dangerous goods surface routes are maintained for heavy vehicles to safeguard the continued efficient distribution of fuel products across Sydney and NSW.

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The Freight Network – Supporting Liveability

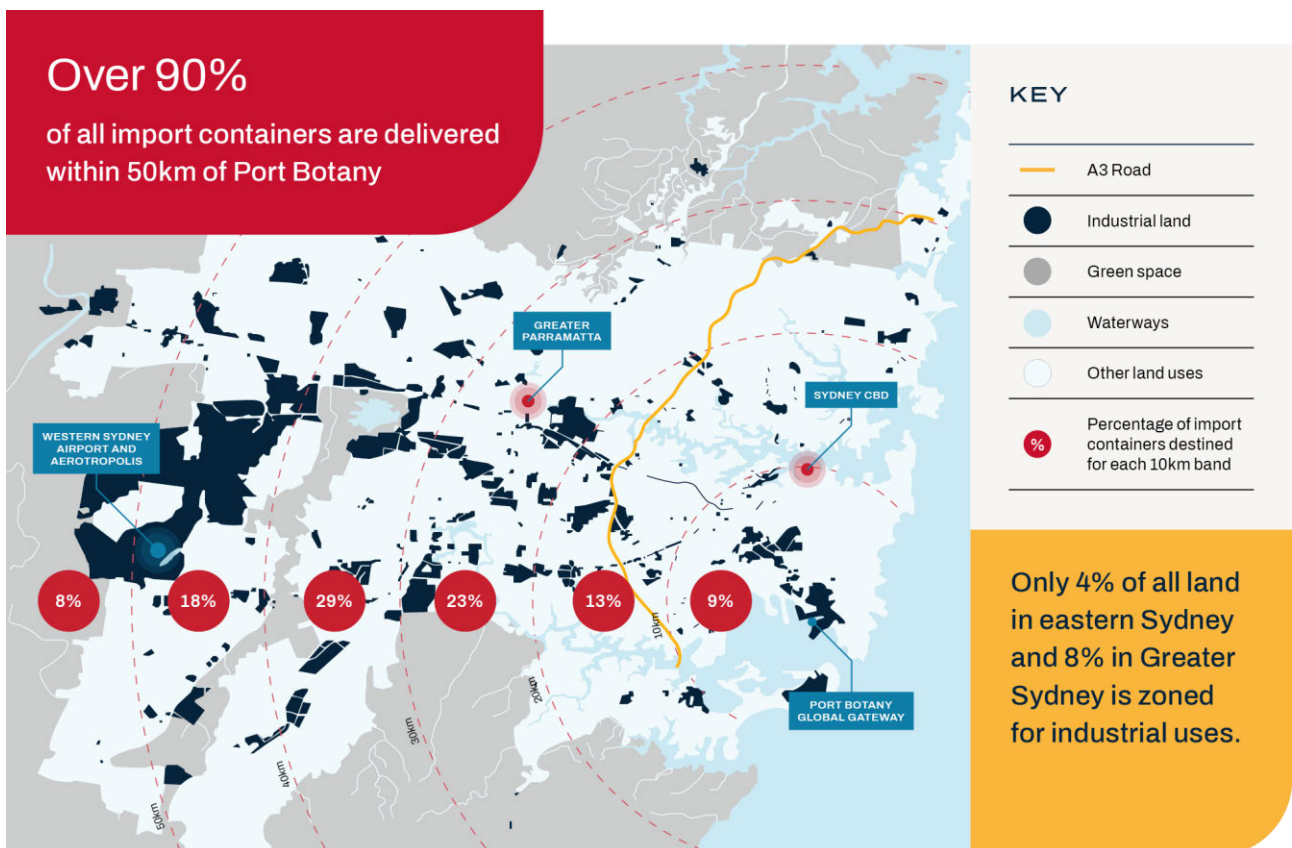
Port Botany is NSW’s container port and will continue to be the primary container port over the next 40 years. Port Botany is the primary bulk liquid and gas port in New South Wales and Australia’s largest dedicated common-user bulk facility.

In 2022/23, Port Botany facilitated a total container throughput of 2.8 million TEU (twenty-foot equivalent units) and a bulk liquid throughput of over 5 million kilolitres.

The key drivers of container and bulk liquid trade growth at Port Botany are increasing domestic demand, population growth, the strength of the NSW economy, the value of the Australian dollar, domestic manufacturing output, construction activity, government trade policies and the location of key distribution centres.

Over 90% of imported containers are delivered within 50km of Port Botany. Roughly 85% of all container movements are made by truck, with a substantial proportion utilising the tolled motorway network.

Most container imports are destined for industrial lands to the west of the A3 corridor (shown in yellow below). This trend has strengthened with the loss of industrial land in the eastern part of Sydney, where industrial land accounts for just 4% of total zoned land (8% of total zoned land across all of Sydney).

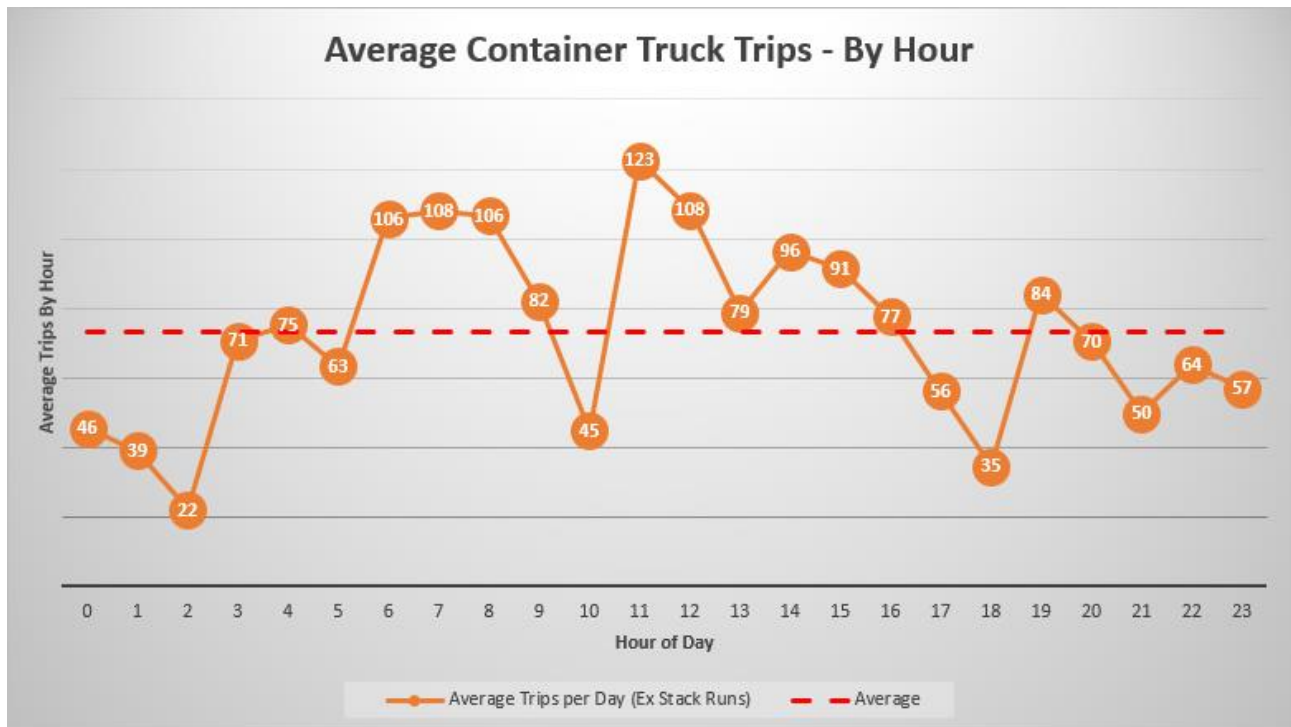


In accessing these industrial precincts, there is a reliance on tolled motorways from Port Botany including the M5, M7, M4, and M2.

Supporting a 24-Hour Economy

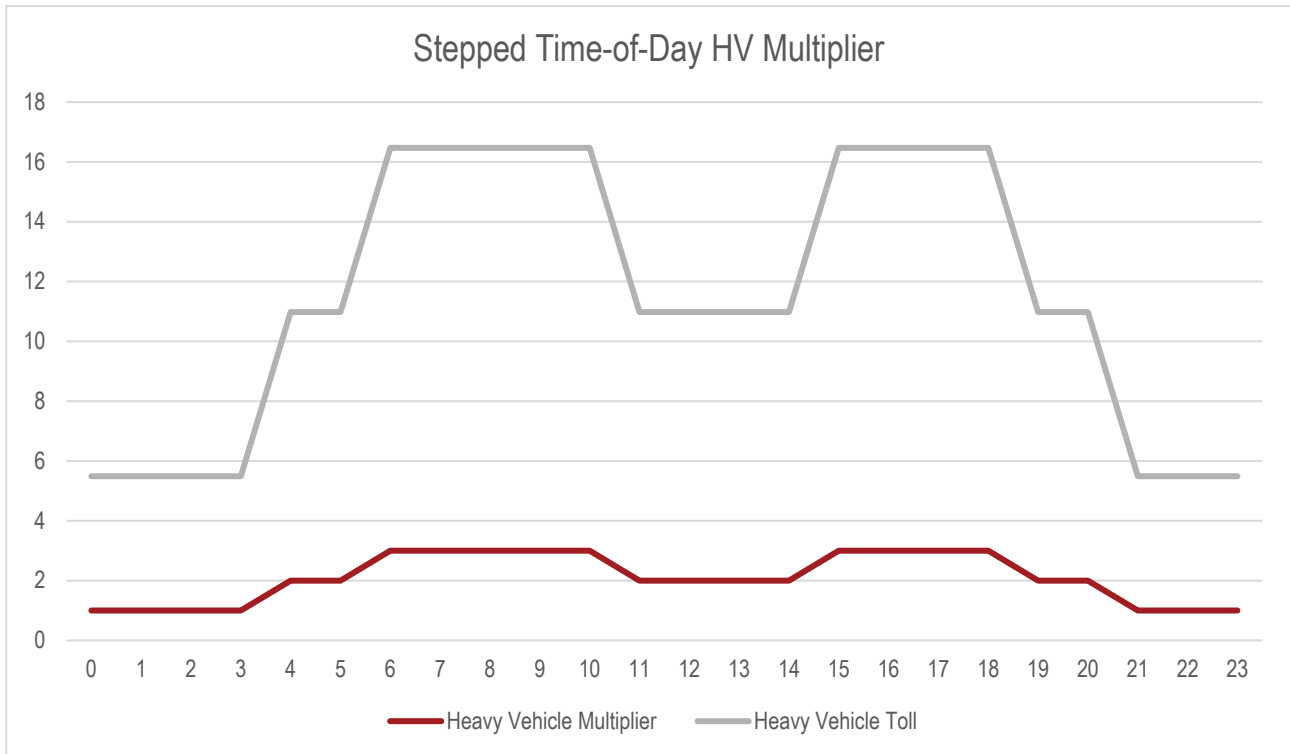
Key to achieving sustainable and efficient truck movements at Port Botany is the utilisation of infrastructure across the 24-hour cycle. In increasing the proportion of truck movements made during out-of-peak periods, the container supply chain is better utilising existing road infrastructure, which typically sees substantial traffic decreases during these times.

The below graph plots the total hourly truck movements at the three stevedore terminals at Port Botany across the 24-hour cycle. Daylight hours dominate in terms of overall movements although nighttime movements are relatively strong.



Tolling regimes can contribute to the better utilisation of port and road infrastructure through reducing toll multipliers out of peak periods.

Currently, a flat multiplier (x3) applies to heavy vehicles no matter the time of day, however this could be stepped down to achieve greater productivity and more efficient motorway utilisation. An example below is show using the current M5 South-West toll pricing regime:



Introducing this methodology across the tolled road network would have the added benefit of encouraging heavy vehicles off surface roads during quieter night-time periods.

Smarter use of tolling multipliers through dynamic pricing will see increased productivity and more efficient infrastructure utilisation.

Recommendation 1: Implement dynamic pricing across all toll roads that offer demand incentives for during less congested hours.

The trend of industrial lands being located further away from Port Botany has meant that freight transport activity is required to cover larger distances and incur greater cost, with the number of trucks, trip times, fuel use and emissions all increasing. This trend is expected to continue as new areas of land are rezoned for industrial purposes adjacent to the Western Sydney Airport.

To address such complexities and enhance the overall competitiveness of businesses, policymakers must begin to prioritise the provision of well-located industrial land, protect freight corridors throughout the metropolitan areas and support various urban freight planning policies such as ending curfews at freight and logistics precincts that most often have unintended consequences such as intensified peak traffic (i.e. a warehouse with limited hours of operations cannot accept deliveries from heavy vehicles out of hours).

Recommendation 2: Review the necessity and unintended consequences of existing truck delivery curfews/restrictions and ensure future planning and regulatory approvals do not impose curfews and delivery restrictions and caps on freight, logistics and industrial activities, other than by justified evidence-based exceptions.

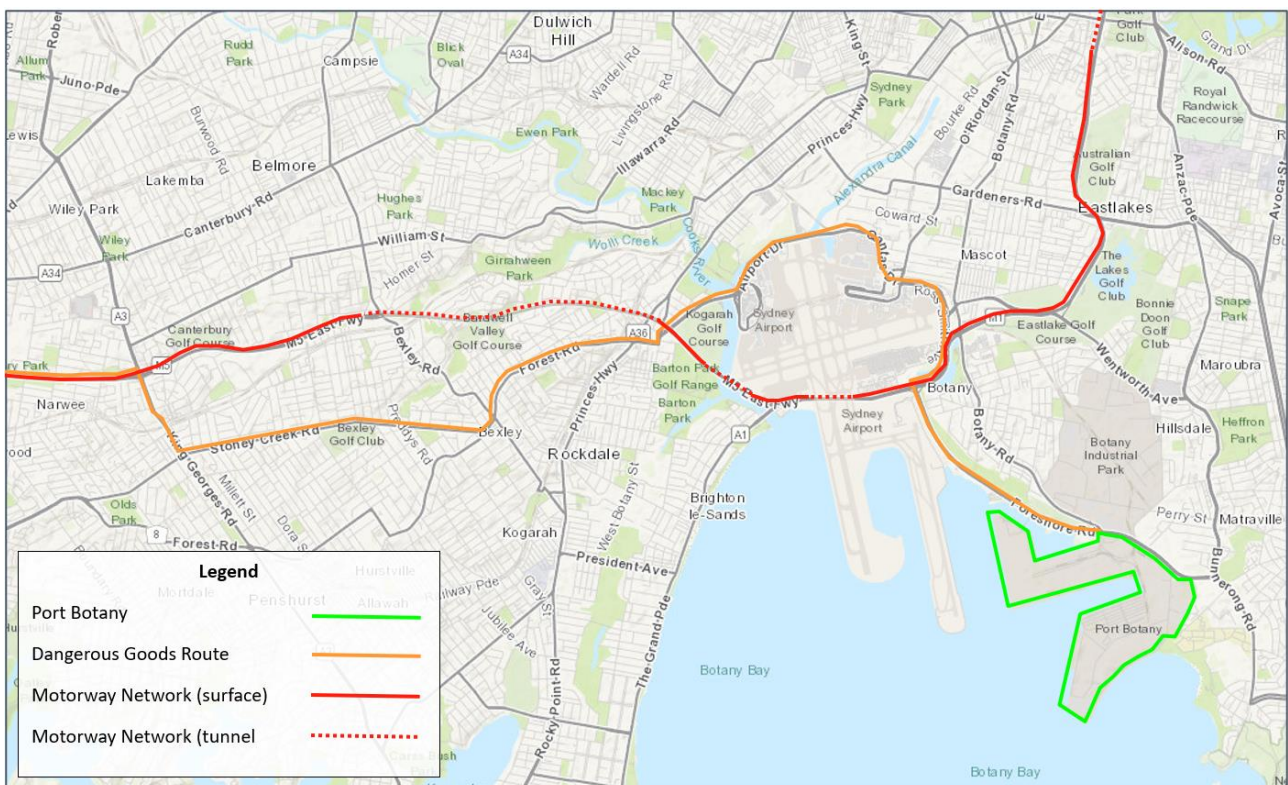
Recommendation 3: Introduce state-wide minimum building design standards for all residential and sensitive use developments in urban areas to mitigate community amenity impacts from economic generating activities such as ports, freight transport, logistics operations and industrial activities.

Supporting Fuel Supply and Security

Port Botany plays a crucial role in fuel supply throughout NSW and handles a third of all refined fuel products imported into the state. Port Botany is also home to the Ampol Banksmeadow distribution facility which is connected by pipeline to the Ampol fuel import terminal at Kurnell.

Fuels imported through Port Botany are distributed by fuel pipeline (particularly in the case of aviation fuel to Sydney Airport) or by tanker truck – this includes a significant volume of all fuels supplied to petrol stations across NSW. The road network is therefore critical to enabling the distribution of fuel in Sydney.

Section 300-2 of *Road Rules 2014 (NSW)* specifies that the driver of a dangerous goods transporter must not use the vehicle on or in any road or tunnel (or part of a road or tunnel) that is specified as a prohibited area. Section 300-2 defines those prohibited areas, including key arterial corridors such as the Eastern Distributor (between Zetland and the CBD, including all ramps), the M5 East tunnels, and the Sydney Airport tunnel on General Holmes Drive. These restrictions dictate that in order for trucks carrying dangerous goods to access the Sydney motorway network from Port Botany, a specific surface route is required to be taken including Qantas Drive, Marsh Street, Forest Road, Stoney Creek Road, and King Georges Road – this route is mapped below.



This is the most direct route for vehicles carrying dangerous goods to access the motorway network. It is critical for these surface routes to be maintained for heavy vehicle access to ensure fuel distribution across Sydney and NSW.

Recommendation 4: Ensure heavy vehicle access along the identified dangerous goods route (above) is maintained to safeguard continued fuel supply and security throughout NSW.



Further information

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Road Freight NSW

Road Freight NSW

Independent Toll Review

Submission 28 July, 2023.



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28 July, 2023

Professor Allan Fels AO
Chair
2023 Independent Toll Review

Dear Professor Fels

I welcome the opportunity to provide this written submission to the Independent Toll Review on behalf of Road Freight NSW (RFNSW), the State's peak road transport industry organisation.

By way of background, RFNSW began as the NSW Road Transport Association (RTA) in 1893. The organisation has developed to become a respected advocate for the State's trucking operators, as a conduit to government, regulators and enforcement agencies. In 2015, we adopted the name Road Freight NSW, which best articulates our independent and authoritative viewpoint thanks to our respected executive leadership and the passion and expertise of members contributing to the Policy Council.

