

WestConnex – Alternative Proposal

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Contents

1. Executive Summary

2. Background

3. Separating the Facts from WestConnex Claims

Funding Risks	9
Conflicting Government Priorities	11
Questionable Justification for WestConnex	11
Poor Transparency and Opaque Governance	13
Inequitable Allocation of Costs and Distribution of Benefits	14
Serving Key Destinations.....	16
Flaws in the Transport Planning Logic	18
Local Impacts	22

4. Solutions Package:

The City of Sydney Proposal.....	25
Sydney Airport	28
Port Botany	29
Sydney CBD	31
Cars and Motorways	32

1. Executive summary

The WestConnex series of tunnels, interchanges and surface freeways is based on an already weak business case. It has a poorly articulated demand analysis that to a large degree fails to meet its own stated objectives.

When confronted with this reality, and the local impacts of a seven lane freeway through its urban area to receive the discharged traffic from the St Peters Interchange, the City of Sydney asked if there was an alternative. This alternative would meet the objectives of WestConnex in improving urban amenity, relieving congestion, servicing Port Botany and supporting access to Sydney Airport. It would also reduce the required investment, be more sustainable and substantially reduce negative impacts.

The City used the general planning principals that underpin Transport for NSW, Infrastructure NSW and Infrastructure Australia's guidelines for considering major proposals. They are, in short, that governments should always:

- seek to minimise the need for major infrastructure first
- consider all options to maximise the use of existing infrastructure before proposing new infrastructure
- avoid planning one piece of infrastructure in isolation from other infrastructure or land use changes.

There are no demand management plans in place to minimise use of existing roads or manage congestion in the WestConnex footprint. The business cases for WestConnex have minimal regard to options. Since WestConnex was approved, major new competing road, rail and air transport infrastructure and land use changes have been approved that significantly alter the modelled demand for WestConnex.

The case is very strong to pause the Stage 3 M4–M5 Link and continuation of Stage 2 New M5 works. We need to rethink the need, shape and scale of WestConnex and consider what could be done that is better economically for NSW.

The City proposes a three phase approach that meets the objectives of WestConnex, combining demand management with right-sized infrastructure.

Phase one would:

- Remove the station access fee from the International Airport and Domestic Airport stations on the Airport Rail Link, doubling the use of this line.
- Bring forward the construction of the Sydney Metro West from Parramatta to the Sydney CBD, alleviating overcrowding on the Main West rail line and alleviating traffic pressure on Victoria Road and the Anzac Bridge.
- Apply tolls to the existing M5, to reduce demand by 20 per cent.
- Apply timing restrictions on freight delivery in the CBD in peak times to reduce friction between delivery vehicles and public transport and commuter traffic.
- Upgrade State Road A3, otherwise known as Roberts/King Georges Road, linking the M4 and M5, providing a more direct route to Port Botany for trucks.

- Complete stage 1a and 1b of WestConnex, the widening of the existing M4 – due to open in mid-2017 – and the M4 East to the junction of City West Link and Parramatta Road at Haberfield.
- Link the end of the City West Link, before it joins the Anzac Bridge, to the largely unused Cross City Tunnel, which connects to the Eastern Distributor.
- Halt the New M5 for a design review to achieve the objective of connectivity to Port Botany, connected to the A3, and allow it to better connect to the Airport.

Phase 2 would:

- Push the New M5 south of the Airport and directly link to Southern Cross Drive and have connections to Foreshore Drive at the Port, portals into the Airport car parks and an internal airport circulation road.
- Sell the 27 hectare St Peters Interchange for housing, accommodating 13,000 people, including 1000 affordable housing clients.
- Removing the need for the New M5 and the St Peters Interchange would also remove the requirement for the expansion of the Euston Road / McEvoy Street / Dacey Road link to Moore Park to a seven lane freeway.

Phase 3 would:

- Bring forward the opening of the Western Sydney Airport as early as possible.
- Connect a Metro rail link from Liverpool or Campbelltown to the new airport, and then through to Parramatta, making Parramatta the hub of a transport system to the west.

2. Background

There is little contention that congestion is a problem for Sydney's transport system. We cannot afford economically critical traffic such as freight, trades, services and construction vehicles to be stuck in traffic.

The City of Sydney believes that with a combination of demand management, technology, integrated public transport and upgrades to existing roadways, the NSW Government can better manage congestion.

WestConnex runs contrary to the Greater Sydney Commission's vision of three cities promoting local jobs and short commutes, even though the NSW Government funded Greater Sydney Commission has supported the motorway. WestConnex does not support the economy of Western Sydney, it focuses on drawing people away from the west to the Sydney CBD without improving cross-regional connections, and therefore improves the travel options only very marginally for a very few people.

If the NSW Government adopted a truly integrated, multimodal transport implementation strategy, rather than an oversimplified, mono-modal 'WestConnex toll way construction strategy', it could save road users billions of dollars in unnecessary charges. It would save local communities their health and potentially

their lives through reducing the size of local roads. It would also free available funds to invest in more economically productive assets.

The City is acutely aware that other global cities have stopped pursuing motorway projects of the magnitude and cost of WestConnex for many of the reasons outlined in this document. Discussions with the full spectrum of local and international transport specialists have revealed a consistent view: WestConnex in its current form is not a feasible or sustainable solution to Sydney's emerging transport challenges and the evidence base attesting to the WestConnex is highly questionable.

The NSW Government has a duty to get the most out of existing transport investments before building more of the WestConnex network.

The WestConnex project and its self-justification fall into the trap identified in Transport for NSW's own guidelines for appraising transport initiatives: "The main risk of distorting the evaluation is the risk of neglecting relevant alternatives, in particular, low cost solutions such as managing and pricing solutions."ⁱ

The NSW Government knows that quality public transport is highly effective in managing road congestion. It has commenced building the Sydney Metro network in the North West, continuing through to Bankstown. It has already opened the South West Rail Link. It has plans afoot for Sydney Metro West, although it struggles to attract funding as more resources are allocated to the expanding motorway network.

Since the previous NSW Government removed the station access fee from Mascot and Green Square stations on the Airport Rail Link, patronage has increased by 115 per cent and continues to grow each year.

The NSW Government has already announced a doubling of service on the Airport Rail Link, with the Transport Minister publicly exhorting that the NSW Government did so: "as another incentive to leave the car behind"ⁱⁱ. However, it has no intention of lifting the \$13.80 per trip station access fee until 2030 when the current contract expires.

Removing the fee at the Domestic and International airport stations to maximise the use of the extra rail capacity, would eliminate a major impediment to patronage and substantially reduce road demand to Sydney Airport. This would also enable workers in the airport precinct to pay the same as all other commuters in the network.

Another major policy conflict for the NSW Government is the fact it has already achieved a seven per cent reduction in traffic in the Sydney CBD by applying demand management principles – using information, traffic controls and parking management to reduce demand. WestConnex will more than double cars trying to navigate the CBD at peak timesⁱⁱⁱ.

With a sophisticated approach to road pricing and parking availability management it could achieve similar results in other parts of Sydney where congestion is having acute impacts on State productivity, rather than increasing demand.

During school holidays there is around a 6 per cent drop in traffic, and this demand reduction resolves the bulk of Sydney's congestion problems over the short term. While not replicable daily and over the whole year, it shows how little change is required in how we use our transport networks to achieve a significant improvement. It also demonstrates that we need system wide change.

Combining demand management, improved public transport frequency and coverage, intelligent road pricing, improved signals technology and intelligent motorway networks gives everybody the opportunity to experience shorter commutes.

That does not rule out the need for improvements to the roads. However, with an active approach of reducing traffic demand through these integrated strategies, far less expensive road network enhancement options become available.

Instead of building the WestConnex M4 – M5 connection between Haberfield, Rozelle Interchange and St Peters interchange, the City of Sydney is urging the State to investigate the option of upgrading the existing A3 connection between the M4 at Homebush and the M5 at Kingsgrove. Grade separations, intersection upgrades, and localised widening would significantly improve the capacity and flow along this corridor at far less cost. This shorter option could better service future traffic demand and deliver competitive travel time savings to the proposed WestConnex M4 – M5 connection and could be completed years before the proposed Sydney Gateway connection from the St Peters interchange to Port Botany could be constructed. The St Peters interchange itself requires 27 hectares of inner city land that could house 13,000 people.

The City has serious concerns about the financial asset recycling strategy driving the design to maximise revenue potential, as it could lead to poor outcomes and drive up the cost to those motorists who must use toll roads. This 'revenue-led' approach increases the number of motorway entry and exit points, the length of the road and instances of conflict between the trucks (which the road primarily is meant to service) and cars.

The tolls are set to increase beyond wages and inflation, which may mean that many motorists won't be able to afford them. That risk devalues the predicted return on the asset and therefore has the potential to undermine a reasonable sale price. Alternatively, it may push investors to seek a revenue guarantee, which (as with the Sydney Harbour Tunnel) would require ongoing top-ups by taxpayers to make up the difference between predicted and actual revenue. It should be noted that Sydney, Melbourne and Brisbane have all been particularly poor at accurately predicting toll revenues from major road projects.

Already the financial markets are speculating as to whether there will need to be a revenue guarantee of some sort, similar to that used on the Sydney Harbour Tunnel that has had the NSW Government paying nearly \$100 million per year in toll subsidies to the private operator. This is the "risk allocation" that market analysts speak of - whether the risk of borrowing up to \$15 billion can be trusted to be serviced by the predicted toll income, or whether to secure such a large financing stream, some sort of minimum return guarantee will be required.

There is a real risk that if the NSW Government has to make budget provisions to underwrite the WestConnex, it will be unable to afford all the infrastructure needed to support Western Sydney. Already stage two of the Parramatta light rail project has been indefinitely delayed. There is no funding for the essential Sydney Metro West. And there is no commitment to a train or even rapid bus service to the new Western Sydney Airport.

There is time to pause and rethink the approach and this is the time to do it.

The City of Sydney is urging the State to take a more balanced and multi-modal approach to addressing the needs that initially triggered the WestConnex network. Options should be investigated that better deliver the long term access goals for the growing Sydney metropolis and that achieve the best value for transport customers and taxpayers.

The preliminary work the City of Sydney has undertaken found that if reasonable demand management strategies are put in place, then significant portions of the yet to be constructed elements of WestConnex are either not required at all, or at least for a much longer timeframe than currently proposed.

Investments in other government priorities for both public transport and integration with land use, particularly in the west of the Sydney region should be brought forward, and reinvestigated in the context of the WestConnex business case.

In summary, the City requests the NSW Government reinvestigates the business case for WestConnex taking into account:

Toll sensitivity

- the capacity of the proposed road users to pay the tolls to ensure the road is financially viable given the current levels of mortgage stress combined with low income growth and the growth above inflation of toll increases year on year – a one way trip on the widened M4 will cost at least \$73.80 for a truck by the end of the toll period.