We are, *'The voice of the road transport industry in NSW.'*

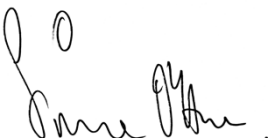
Our members range from some of Australia's largest heavy vehicle transport operators, including BlueScope, DHL and Toll, through to smaller, family business operators like Vellex, Border Express and Hannah's Haulage, representing thousands of employees across NSW.

This Submission from RFNSW responds to the Review's Terms of Reference that are directly relevant to NSW trucking operators.

We look forward to the Inquiry examining the lack of transparency and equity of the current NSW tolling system, which continues to unfairly impact thousands of road freight operators and their families, the wider community and our local and national economies.

RFNSW would be pleased to further brief you, particularly in person, on any of the content of this Submission as part of your all-important Review.

Yours sincerely



Simon O'Hara
Chief Executive Officer
Road Freight NSW.

INTRODUCTION

It is well known that Sydney holds the dubious honour of having the most extensive, and expensive, urban toll road network in the world.

High tolls in NSW continue to have negative impacts on road freight businesses, workers and their families.

Heavy vehicle tolls have progressively been increased across most routes, particularly across the Sydney road network, at the rate of up to three times the rate of light vehicles. RFNSW believes this is unfair and discriminatory.

It is instructive to note that in 2017, a NSW Parliamentary Inquiry recommended that the NSW Government identify and publish the evidence to support the decision to charge trucks three times more than light vehicles, but this has not occurred to date.

The fact is, trucks have become '*cash cows*' for NSW toll operators.

Whilst RFNSW has welcomed the new Minns Government's reforms to the State's toll roads, such as a cap on tolls from 1 January 2024, more must be done to ease the significant financial pressures on trucking operators struggling to pay ever-increasing toll fees and other administration costs, such as port surcharges.

Current tolling fees are unfair and inequitable for our RFNSW members, many of whom are small to medium sized family owned and operated businesses, who must be given incentives for their frequent, and costly, road toll usage, if they are to continue operating.

RFNSW believes long-term reforms must be implemented, to ensure that costs and benefits of toll roads are better aligned, to support struggling freight businesses and also deliver improved safety outcomes for all road-users.

These reforms could include, but are not limited to:

- Off-peak/time-of-day tolls discounts;
- A 'per-km' distance-based tolls;
- Incentives for truckies to use toll roads, such as reduced registration fees and/or specific cash back schemes;
- Toll based on a heavy vehicle's mass;
- Toll based on a heavy vehicle's environmental features (the cleaner the truck, the lower the toll);
- An independent pricing regulator, such as IPART, overseeing the current tolling system, to ensure transparency and equity for road users.

TOLLS AND IMPACT ON RFNSW MEMBERS

On average, RFNSW members are paying tens of thousands of dollars in tolls every month. In the case of Western Sydney, family-owned and operated transport company Vellex, it is **\$100,000 each month**.

RFNSW members already pay more tolls than any other parties in the system and are already struggling to operate their businesses on extremely tight margins and, more often than not, tolls and other additional fees and charges cannot be passed on to customers, thereby exacerbating the financial pressures they face.

Heavy vehicles already pay additional fuel taxes and higher registration fees than light vehicles, depending on the weight of the vehicle. In some cases, freight operators' rates no longer cover their high operating costs, leading to dramatic falls in revenue, with some forced to shut their businesses.

The situation is being exacerbated by the fact that, increasingly, heavy vehicles have no other option but to use expensive toll roads, such as NorthConnex.

The big, private toll road operators continue to increase toll road charges on heavy vehicles, whilst failing to fairly distribute the burden of increases across the system, especially pertaining to light vehicles.

RFNSW maintains there is an urgent need for the NSW Government to create a tight regulatory framework, with the appointment of an Independent pricing regulator, to ensure that heavy vehicles no longer remain a revenue raising mechanism for toll operators, well-above their level of cost-recovery.

RFNSW RESPONSES TO TOLL INQUIRY:

Do current toll multipliers for trucks accurately reflect vehicle capacity in relation to wear and tear per tonne of freight moved?

RFNSW maintains that the current heavy vehicle multiplier far exceeds the marginal cost of 'wear and tear' attributed to the frequent usage of trucks on the toll road network.

It is instructive to note that there is no actual evidence which can clearly identify the damage to toll roads, as a result of trucks, as opposed to light vehicles.

Calculations about ‘wear and tear’ seem to be unfairly based on heavy vehicles carrying their maximum allowable weight. That is, however, not always the case, given that heavy vehicles are not carrying their full mass all the time during trips on toll roads, resulting in trucks often carrying weight significantly lower than the maximum allowable weight.

RFNSW has found that smaller road freight vehicles, often single owner/driver businesses, are the most impacted, given they are charged at the standard rate of large trucks, despite not carrying anywhere near the same weight.

This is why RFNSW believes it is imperative that toll operators examine different methods of assessing what charges trucks pay, considering their load capacities. Empty trucks should not be tolled as much as fully-loaded trucks.

Tolls should be based on the load that a truck is carrying. A *full* toll should be charged when a truck is transporting a full amount of freight, and a reduced toll should be charged when a truck isn’t carrying at full capacity, for example, when it is returning to depot.

Toll pricing should reflect what mass trucks are actually carrying and the costs associated with that mass.

This could be achieved by either the installation of “WIMS” (weigh-in-motion) technology, which measures the dynamic axle weight of a moving truck, or the use of on-board telematics systems, delivering real-time mass data on the truck’s operations to toll centres.

Do current toll multipliers provide sufficient incentive for the use of more productive vehicles?

RFNSW and our members maintain that the current toll multiplier is excessive with no justification for trucks paying three times more than light vehicles on expensive toll roads.

There are simply no real incentives for trucks to use toll roads, which is why heavy vehicles continue to use community roads, which is not efficient and leads to the overall road system becoming congested and to an increase in road safety issues. There is also an adverse impact on productivity and on local, regional, and State economies, as the road freight transport industry plays such an integral role to keeping the Nation moving, particularly in times of economic uncertainty.

If the heavy vehicle toll multiplier reflected the actual monetary gains to toll operators, then road freight operators would be incentivised to utilise toll roads.

Instead, new toll roads are increasingly applying truck bans on alternative routes, such as in NSW. That these are considered necessary, demonstrates that the multiplier is not reflective of its economic value. This funnels substantial profits to private toll operators, but this wealth is not distributed evenly across the economy and the road freight industry are the ‘sacrificial lambs’.

Heavy vehicle tolls are not a simple application of user pays – trucking operators are overpaying and are increasingly forced to use the asset as a result of regulation which instead of being in the public

interest, as it should be, overwhelmingly favours, and lines the pockets of, major multinational companies with very little real overall value for Australian road users.

While the lack of transparency around toll pricing is a major concern to the road freight industry, increases in heavy-vehicle toll prices hit smaller-scale trucking operators the hardest as they are feeling the brunt of it on a daily basis.

As noted, for these operators, they may look to minimise toll use by seeking an alternate route. This can push more trucks onto local community roads, with already heavy commuter traffic. While extra fuel is spent on these less direct routes, they can still be the more economical option for some truck operators.

If the heavy vehicle toll multiplier reflected the actual monetary gains to operators (as measured objectively), then operators would have an incentive to utilise the tolled roads.

Are there sufficient incentives/requirements for heavy vehicles to use the motorways rather than the non-motorway network, e.g. for safer, more sustainable and productive outcomes?

Is there scope to improve road use efficiency by modifying non-toll restrictions on the use of trucks?

RFNSW has long-argued that truck operators must be incentivised to use expensive toll roads.

As a first-step, the NSW Government should reduce registration costs for trucks, in line with the registration reduction for caravans and light vehicles.

The Government should consider the use of differential tolling and a range of other tolling options for heavy vehicles.

Differential tolling aims to ensure costs and benefits of toll roads are better aligned. Charging options like time-of-day or variable rate tolls, like the *Oregon* model, charges per day (rather than per trip), or multiple trip passes can be considered as ways to ease congestion both by encouraging vehicles off congested roads and offering incentives to smooth out demand across the day.

Off-peak discount tolling for trucking companies, and “last mile” delivery, to incentivise trucking companies and others to perform work after peak times would work well and lead to safer roads because trucks and deliveries are not on the roads during light vehicle commute times.

The NSW tolling system should also provide benefits to transportation companies that invest in efficient equipment and environmental solutions. For example, an operator who has a *Euro 6* or similar truck would receive a discount on their toll and be able to reap the benefit on making this considerable truck purchase and investment. This pertains to the latest standards introduced by the European Union (EU) to regulate the level of pollutants released from the tail-pipes of vehicle engines. *Euro 6* aims to reduce the levels of harmful emissions including nitrogen oxide (NO_x), carbon monoxide and particulate matter from diesel engines.

In Germany, where approximately 3 billion metric tons (or 6 trillion pounds) of freight travels across the country's roads each year, because the highway system plays such an integral part in the movement of goods (both within Germany and to other parts of the EU), issues such as congestion, pollution and general road deterioration are major concerns. The tolling system provides benefits to transportation companies that invest in efficient equipment and solutions.

In the Netherlands, the toll levied will depend on a truck's environmental features: the cleaner the truck, the lower the toll. In addition, the more kilometres driven by a truck, the higher the toll to be paid. This may encourage the sector to opt for cleaner trucks and more efficient logistics.

One recent innovation from the EU is to implement CO₂-based toll charges for trucks.

Trucks that have lower emissions will pay lower tolls in the EU as an incentive for reducing CO₂ emissions and air pollution.

Zero emission trucks should get at least a 50% discount on charges but the cut can be as high as 100% phased in over the next few years.

Countries can even give discounts of up to 100% for zero emission lorries, as is already the case in Germany, or discounts of between 50% and 75%, as is already the case in Austria.

The aim of these initiatives is to address greenhouse gas emissions and other environmental impacts, congestion and road infrastructure financing.

Heavy vehicle operators should not be paying for road network improvements through increases in tolls without experiencing the promised efficiencies themselves.

The principle of equity must be applied to this complex public policy problem. All sensible options must be considered to seek equity for all stakeholders, including smart ways of increasing transport efficiency without compromising road freight transport companies, the combination of new technologies in the transport sector, co-operative trading platforms, new trends in a shared economy, and proper, fair and reasonable regulation by an industry specific independent umpire.

RFNSW KEY RECOMMENDATIONS:

- A 'per km', distance-based tolling system;
- Off-peak tolling to incentivise trucks onto toll roads in off-peak times, easing congestion during peak traffic periods delivering safer outcomes and also assisting in driving a 24/7 Sydney economy;
- Consideration of other tolling options, including:
 - time-of-day discounting;
 - charges per day (rather than per trip);
 - multiple trip passes.
- Tolls levied on a truck's environmental features: the cleaner the truck, the lower the toll.
- The introduction of a regulatory framework to provide constraints on toll operators using heavy vehicle tolls as a revenue raising mechanism, above and beyond the level required for cost recovery;
- The tolling system should provide benefits to transportation companies that invest in efficient equipment and solutions.
- Incentivise trucking companies on to toll roads by way of registration relief or a Cash-Back scheme.
- Installation of Toll Price Signage (TPS). This would provide pertinent information to truckies prior to making a decision as to whether to use a toll or public road. The TPS would include current or real time saving and cost. In this way, truckies can make a decision about the value of using that particular toll road. This would work well for the community at large, not just trucking operators.
- An independent pricing regulator to oversee tolling to ensure fairness and transparency.



Australian College of Road Safety

ACRS Submission – NSW Tolling Review



About the Australasian College of Road Safety

The Australasian College of Road Safety was established in 1988 and is the region's peak organisation for road safety professionals and members of the public who are focused on saving lives and serious injuries on our roads.

The College Patron is His Excellency General the Honourable David John Hurley AC DSC (Retd), Governor-General of the Commonwealth of Australia.

To:

Professor Allan Fels AO and Dr David Cousins AM
Independent Toll Review
Treasury, NSW

For further information please contact:

Prof Ann Williamson: President, Australasian College of Road Safety

Dr Ingrid Johnston: Chief Executive Officer, Australasian College of Road Safety

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28 July 2023

Introduction

The Australasian College of Road Safety (ACRS) is the region's peak membership association for road safety with a vision of eliminating death and serious injury on the road. Our members include experts from all areas of road safety including policy makers, health and transport professionals, academics, community organisations, researchers, federal, state and local government agencies, private companies and members of the public. The purpose of the College is to support our members in their efforts to eliminate serious road trauma through knowledge sharing, professional development, networking and advocacy. Our objectives include the promotion of road safety as a critical organisational objective within government, business and the community; the promotion and advocacy of policies and practices that support harm elimination; the improvement of relative safety outcomes for vulnerable demographic and user groups within the community; the promotion of post-crash policies and practices; and the promotion of a collegiate climate amongst all those with responsibilities for and working in road safety.

The College believes that we should prevent all fatal and serious injuries on our roads; the road traffic system must be made safe for all road users; system designers should aim to prevent human error and mitigate its consequences; life and health are not exchangeable for other benefits in society; and that all College policy positions must be evidence based.

In this submission, ACRS explain how:

- Road commuters (light and heavy vehicles) should be encouraged to use roads designed for the *movement* of people and goods, and away from *places* such as suburban streets where local residents go about their daily lives.
- There are alternatives to toll roads to support safe travel - a system-wide approach is needed to ensure viable public transport and active transport options (sustainable development goals)
- Toll roads (motorways and tunnels) and alternative (free) routes should be assessed and given a star-rating based on the level of safety built into the road. This is to help people and organisations prioritise safety.

ACRS response to the Terms of Reference

Toll roads provide motorway conditions, the promise of reduced wear and tear on vehicles, and a safer journey due to a range of factors such as the elimination of cross traffic crashes associated with traffic light-controlled intersections, variable speed controls, incident response times, maintenance and operations of these roads. An unpublished report (funded by Transurban) by the Monash University Accident Research Centre found that the incidence of fatality and serious injury crashes on Transurban operated roads (toll roads) throughout Victoria, Queensland and New South Wales, was half that occurring on similar roads.(1)

Drivers who avoid toll roads are, sometimes through necessity, required to prioritise cost over safety. That is, toll road charges can act as a safety disincentive and can exacerbate financial disadvantage.

The Terms of Reference for this review discusses how “current arrangements do not reflect a system-wide approach Road Tolling”.(2) The ACRS believes that the “system” is not just about roads and private vehicles but includes all modes of transport that can support mobility, in public transport and active transport. This is evidenced through the United Nations Sustainable Development Goals and the Second Decade of Action for Road Safety, which inexorably links road safety and sustainable mobility:

Road safety requires addressing broader issues of equitable access to mobility and that the promotion of sustainable modes of transport, in particular safe public transport and safe walking and cycling, is a key element of road safety.

UN General Assembly Resolution – Second Decade of Action for Road Safety(3)

Movement and Place

Movement and place is a framework which recognises that the planning, design and management of streets and roadways on the transport network needs to maximise benefits for the people and places they serve.

The Movement and Place approach recognises roads and streets serve dual functions as essential corridors for moving people and goods, and important public spaces where life unfolds...Motorways and movement corridors provide for fast movement with little or no ‘place’ function, whereas in vibrant streets, local streets, and places for people...the emphasis is on slow movement, and place is the primary consideration.

Speed management through the Movement and Place Approach, Fact Sheet
National Road Safety Strategy 2021-2030(4)

Toll roads and motorways are designed for the *movement* of people and goods and have a higher speed limit.

Alternatives to toll roads are more likely to be *places*. These places feature suburban strip-shopping centres, 40km/h school zones, multiple sets of traffic lights, residential areas, aged care homes, early learning centres, places of worship, parks, playgrounds, sporting fields, licensed premises, and other local community facilities. Speed management principles need to reflect that they are not the sole domain of passing commuters, be they in heavy or light vehicles.

As such, encouraging light and heavy vehicles onto toll roads whose travel purpose is around *movement* has the potential to achieve sustainable development goals, reduce road trauma and improve safety, air quality, and amenity in suburban streets affected by toll-avoiders.

Alternative travel to toll roads

The issue of toll roads is not confined to those who elect to pay the toll and those who do not. Both the toll road/motorway and alternative (free) routes form part of a broader transport network. Of most concern is these alternative routes may be *places*, which should be aiming to prioritise people and amenities over large volumes of vehicle movements. By moving drivers away from toll roads, the impact is they use potentially poorer quality, highly congested alternative *place* routes, which may increase crash risk.

The ACRS believes that to combat this problem, one key driver must be to support greater use of the public transport system. According to current public transport ridership data,(5) capacity exists within the public transport system, to divert toll road users onto public transport through discounts or other incentives.

Whilst ridership has increased in the past 12 months, a comparison of April 2023 to April 2019 shows passenger figures are significantly lower now than before COVID-19.

Monthly Trips by Operator - Comparison between April 2023 and April 2019

	Select month	Base month	Difference	Difference %
NSW Trainlink (Intercity)	2,041,582	3,333,602	-1,292,020	-38.8%
Sydney Trains	19,275,247	26,769,856	-7,494,609	-28.0%
Grand Total	21,316,829	30,103,458	-8,786,629	-29.2%

Open-source data

Key points:

- Monthly trips in 2023 are still 29% below pre-COVID levels.
- On rail lines roughly adjacent to tolled motorways, monthly trips in April 2023 (compared to April 2019) are:
 - 33% lower on the Western line (Adjacent toll road - M4 motorway)
 - 32% lower on the South and Airport lines (Adjacent toll road - M5/M8)
 - 40% lower on the Central Coast and Newcastle lines (M1 and Pacific Hwy or adjacent toll road - Northconnex/M2)

With regard to trains, despite new housing developments approved and/or under construction in areas such as Appin, Menangle and Wilton, ACRS is unaware of any plans by the government to extend the Sydney electric train network beyond Macarthur railway station, which opened some 40 years ago.

Without viable public transport alternatives, the use of multiple private motor vehicles will be the sole option for new households in these areas. Safe and sustainable mobility, including active transport, must be a core feature of new housing developments and a 'system-wide approach'.

Prioritising Safety

Motorists, be they car owners, motorcyclists, or the operators of commercial fleets, need the help of government, road authorities, motorway operators, and insurers, to be better informed about safe route selection.

ACRS advocates for the publication of infrastructure safety star ratings, to promote better community understanding of safety issues (including speed management) and advocate for more safety infrastructure investment.(6)

Star Ratings are an objective measure of the level of safety which is 'built-in' to the road through more than 50 road attributes that influence risk for vehicle occupants, motorcyclists, bicyclists, and pedestrians.(7) Tolled roads should be assessed for their star ratings and the results published.