Road capacity at WestConnex portals

- the capacity to get the traffic generated by WestConnex on and off local roads without creating gridlock
- how the public is to transparently fund thousands of millions of dollars of local road upgrades over decades to undo the congestion created by the privately controlled WestConnex

Demand management options

- access assumptions for Western Sydney Airport and associated changes to demand assumptions for Sydney Airport, including removing the station access fee from Sydney Airport Link Domestic and International train stations in conjunction with the announced doubling of rail capacity on the line
- implementing the Sydney Metro West that will directly compete for commuter trips
- implementing sophisticated freight access controls to the Sydney and Parramatta CBD's and Port Botany to reduce conflict in peak hours
- implementing parking access controls in the Sydney CBD to reduce unnecessary traffic in peak times and increase capacity to absorb traffic generated by WestConnex
- implementing a considered toll regime that reflects the needs of network management, varying according to the time of day and network demand, and by vehicle type.

Technology

- the future effects of connected vehicle technologies to increase the capacity of existing motorways by as much as 60 per cent, particularly for heavy vehicles (and the potential to reduce the size of infrastructure to serve projected demand) – as currently being heavily promoted by Transport for NSW
- the use of information and booking platforms for on and off street parking to reduce circulation of traffic and provide shortest-route advice – building on good work by the NRMA
- provision of total trip cost and length information to road users to assist in exercising choice between public transport and driving – given driving could cost more and take longer
- a faster introduction of metro rail from the west to improve the public transport product and options
- use of more appropriate modelling that better takes into account the actual capacity of not only the motorway, but the speed at which it will operate as it congests and the inability to discharge effectively into the local road network

Land use integration

- changes to proposed job distribution as a result of the Western Sydney Airport and the changes in demand distribution for trips to the airport, given it would be easier, more reliable and cheaper for people from the north west, south west and west to access Badgerys Creek (as the Government has committed \$3.2 billion to upgrading road access and tollways to that airport)
- the rapid growth in both jobs and residential development in Parramatta, which has the potential to better balance demand between the west and east and thus might require less tunnel capacity
- the much greater population densities being delivered in Sydney and Parramatta that will locate the future workforce closer to jobs and public transport corridors, reducing overall transport demand on the network and achieving higher mode shares on public transport

Cost and benefits

- the total projected cost of all connecting local road upgrades as part of the WestConnex budget incorporating not only the road building costs, but the ancillary costs of public land rehabilitation, the increased cost of property acquisitions for local intersection upgrades, and the modifications to homes that will be affected by noise and emissions
- account for the cost of mitigating the increased carcinogenic emissions into local housing and parks

Scenario testing

- whether the scope of the WestConnex can be reduced either in length or capacity
- whether the M4–M5 link is required at all if the A3 is upgraded either by itself or with a modified New M5 alignment

- whether the alignment to the north of the New M5 and Gateway project to Port Botany and the Airport is feasible and can be achieved without sterilising the opportunity to double the Port Botany freight line (as the current proposal requires the realignment of the existing single track and the freight line operator will need to substantially increase the cost of the duplication with otherwise unnecessary property acquisitions)
- whether in conjunction with an A3 upgrade, a New M5 connection to the Eastern Distributor would better distribute demand, manage existing congestion and negate the need for the M4–M5 link
- the degree to which the demand at the St Peters interchange could be reduced without the M4–M5 link.

Transparency in cost estimates –

- if the full cost of the project was known publicly, along with more realistic demand forecasts and the ability of users to pay tolls, the effect on the proposed financial strategy and the likely bid price.



Figure 1 – What the Premier says the future of transport should be, the unfunded Sydney Metro West.

Artist's impression of intersecting roads at the proposed St Peters interchange.



Figure 2 – What is being built now for WestConnex– the 27 hectare (67 Acre) St Peters Interchange.

2. Separating the facts from WestConnex claims

Funding risks

Need for ongoing government funding

Generations of NSW taxpayers and toll payers will be left servicing approximately \$45 billion^{iv} of debt if WestConnex and its supporting road network are built as proposed, including the announced Western Harbour Tunnel and Northern Beaches Link (known as Stage 4) and the F6 Southern Connector. This will be paid by both taxpayers for the connecting roads, and by WestConnex network customers as tolls until 2060 or beyond. Those tolls will increase at a minimum of 4 per cent per year regardless of wages growth or inflation.

This conservative estimate assumes that the remaining \$15.3 billion cost of the WestConnex stages one, two and three is sold to the private sector. This is noting that there is already \$1.5 billion of private equity invested, although there is no publicly available information as to what has been procured with that funding, or what rights it bought. It also assumes the government does not have to give a guarantee of revenue or pay the toll equivalent.

It also assumes the original financial strategy would apply, whereby each stage would be built and its income established, prior to that stage being sold. Then the proceeds of the sale would enable the next stage to be built. This would be very prudent and negate risk to the government.

Settling for a lower sale price

However, the state government appears to be keen to sell the M4 widening, M4E and new M5 earlier than an accurate estimate of revenue can be established to bring

forward both the M4–M5 link and the newly committed Stage 4 Western Harbour Tunnel and Beaches Link. This would mean a sale would be sought prior to the value of the asset being established – the same model that applied to the failed Clem 7 in Brisbane and the Lane Cove and Cross City Tunnels in Sydney, among others. It would, therefore, most likely significantly lower the sale price so that corporate lenders avoid being exposed to an asset with insufficient toll revenue to support the borrowing costs.

Alternatively, the lenders could require that the government takes the majority of the risk and provides a revenue guarantee, as applies to the Sydney Harbour Tunnel, and which has cost the government many hundreds of millions of dollars in underwriting costs over 30 years of never hitting initial revenue estimates.

This can take multiple forms, but is essentially a transference of risk back to the taxpayer, and completely undermines the WestConnex business case. Or, as the biggest toll road operator Transurban has already done on the NorthConnex, it could secure a guarantee from the state government of higher tolls elsewhere on the toll road network to fund the new roads and reduce investor risk (but increase the toll pain for users).

As the widening of the M4 (Stage 1A) would be paid back from tolls in under three years if revenue predictions are correct, it appears those tolls are already proposed to cross-subsidise the M4–M5 Link, which is really only needed to service the North Shore and Northern Beaches. This transfer of cost from the richest communities to some of the poorest is likely to cause some level of community angst or possibly protest, destabilising the potential income stream.

Already the NSW Government has proposed a toll-free period of one month when the M4 widening opens, in recognition of community anger. If it is forced to extend this toll free period, while good for the road users, it will cost the general taxpayer something in the vicinity of an additional \$500,000 per week day.

Toll operators fully support the government in taking the revenue risk in this manner, as they receive the income, but it also drives demand. Having a toll generally reduces demand for a toll road link by between 20 per cent and 25 per cent. Removing the toll has the opposite effect, so the road operator actually earns more by there not being a toll, at the cost of taxpayers.

Likely cost increases

All of this assumes the WestConnex project for stages one, two and three will not further increase in cost, even though there is a significant history of design changes, with consequent cost increases already going from \$10 billion to \$16.8 billion.

Both the NSW Government and federal Auditors General note there is a high likelihood of further cost increases.^v And professional transport modellers have questioned if the proposed traffic volumes are even possible.

SGS Economics, now engaged by the Sydney Motorways Corporation due to its expertise on WestConnex, in its review of the updated business case notes that “all the information presented is...where there is a 50 per cent or less chance of this cost being exceeded,” and goes on to note that even if a conservative estimate of likely increases is taken, such as those used by Infrastructure Australia, the project cost would increase by \$1 billion. And this remains the case, even though at \$509 million per kilometre it is the most expensive land-based project in Australia’s history.

The Chief Executive of the Sydney Motorway Corporation, Denis Cliché recently commented that “mega projects are mega difficult” and could not commit to staying within budget or time. And the recently released design study for the M4–M5 Link has design elements that appear unable to be funded within the existing budget. More than half of the suburb of Lilyfield, for example, would have tunnels beneath it just for the Rozelle interchange. The Sydney Gateway component is now being labelled as only a “potential future project”, rather than a commitment.

Limited benefits

Even with the whole network completed, only around 1 per cent of daily trips in the Sydney region will likely benefit from this multi-billion dollar spend when the network opens, growing to around 2 per cent if all of the usage targets are reached. And the travel time saving for more than half the users would be approximately three minutes^{vi} at the beginning and almost no savings once the road is fully congested (on WestConnex’s own estimates) eight years after construction.

This capacity limit in eight years is then used to justify the recently announced Stage 4 – the Western Harbour Tunnel, but inexplicably is also meant to cope with Stage 5, the Southern Connector, which would double the traffic demanding to enter the network right when it will have reached capacity. Essentially, the NSW Government is saying that once it has induced traffic by building WestConnex it has created such congestion that it has to build another road for the traffic to use, even though there is no evidence at all traffic actually wants to travel north across the harbour. This traffic would have used the multiple connections directly from the west to the north, rather than coming into the city to go back out again.

Public policy is that people should drive the least distance, most directly. However, this sort of planning, using the inner city as a ‘hub in a hub and spoke’ road network, is based on having drivers travel further but faster and at greater cost to generate a profit for a private road network.

Diverting funds from critical infrastructure and services for Western Sydney

For more than 30 years schools, hospitals, new metro and light rail systems, local roads and all the infrastructure needed to grow western Sydney would need to be diverted to underwrite a barely beneficial and ever-expanding motorway network. And local discretionary spending to support local business will reduce as the toll cost outstrips average wage growth of Western Sydney workers who will be forced to use WestConnex in the absence of viable alternatives. In contrast, if the 89 per cent of Western Sydney workers travelling to the CBD who use public transport did not have to suffer from overcrowded and slow public transport, they could use the price-capped Opal fares to retain their spending power.

Conflicting government priorities

WestConnex runs contrary to the Greater Sydney Commission’s vision of three cities that promote local jobs and short commutes, even though the commission has supported the motorway.

The WestConnex will also compete with the NSW Government’s own Sydney West Metro and the Federal Government’s approval of the Western Sydney Airport and its call for rapid delivery of public transport connectivity. While yet another tolled motorway with more than three billion dollars of supporting network is proposed for

access to the Western Sydney Airport, no public transport beyond basic bus services is currently endorsed by the NSW government.

Together the Western Sydney Airport and Sydney Metro West developments significantly undermine demand for the WestConnex as proposed, yet the major effects are not considered in the updated WestConnex business case. The second airport is of particular significance.

And as yet, there is no public denial by the state government of whether the proposed sale deeds for the tolling rights to WestConnex include the usual “no compete” clause that would require the taxpayer to compensate the private buyer of WestConnex stages one and three if a public transport “competitor” such as Sydney West Metro was introduced.

And for Port Botany, which has Infrastructure NSW’s number one freight project rating, for the duplication of its freight rail line, WestConnex is impeding on the rail corridor both slowing down any prospect of doubling the capacity, and greatly increasing the cost of any duplication.