In addition to assessing the safety of toll roads, the safety star rating should also be ascertained, and published, for such alternative/free routes. This would help motorists to prioritise safety.

Further Reading

The 2021 ACRS submission to the NSW Legislative Council Tolling Review contains further discussion on many of the points contained in this paper. It can be found at: <https://acrs.org.au/wp-content/uploads/ACRS-NSW-Submission-2021-Tolling-Review-final.pdf>.

Conclusion and recommendations

The ACRS appreciates the opportunity to make this submission and contribute to a improving road safety. We are particularly keen to highlight:

- Road commuters (light and heavy vehicles) should be encouraged to use roads designed for the *movement* of people and goods, and away from *places* such as suburban streets where local residents go about their daily lives.
- There are alternatives to toll roads to support safe travel - a system-wide approach is needed to ensure viable public transport and active transport options (sustainable development goals)
- Toll roads (motorways and tunnels) and alternative (free) routes should be assessed and given a star-rating based on the level of safety built into the road. This is to help people and organisations prioritise safety.

Please do not hesitate to contact us should you need any further information.



Dr Prasannah Prabhakaran
NSW Chapter Chair
Australasian College of Road Safety



Dr Ingrid Johnston
Chief Executive Officer
Australasian College of Road Safety

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Roads Australia



28 July 2023

Professor Allan Fels AO
Independent Chair
NSW Tolls Review 2023

(submitted via <https://www.nsw.gov.au/have-your-say/toll-review>)

NSW Tolls Review

Thank you for this opportunity to make a submission to the 2023 NSW Tolls Review.

Roads Australia combines both public and private sector technical views

Roads Australia (RA) is Australia's peak body for roads within an integrated transport system. We bring industry, government and communities together to lead the evolution of Australia's roads, integrated transport and mobility networks.

RA's 140+ members include all of Australia's road agencies, major contractors and consultants, service providers and other relevant industry groups. RA strives to achieve a robust integrated transport system that values and invests in all land transport modes, including roads, vehicles, freight, public transport, rail, cycling and walking.

RA upholds the principles of a safe, inclusive, sustainable, economic and socially valuable transport industry for all Australians.

Toll roads, under a PPP with the private sector, have demonstrated to be an important instrument for governments to meet community needs

Roads are a vital part of our communities and a significant enabler of economic activity in Australia. RA has commissioned independent research to quantify the value of road infrastructure investment. The [2021 Value of Roads report](#) found that activity associated with the roads industry contributes \$236 billion per year of value to the economy and supports almost 1.4 million jobs.

Public-private partnerships (PPPs) have brought forward the development of projects that otherwise would have to wait years if relying only on standard funding sources. KPMG, in its [2021 Economic Contribution of Sydney's toll roads](#), found that Sydney's motorway network is estimated to contribute \$5.6 billion of economic benefits for road users on average every year for 30 years. KPMG's modelling suggested that benefits from private car users generates \$10 in economic benefits every trip and \$35 in benefits for each trip taken by business and freight users.

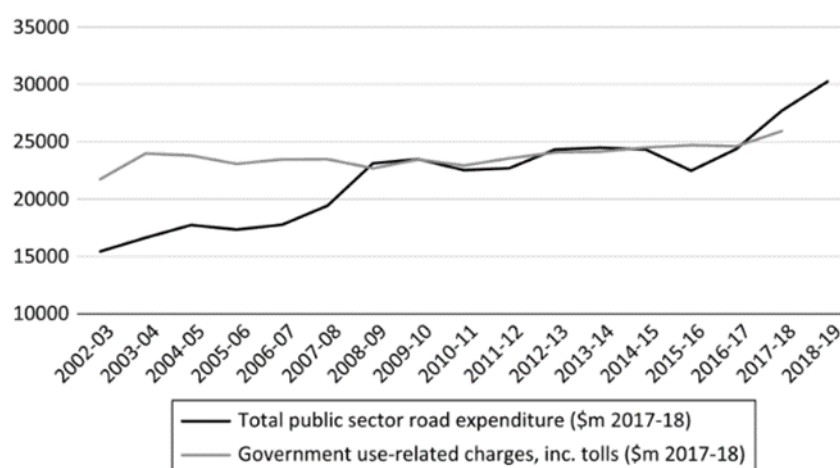
Tolling technology providers are also at the forefront of the use of Co-operative and Intelligent Transport Systems (C-ITS) being investigated and implemented in Australia. The [Australian Integrated Multimodal Ecosystem](#) (AIMES), based at the University of Melbourne, are working with these tolling technology providers to test transport technology that will deliver safer, cleaner and more sustainable urban transport outcomes.



One current use that has developed from tolling operations is the increased use of advanced computing linked to cameras to deliver safer, more efficient road journeys for all road users. Camera technology is a fundamental part of the payment collection technology for toll road operators. As demonstrated in [this video](#) these advanced camera capabilities can detect in real-time a vehicle’s size, its configuration perspectives (e.g., number of axels and trailers) vehicle speed, and in very advanced systems an estimate of the weight of trucks. Cameras and the real time data they can generate are now being used by road managers in Australian and around the globe to deliver safer, more efficient journeys for all road users.

Reductions on traditional road funding sources mean tolls roads will continue to be a key instrument to fund future infrastructure

As indicated in the graph below (taken from the [Handbook for Transport Pricing and Financing](#)) road-related revenues (including fuel excise) have exceeded the expenditure on roads at the local, state and federal levels. This trend is likely to continue in the future, particularly as new vehicle technologies (such as hybrid and electric) will continue to reduce revenues from fuel excise.



Note: *Revenue is only available to 2017–2018.
Source: Data is from various tables in www.bitre.gov.au/sites/default/files/documents/BITRE_2019_YEARBOOK.pdf.

Moreover, road projects in most Australian cities are increasingly more complex and, therefore, more expensive.

More funding sources will be needed in the future to address decreased revenue from traditional sources and more expensive projects. Toll roads, which are funding sources that link road development with road usage, become more important than ever, not only because they provide an alternative to traditional government funding sources, but because they help users to link the investment required for building a road with the cost of using it.

Conclusion

Toll roads in NSW have delivered benefits such as the accelerated delivery of new assets and the introduction of new technology that can deliver safer and more efficient roads. The recent completion of new projects, alongside high inflation and other economic issues, have highlighted cost of living pressures being faced by NSW families and businesses.

This review is a timely look at both the short term relief measures to manage immediate concerns as well as longer term considerations that can ensure fair, efficient and transparent tolling on the NSW motorway network in the future.

Should you wish to discuss this further, I can be contacted on 0418 986 206 or ehssan@roads.org.au.

Yours sincerely,

A handwritten signature in black ink, consisting of a stylized first name followed by a surname and a period.

Ehssan Veiszadeh
Chief Executive Officer

NSW Council of Social Service

Submission to the Toll Review 2023

NSW Council of Social Service

1 August 2023

About NCOSS

The NSW Council of Social Service (NCOSS) is the peak body for the social service sector in NSW. With over 400 members and a wider network of approximately 4,000 non-government organisations, government and other entities and individuals who share our values, we work towards the elimination of poverty and disadvantage in NSW.

When rates of poverty and inequality are low, everyone in NSW benefits. With almost 90 years of knowledge and experience informing our vision, NCOSS is uniquely placed to bring together civil society to work with government and business to ensure communities in NSW are strong for everyone.

As the peak body for the social service sector in NSW, we support the sector to deliver innovative services that grow and develop as needs and circumstances evolve.

Acknowledgement of Country

NCOSS respectfully acknowledges the sovereign Custodians of Gadigal Country and pay our respects to Elders, past, present and emerging. We acknowledge the rich cultures, customs and continued survival of First Nations peoples on Gadigal Country, and on the many diverse First Nations lands and waters across NSW.

We acknowledge the spirit of the Uluru Statement from the Heart and accept the invitation to walk with First Nations peoples in a movement of the Australian people for a better future.

Published August 2023.

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1. Approach to this Review

The Toll Review Terms of Reference outlines the scope of this Review:

The Review will examine the basis for setting motorway tolls in Sydney and the impact of toll relief measures. Specifically, the Review will consider the appropriate structure and level of tolls for the future having regard to their efficiency, fairness, simplicity and transparency, the historical concession agreements with providers, and the interface with all modes of transport.

It will take into account the extent to which tolls should reflect the capital and operating costs of road provision, the impact different users have on road sustainability, and the use of roads throughout the day.

Toll relief measures help to ensure the affordability of tolls for motorists. The Review will consider the appropriate targeting of relief, fairness for the whole community in funding relief, and how to ensure the community rather than toll road owners benefit from toll relief measures.

Tolls need to be readily understandable, simple to pay by motorists and administratively efficient to collect. The Review will consider the scope for competition and regulation to influence road tolls and the efficiency of service performance by providers

As the peak body for the community service sector and a strong advocate on the eradication of poverty and disadvantage in NSW, NCOSS's focus in this submission is how poverty and economic disadvantage should be considered in the setting of tolls and the design of relief measures.

2. Economic Disadvantage in NSW

Two recent research projects from NCOSS are particularly relevant to this Review.

1. Mapping Economic Disadvantage in NSW – 2023¹

This research, undertaken with University of Canberra's National Centre for Social and Economic Modelling, shows the grim reality of poverty in NSW. Its findings included:

- **The number of people in poverty in NSW is growing.** While the overall rate of poverty remains reasonably stable since 2016, population growth means that there are almost 1 million people living below the poverty line².
- **Poverty is highly concentrated in Sydney's Western and South-Western suburbs, with comparatively far lower rates in the city's east.** The 'poverty gap' between the highest rate in Sydney (*Ashcroft – Busby – Miller*) and the lowest rate in Sydney (*Greenwich – Riverview*) is

¹ <https://www.ncoss.org.au/policy-advocacy/policy-research-publications/mapping-economic-disadvantage-in-nsw/>. This research was undertaken with the University of Canberra's National Centre for Social and Economic Modelling (NATSEM) based on 2021 Census and ABS data. The small area estimates of poverty rates were calculated using NATSEM's spatial microsimulation model and produced for SA2s in Greater Sydney and the rest of the NSW.

² Defined as 50% of median income, removing housing costs and adjusting for size and composition of household

significant, at 29.2 percentage points. This gap has intensified given the markedly different fortunes of Sydney’s suburbs since 2016 – while poverty rates improved in Eastern Sydney, the Lower North Shore and Northern Beaches, there was a deepening of poverty to the west and south-west. In the five years since the 2016 census, rates of economic disadvantage have deepened in suburbs such as *Smithfield – Wetherill Park* and *Colyton - Oxley Park* by around 33%. *Regents Park* has seen poverty rise by a massive 53%. In contrast, areas such *Mosman - North*, *Bondi Junction - Waverly* and *Coogee - Clovelly*, which were already better off, have seen economic disadvantage decrease by between 22% and 44%.

- **Poverty rates for private renters in Greater Sydney are intensifying.** In Greater Sydney, the private rental market has the largest number of people experiencing poverty of all housing tenures – at over 275,000. The rate of poverty faced by this group increased by 10% since 2016 to 19.4%, with significant intensification in suburbs of the South West and Inner South West
- **More than a quarter of people living in poverty have a job and are the ‘working poor’.** The analysis shows that the rate of poverty is much higher for part-time workers than for full-time workers, and that across NSW they have experienced an average increase in poverty of 48.6% since 2016 – whereas for full-time workers there has been a decrease³.
- **Certain communities are at far greater risk of living in a low-income household⁴:**
 - o Aboriginal and Torres Strait Islander people are twice as likely as non-Indigenous people to live in a low-income household
 - o People belonging to culturally and linguistically diverse communities are 2.2 times as likely to live in a low-income household; in Greater Sydney, this increases to 2.6 times as likely
 - o People with a disability are 2.7 times as likely to live in a low-income household.

2. Cost of Living in NSW 2022 – Tough Times, Tough Choices⁵

This research, undertaken for NCOSS in 2022 by the Institute of Public Policy and Governance at the University of Technology, engaged 1,025 NSW residents through an online survey (and 22 of those respondents through additional focus groups and interviews), to explore experiences across a range of cost-of-living issues such as housing, employment, income, and financial hardship. Respondents were drawn from low-income households or living below the poverty line⁶.

³ The Census categorisation of full-time and part-time employment includes casual employment arrangements, dependent on the number of hours per week

⁴ Estimating poverty rates for these groups by geographic area cannot be done using spatial microsimulation due to data limitations. To overcome these limitations, the research employed a modified methodology using the Census low-income category to calculate these rates.

⁵ <https://www.ncoss.org.au/policy-advocacy/policy-research-publications/tough-times-hard-choices-struggling-households-and-the-rising-cost-of-living-in-nsw/>. This research was prepared by the Institute for Public Policy and Governance at the University of Technology Sydney, in March and April of 2022; it is an annual report that involved stratified random sampling to engage a statistically representative sample.

⁶ *People living below the poverty line* – defined as households with income of up to 50% below median NSW household income, excluding housing costs; *Low-income households* – defined as households with greater than 50% but less than 80% of median NSW household income, excluding housing costs.

The research showed that most respondents used cars as their main mode of transport (72%), and that just under half reported ‘transport costs’ as a ‘top 5’ weekly expenditure (following food, housing, utilities and telecommunications).

Respondents also reported their average weekly spend on road tolls. The below chart shows the results, broken down by SA4 regions in Greater Sydney, including those that spent \$0 (i.e. they did not spend money on road tolls).

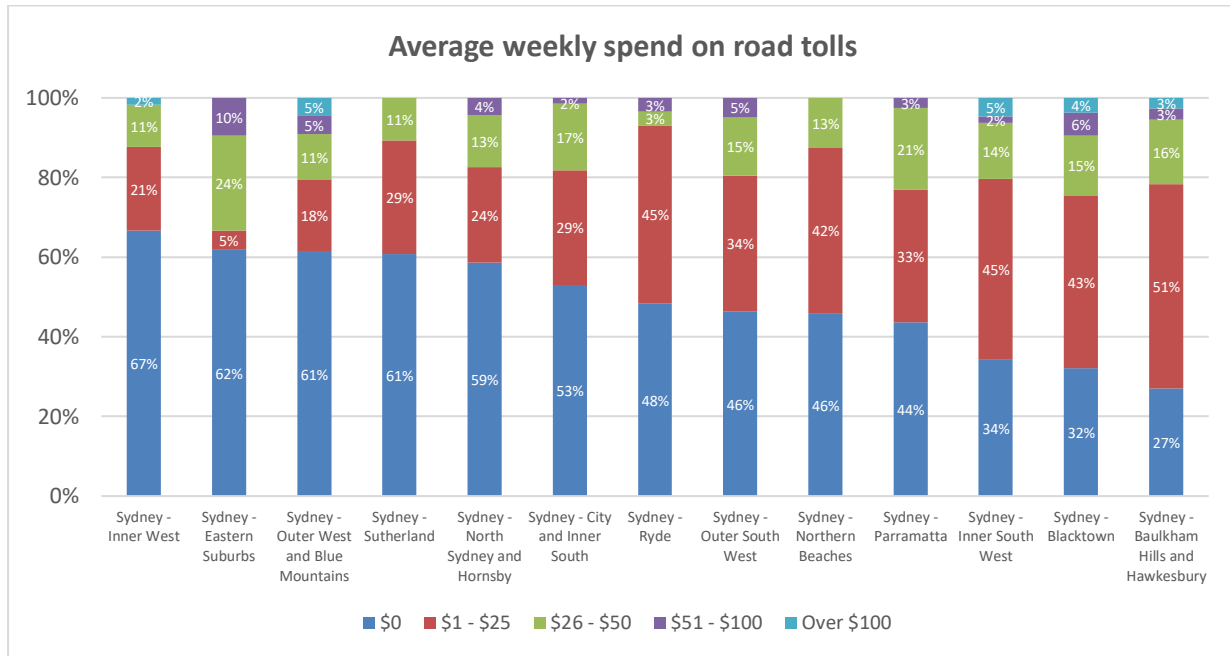


Figure 1: Average weekly spend on road tolls, sourced from *Tough Times, Hard Choices - Struggling households and the rising cost-of-living in NSW (NCOSS and UTS 2022)*; data excludes responses “Don’t know / Not sure”; data presented as percentage of respondents by expenditure category.

The results for these low-income households are vastly different across Greater Sydney. The highest rate is *Sydney – Baulkham Hills and Hawkesbury*, where 73% of respondents reported paying road tolls, with the majority reporting \$1-\$25 each week. The next three highest rates are all found in Sydney’s west and south-west: *Sydney – Blacktown* (68%), *Sydney – Inner South West* (66%) and *Sydney – Parramatta* (56%). In contrast, only 33% of respondents in *Sydney – Inner West* pay any road tolls each week.

This data suggests that where low-income households live influences both:

- a) **whether they pay road tolls at all** (for example, 73% of respondents living in *Sydney – Baulkham Hills and Hawkesbury* spend money on road tolls, compared to 33% in *Sydney – Inner West*), and
- b) **how much they spend on road tolls** (for example, in *Sydney – Eastern Suburbs*, while the total number of respondents that pay road tolls is the second lowest of all SA4 areas in Greater Sydney at 38%, it had the largest proportion of respondents that reported more than \$26 per week at 34%).

3. Potential implications for the Review

Our primary recommendation is that poverty and economic disadvantage should be a consideration in both the setting of tolls and the design of relief schemes.

Drawing on the research outlined above and NCOSS's expertise in poverty, the core reasons for this recommendation are:

- **Poverty is becoming more concentrated and intense in Greater Sydney.** The NSW Government should be considering all options to reverse this and must be mindful of policy decisions that further entrench or exacerbate poverty. This includes both the setting of tolls and the design of relief schemes.
- **People on low incomes can be highly reliant on toll roads, and not always due to choice:**
 - o Many of Greater Sydney's existing toll roads are found in and around areas with high levels of poverty concentration, particularly western and south-west Sydney (e.g. M4, M5 and M7). This increases the likelihood that people living on low incomes will have to utilise toll roads.
 - o With successive interest rate rises and significant increases in rental prices, housing affordability continues to become a bigger problem in NSW. As a result, more low-income households are being forced to move further away from employment centres and ready access to schools, services and other amenities in their quest for affordable housing. This is causing more low-income households to use toll roads to travel for work, education and other essential reasons such as access to healthcare.
 - o People on low incomes who work multiple jobs, including casual and shift-work, can be more reliant on car transport due to a lack of public transport options (e.g. travelling late at night) or simply the need to quickly travel between jobs that are dispersed and not located in employment centres (which the public transport system is not generally designed to facilitate).
 - o Many of NSW's key workers are in female-dominated industries (such as nursing, teaching and social services) that are not as well paid as male-dominated industries. There is a risk that these workers who are struggling with rising housing costs and other price increases (including transport costs) will relocate to other jurisdictions where cost-of-living impacts are considered to be not as excessive. The health of our community and our economy rely on these workforces, and excessive tolls or inadequate relief schemes puts this at risk, particularly considering the ongoing cost-of-living crises in Australia.