Questionable justification for WestConnex

The need for WestConnex

There is no doubt that congestion across the transport network is dragging on the economy, and this is particularly for high productivity traffic associated with freight, public transport and construction. That improvement is required is uncontested - how to achieve that is not.

WestConnex was born out of the need for better freight connectivity from Port Botany to the major distribution hubs in Western Sydney, and better performance of the existing M5 to Port Botany. While there is an oft quoted prediction of a tripling of truck movements from Port Botany, this is very hard to confirm as it is reliant on commercially valuable predictions generated during the sale of Port Botany to the private sector, rather than an independent and unbiased analysis.

The origins of the WestConnex can be traced to the Marrickville Truck Tunnel, investigated under the Labor Government around 2004. It was initially to cost less than \$500 million and be truck only, but soon grew to \$5 billion, which included parts of the current M5 upgrade and included private cars as an income stream to offset the cost to Government.

The Coalition Government first proposed WestConnex at a cost of \$10 billion, and is currently estimating a completion cost of \$16.8 billion, excluding all of the required connecting roads to be separately funded by taxpayers, proposed unfunded extensions and additional tunnels estimated to cost a further \$28.5 billion. This assumes the cost of already budgeted stages will not rise further, though it is highly likely to rise.

The current WestConnex did not originally include a connection from the M4 to either Port Botany, or Sydney Airport. However, the “Sydney Gateway”, has since been added to the \$17 billion project to close that perceived gap, though there is no final design or firm cost estimate for the required seven kilometre connection.

Modelling to support the business case

Traffic estimations are determined by transport modelling. Critical to determining the size and location of the motorway network are the assumptions behind demand estimates. The estimates of how many people will use the motorway at any time and where they might enter and exit the motorway are then used to predict how much toll revenue can be produced to fund the construction of the motorway.

There have been repeated failures in using traffic models to accurately predict motorway demand. In Sydney, that includes the M2, M4, M5, Lane Cove Tunnel, Sydney Harbour Tunnel and the Cross City Tunnel being incorrect. The real usage has been as little as around a third of the prediction. Therefore a precautionary approach is justified.

However, the same base traffic model has been used to predict demand for the WestConnex as those that failed. The Sydney Strategic Traffic Model is the base, and it still has the built in design limitations that led to wayward predictions.

The model is “unconstrained” and assumes that as many vehicles wishing to enter the roadway can do so unimpeded. The model also assumes that all such unconstrained traffic travels at the posted speed limit, even where lanes merge and traffic enters or exits the motorway. Anyone who has travelled on a Sydney motorway knows this is untrue. Even with the proposed “ramp-metering” which allows only the number of vehicles to enter the motorway as can fit into the lane, different vehicles accelerate and merge at different speeds. And the travel time lost while awaiting a signal to enter the motorway is not deducted from the travel time savings on the motorway^{vii}.

Furthermore, the motorway will have variable speed limits so as traffic gets congested the speed limit can be reduced. This is not taken account of in the model, yet a 10km/h reduction over 20 kilometres of motorway would increase travel time by three minutes – 60 per cent of the claimed time savings.

Another major concern is that while based on standard models, the WestConnex model builds its own assumptions which appear to generate a far higher induced demand than standard, but also relies on its own “WestConnex scheme study area”, which conveniently is never defined. Both of these changes inflate the potential revenue.^{viii}

And yet a business and economic case are built on such estimates.

Poor transparency and opaque governance

Finance and closed governance

The Sydney Motorways Corporation is a private corporation exempt from the same checks and balances that apply to state government bodies responsible for building infrastructure. The corporation is not required to follow the same corruption protection systems that apply to procurement within government agencies and is not required to be fair, avoid conflicts of interest or open to competition before committing the public funds that it controls. Essentially, the funding from the state and federal governments, amounting to \$5.3 billion, are hidden payments.

This has enabled the corporation to do multi-million dollar deals without what would be considered due public process within government, and that appear to have little public benefit. For example, while great for the Greater Western Sydney Giants AFL club, the reported sponsorship seems to be unrelated to road building. While it is

possible the undefined \$1.5 billion in private equity raised against the value of the motorway would be used for these purposes, the impenetrable nature of the hidden dealings of the corporation make it difficult to know.

The corporation is funded by taxpayers, but acts as a private, profit-making corporation. It is unclear what happens if it fails to make a profit, or fails to return funds to the state and federal governments.

The federal Auditor General was concerned that the concessional loan from taxpayers would cost the taxpayer \$640 million due to it being in favour of the private sector lenders, and noted a risk to taxpayers of non-repayment.^{ix} **Value for money**

The sales process for WestConnex was set up to minimise risk to the taxpayer using a limited recourse financing model. That means if the private buyer of a WestConnex stage failed to make a profit because the traffic volumes predicted were wrong, it could not claim upon the state government.

This was achieved by sharing risk. The state government, with assistance from the federal government, would build a stage of the WestConnex, open it, collect the toll revenue, and when that revenue was stable, sell that section of road. In this way, the private sector bidding to buy the right to toll the road until 2060 would be able to make a very informed bid, knowing what the actual revenue from the road was.

Once the first section was sold, the money raised would be used to repeat the process on the next stage. This was very prudent, essentially enabling the original \$5.3 billion investment to build a \$16.8 billion WestConnex network. If the revenue predictions were correct, the initial \$5.3 billion would also be recovered, which includes concessional loans, allowing the remainder to be reinvested by government in more assets (such as the Western Harbour Tunnel, or even Sydney Metro West).

However, the NSW Government is very keen to move ahead quickly and is considering selling the M4, M4E and the new M5 at the same time, and before the revenue is known. This leaves two primary options open to deal with the risk of not knowing what the toll revenue is worth – either taking a lower price and maintaining no guarantee of revenue; or guaranteeing a minimum level of revenue to financiers to protect their shareholders. Either way, the state government would be putting billions of dollars at risk.

The NSW Government has announced it has engaged Goldman Sachs to advise on the sales process, to sell at least a 51 per cent stake of the whole of Stages 1, 2 and 3 of WestConnex. In a very unorthodox move, the sale includes the right to design the roadway, build it and collect the tolls. That is, the government is selling a business opportunity, not a necessary project. The Government will essentially cede all control to a private, for-profit corporation, relying on very weak planning controls to protect the public interest. In doing so, it will embed the excuse that the Government can do nothing to protect communities, because it is private business. The State Roads and Maritime Services already uses this line of excuse in public meetings in relation to the Sydney Motorways Corporation actions, even though the Government is the client for the Corporation, and the current shareholders are NSW Government ministers

There is intense speculation as to why the government would undertake such a risky manoeuvre, essentially outsourcing the strategic design of the future road network and losing control of its design and thus public impacts. None of the speculation has any prospect of being proved, given the veil of secrecy surrounding the Sydney

Motorway Corporation. The most common theories are that the government has brought forward the promise of the Western Harbour Tunnel and Beaches Link and needs to maximise the sale value to have any prospect of delivering it; and that it is simply a political manoeuvre to lock in the contract to build the road to avoid its cancellation should they lose the next state election (arising from both Western Australian and Victorian governments recently cancelling large-scale road tunnel projects at the change of government). It is worth noting that if the WestConnex was good value for money and delivered real transport benefits, it would not be at threat.

Inequitable allocation of costs and distribution of benefits

Tolling policy

This risk is exacerbated by the fact the NSW Government is clearly using Western Sydney commuters as a bank to fund the WestConnex. The first stage, the widening of the existing M4, which was already paid for by the public via tolls, will be tolled as though the entire road is new (rather than just widened). There will be no real benefits for drivers until the M4E is completed in 2019 (and that only provides a minor time saving as it runs into congestion on the City West Link and Parramatta Road).

Therefore, the M4 users will be paying to use a road that they had already paid for, and which will not provide any measurable travel time savings until the M4–M5 link via Rozelle to St Peters opens in 2023.

The predicted traffic per day on the M4 widening, is 163,000 vehicles per day. At opening the toll will be \$4.55, or more than \$2,000 per annum excluding weekends, annual leave and public holidays. This 163,000 vehicle estimate is considered sufficient to fund the \$500 million cost of the widening. In fact, as the state government funded this widening and did not borrow money to do so, it would be “paid back” in under two years. “Paid back” is in inverted commas, because the government sold infrastructure paid for by taxpayers to fund this work, so the taxpayer has already paid for the road once through tolls, then again through the loss of productive infrastructure. The toll will apply until 2060.

The reasons for that become apparent, when to fund the \$4.35 billion New M5 only 37,000 vehicles per day are required, or 20 per cent of the traffic on the M4 widening. This road would take 10 years to recover an interest free cost of building and operation. Drivers from the west appear to be subsidising the M5 West. This is the same model the Government chose to subsidise Transurban’s NorthConnex, which requires increased tolls to motorists heading to and from the City from the north-west to pay for a tunnel connecting primarily truck traffic from the M2 to the M1.

However, the recent announcement of Stage 4, the Western Harbour Tunnel and Northern Beaches Link, would create a minor justification for the \$7.2 billion Stage 3 M4–M5 Link, as the primary destination of drivers from the northern beaches is the Sydney CBD and most users will exit at the Warringah Freeway portals. However, the cost of Stage 4 is expected to be hugely expensive, beyond the \$509 million per kilometre of the first three stages. The combined cost of crossing Sydney Harbour on the western side, which has the most difficult geo-technical conditions, with building an interchange in live traffic on the Warringah Freeway, the most used road in Australia, will make it the most challenging road construction ever undertaken in this country.

Tolls and real costs

It is obvious then that tolls are required to build the WestConnex. If public funds were required to build it, the business case would never pass Treasury scrutiny. However, it must be remembered that WestConnex is a private motorway network for customers willing to pay for its use. Those unable to pay still have access to public roads, though many public roads will become heavily congested with the traffic discharged from the WestConnex.

Those public road costs are not completely known. As the Sydney Motorway Corporation is only responsible for selling the product it constructs, it has no financial accountability for the public cost of providing the supporting road network, nor ensuring the motorway itself is integrated with the surrounding environment.

The local authorities along the length of the motorway do not receive funding from the tolls or the state government to repair the damage to the local environment. And the state government does not receive any toll funding to offset the cost to Roads and Maritime Services of having to spend hundreds of hundreds of millions of dollars to build connecting roads to handle the traffic entering and exiting the WestConnex.

The tolls go to the private buyer to generate profit after covering the cost of buying the right to apply tolls from the state government until 2060. And those tolls rise at four per cent per annum, higher than predicted rises in either the cost of living or wages growth.

Ability to pay tolls

Tolls are a significant impost on users, particularly given the users targeted by the WestConnex largely originate in regions of the metropolitan area with the lowest per household income. While there are widely varying estimates of how much a WestConnex customer will pay per year, it really depends on which parts of the WestConnex are used and how often.

A maximum toll charge applies for most of the WestConnex, but apparently not for the New M5. So users from the south west are likely to be hit harder on an annual basis. Community groups in the south west have calculated that from 2026 the annual cost to drivers of vehicles classed as cars (which includes utes and small vans) will be more than \$6,000, up from only \$200 today. From Western Sydney it is more likely to be in the range of \$4,000 per annum. Truck tolls will be three times those of cars.