Based on this, the Toll Review might find that:

- The overall toll burden should be assessed and refined considering the geographic concentration of poverty and economic disadvantage in Greater Sydney (e.g. ensuring that those areas with high concentration of economic disadvantage do not face an inequitable share of tolls)
- Low-income households should be given higher levels of toll relief than those with higher incomes, irrespective of where they live and which toll roads they use. The principle of equity is applied to other areas of expenditure, including public transport fares and utility rebates, which ensures that those who need greater support qualify for greater relief; this should also apply to road tolls.
- Toll relief schemes should be designed as accessibly as possible. This includes ensuring that they are easily accessible for people from culturally and linguistically diverse communities, people with low literacy rates and low levels of digital access and literacy.



GoGet Carshare

Executive Summary

GoGet Carshare believes current toll rebates unintentionally create an unfair competitive field between Carshare businesses in the State and also incentivise private car ownership over carsharing. This submission urges the government to level the competitive field by providing all carshare providers toll relief. The submission also outlines the benefits carshare brings to NSW. Additionally, it proposes kilometre and hour based toll fees and invites NSW Treasury and Transport for a consultation regarding this option to share our experiences with implementing and running this form of charge. Finally, the submission supports the introduction of Cordon zones in busy urban areas that are well-connected with public transport or, alternatively, urges reassessing parking levies for carshare.

Figure 1 outlines the benefits of carshare if the government supports this sustainable mode of transport.

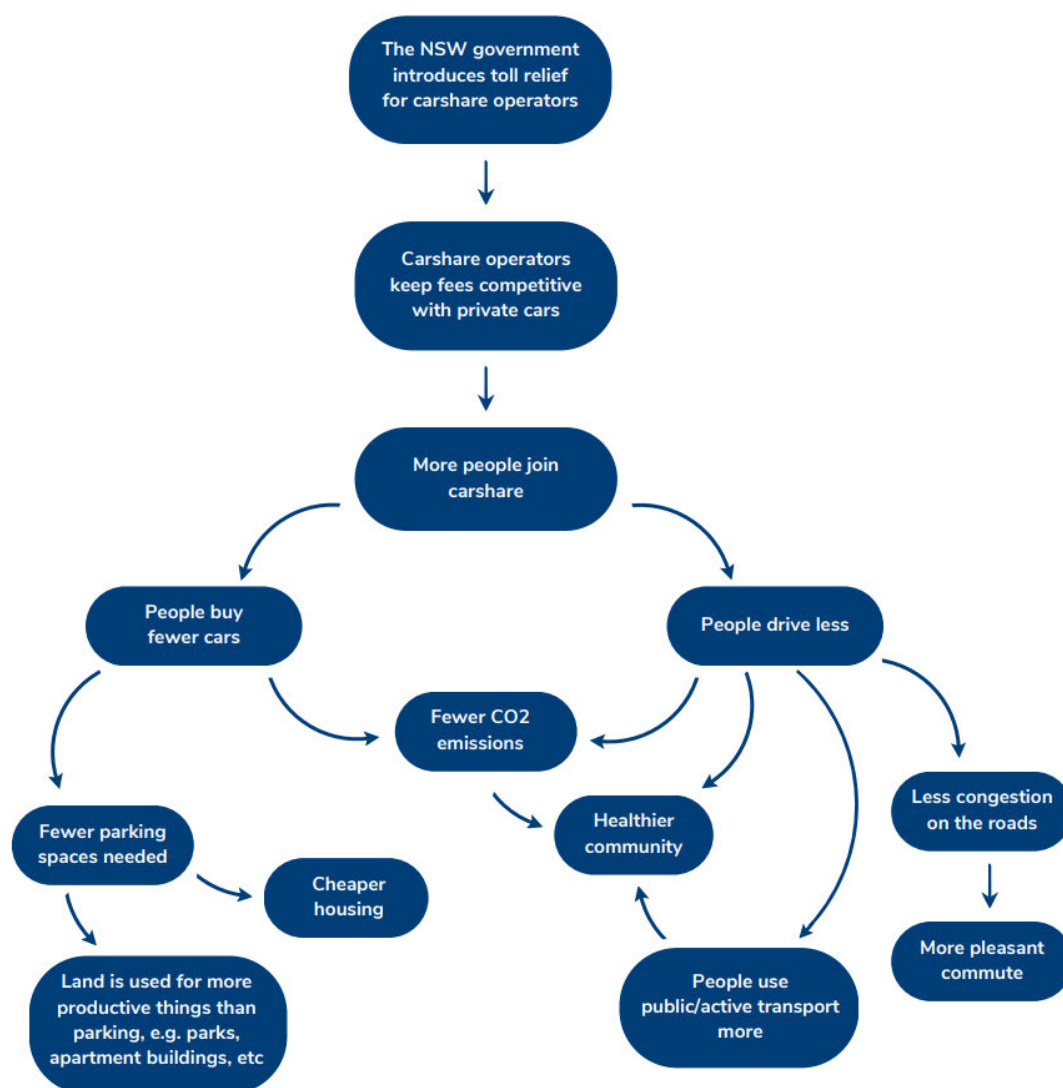


Figure 1. An overview of carshare benefits to the community

Introduction

GoGet Carshare would like to thank the NSW Treasury and Transport for the opportunity to respond to the toll review on behalf of our 145,350+ members living in NSW. In this submission, we would like to voice our support for reform and suggest changes to the current system that will lead to reduced congestion on Sydney's roads.

We believe tolls, or any type of road user charge, are critical to manage traffic and dis-incentivise unnecessary car trips in urban areas. As we are passionate about reducing Sydney's traffic to create a more liveable city, we fully support paid roads.

There should be an equitable treatment of all toll road users and carshare businesses

Current toll relief system creates anticompetitive conditions for different carshare businesses and incentivises private car ownership over carsharing.

GoGet plays a crucial role in helping the NSW government achieve its sustainability, environmental, affordability and city liveability goals. However, currently there is a policy gap that creates an anticompetitive field among carshare businesses and penalises GoGet members in comparison with private car owners. Private vehicle owners are eligible for toll relief, while our members are not. We believe this is unfair, and incentives ownership over a more sustainable shared model. Similarly, peer-to-peer car share operator Uber Carshare is eligible for toll relief because it uses vehicles with private registration, while GoGet, whose vehicles are registered under business name, is not eligible for toll relief. In the end, our members have to bear the cost of tolls, when Uber Carshare users get toll refunds.

Despite escalating fuel prices and other cost factors, we aim to keep our usage fees as low as possible to provide a sustainable and cost-effective alternative to private car ownership. Toll fees are a considerable cost our members bear, and they do not receive the same benefits as car owners (e.g. M5 cashback). This impacts our ability to offer better price points to our customers to incentivize the uptake of shared transport. **We are asking to at least receive the same benefits as peer-to-peer carshare, such as Uber Carshare and private vehicle owners. However, due to the multiple benefits that professional carshare brings to NSW, we believe there should be additional support to incentivise people to use carsharing services.** Toll relief would help carshare organisations who own their fleet, like GoGet, to maintain affordability for customers, which is especially important during the current cost of living crisis.

How GoGet helps NSW achieve its environment and sustainability goals

Carsharing is a membership-based service that provides car access without ownership. Carsharing is mobility-on-demand, where members pay only for the time and distance they drive. Carshare reduces private car ownership, traffic, parking congestion and CO2

emissions while increasing people's use of active and public transport. Economic benefits of carshare include an increase in household expendable incomes as well as a decrease in the cost of housing, by removing the need for parking.

Currently, 145,350+ GoGet members who live in NSW, help to reduce congestion and CO2 emissions on the street by choosing to forgo car ownership.

Contribution of GoGet members to a more sustainable NSW

GoGet members lower their annual Vehicle Kilometres Travelled (VKT) by up to 50% due to the increased awareness about the actual cost of driving ¹. Carshare users have a better understanding of driving costs since they pay for each km and hours of their journey. Because of that, many of our users increase their use of active and public transport (ibid.).

Number of car trips people take per week

N = 2684. Sydney, 2022

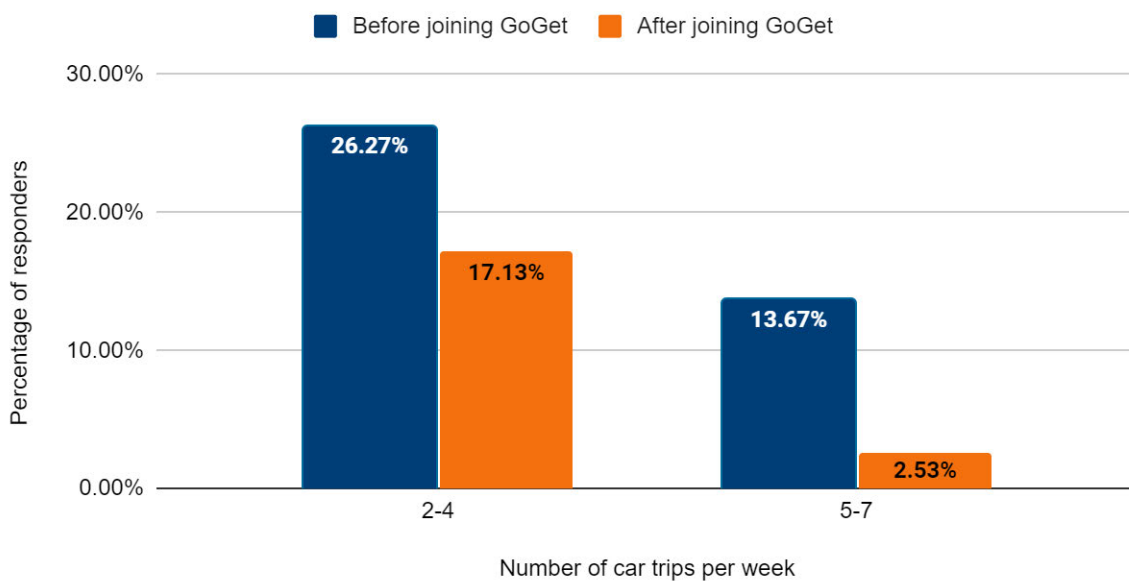


Figure 2. Number of car trips taken weekly in 2022, Sydney

As shown in Figure 2, GoGet members have decreased the weekly number of car trips, reducing their Vehicle Kilometre and, consequently, CO2 emissions. In 2020-2021, GoGet members avoided 45.97 kilo tonnes of CO2 by travelling 174,760 km less.

¹ Boyle, P. (2016). The impact of car share services in Australia. International Car sharing association.



**45,970 tonnes of
CO2 saved**

2020-2021, NSW



**Vehicle kilometres
avoided: 174.76mil km**

2020-2021, NSW

One carshare vehicle replaces 10 privately owned vehicles: this frees up 9 vehicles worth of street space for the local community and reduces CO2 produced during the manufacture and destruction of 9 vehicles².

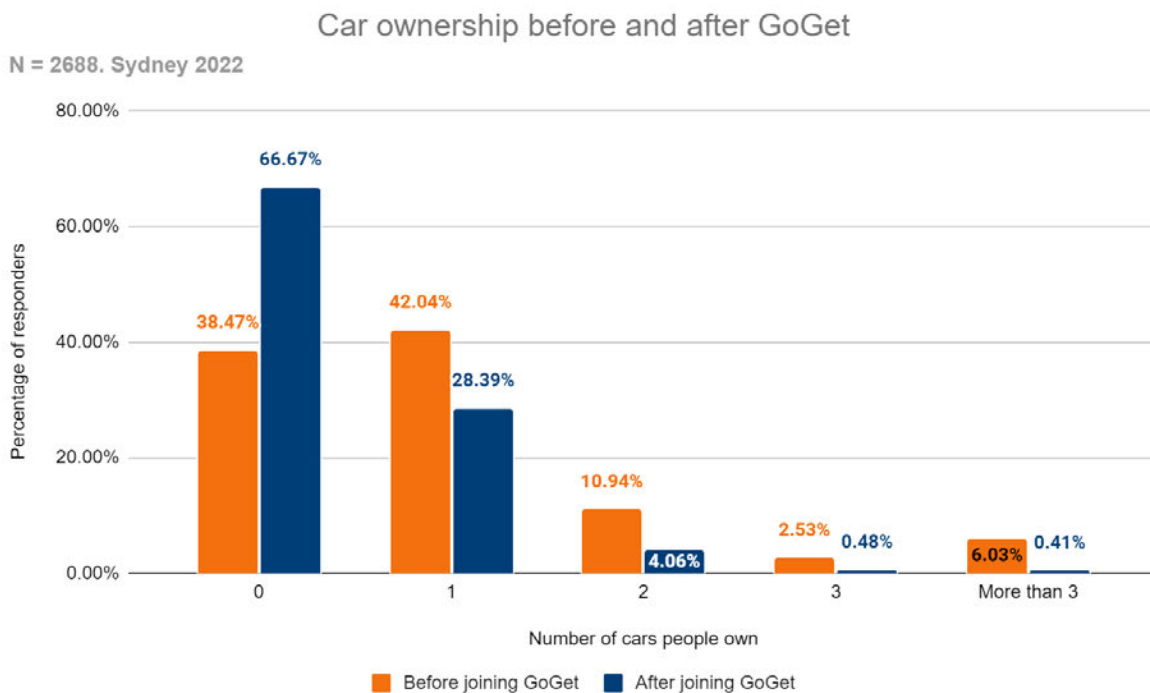


Figure 3. Car Ownership in Sydney, 2022

As seen in Figure 3, our members have significantly decreased their car ownership after joining GoGet. Reduction in car ownership saves a significant amount of space on the streets. In 2020-2021, GoGet members saved 113,570 km of parking space in NSW.

² Boyle, P. (2016). The impact of car share services in Australia. International Car sharing association.



**113,570km saved in
street parking**

2020-2021, NSW



**60 Members
per space**

May 2023, NSW

GoGet vehicles are newer and better maintained than the average private vehicle fleet, making them safer and more environmentally friendly. The average age of a private car in Australia is 10.6 years³, while the average age of the GoGet fleet is 3.75 years. Older cars generally have higher fuel consumption and, hence, higher CO2 emission rates. Conversely, GoGet cars are high environmental performers for their class. GoGet enables more environmentally-friendly and newer vehicles to be accessible to people who otherwise would have to buy older models.

For residents who drive fewer than 13,000 km per year, carshare is cheaper than owning a private car⁴, so it reduces the cost of living for households⁵, which is especially important during the current cost of living crisis. In addition to that, carshare enables more affordable housing, as it decreases the cost of apartments by replacing the need for underground carparks. Each parking space in an apartment building cost at least \$60,000⁶.

The majority of trips in a GoGet include more than one person in the car (Figure 4). This trend highlights the tendency of our members to plan their trips more effectively and consolidate their travel arrangements, which further decreases the number of trips in total.

³ Australian Bureau of Statistics. (2021). Motor Vehicle Census, Australia.

⁴ GoGet. (n.d.). Compare Car share to Car Ownership.

⁵ Boyle, P. (2016). The impact of car share services in Australia. International Car sharing association.

⁶ Jean Taylor, E. (2020). Parking: An International Perspective. Chapter 2: Melbourne Australia.

Number of people in GoGet vehicles per trip

N = 2586. Sydney, 2022

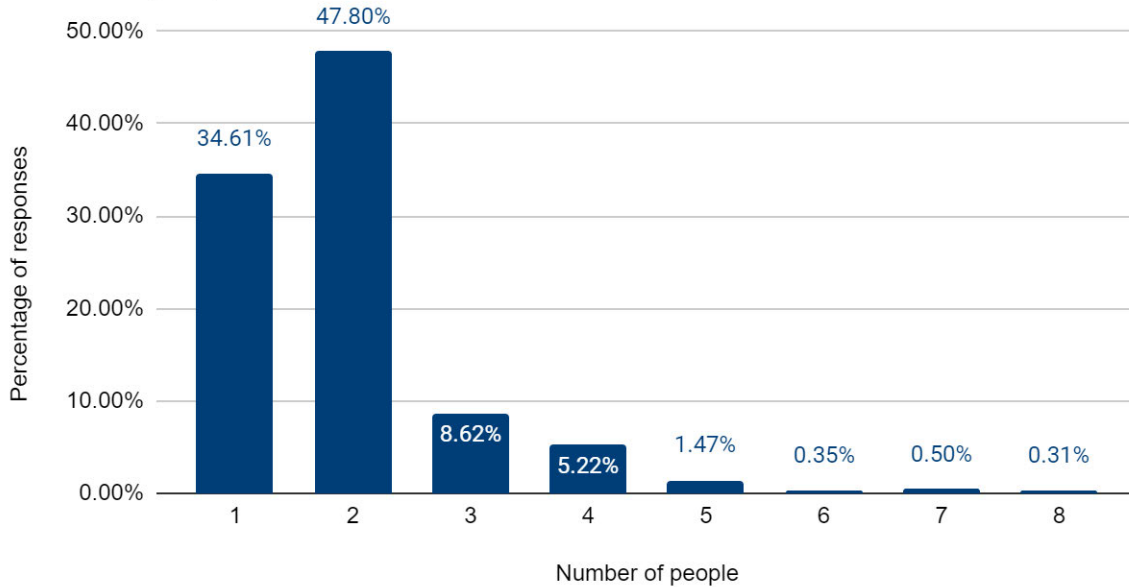


Figure 4. The number of people travelling in GoGet vehicles per trip

NSW strategies, policies and plans that GoGet helps to achieve

GoGet is one of the tools that enables the NSW government to achieve its key policies, plans and strategies, some of which are outlined below.

Future Transport 2056 Strategy⁷

GoGet helps the government to make the Future Transport 2056 Strategy a reality by enabling the guiding principles of “customer focused, successful places, accessible services and sustainability”.

Customer focused: The Strategy suggests that the future of mobility is “customer focused, data enabled and dynamic, allowing the network and services to effectively respond to rapidly evolving customer needs and preferences”. GoGet is a pioneer of such a service in Australia. For the past 20 years, we have been delivering a customer-focused and data driving smart mobility solution and realising Mobility as a Service.

Successful places: GoGet helps remove cars off the road, which is a necessary condition for making public spaces people-friendly and returning space to the community rather than using it for car storage. GoGet also fills the public transportation gaps: instead of taking the car for the whole destination, GoGet provides its members with an option of taking public

⁷ Transport for NSW. (n.d.). Future Transport Strategy 2056.

transport and using carshare in the last mile. This additional type of transport connects spaces together and provides easy access to places.