The original toll proposal included a higher toll on utilities and vans, which are predicted to make up 35 per cent of users. Given that these vehicles are used by businesses that charge customers for services, it was thought these increased user fees would be passed through to the end customer. However, the then Premier overruled that part of the proposal and therefore required an increase in the tolls for all users, regardless of their ability to recover any of the cost.

No roadway is ever cost-free to the state government. Apart from the direct cost of building the connecting road system to cope with entering or exiting traffic, there is the cost of deferring other critical infrastructure. That 'opportunity cost' in economic terms is that the original \$5.3 billion investment might have been used on public transport, schools, hospitals or other critical infrastructure.

However, there is also the cost of lower income families unable to use their income to provide better support for their children because of the toll cost, therefore relying

on government services. It is the inability to spend money in the local community, starving local businesses of income, and thus reducing local employment opportunity.

The reality is that when a toll road is built, everybody pays, not just the toll road customers.

Sydney University predicts that “toll fatigue” will occur – this is where users will not be able to afford the accumulated cost of the tolls. So they will be induced to drive, will use a portion of the toll network, then complete their journey on public roads to avoid a portion of the toll. If a driver does this before they hit the toll cap point, they can save money and not lose much time (given the average time saving is so small in the first place). For this reason, it is expected that Parramatta Road and City West Link in particular will be far more congested as a result of the M4 East to Haberfield, because exiting at the Haberfield interchange will make the daily trip cheaper.

This congestion on public roads is a cost that is absorbed by everybody, even though the profit for the first part of the trip has been retained by the investment bank and the private owners of the toll network.

Serving key destinations

Sydney Airport

Sydney Airports Corporation Limited’s estimated doubling of demand from 30 million movements to 60 million movements per annum for travel to and from Kingsford Smith Airport by road appears to be exaggerated, or at the very least assumes most of the constraints on passenger movements, including the curfew and the maximum aircraft movements, would be reduced.

Because Sydney is an end destination for international flights, and not a hub, the ability to put ever larger aircraft into service is limited. The runways cannot be lengthened much further to cater for bigger aircraft. And with greater deregulation of air travel, demand is further spread across a rising number of competitors unable to aggregate passengers onto the largest aircraft.

If curfews and caps were removed or modified, those trips would be more distributed over the day and would likely reduce peak congestion to the airport, which is partially driven by the need to concentrate movements within limited operating hours.

The likelihood of being able to substantially increase movements, or remove curfews, is considered lower given the noise issues for an airport surrounded by residential development, even with quieter aircraft.

The Sydney-Melbourne air corridor will likely remain in very high demand, which drives peak movements, and so better connections to the airport are justified. However, the WestConnex business case appears to have adopted estimates with the aim of supporting the calculation of economic benefit, rather than effectively addressing capacity requirements.

Further undermining the estimates is that the Australian Government has subsequently announced that Western Sydney Airport will proceed and funded its construction in the 2017/18 budget. It would be expected that a great deal of air travel customer demand from the west and south-west will move to Badgerys as

service offerings grow, with proposed flights to start in 2026, just three years after the airport gateway is proposed to open.

Badgerys Creek will not have the same level of operational constraints as its Sydney Airport competitor, and would therefore be well placed to grow rapidly. This is particularly as Sydney Airports Corporation Limited has said publicly it will not operate the new airport, which could have greatly restricted its growth.

While improving the existing connections to Sydney Airport may be worthwhile to reduce congestion, the extent of proposed connections does require serious review, as do ways to manage the demand by road. It may well be that the demand management proposals would reduce demand sufficiently not to require an upgraded road connection until much further into the future.

Port Botany

The more efficient movement of freight is a real economic benefit as even though heavy trucks account for only five per cent of traffic, they have disproportionate impacts on the smooth flow of traffic, the performance of intersections and road safety. The location of Port Botany so close to the airport, city and residential areas, and separated from the major logistics hubs by more than 20 kilometres, creates a significant conflict between truck movements and other local network users.

The existing M5 already connects well to the Port via Foreshore Drive and serves this need for movements from the south-west, avoiding much of the surface network. The M5 duplication (the New M5) is largely justified by WestConnex on shifting car congestion from the tunnel.

There are widely differing points of view on the need for the proposed New M5, because a major contributor to the congestion is the lack of tolls payable by private car users (via the M5 cashback scheme at \$100 million per annum). This will attract more demand and causes the road to be far more congested than if the tolls applied.

Considering the primary role of the M5 is to serve truck demand to Port Botany, the grade is steeper than recommended and the tunnel diameter is, astonishingly, smaller than required for safety. However, the effect of the sub-optimal gradient is only realised when there is significant congestion causing trucks to lose momentum uphill. Easing tunnel congestion may well negate the need for a duplicate tunnel for some time as the number of over-sized trucks is a very small proportion of movements.

From the M4 there is a need to more efficiently connect the port to the western freight distribution hubs. The volumes predicted assume a strong growth in Port Botany freight traffic, perhaps a tripling over the next 20 years. It also assumes that the freight will be carted during normal business hours and conflict with commuter traffic.

The Sydney Ports CEO has publicly stated that the existing New M5 tunnel and portal to St Peters does not address the connectivity issue for the Port at all, and the proposed Sydney Gateway overland connection is unlikely to be the best solution.

These concerns were raised before the F6 Southern Connector was announced again as a live project, which would discharge at the St Peters Interchange and completely overwhelm the New M5 and local road network capacity, trapping trucks in significant congestion on surface roads and in tunnels.