Accessible services: GoGet is the first carshare provider in Australia with accessible vehicles⁸.

Sustainability: GoGet is an “environmentally, economically and socially sustainable transport” option that adds to the NSW transport system and helps to achieve the switch to a more sustainable transport network.

Climate Change Action Plan 2023-2026⁹

GoGet contributes to the “Action Plan Pillar 2: Mitigate”. GoGet helps transform the transportation sector by encouraging people to share transportation and take more public and active transport. In addition to that, one carshare vehicle replaces 10 privately owned cars, saving 9 vehicles worth of street space for the local community and CO2 emissions during the manufacture and destruction of those vehicles¹⁰.

Strategic Plan 2021-2024¹¹

GoGet helps NSW to achieve the key goals of the Strategic Plan, such as reducing waste and mitigating climate change.

GoGet reduces waste and CO2 emissions. Because carshare reduces the number of cars in the community, GoGet saves the CO2 emissions and waste made during production and destruction of cars. In addition to that, GoGet is a tool that NSW residents can use to mitigate climate change.

Net Zero Plan Stage 1: 2020-2030¹²

Reducing CO2 emissions is the main environmental benefit that carshare brings, meaning that it is a perfect tool for achieving a “a 50% reduction in emissions on 2005 levels by 2030 and to reach net zero emissions by 2050”.

Easing the cost of living and building strong regions¹³

GoGet provides an affordable mobility option for people who might not be able to get access to private vehicles. By incentivising carshare, the government supports an affordable and sustainable transport option. Additionally, carshare enables more affordable housing by replacing the need for underground car parks. Each parking space in an apartment building cost at least \$60,000¹⁴.

⁸ GoGet. (n.d.) Australia's First Wheelchair Accessible Carshare vehicle.

⁹ Environment Protection Authority. (2023). Climate Change Action Plan 2023-2026

¹⁰ Boyle, P. (2016). The impact of car share services in Australia. International Car sharing association.

¹¹ Environment Protection Authority. (n.d.). Strategic Plan 2021-2024

¹² Environment Protection Authority. (n.d.). Net Zero Plan Stage 1: 2020-2030

¹³ NSW Government. (n.d.). Easing the cost of living and building strong regions

¹⁴ Jean Taylor, E. (2020). Parking: An International Perspective. Chapter 2: Melbourne Australia.

New Focus on placemaking. Reimagining the experience of the CBD¹⁵

Greater Cities Commission is focused on transforming the city to a “a vibrant, surprising centre of culture and life” by creating more pedestrian areas and reducing the number of cars in the city. Carshare facilitates the reduction in car numbers, decreasing car-dependency and eliminating parking pressure. Carshare is a tool to use to achieve the new, pedestrian-friendly CBD.

GoGet supports introducing road user charging for everyone

As we have seen with GoGet, charging people on a kilometre basis is more effective than having a fixed access charge. Carshare time and km based fees are shown to make our members more aware of the actual price of driving and, thus, encourage them to drive less¹⁶. Importantly, these costs are invoiced on a per trip basis, giving users visibility of their true transport costs, rather than bundled in fuel excise or registration prices.

We believe that a similar behavioural change will happen if the government created tolls based on the distance travelled and make the charge visible on a per trip or per day basis. The current fixed pricing incentivises driving more kilometres during one trip. The same happens with car ownership, when individuals do not consider the length, or number of their trips because they have already paid for it (by buying a car and fuel). In fact, members have told us when they owned a car they would purposely drive it more to justify the sunk ownership costs or to achieve a toll rebate cap.

GoGet invites the Treasury and Transport for NSW to meet to learn more about our experience of implementing per kilometre and hour charges.

To ensure that private car ownership does not become cheaper than carshare, which would have the effect of increasing the number of cars people own, carshare organisations should be exempt, or have a reduced, per kilometre road user charge that may be implemented in the future. Carshare already achieves the goal of reducing Vehicle Kilometre Travelled of our members, as users already pay per km and hours travelled fees.

GoGet supports Cordon and Parking fees

We strongly believe areas that are congested but are well connected by public transport should have a cordon charge. Private car usage should be discouraged in those areas. However, considering that carshare is a sustainable mode of transport, it should have a reduced rate, or be exempt from toll rate in these areas. Exempting carshare while charging private vehicles will incentivise people to use a more sustainable car option to drive in busy

¹⁵ Greater Cities Commission. (n.d.). New focus on placemaking

¹⁶ Boyle, P. (2016). The impact of car share services in Australia. International Car sharing association

urban areas. **This is global best practice as seen in UK¹⁷ and Spain¹⁸ who exempt carshare from congestion fees to achieve their sustainability goals.** Following their example aligns with the broader goals of the NSW government to reduce traffic congestion, promote sustainable mobility, and mitigate the environmental impacts of excessive private car ownership.

If a cordon charge is not implemented, we encourage NSW Treasury and Transport for New South Wales to investigate the opportunity to use the Parking Space Levy as an effective lever to encourage commercial carpark operators and property owners/developers to increase their provision of alternative transportation offerings such as carsharing. **NSW is the only state in Australia that has a parking levy on carshare vehicles, which is impacting the ability for carshare to expand their networks into our very dense and congested CBD areas, and adds a further disincentive cost to carshare users. And this is despite the fact that NSW is the home of carshare in Australia.** Same as with tolls, this levy is unfair for carshare members who choose not to own a car but live in the CBD, as private cars in residential CBD car parks are exempt from the Levy.

Conclusion


On behalf of our 145,350+ NSW members we thank NSW Treasury and Transport for considering our submission. We strongly urge introducing the same toll relief for carshare members as the private car owners, and evening the competitive field by giving the same benefits to all carshare businesses. We invite NSW Treasury and Transport to work closely to create a fair level playing field for carshare and encourage people in NSW to choose a more sustainable transport option. We are always available to meet and discuss further details and share our experience in implementing km and distance based fees.

Kind Regards,

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¹⁷ Enterprise CarClub. N.D. Membership Policies

¹⁸ Steps Relocation. (2019). Everything You Need To Know About Madrid's New Traffic Traffic Restrictions

WalkSydney



24 July 2023

WalkSydney Inc

Prof. Alan Fels AO and Dr David Cousins
NSW Government Independent Toll Review
Submitted Electronically

Dear Professor Fels and Dr Cousins,

WalkSydney submission to NSW Independent Tolling Review

Thank you for the opportunity to provide input into your independent Tolling Review.

WalkSydney is a community group and the peak advocacy group working to make it easier, safer and more pleasant to walk in Sydney. WalkSydney's vision is that "Walking will be convenient, accessible, safe and enjoyable for everyone." WalkSydney is a member of the **Better Streets** coalition, an collection of hundreds of community organisations advocating for better streets in Australia

WalkSydney has four key asks:

- 30 km/hr urban default speed -making it safer for people and children to walk
- Improve signals for pedestrians - reducing waiting time, prioritising people and removing beg buttons
- Modernising road rules to prioritise people walking
- Allocate 20% of TfNSW funding for walking and cycling (Consistent with the Climate Council recommendations)

Our submission is in two parts:

1. Opportunities to improve streets for people
2. Responses to the [Discussion paper - Independent Toll Review June 2023 \("Discussion paper"\)](#)

The UK and Federal governments have adopted a multi-stage process for consultation that requires the intended solution to be consulted on, before implementation (in the UK, the 'Gunning Principles'). We would recommend that another consultation on the proposed solution is held once your recommendations are made public.

We would welcome an opportunity to clarify any issues raised in this submission and look forward to the opportunity to discuss our submission in more detail.

Tegan Mitchell and Marc Lane
Committee Members
WalkSydney
<https://walksydney.org>



Part 1 - Opportunities to Improve Streets for People

● Opportunity to shape Sydney, its cities, local centers and communities

The NSW Government is at a crossroads, with the completion of the bulk of the Motorway network. There is an opportunity. The road network can be managed to support customers whose trips are better suited to the road network, without incentivising a wholesale reduction in the use of the public transport systems and increasing private vehicle dependency. Traditionally the road system has centered around managing traffic, alleviating congestion, increasing speed, providing ample vehicle parking, and accommodating the growing number of cars. Over 100 years we have created a road system with a significant imbalance between the space for people and space for private cars. We are not alone in this - the UN has flagged this implicit bias of ignoring walkers and cyclists and focusing on road space for cars in the UNEF programme 'Share the Road'.

The Terms of Reference state that the review will

- *“Optimise the road network to minimise congestion impacts, maximise the benefits of travel time savings and identify opportunities to reduce overall operating costs” and*
- *“in addition be responsible for negotiating with tolling operators to drive a good deal for motorists.”*
- *“take into account the extent to which tolls should reflect the capital and operating costs of road provision, the impact different users have on road sustainability, and the use of roads throughout the day.”*

These Terms of reference are inconsistent with the current *Future Transport Strategy 2061* particularly **Connecting our Customers' Whole Lives** .. through mulmodal journeys, equitable access, enabling **Successful Places for Communities** through transport infrastructure making a tangible improvement to places, and it does not support **Enabling Economic Activity**, through a transport system being financially sustainable. The review should additionally acknowledge the Movement and Place Framework position that the road systems has two functions, to provide access (supporting places) while also providing the ability to travel, and NSW's Road User Space Allocation Policy which would apply the decongested surface roads but is currently outside the scope of enquiry. Driving a good deal for motorists and minimising congestion must be considered in the context of how they can support the overall transport system (public, private, roads, rail, walking and cycling). Driving a good deal for Motorists must not be at the expense of the rest of the transport system.

WalkSydney understands that the Government may introduce a sustainable (non-car) mode share target into a refresh of the Future Transport Strategy. Even if not, the current Future Transport Strategy highlights the goal of VKT stabilisation. The Independent Tolling Review should be *complementary* to these policy objectives. If the Independent Tolling Review recommendations cause an increase in private vehicle trips it will make it harder for the Government to address the climate emergency, irrespective of motorway road investment sustainability.

Optimising the road network should:

- Create space for people to walk or ride safely on our mul-modal, mixed use surface roads ('main streets'), by shifting vehicles to the motorway network *and* reallocating main street space to people.



- Shift vehicles who have a significant negative impacts on places to the motorway network, including those whose size and mass is incompatible with the local road network eg: commercial and heavy vehicles
- Support some private vehicle use of the motorway network where people have no other options (ie: residents in outer Sydney suburbs with no public transport), including short term cost of living relief

Optimising the road network should not:

- Increase long term dependency on private vehicle travel, and a transition away from rail or Metro use
- Impact city centres and the local centres that lead to them, by flooding them with too many private cars
- Divert or reduce the Government's ability to investment in more sustainable modes of transport

The road network should support more people walking - 50% of all trips are under 2km, perfect to walk or cycle

Most journeys are short and ideally suited to walking and cycling. If the Tolling Review reform shifts vehicles to motorways, then more space should be reallocated on local streets for safe separated cycleways, more crossings and other place-making investments. Without reallocation of road space - the Tolling Review relief package will induce more cars and more trips, and result in long-term transport cost issues for users.

Many trips on motorways may not be economically productive either - journey to work represents only 10 - 14% of all trips made, particularly given the growth in working from home, and many trips could be made more efficiently by public transport.

The Tolling review should recommend the Government deliver promised and conditioned reallocation of space on Parramatta Road and Victoria Road (among others) to other modes in the next 2 years.

Local Communities (and the Government, as quantified benefits in the WestConnex business case) were promised improvements to Parramatta Road and Victoria Road as compensation for the impacts of the Motorway. In the case of Parramatta Road, this remains an undischarged planning condition. None of these improvements have been delivered. The Auditor General identified the cost of Parramatta Road improvements as \$194 million, last year's tolling relief was reported at \$164 million. In addition, these roads are Strategic Cycleway Corridors, the Government should require additional road space reallocation on those roads to cycleways.

Likewise road space reallocation on other roads intended to be decongested by motorways should be delivered as a matter of priority (whether or not these were required by planning condition), including the Princes Highway, Kogarah and King Street Newtown. In the case of the latter two, we understand Transport for NSW's own strategic transport strategies, bus planning teams and local councils all have envisaged this to occur, but no pathway to reallocation has been provided by TfNSW network operations to do so.

Any future motorways must ensure that they deliver, as a minimum, a 'day one' scheme that reallocates road space on the day of opening (with paint and potplants if necessary). A prime candidate is Falcon Street / Military Road between North Sydney and Mosman, should the government pursue the Northern Beaches Link.



- **Tolling affects the whole transport market, and the review should not focus narrowly on concessionaires, nor even the cost to motorists (using motorways or otherwise)**

This review should not just consider competition between toll roads (a 'sellers' market), nor considering the market of 'motorists' or 'toll road users', but to consider all transport customers who currently use roads. Without this review considering public transport costs, and reallocating road space in accordance with the NSW Road User Space Allocation Policy to walking and cycling, it may risk making a decision that appears equitable on its face for toll-road motorists, but negatively impacts other users, or even induces more people to drive. The toll relief must not increase the number of people driving, nor the distance they drive.

We appreciate why you are leading this particular review - however asking whether market power is being abused by *concessionaires* tendering for new tollways in section 4.1 affects how a Government builds future motorways, not whether the current tolling regime is fair for *customers*. To determine if tolls themselves are fair, the market definition in the discussion paper needs to be reworked. Customers do not have a choice between tolled roads unless they happen to go to the same destination. However, the surface network of roads are 'substitutable' in competition terms, drivers can choose free (but more congested) surface roads, or other modes.

Case Study: Lane Cove Tunnel and Epping Road

The cost of the Lane Cove Tunnel is irrelevant to the customers of the Hills M2 motorway. Conversely, Lane Cove Tunnel induces traffic off Epping Road, so one could say the market for motorists is 'parallel arterial roads'. However, Epping Road is also used by buses, cyclists and pedestrians too - and road space was reallocated from cars to those modes when the Lane Cove Tunnel was built, to induce customers to use those modes instead of driving. The investment improved transport choice for all transport customers, not just motorists, and the result was mode shift, not just rerouting - meaning the relevant market definition is 'all road users' in a given corridor.

Additionally, note that competition is not just on cost, it is mode (thus surface congestion as a factor supporting motorways) as well as quality. For short trips, walking (and cycling) can provide a higher quality journey, as well as being better for physical and mental health. It also aligns with a number of strategic policy objectives including decarbonisation of transport - and so investments in roads should always also seek to deliver active transport improvements as well (as the UNEP argues in [this publication](#)) to avoid skewing trips back into cars.

There are other NSW policies to consider. Future Transport has a goal of stabilising Vehicle Kilometres Travelled (VKT), which requires mode shift. Any recommendation on toll reduction should be consistent with that policy, and modelled to ensure that toll relief does not induce people to make more car trips, nor to drive further. NSW Health's Healthy and Active Living Strategy includes Strategic Direction 4 to have public space designed to make walking and cycling easier - "*more footpaths and cycleways ... [and] better links to key destinations*".

This review should not just consider competition between toll road operators or the market of 'motorists' or 'toll road users', but all transport customers and including public transport, not increase VKT, and reallocate road space consistent with the NSW Road User Space Allocation Policy for walking and cycling and NSW Health HEALTH Strategy. Any toll road recommendations should align with existing and emerging policies, ensuring that toll relief



does not lead to an increase in car trips or driving distances. There are examples of a contrasting approach to the use of tolls, bypasses and road space allocation within the existing motorway network - see case study below contrasting two private toll roads and their impacts on local places and the transport system.

Case Study: Comparison of Cross City Tunnel and the Eastern Distributor

The Cross City Tunnel and Eastern Distributor are private sector toll road partnerships, serving as motorway bypasses around the CBD or City.

The Eastern Distributor offers users a choice between a tolled and fast bypass or a free and slow surface road option. The Eastern Distributor's benefits include creating better places along Crown Street and Bourke Street (the former arterial pair that it replaced), slowing vehicles, and providing more walkable and bikeable communities through reducing through traffic, and then delivering surface road space reallocation over time.

The Cross City Tunnel provides users with a choice between a tolled and fast motorway bypass or free and fast CBD surface streets. However vehicles continue to use City streets due both to relatively high tolls and to the lack of change to east-west traffic priority through the CBD, negatively impacting economic productivity as well as noise and air pollution.

The Independent Toll Review should consider reforms that promote better outcomes for places *and* people. Removing or reducing the toll from the CCT may encourage cars to bypass the city, reducing vehicle impacts on the city.

Recommendations:

The Independent Toll Review must:

- Develop a Toll relief solution consistent with Government's Future Transport Strategy, Net Zero and the Movement and Place Framework
- Identify mechanisms that allow improvements for streets and places *as well as* motorway vehicle travel to ensure that strategies like the Strategic Cycleway Corridors for Greater Sydney can be implemented during the proposed 2-year toll relief period.
- Advise the Government to deliver promised benefits to communities by funding Parramatta Road and Victoria Road corridor improvements.
- **Sustainable, affordable and healthy transport**

The tolling review aims to reduce the cost of living for lower socio-economic groups, particularly in western Sydney, by reducing their transport costs. Long-term sustainable solutions are essential, as car-dependent communities are vulnerable to cost of living impacts. RMIT's 'VAMPIRE' index has shown car-dependent communities are most vulnerable to cost of living impacts from transport (and housing) costs - so providing them alternatives to driving is the most sustainable long term solution. The World Bank, too, says investing in non-motorised transport (NMT) "*disproportionately benefits the poor because they rely more heavily on walking and biking to reach their destinations*".



Any subsidies proposed must support all transport modes, not just motorists using toll roads (see Part B, G4 below), and ensure the delivery of road space reallocation for walking and other sustainable modes. The outcome of the review must align with government strategic goals, including decarbonization of transport, economically sustainable transport, mode choice, and health. Walking, in particular, delivers physical and mental health benefits, making it a significant focus for public benefit. The declining trend in walking, among both adults and children in NSW, emphasizes the importance of promoting active transportation. Additionally, as toll relief might incur significant costs, reallocating road space, creating better places for people to walk has the potential to improve public health and can offset tolling expenses for the greater public good.

Part 2 - Answers to select Questions Relevant to the Toll Review

General Questions		WalkSydney Response
A4	For toll reform in New South Wales, what would success look like to you?	Reform should be targeted at the cost of transport (as a subset of the cost of living), and to the extent that reform provides toll relief, induce drivers on surface roads into tunnels so that surface space can be urgently reallocated to walking and other sustainable modes.

Competition and Regulation		WalkSydney Response
C1	How do you think competition could influence road tolls and the efficiency of service performance by providers?	<p>The competitiveness of <i>transportation services</i> generally should be considered. This is not a service performance issue so much as a market failure (to provide alternatives to motorways) that is providing service provider profits.</p> <p>Transport for NSW could be made more competitive with new KPIs based on equitable and cost-effective choices for all customers - such as cheaper bus fares or safer streets for walking, i.e. a better “customer outcome” across all modes, not just for motorists.</p>



Criteria for assessing tolls - efficiency		WalkSydney Response
C1	Should tolls be set on a network basis? What are the pros and cons of doing this rather than setting tolls for individual parts of the motorway network as is now the case?	Yes, road pricing introduces a price signal to encourage alternative modes of travel and discourage unnecessary vehicular travel like short car trips. Any network basis should include the surface network (such as a Low Emissions Zone, Congestion Charging Zone or similar), with a high flagfall (i.e. discourage trips, rather than penalising the longest trips, that more likely need to be made by car). This would encourage people not to drive at all, particularly for short trips that can be walked, rather than merely switching people into tunnels (and into cars from other modes, which is misaligned to Future Transport).
C5	Cordon A CBD zone could potentially improve the local road network in the CBD with less cars, faster travel times, greater use of public transport, and a more pedestrian friendly environment. Do you think a CBD zone or other cordon zone pricing area would be desirable and/or feasible in Sydney? Are there other things that government could do to better achieve the desired outcomes of reducing congestion in particular areas?	A cordon is supported - see C1. This would discourage trips to areas where good alternatives exist. Align the cordon to the areas where the NSW Parking Space Levy is applied to discourage car use (the main cordon would extend from Sydney's CBD to North Sydney, Milsons Point and St Leonards, with separate cordons around Bondi Junction, Chatswood and Parramatta). Giving people incentives to walk, cycle or catch public transport to these cordons, or generally is required as part of comprehensive transport cost reform. Providing a voucher alternative to toll relief, for a public transport pass, or to purchase a bike/eBike.
C7	Should vehicle emissions be considered in setting road tolls?	Yes, a discount could nudge the purchase of Zero Emissions Vehicles. For arbitrage reasons the rate should not be lower than the cost of more efficient and strategically aligned zero emissions modes (e.g. a single trip on a Zero Emissions Bus) nor should it be a toll-waiver or similar high incentive that will erode cycling and walking short trips.
C8	Road User Pricing There is an emerging view that road user pricing will need to be introduced across Australia, to replace the reducing revenue from	EVs already face future road user pricing by 2027 in the form of an odometer tax. This should be extended to all users and toll discounts co-ordinated to avoid the unintended outcome that petrol cars pay less overall. Road User Pricing would remove the perverse incentive for



	<p>a reducing fuel excise tax, due to the increasing uptake of hybrids and fully electric vehicles. What implications, if any, do you see this having on for motorway tolls and how should this Review respond to the issue?</p>	<p>people to continue to use the surface network when a motorway has been constructed that better suits their needs, and enable surface road space to be reallocated to more space for walking and public space, cycling and public transport. The Minister should mandate that TfNSW reallocate surface road space to public transport, walking and cycling as soon as road capacity is freed up (i.e. when the new pricing regime recommended by this review takes effect).</p> <p>Road user pricing and tolling could be co-ordinated to nudge people not to drive for short trips or trips better suited to public transport, and to use motorways rather than surface roads, by:</p> <ul style="list-style-type: none"> - Having a high flagfall (fixed charge) to discourage short trips that could be walked or biked - Having a slightly lower per-kilometre charge for motorways vs surface mixed-mode roads to encourage longer trips off the surface roads - Offering discounts for <u>zero</u> emissions vehicles and other strategically aligned transport modes.
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Heavy Vehicles		WalkSydney Response
D3	<p>Are there sufficient incentives/requirements for heavy vehicles to use the motorways rather than the non-motorway network, eg for safer, more sustainable and productive outcomes?</p>	<p>All toll roads should adopt a similar approach to Northconnex on their respective duplicated surface roads. Even Northconnex still allows trucks on surface road if <12.5m long - a better approach would be to restrict all 'through traffic' trucks to only using the motorway network, unless they have a destination in the intermediate area or are carrying dangerous goods.</p>

Public Transport		WalkSydney Response
E1	<p>What interrelationships can be identified between tolls and public transport?</p>	<p>They are both part of the same transport 'market'. Generally toll roads have made it less competitive to travel by public transport by reducing travel time for cars and</p>



		<p>making no changes on the surface network to improve buses. For example WestConnex’s business case claims as a benefit equivalent bus priority on Parramatta Road since 2013 (Figure 8), but no such priority has been delivered. As a result there is now a >10 minute travel time difference between travel by car and bus.</p> <p>Buses using toll roads, because of the social benefits they provide to all other transport users, should not be tolled.</p>
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Fairness		WalkSydney Response
G1	Is it appropriate that users pay road tolls?	<p>Drivers are among the most subsidised NSW road users. The 2022 budget includes \$20bn (37% of all transport) for drivers vs \$1bn (18.5%) for buses and light rail, and only \$0.6bn (1.2%) for walking and cycling.</p> <p>There is evidence [e.g. this study] that drivers consider most costs of car ownership as ‘sunk costs’ and are more responsive to marginal costs like parking charges and tolls.</p> <p>This means choosing to drive, catch a bus/train, cycle or walk will be based on the marginal cost (toll, bus fare), journey time and quality. A short pleasant walk is preferred (for quality) when marginal costs and the time penalty of searching for parking discourage short car trips.</p> <p>Conversely a long and expensive commute will compare unfavorably with a cheaper and faster drive. At present, a car trip from St Marys to Parramatta costs \$11.11 (cap) in tolls, vs \$6 by bus or train. If the toll was slashed to the Sydney Harbour Bridge/Tunnel rate of \$4 (peak), this would drive people off PT and into cars.</p>
G3	Are road tolls fair for all motorists? Could they be made fairer? If so, how?	<p>Respectfully, the market definition here is wrong - the market is not just “motorists” but all road users. Road tolls for motorists are fair to all users by requiring them to pay for their fair share of road use, just as a public transport fare contributes to that service.</p>



G4	Should the Government provide a subsidy to enable cheaper tolls?	<p>Any subsidy the Government provides should be for transport costs, not just tolls. One model would be the NSW “Active Kids” vouchers which can be used with a number of providers. If this was adopted, it could be used for toll rebates, public transport rebates or cycle purchase.</p> <p>Even this approach would ignore walkers and most cyclists, a common issue with focusing on road space for cars flagged in the UN programme ‘Share the Road’. To address this, the UN recommends a dedicated fund should be set up for non-motorised traffic (NMT) of at least 10% (see Investment in Walking and Cycling Infrastructure). As a minimum, matched funding equivalent to 10% of this subsidy should be allocated to new walking infrastructure, which is currently underfunded (the <i>Get Active</i> funding scheme being oversubscribed every year, for example). Some of this critical infrastructure can only be delivered by the Government and desperately need funding (such as restoring the Glebe Island Bridge).</p>
G7	How can it be ensured that the benefit toll operators receive from increased traffic as a result of toll relief paid by Government is passed back to the community?	<p>By proactively and quickly reallocating road space freed up on surface networks (including Parramatta Road, Victoria Road, Pennant Hills Road and King Street), the Government can ensure that the increased traffic and revenue in the motorways can also benefit public transport, walking and cycling improvements that those motorways claimed as benefits in their business cases but have yet to deliver.</p>

Cement Concrete & Aggregates Australia

28 July 2023

Professor Alan Fels AO
Review Chair
2023 Independent Toll Review
Transport for NSW
PO Box K659
HAYMARKET NSW 1240

Dear Professor Fels AO,

CCAA RESPONSE TO THE INDEPENDENT TOLL REVIEW DISCUSSION PAPER

Thank you for the opportunity to comment on the Independent Toll Review Discussion Paper. We note that the independent oversight of the review of road tolls and relief was a pre-election commitment of the NSW Labor Party if elected at the 2023 NSW Election in March. We also note the review's Terms of Reference, in particular with regards to the structure and level of tolls, their efficiency and impact on the transport network across Greater Sydney.

Cement Concrete & Aggregates Australia (CCAA) is the peak industry body for cement manufacturers, concrete suppliers and extractive operators throughout New South Wales. Collectively known as the heavy construction materials industry, our members are engaged in the quarrying of sand, stone and gravel, the manufacture of cement and the supply of pre-mixed concrete to meet New South Wales's building and construction needs. These businesses range from large global companies to SMEs and family operated businesses. Heavy construction materials are vital to delivering the infrastructure required to support the NSW population, our transition to renewable energy and economic growth.

Background

Tolls have been used in Sydney since the 1800's and have operated on the Sydney Harbour Bridge from its commencement in 1932. The long-term policy position of successive NSW Governments (of both political persuasions) has been the private sector construction of new tollways, financed through long-term concessional arrangements. These concessional arrangements have been agreed to separately, have built up over time and includes a variety of inconsistent pricing structures - either a flat rate, distance-based or a variable time-of-day charge for trucks.

Given the unique nature of our sector and its requirement for the efficient and timely delivery of materials to construction projects, through concrete batching plants, our members are significant users of Sydney's Motorway network and are typically hit with a disproportionate share of tollway revenue, which in turn adds costs to the completion of new infrastructure. Congestion across the Motorway network also reduces its benefit and efficiency and may lead drivers to avoiding tollways and using arterial roads during peak periods.

CCAA has reviewed the summary report and noting the range of options presented, gives in principle support for a more consistent method of pricing that allows our sector to better factor in travel times and pricing more accurately into the costs of new projects.

Options we support

- **Motorway Network or Zonal Pricing Concept** – a model consisting of an access charge, a distance charge and a single, network wide escalation rate. This option, *depending on price settings*, should theoretically assist to lower transportation costs, in particular if a zonal system was adopted.
- **Heavy Vehicle Night Time Discounts** – the adoption of a heavy vehicle night time discount would certainly be welcomed by our industry, not only to reduce congestion and assist with discouraging arterial road usage but also to factor in the timing of works on construction projects to reduce transportation costs. Night Time discounts would be even more effective if planning authorities (local and state) relaxed rules around construction hours so that more infrastructure could be completed in non-peak periods, outside of traditional business hours.

Options we oppose

- **Additional Tolling added to arterial roads without tolls** – we note that the Continuous Motorway Network (CMN) option discusses the possibility of adding new tolling points to arterial roads and the creation of a new CBD zone. We believe that these options are not only politically unpalatable but could also make it more difficult or costly to transport materials to CBD based projects unless construction hours are better aligned with night time or outside of business hours.
- **Truck Multiplier Classification** – CCAA strongly disagrees with the option of a heavy vehicle pricing option (either based on vehicle length or axle configuration) being adopted across the Sydney Motorway Network. This option would simply lead to transport operators carrying more of the tollway revenue collection, particularly as suggested in the summary report, if prices were set at three times the charge of a passenger vehicle. Furthermore, we assert that this option does nothing to promote or deliver the desired equity or efficiency across the Motorway Network that the former Labor Opposition, now Minns Government has suggested and that it will add to the cost of delivering new infrastructure projects across the Greater Sydney Region.

We thank you again for the opportunity to comment on the Independent Toll Review Discussion Paper. While the setting of pricing will always be of critical importance for our members, in principle, CCAA supports a more consistent and equitable approach to the setting of tolls across Sydney's Motorway Network that enables greater flexibility and decision-making to be factored into the costs of construction projects.

I welcome the opportunity to discuss the paper with you in further detail. Accordingly, I can be contacted on 0448 848 848 or email Jason.kuchel@ccaa.com

Yours sincerely,



JASON KUCHEL
State Director, New South Wales & South Australia

Australian Logistics Council

Submission to NSW 2023 Independent Toll Review

July 2023

Introduction

The complexities of tolling regimes demand careful consideration of the interests of all stakeholders, including freight operators, freight owners, consumers, and the broader public. Transparent tolling practices, fair pricing principles, and equitable cost allocation are vital for maintaining a balanced and sustainable freight transport and supply chain system. As Australia's domestic freight task is projected to experience a substantial 26% growth from 2020 to 2050¹, maximising the productivity and efficiency of our freight logistics and supply chain will be essential in meeting the challenges of this surging demand. The reliable delivery of essential goods and services, alleviation of cost-of-living pressures, and enhancement of Australia's overall prosperity all rely on the performance of our supply chain systems.

In this submission, the Australian Logistics Council (ALC) puts forth key recommendations to improve the existing tolling framework and foster an environment conducive to optimising supply chain efficiency and productivity. As the peak national body representing major companies in the freight logistics industry, ALC's policy focus centres on enhancing end-to-end supply chain efficiency and safety. Our recommendations aim to address tolling-related challenges and ensure a well-functioning, inclusive freight and passenger transport network that benefits NSW and given its economic significance, the nation. By working collaboratively and considering the diverse needs of stakeholders, we can pave the way for a more robust, efficient, and competitive freight logistics and supply chain system that meets the evolving demands of Australia's growing economy.

Understanding Freight Transport and Supply Chains

The Australian economy has become increasingly reliant on sophisticated, continent spanning and international supply chain networks. The freight industry serves as the backbone of the economy, facilitating the movement of raw materials, finished products, and essential supplies both within Australia and across the globe.

The supply chain is made up of a highly complex network of interconnected and interdependent parts, with each component playing an essential role in ensuring the smooth and efficient flow of goods and services from a myriad of suppliers to a myriad of end consumers. This comprehensive system involves various entities, including suppliers, manufacturers, warehouses, distributors, retailers, and consumers. Their connections are interwoven through a series of complex set of interdependencies that must work in harmony for supply chains to function effectively.

The productivity and efficiency of a supply chain hinges on the discrete performance and cohesive integration of its various sub-systems. This includes not only freight transport and logistics but also encompasses urban planning and planning regulations, communications, information technology, legal and regulatory systems, and the people and infrastructure that support the process.

¹ <https://datahub.freightaustralia.gov.au/updates-insights/insights/navigating-australias-freight-future>

Freight transport refers to the movement of goods/commodities/freight or cargo from one location to another and involves the use of various modes of transportation, including trucks, trains, ships, airplanes, and, in some cases, pipelines. Efficient freight transport systems are essential for reducing congestion, travel time, and emissions while enhancing overall connectivity. The performance of transportation networks is highly dependent on the infrastructure available, and tolling ideally in an integrated road network, plays a significant role in this.

Growth in Sydney

The Greater Sydney, Illawarra and Hunter regions will be home to around 9.6 million inhabitants by 2063, an increase of 3.28 million people from 2023 (+51%). The most significant population growth is anticipated in the Central and Western cities of Greater Sydney, accommodating an additional 1.8 million residents. Over the same period, the entire population of New South Wales (NSW) is expected to soar to nearly 12 million individuals².

Population growth is closely connected to consumer demand and trade volumes.

The forecasted growth of freight volumes to approximately 618 million tonnes by 2036 in NSW presents a significant challenge for the freight industry³. This surge in traffic is driven by various key factors, including robust domestic demand, rapid population growth, the strength of the NSW economy, fluctuations in the value of the Australian dollar, levels of domestic manufacturing, government trade policies, and the strategic locations of key distribution centres within the state.

As container volumes continue to escalate, it becomes increasingly crucial to have a well-functioning and efficient supply chain to ensure the seamless movement of goods throughout the region, thereby bolstering the overall competitiveness of both the New South Wales economy and that of Australia as a whole.

Liveable Cities and Efficient Freight Transport Networks

The availability of industrial land and its impact on logistics in Sydney are important factors influencing the city's competitiveness as a business and economic centre. As an integral part of freight logistics, industrial land serves as the connecting link between suppliers and consumers, encompassing logistics and supply chain facilities such as ports, intermodal freight terminals, warehouses, depots, and freight corridors. The location of these facilities and their integration with surrounding areas play a vital role in the overall efficiency of the supply chain.

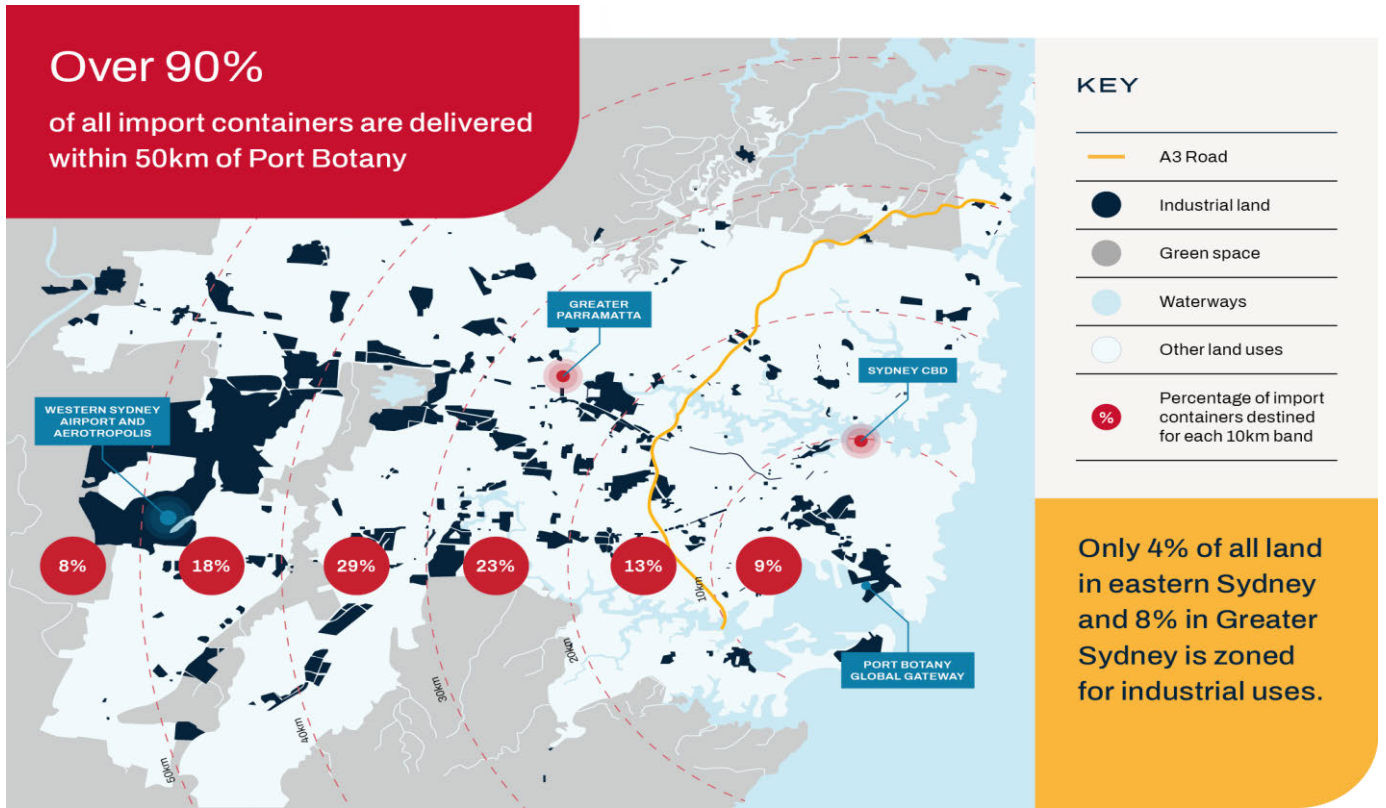
Despite the significance land plays in supporting supply chains and the economy, it only makes up a small proportion of overall land use in Australia's urban environments and is being increasingly retracted for other competing land use and economic activities. For example, only 8% of land in Greater Sydney is zoned for industrial with less than 4% of this located in Eastern Sydney⁴.

The availability of large-lot industrial zoned land in Greater Sydney determines where container imports are unpacked. These sites provide the necessary infrastructure for containers to be received and processed, and for goods to be distributed to their final destination.

² NSW Ports 2063 Our 40-year Master Plan for Sustainable Growth

³ <https://www.transport.nsw.gov.au/projects/strategy/nsw-freight-and-ports-plan-0/part-2-state-of-freight>

⁴ <https://content.knightfrank.com/research/2293/documents/en/australian-industrial-review-may-2023-10246.pdf>



Source: NSW Ports 2063 Our 40-year Master Plan for Sustainable Growth

Around 74% of import containers are delivered within a 40km radius of Port Botany. This compares to 81% in 2014. Over 90% of import containers are delivered within 50km of Port Botany. There has been an increase in containers heading further west, with a 179% increase in containers destined for the 40–50km zone from Port Botany between 2014-22⁵.

The closer the industrial lands are to the end consumers, the cheaper the landside transport costs, as illustrated below.

Scenario	Description	Cost
Base case: Direct journey Port Botany to Alexandria (approx. 12km)	Container goes from Port Botany to Alexandria for unpacking and goods distribution	\$122.82
Scenario 1: Port Botany to Alexandria via Auburn (approx. 50km)	Container unpacking location is moved to Auburn, and goods destined for Alexandria now travel via Auburn rather than direct.	\$561.01 – a 357% increase on the base case
Scenario 2: Port Botany to Alexandria via Erskine Park (approx. 100km)	Container unpacking occurs at Erskine Park before the goods are transported to Alexandria	\$1,006.80 – a 720% increase on the base case

Source: NSW Ports 2063 Our 40-year Master Plan for Sustainable Growth

⁵ NSW Ports 2063 Our 40-year Master Plan for Sustainable Growth

Due to limited availability, logistics and supply chain facilities have been compelled to shift to the ever-expanding periphery of the metropolitan area, resulting in major logistics centres being relocated further away from the urban centre and customers and consumers across Greater Sydney. With the current concentration of distribution centres and warehouses in Western Sydney, freight is required to cover increasing distances and incur greater cost: with the number of trucks, trip times, fuel use and emissions all increasing. This trend is expected to continue as new areas of land are rezoned for industrial purposes adjacent to the Western Sydney Airport.

Urban Planning Challenges with Accelerated Growth

Before 2019 supply chains were largely overlooked by policy makers, functioning as hidden enablers. However, the outbreak of Covid-19 thrust them into the forefront, underscoring their critical importance and the extent to which we rely on them for every good and service. This newfound awareness highlighted a concerning gap in formal undergraduate and post graduate university education in urban planning faculties across Australia and Sydney.

The findings of targeted university research most recently conducted by QUT in 2022 unequivocally revealed not one of Australia's urban planning undergraduate or post graduate courses accredited by the Planning Institute of Australia (PIA) contains any formal education about supply chains, freight logistics, freight transport, economic trade in urban areas, freight city systems, and the means to creating supply chain efficiency, productivity, resilience, and sustainability. These courses do however all focus on social planning, amenity, active transport (bicycle riding and walking) and the enjoyment of space.

The research clearly shows a major gap exists in awareness and deep knowledge about the fundamental economic driver supporting our society's way of life – i.e., supply chains and freight logistics. Without effective supply chain policy and planning the cost-of-living increases, as do the number of trucks, truck drivers, emissions, and fuel. It is essential this gap is overcome to support the competitiveness of our import, export and domestic supply chains and to reach government targets such as net zero by 2050.

Sydney's rapid and unplanned growth has resulted in various challenges, stemming from historical development practices. The private sector played a significant role in the swift construction of roads, funded through toll-based mechanisms, in a piecemeal approach, contributing to a fragmented and inconsistent approach to development.

Regrettably, the tolling burden faced by Sydney is unparalleled in the country, earning the city the unenviable title of being the heaviest tolled city in Australia. Compounding the challenges further is the lack of cohesion within the tolling network itself. One part of the system operates independently of the other, lacking seamless integration and coordination. This fragmentation undermines the effectiveness of the tolling system and compromises its ability to function as a part of a unified and efficient transportation network.

Recent announcements, like the development of 13,000 new homes in Appin without a corresponding infrastructure plan, only serve to exacerbate the existing issues⁶. This symptom highlights the urgent need for comprehensive urban planning that encompasses not just residential expansion but also robust infrastructure development to support the growing population.

To address such complexities and enhance the overall competitiveness of businesses, policymakers must begin to prioritize the provision of well-located industrial land, protect freight corridors throughout the metropolitan areas and support various urban freight planning techniques such as utilising the back hours for freight movements thereby separating freight transport from the peak hours wherever possible, and ending curfews that most often have unintended consequences such as intensified peak traffic and reduced community safety.

⁶ <https://www.abc.net.au/news/2023-07-03/appin-house-build-approval-amid-infrastructure-concerns/102554564>

One major retailer alone in Sydney operates daily, with over 100 delivery curfews instigated by local governments plus more stores are limited by local agreements and even new stores in new suburbs open with curfews in place – a problem for all supply chain companies not just major and SME retailers. The unintended negative impacts are constant: freight traffic being forced to compete with peak hour traffic in local areas to deliver essential community goods; truck emissions increasing as trucks idle unnecessarily in peak hour traffic and waiting to enter truck curfew zones; and truck drivers avoiding congested toll roads as best as they can to complete their schedules.

In short, policy makers need to work closely with the supply chain and freight logistics industry to develop sustainable land use policies, and establish effective arterial road tolling to promote efficient logistics and supply chain networks. A sufficient supply of well-located and well-connected industrial land is needed to boost freight efficiency, minimise traffic emissions, and amenity impacts, and contribute to Sydney's status as a thriving business and manufacturing hub. To achieve this goal, land use policies should strike a balance between preserving existing industrial lands and making provisions for additional, well-serviced industrial zones. Policy makers also need to see the highly interdependent role of land use and tolling either to improve, or as they currently do, largely hinder supply chain and freight logistics efficiency, productivity and sustainability.

State and local planning policy needs to recognise the interconnectivity of land use planning, transport regulations and tolling to improve productivity and the efficiency of the city as a complex spatial system.

Tolling Charges Impact on Freight

The impact of Sydney's tolling charges on freight logistics is a matter of growing concern for the industry; the tolling system in Sydney is fragmented, costs are high and variable, and there is a lack of system connectivity between the tolling roads. This plus congestion leads to increased costs that cannot be passed onto commercial customers and consumers, a lack of reliability, decreased efficiency and no opportunity for productivity gain.

As tolls continue to rise, freight transport operators are compelled to revert to using secondary road networks to avoid the burden of toll fees, which further challenges efficiency, productivity and safety. This indicates that the perceived benefits of toll roads do not outweigh the costs for the freight industry, prompting the search for productivity gains elsewhere.

The establishment of regulatory solutions that mandate the use of toll roads through access restrictions on alternative networks further emphasise questions about the true benefits of tollways. Although new roads funded through tolls often promise increased productivity, they frequently fail to deliver on these promises, leaving the industry burdened with additional costs and limited (if any) benefit. Some toll roads improve efficiency and productivity, others don't.

There is a misalignment of costs in building new toll roads and the value of using these roads for freight transport. While these new roads are funded through tolls that are paid disproportionately by the freight operators (3 times more than private vehicles), promising increased productivity, they often fail to deliver on these promises. Conversely as the freight is removed from secondary roads (at the expense of freight transport) the value is captured by the surrounding suburbs. The improved amenity leads to increased property values, benefiting residents and subsequently benefiting the state government through higher land tax and stamp duty revenues. In this scenario, it becomes apparent that the freight industry bears the cost of moving to toll roads, while the positive effects primarily benefit the residential areas adjacent to these roads, rather than directly contributing to Sydney's freight and supply chain related economic requirements.

The financial burden of tolling charges is challenging for the transport operators to pass on to their customers due to established contract pricing and highly competitive markets. This reality threatens the viability of the freight transport industry, as operators face increasing cost pressures (in many ways including labour, fuel, spare parts and CPI) without the ability to transfer these expenses to commercial customers who are then expected to pass them onto consumers. As a consequence, consumers are likely to bear the brunt of Sydney's tolling costs, either through a potential decline in supply chain service quality face higher prices for goods and services. This situation can have ripple effects

throughout the supply chain, impacting various sectors and leading to potential disruptions in the flow of goods and services.

Transparency and Application of Charges

During the previous Upper House hearing, it was acknowledged that the toll charges imposed on heavy vehicles accessing the NSW toll road network are subject to a 'large vehicle multiplier,' resulting in tolls being set between 2 to 3 times higher than those for cars. This higher toll rate for trucks was justified based on the perceived value derived by road operators from time savings and reliability gains that freight vehicles experience when using toll roads. Additionally, the submission from Transurban suggests that the wear-and-tear caused by one articulated truck is equivalent to that of 6000 cars.

However, there is a lack of concrete evidence to support the automatic application of a three times uplift in tolls accurately capturing the true costs and benefits associated with heavy vehicle use of toll roads and no evidence to date supporting the Transurban claim that the wear-and-tear caused by one articulated truck is equivalent to that of 6000 cars. This raises questions about the fairness and accuracy of the current tolling system, particularly concerning whether the tolls truly reflect the maintenance and repair costs involved in accommodating heavy vehicle traffic. In light of this, a comprehensive review or the establishment of an appropriately resourced body becomes essential to examine the veracity of the presumption that a 3x uplift in tolls serves as an accurate proxy for recovering maintenance and repair costs related to heavy vehicle use.

Based on the outcome of this inquiry, it may be necessary to consider some form of statutory intervention. If the current tolling system is found to potentially include a premium that disproportionately benefits concessionaire shareholders, it could be resulting in higher costs for freight operators. Ultimately, these additional costs could be passed down to consumers, impacting overall affordability and competitiveness in the market and the costs of living.

By undertaking a review and increasing transparency, transport operators, consumers, and the broader public can gain a better understanding of tolling policies and their implications in Sydney, fostering trust and enabling more constructive discussions on tolling practices and their impacts on various stakeholders.

Furthermore, effective inter-operability between tolling systems is essential, especially for national operators who operate in different cities and jurisdictions. Creating a cohesive and standardized approach to tolling can enhance efficiency, reduce administrative burdens, and facilitate smoother cross-border logistics operations, benefiting interstate linehaul activities and overall freight transport. Similarly, the freight task in Greater Sydney alone requires this interoperability, clarity, consistency, and transparency.

Recommendations

Taking a holistic approach and a firm understanding of supply chain dynamics is essential in a tolling review to identify unintended consequences, potential bottlenecks, cost escalations, or inefficiencies introduced by inefficient tolling systems.

Considering the pivotal role of the freight industry in underpinning the Australian economy, the government's responsibility becomes vital in addressing tolling challenges. Instead of placing undue burdens on transport operators and consumers, the government's role should focus on facilitating an increase in freight efficiency, sustainability and productivity. This involves investing in infrastructure that supports efficient freight transport, streamlining logistics operations, and fostering innovation in the sector. By implementing strategic policies and partnerships with industry stakeholders, the government can create an environment conducive to improved freight productivity, promoting economic growth and sustainable development.

Australia will progressively transition away from the Commonwealth fuel excise regime, with greater penetration of electrified vehicles reducing the excise tax base that presently (in principle) contributes to the cost of road maintenance. Policy makers across all Australian jurisdictions, including NSW, should consider the cost implications privately owned and operated toll roads in the design, implementation and operation of broader road user charging models across Australia.

ALC proposes:

- 1. A comprehensive review examining the veracity of the presumptions that, a 3 times uplift in toll pricing serves as an accurate proxy for recovering maintenance and repair costs related to heavy vehicle use.**
- 2. Review the necessity and unintended consequences of existing truck delivery curfews and restrictions and ensure that future planning and regulatory approvals do not impose curfews and delivery restrictions and caps on freight, logistics and industrial activities, other than by justified evidence-based exceptions.**
- 3. Introducing State-wide minimum building design standards for all residential and sensitive use developments in urban areas to mitigate amenity impacts on the community from economic generating activities such as ports, freight transport and logistics operations and industrial activities.**
- 4. Implement dynamic pricing models that offer incentives for using toll roads during less congested hours. This will further encourage transport operators to shift their operations to off-peak periods, where possible, contributing to smoother traffic flow and reduced congestion.**
- 5. Improve accessibility and efficiency of toll roads by incorporating slip lanes onto main arterials that prioritize freight traffic. Dedicated freight lanes on toll roads should also be introduced, ensuring the streamlined and more efficient movement of goods.**
- 6. Promote the use of rail for freight transport wherever possible. Establish freight shuttle services using high productivity freight vehicles (HPFV) and rail, integrated into network planning to reduce the burden on road networks and improve sustainability.**

It is important to recognize that tolling and pricing alone cannot solve all the challenges faced by the freight industry.

But an effectively managed and realistically priced toll road network can support freight logistics by enabling supply chain efficiency and productivity gain while also encouraging behavioural change of all road users including freight transport.

A new holistic approach is needed in Sydney that considers infrastructure development, the protection of industrial land and freight corridors, operational strategies, and sustainable transportation options across the city's greater spatial system is essential.

By viewing the tolling network as a cohesive system of interconnected toll roads, policymakers can develop more efficient and effective solutions for managing freight transportation in Sydney. Emphasizing collaboration among stakeholders and incorporating multiple solutions will ensure a balanced and sustainable approach to meet the city's evolving supply chain and freight logistics and transport demands.

National Road Transport Association



NATIONAL ROAD TRANSPORT ASSOCIATION

Submission to the 2023 NSW Independent Toll Review

28 July 2023

Executive Summary

Sydney's motorway tolling system is broken. The pricing approach has lost sight of achieving outcomes for public benefit.

The pricing of toll roads has shifted significantly to now being set with a three times multiplier on most toll roads.¹

There is no transparent link with cost recovery, with the heavy vehicle toll multiplier set well above the cost of road damage.

There is no priority placed on transport planning outcomes and creating liveable urban communities by seeking to incentivise goods movement on motorways.

There is no understanding of commercial realities – higher tolls on trucks are justified by claims of the higher value of time savings, which do not stack up to scrutiny.

Despite the lessons of the pandemic and related supply chain crisis, there is no recognition that trucking is an essential industry.

Piling on costs to a small business industry, private toll road operators (with government agreement) are directly contributing to making a difficult business environment even worse, with impacts on the viability and safety of small business operators.

The new NSW Government should act to restore the public benefit from the operation of private toll roads.

NatRoad recommendations for the NSW Government:

1. Set a truck toll multiplier cap of two times the light vehicle toll and move all new tolling concessions and variations to this pricing principle.
2. For existing toll road concessions, the Government should expand their election commitment to reduce the multiplier to two times on the M5 East and M8 to other parts of the tolling network.
3. Introduce a lower variable truck toll rate to incentivise off-peak journeys.
4. Introduce discounts for multiple truck toll journeys.
5. Rule out the introduction of a four or five times truck toll multiplier.
6. Exempt zero emission heavy vehicles from the truck toll multiplier and implement a 1.5 times multiplier for Euro VI heavy vehicles, incentivising a low and zero emission future.
7. Consult on regulatory options for requiring the customers of road freight operators to pay for tolls, when incurred, in addition to the cost of the freight transport service.
8. Establish an independent regulator to assess and approve new and varied tolling concessions and their pricing arrangements for road users.

¹ This was a policy decision of the former NSW Government. Prior to 2011, the M7 opened with no truck toll multiplier, and the Cross City Tunnel and Lane Cove Tunnel opened with a two times multiplier. See RTA, 2010, [Post Implementation Review: M7 Motorway, Cross City Tunnel and Lane Cove Tunnel](#), p12, p17, & p23.

1. About NatRoad

The National Road Transport Association (NatRoad) is Australia's largest national representative road freight transport operators' association. NatRoad represents road freight operators, from owner-drivers to large fleet operators, general freight, road trains, livestock, tippers, express, car carriers, as well as tankers and refrigerated operators.

NatRoad has provided extensive advocacy on the need for tolling reform, including—

- Submissions to the NSW Legislative Council inquiry into road tolling regimes on [21 May 2021](#) and [17 June 2021](#).
- In partnership with the Victorian Transport Association and the Queensland Trucking Association, commissioning the Australian Economic Advocacy Solutions 2019 report on the commercial attractiveness of using toll roads for the Australian Road Transport Industry.
- As a member of the Australian Trucking Association (ATA), supporting the ATA submissions on [independent regulation of infrastructure](#) (2019) and the [acquisition of Westconnex](#) (2018).

2. Public purpose of the motorway network and tolling system

Roads – and in particular motorways – are economic infrastructure.

For passenger vehicles (including public transport services), they provide improved connectivity for access to jobs, services and community.

For freight and commercial vehicles, motorways enable the economy to function by improving connectivity for goods, exports, and service vehicles.

Transport infrastructure is a vital component of cities and creating liveable urban environments. The transport system, including how we plan, utilise and price it, is an integral component of creating a liveable and productive global city.

The purpose of motorways is not to drive increasing private profit or be a never-ending financing mechanism. The purpose of the motorway network must remain public, and it must remain focused on improving connectivity and the movement of goods and services. This focus on connectivity is not just about where the infrastructure is built – but it must also include user pricing to ensure the infrastructure provides efficient freight movements.

Under the current approach to user pricing, heavy vehicle tolls and setting the truck toll multiplier has no basis on cost recovery, and results in serious negative impacts on the ability of the motorway network to play its public role in creating a liveable, productive and global Sydney.

Our suburbs and urban communities should be focused on liveability – which should include access to goods vehicles, but incentivising through traffic heavy vehicles onto motorways and off suburban streets where those options exist.

3. The current truck toll multiplier has no justification

Sydney's toll road prices are not a result of a competitive market. They are regulated by government through the establishment and setting of terms in toll road concessions, and toll roads are essentially a monopoly infrastructure. There is only one major private toll road operator in Sydney, and for heavy vehicles, bans on alternate routes often compel them to use toll roads.

The justification for the current heavy vehicle toll multiplier has repeatedly been shown to not exist—

- In 2015, the Victorian Auditor-General reported that agencies were unable to justify the substance of the arguments for tolling goods vehicles as the preferred funding approach, and that there was no objective assessment of alternative funding approaches. Due to the repeated arguments in favour of the multiplier being national consistency – findings in other jurisdictions that there is no justification for the multiplier are relevant to decision making in NSW.²
- In 2017, the then NSW parliamentary inquiry into road tolling recommended that the NSW Government should identify and publish the evidence supporting the decision to charge heavy vehicles three times the rate of light vehicles.³
- In 2018 and 2019, the Australian Trucking Association with the support of their members (including NatRoad) published evidence that the truck toll multiplier far exceeded the level required to account for road damage from heavy vehicles.⁴
- In 2019, NatRoad, the Victorian Transport Association (VTA) and the Queensland Trucking Association (QTA) commissioned a report on toll roads which showed a complete lack of net operational savings for trucking businesses in using a range of toll roads at different times of day.⁵
- In 2022, the NSW parliamentary inquiry into road tolling recommended that toll pricing should be realigned to incentivise trucks off suburban streets, including the potential option of extending toll relief schemes to the road freight industry. The committee noted that where trucks are forced to use toll roads as a result of regulation that it is “inequitable to charge them three times as much as cars.”⁶

The justification which is often put forward in favour of the three times truck toll multiplier includes—

- national consistency
- higher road damage costs
- due to higher operating costs for heavy vehicles, the value of time savings is greater
- road space requirements for heavy vehicles.

These arguments have been shown to lack evidence.

In particular, previous analysis of the marginal cost of road wear from a fully laden six axle truck shows that less than 20 per cent of the increased truck toll multiplier is needed to recover road

² Victorian Auditor-General, August 2015, [Applying the High Value High Risk Process to Unsolicited Proposals](#), pp xxii, xiii, 15, 38.

³ NSW Legislative Council, October 2017, [Road tolling in New South Wales](#), p xi.

⁴ ATA, November 2019, [2019 Australian Infrastructure Audit submission](#), p5.

⁵ AEAS, December 2019, The commercial attractiveness of using toll roads for the Australian Road Transport Industry, p5.

⁶ Legislative Council, August 2022, [Road Tolling Regimes](#), Portfolio Committee No. 6, Report 16, p75

damage costs.⁷ On top of this, a significant proportion of the truck fleet operates below mass limits⁸ so cost recovery based on trucks being fully laden will result in over collection of revenue.

Based on these cost assessments, even setting the truck toll multiplier at two times the light vehicle toll would continue to comfortably exceed the marginal cost of road wear. Whilst light vehicle tolls are often set high enough to recover heavy vehicle road wear costs without any multiplier, a 1.5 times multiplier would recover the light vehicle toll rate (including infrastructure financing), heavy vehicle road wear damage, and additional revenue.

Replacing the misguided three times multiplier policy with a maximum two times multiplier may need to be implemented progressively. NatRoad strongly welcomes the new NSW Government's election commitment for reducing the multiplier to two times on the M5 East and the M8 for 10 trips a week for two years as a strong step in the right direction.

Moving forward, the principle of the two times multiplier should be embedded in the NSW Government pricing principles for toll roads and apply to all new toll road concessions or variations. For existing toll road concessions, the NSW Government should prioritise extending toll relief schemes across the network similar to the M5 East/M8 truck toll relief commitment (including relaxing the cap on the number of trips).

Expanding this toll relief should also include incentivising off-peak travel with lower tolls, and discounts for multiple journeys. Both measures would address public policy outcomes, including incentivising movements outside of peak times and shifting freight tasks with multiple trip movements onto the most efficient roads in the network and off suburban streets.

4. Commercial reality of heavy vehicle tolls

There is a misguided assumption at the heart of the justification given for higher heavy tolls – that the higher tolls are covered by the commercial value of using the roads and that these costs can be passed onto customers of road freight.

This rationale shows a complete misunderstanding of the commercial reality of operating trucking businesses.

In research commissioned by NatRoad, VTA and the QTA it was found that—

Based on this analysis there is little business case for toll road usage by a transport operator in many instances. For those assets that there is a business case, often the class of truck's usage in that area would be impractical. One of the issues that is likely to exacerbate toll road usage for road transport operators are heavy vehicle restrictions on neighbouring free network routes. This aspect coupled with the net operating expense effectively makes the toll road usage a tax payable to the toll road operator for the road transport operator. That is, it is a cost or expense that cannot be avoided.⁹

It is worth noting this 'tax' is payable to private company profits, not public revenue. Additionally, it is payable by a small business dominated industry to a very large, global, corporate entity.

⁷ ATA, 2019, p5.

⁸ National Transport Commission, February 2017, Increasing heavy vehicle volumetric load capacity without increasing mass limits discussion paper, p7.

⁹ AEAS, 2019, pp5-6.

The AEAS research also found that—

At present tolls are determined by commercial/funding factors for the toll road operator, and not network efficiency criteria. Accordingly the intended benefits of the toll roads – that is, the time savings and usage are not being achieved. Given the relationship that exists between price and average daily usage if Government wishes to increase toll road usage by road transport operators then the price of the toll road should be reduced.¹⁰

AEAS found that time savings and vehicle operating cost savings are regarded as insufficient to cover the high toll price, which impedes the efficient movement of freight and misses an opportunity to reduce congestion on alternative routes.¹¹

In addition to the insufficient business case of using overpriced toll roads, road freight transport operators are also unable to simply pass on increased costs.

The NatRoad submissions to the 2021 inquiry on road tolling put forward the difficulty that our members face when trying to pass on costs, including take it or leave it contracts and the difficult commercial reality of trying to negotiate higher transport prices.¹²

Industry research has shown that businesses that can raise their prices are rarely able to increase them by more than CPI.¹³ But this has to include increases to wages, the road user charge and registration charges, road tolls, port access charges, vehicle costs (including maintenance and new equipment), work, health and safety (including costs relating to the pandemic), and other business costs.

5. Proposed four and five times truck toll multipliers

The summary of work completed prior to the election of the Minns Government that was published with the 2023 review contained a heavy vehicle pricing proposal which would worsen public outcomes, by penalising vehicles which move freight in fewer individual truck trips.

The NSW Government should rule out implementing four and five times truck toll multipliers, which would increase truck tolls by up to 67 per cent.

The option considered by the former government would see a new four times multiplier for 19 metre combinations and a new five times multiplier for combinations greater than 19 metres.¹⁴ Considering the three times multiplier already far exceeds the marginal cost of road wear – the four and five times multipliers would significantly widen the gap even further.

This revenue raising measure ignores the benefits of moving freight with fewer individual truck trips. When moving 1,000 tonnes of freight, a 12.5 metre long truck (the maximum length that would continue under the existing three times multiplier if this proposal proceeded) requires 77 individual trips to get the freight task done. A 19 metre semi-trailer can move the same freight task in 42 individual trips, whilst a 26 metre B-double can get it done in 26 trips. This reduction in truck trips

¹⁰ AEAS, 2019, p6.

¹¹ AEAS, 2019, p7.

¹² NatRoad, May 2021, [Inquiry into road tolling regimes submission](#), pp8-9.

¹³ ATA, February 2023, [Heavy vehicle charges consultation report submission](#), p4.

¹⁴ NSW Treasury, June 2023, Toll review: Summary of work completed prior to election of the Minns Labor Government, pp28-29.

reduces fuel use, reduces emissions, reduces road pavement damage and also reduces the amount of road space required by heavy vehicles to move the freight task.¹⁵

This proposal would also produce drastically higher tolls for no extra value compared to the existing pricing system. For a typical 26 metre B-double, the proposal would increase tolls by 67 per cent and for a typical 19 metre general access semi-trailer, tolls would escalate by 33 per cent. In return for these higher prices, trucking operators would receive no additional value or savings compared to what they get today.

Table 1: Example of projected increases to truck tolls under higher multipliers

Toll road	Existing truck toll (full length – 3 times multiplier)	4 times multiplier (19 metres)	5 times multiplier (greater than 19 metres)	Maximum increase per trip
M7	\$28.53	\$38.04	\$47.55	+\$19.02
M5 South West	\$16.46	\$21.96	\$27.45	+\$10.99
NorthConnex	\$28.06	\$37.40	\$46.75	+\$18.69

6. Toll pricing for public benefit – new lower tolls to reduce emissions

Reducing both noxious and carbon emissions from road freight transport is dependent on the investment decisions of trucking operators. The introduction of new, lower tolls for low and zero emission vehicles would accelerate the uptake of these vehicles by improving their total cost of ownership. This would accelerate public outcomes for both improving urban air quality (noxious emissions) and achieving net zero carbon emissions.

NatRoad recommends that Euro VI heavy vehicles should have a toll multiplier of 1.5 times the light vehicle toll. This would provide an incentive for cleaner freight transport in urban areas whilst still recovering road wear costs on top of the light vehicle toll and improve the business case for investment in the cleanest diesel heavy vehicles.

Additionally, NatRoad recommends that zero emission vehicles should be exempt from the heavy vehicle multiplier. Zero emission vehicles have clear public benefits for urban freight transport – reducing both noxious and carbon emissions, whilst also reducing engine noise. The early use case application for battery electric trucks is in urban environments. However, these vehicles often require a significant upfront capital cost for both the vehicle and charging infrastructure. Removing the truck toll multiplier is a practical and significant measure that the NSW Government can implement to improve the business case for electric and zero emission trucks and accelerate the shift to net zero emissions.

¹⁵ ATA, March 2018, [Truck Impact Chart](#) (Second Edition), p26

7. Mandatory payment of truck tolls for transport customers

Under existing NSW regulations, customers utilising a taxi service which travels on a toll road pay the toll in addition to the taxi fare, if the toll is incurred during the hiring.

This important principle acknowledges the commercial reality of hire and reward transport services – toll fares cannot be absorbed by the transport service provider.

The NSW Government should consult on regulatory options for extending this principle to hire and reward road freight operators – so that where a toll is incurred during the transport service is applied to the customer, in addition to the freight transport service fee.

8. Over charging heavy vehicles risks undermining public policy goals for the transport network

The pricing principles adopted for NSW toll roads – in particular under the former NSW Government – essentially shifts the financing burden for new motorways onto heavy vehicles. This risks increasing congestion (which is primarily a result of light vehicle traffic movements) by under-pricing light vehicle movements compared to the cost of new motorway construction.

The approach of building new motorways increasingly financed by heavy vehicle tolls, together with toll relief schemes which have traditionally only focused on light vehicles, essentially reduces the cost of driving for light vehicles on this expanded network.

Before considering a potential Sydney CBD congestion charge zone as raised in the discussion paper, the NSW Government should first end the practice of subsidising light vehicle movements with heavy vehicle tolls and reduce the heavy vehicle toll multiplier to a cap of two times the light vehicle toll.

9. Independent regulation

NatRoad has repeatedly advocated for independent regulation of infrastructure user charges, including both for the broader road network (through an independent regulator established through Heavy Vehicle Road Reform) and in the interim, by expanding the role of the NSW Independent Pricing and Regulatory Tribunal (IPART).¹⁶

There is a strong financial motivator for governments to focus infrastructure privatisation arrangements on maximising the sale value of the asset, or reducing the upfront capital investment in new assets such as motorways. This argument has been picked up by both the ACCC and the ATA, and it means that post-privatisation arrangements (such as user pricing) receive less consideration and their impact on competition and public policy outcomes.¹⁷

This creates a strong public policy reason for independent oversight of toll road concessions and pricing.

¹⁶ NatRoad, 2021, pp9-10.

¹⁷ ATA, 2019, p8.

10. Recommendations

NatRoad recommends that the NSW Government should:

1. Set a truck toll multiplier cap of two times the light vehicle toll and move all new tolling concessions and variations to this pricing principle.
2. For existing toll road concessions, the Government should expand their election commitment to reduce the multiplier to two times on the M5 East and M8 to other parts of the tolling network.
3. Introduce a lower variable truck toll rate to incentivise off-peak journeys.
4. Introduce discounts for multiple truck toll journeys.
5. Rule out the introduction of a four or five times truck toll multiplier
6. Exempt zero emission heavy vehicles from the truck toll multiplier and implement a 1.5 times multiplier for Euro VI heavy vehicles, incentivising a low and zero emission future.
7. Consult on regulatory options for requiring the customers of road freight operators to pay for tolls, when incurred, in addition to the cost of the freight transport service.
8. Establish an independent regulator to assess and approve new and varied tolling concessions and their pricing arrangements for road users.

Freshmark



2023 Independent Toll Review

July 2023

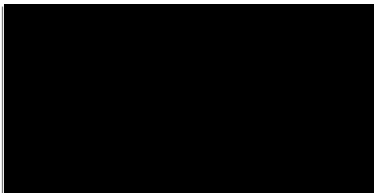
Freshmark Independent Toll Review

About Freshmark

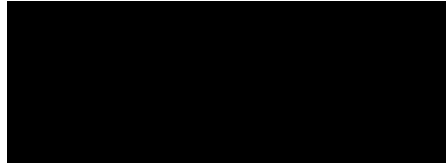
Freshmark is the trading name of the NSW Chamber of Fresh Produce Limited, which is dedicated to improving the central market system, helping wholesalers, growers, retailers, providers, transporters and the wider fresh produce sector achieve and maintain profitability.

Freshmark is based in the heart of Sydney Markets, the largest central market in Australia, transacting approximately \$3 billion in produce per annum.

For more information about the details in this document, please contact the following:



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Freshmark

Issues and considerations

1. The produce sector is an essential service.

Access to fresh, healthy, affordable produce is critical to the wellbeing of every person in NSW. Governments of every political persuasion and at every level encourage Australians to buy and eat locally grown, fresh produce. In considering how road tolls should be applied to businesses in the fresh produce sector, it is important to recognise the essential nature of what we do.

Current toll categories do not accommodate this distinction between businesses in our sector and those in other commercial sectors that are not essential to the health and wellbeing of our state's citizens.

Recognising fresh produce businesses as essential services, and responding accordingly on toll charges, will help ensure that fresh produce is not considered a luxury because it is unaffordable. With food representing [close to 10%](#) of most household budgets, there is evidence that when cost of living pressures rise, consumers begin to take fresh fruit and vegetables off the shopping list. About 40% of respondents to the Finder Cost of Living survey listed grocery prices as a key cause of financial stress. Where we can ease pressure on essential businesses that might otherwise have to pass on input costs to consumers, we should.

2. Transport is a critical element in the fresh produce supply chain.

In our urbanised environment the vast majority of people rely on produce that is grown in one place, transported to a wholesaler or other point of sale, moved to a retail environment or restaurant, and purchased and consumed in a place distant from where it was grown. Transport represents a huge proportion of input costs for most businesses represented by Freshmark, and tolls in turn make up a significant proportion of overall transport costs.

This is true across the entire sector, but is especially so for providores, and to a lesser extent independent grocers. These businesses are picking up and delivering fresh produce every day, including weekends and public holidays when other input costs including labour are drastically increased.

As just one example, we are aware of a providore business with a **current annual toll bill of \$72,000.**

3. We rely on the full breadth of the toll road network.

The nature of our members' businesses means there is no alternative but to traverse virtually every part of the toll road network, often multiple times per day, clipping the ticket on every trip.

There is limited scope for our members to adjust their delivery patterns to access tolling discounts for off-peak use, especially for providores whose hours are impacted on one side of the equation by the availability of produce in the market, and on the other by the preparation schedules of restaurants and other outlets.

4. Capacity to absorb increasing input costs is constrained.

We are an industry that operates on very narrow – and sometimes negative – margins. Wholesale prices can rise and fall very sharply and very rapidly, sometimes beyond the limits of consumer price elasticity.

Freshmark Independent Toll Review

For example, tomatoes were recently as much as \$75 per 10kg box at wholesale, meaning all participants in the supply chain had to accept small or non-existent margins. Sometimes the consumer absorbs the increase. Often, though, it is absorbed back up the supply chain, all the way to the grower.

In this instance, when supply increased, instead of normalising to around \$40 a box, the price of tomatoes crashed to closer to \$20 per box, eliminating the possibility of recouping losses. In a business environment where there is already so little give, ever-increasing toll costs are difficult to absorb.

This is a common scenario, not an outlier. In other sectors it may be acceptable to lose a proportion of businesses due to challenging profit scenarios but this is not the case in our essential sector. Without a vibrant fresh produce sector, access to food could become compromised.

5. There is no realistic alternative to road freight.

Not only are non-toll roads not a viable option, neither are non-road transport options a solution. There are only two freight rail lines that traverse Australia. During recent bad weather, they were both rendered non-operational, pushing goods onto an already busy road network. Intra- and interstate airfreight are costly options well beyond the reach of most of our member businesses, and in any case road infrastructure is still essential to take produce to and from airports.

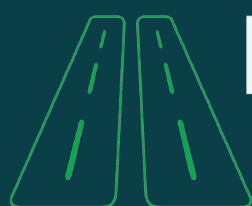
What we'd like to see

We recognise that tolls are a necessary challenge of doing business in a large urban environment, and that all business sectors will have a claim for relief. We accept that these roads are an important part of connecting the city, suburbs and arterial roads that connect us to our suppliers and customers, but with the number of toll roads only increasing, some form of toll relief for our essential sector is important.

Ultimately, we seek an approach to tolls which is fair, reasonable, and reflects the critical nature of what our members do. With this in mind, we seek consideration of:

- Toll exemptions or concessions for the transport of fresh produce
- A rethink of the way toll road users are prioritised and categorised. Commercial operators have missed out on concessions while private vehicle users are offered rebates or free registration.
- Greater recognition that not all trucks are heavy vehicles that cause the greatest damage to road infrastructure. Tolls should better reflect a cost:benefit analysis.
- A toll structure that does not penalise our members for their unavoidable need to utilise the entire toll road network, perhaps based on network pricing rather than section pricing or capped pricing or rebates.
- Consideration around how peak and off-peak pricing structures affect businesses with limited capacity to alter their hours of operation and no real alternative to toll road utilisation. Adjustment of peak and off-peak timing has the potential to largely address the challenges of our members and it would be helpful to also consider the application of well-considered time-of-day charging across toll roads that currently have only flat rates.





INDEPENDENT TOLL REVIEW