Sydney CBD

The Sydney CBD and local government area is Australia's economic powerhouse, delivering more than \$1 billion a year in stamp duty to the NSW Government. It needs to cater for extreme levels of activity within a highly constrained area – resulting in intense competition for road space, particularly for deliveries and service vehicles. This will be exacerbated over the next five years due to the largest construction schedule the CBD has experienced.

The CBD light rail has taken a major north-south public transport corridor out of the network, the northern end of the CBD is largely being rebuilt near Circular Quay, new stations for the Sydney Metro City and South are about to commence construction and the entire western edge of the city is undergoing renewal.

The southern end of the CBD, which is the gateway for traffic entering from the west is highly constrained already, and will become more so as the Central Station precinct is developed further. The Minister for WestConnex has publicly stated that he does not believe any traffic from the WestConnex will discharge into the CBD at all, even though the business case assumes there is significant demand from Stage 3 into the CBD, and the traffic discharged from St Peters is directed to the southern end of the CBD. The F6 Southern Connector will more than double that traffic seeking to enter the CBD, most likely choking Elizabeth and Chalmers Streets.

Therefore, the available road space must be prioritised for bus, service, delivery and construction vehicles. The ability and justification to accommodate private car drivers, who comprise less than 15 per cent of commuter in the morning peak, is lessening every week.

The NSW Government has already noted that private car use in the Sydney CBD has decreased by seven per cent over the past year, and expects it will not increase for a considerable time. This follows on from a continual, gradual decline since 2006. The NSW Government Coordinator General of the CBD is actively pursuing options to further reduce private car traffic to the CBD to ensure economically critical transport can move.

The CBD is also growing employment, with a further 215,000 jobs predicted in the next 20 years. Those employees will need to be able to walk in the city centre, and will require footpath space, which can only come from existing road space.

As more than 85 per cent of trips to and from the City are already by public transport, walking or cycling, it makes sense to support those very popular choices. Even with car trips to the City, three quarters originate from within the City or its closest neighbouring areas^x, something the WestConnex business case fails to recognise.

Flaws in the transport planning logic

Cars and motorways

Rather than focussing on the need to move freight and service vehicles the NSW Government's current approach to building a motorway network relies on inducing travel by private vehicles in order to increase toll revenue. This has the perverse result of requiring even bigger tunnels, with far more entrances and exits that are complicated and have pushed the route away from the primary connection to the Port Botany and Sydney Airport.

The WestConnex M4–M5 connection between Rozelle and the St Peters Interchange appears to generate more than half of its predicted demand locally. It is not servicing a need to connect car drivers from the west to the south west or to the port. And the numbers used to justify the connection also appear to significantly overestimate the demand for small commercial vehicles to enter the CBD from the west or the south west. While the business case has not been updated since there were significant design changes, it would appear that more than 22,000 light commercial vehicles (this excludes trucks) are expected to enter the city boundary each day.

It is unclear why the NSW Government believes that it should increase private car capacity from the west or south-west to the CBD, an area which has very limited capacity to absorb any traffic, and which has reduced demand in the past year.

In fact, very close to 90 per cent of commuters to the CBD from the west and south-west use public transport. While the Australian Government under Labor announced in March 2013 that Australian Government funding and loans for WestConnex was contingent on a direct connection being included to the CBD, this is not Coalition government policy.

The recently opened South West Rail link has already had to upgrade services to cope with demand as commuters abandon their cars for the maximum \$15 per day Opal fare. Demand from the west for rail services has increased more than 10 per cent in a year. This is an ongoing trend that is consistent with the NSW Government's policies and should be supported.

The NSW Government has also committed publicly to building a Sydney Metro West from Parramatta to the CBD, to relieve congestion on the main west rail line which continually operates above capacity. This major new metro is proposed to operate a train every four minutes, with the capacity to double that frequency if required. At \$10 billion, it would provide an attractive alternative to using WestConnex for commuters – and will challenge the demand assumptions underlying the WestConnex business case. It would also enable metro connections to the Western Sydney Airport and through to the Eastern Suburbs, via Green Square.

As the inner city significantly increases its residential capacity, there is likely to be less growth in demand for commuters from further afield. Approximately 50 per cent of the jobs growth over the next 20 years is expected to be able to be met from people living within the City of Sydney area.

The CBD, while the powerhouse of the NSW and Australian economy, still hosts only 20 per cent of jobs in the Sydney Region. The Greater Sydney Commission is driving jobs west, and Parramatta is currently growing more rapidly than the Sydney CBD, although from a lower base. The jobs precinct around the Western Sydney Airport is expected to eventually contribute more than 60,000 local jobs from 2023 and onwards. Already major aerospace companies are announcing deals to locate to the new airport. Demand for commuters using private cars over long distances is, therefore, expected to trend further downwards.

It would appear, then, that the NSW Government itself is implementing a wide range of projects and policies that contradict the case of the WestConnex and undermine its business case.

This is especially important, as University of Sydney research has found that this catering to private cars has driven up costs to the point where the required tolls to

fund the project are expected to be beyond the capacity of the majority of potential users to pay.^{xi} The government has already come under intense public pressure to not apply a toll on the M4 widening component of the project. It has already announced a one month toll free period at opening. If it is sympathetic to sustained pressure, it may well be forced to do the same for the M5, which is currently scheduled to lose its “cash back” scheme for private commuters in 2026. While this has no effect on private funding it would require the taxpayer to subsidise private buyers at a rate of around a half a million dollars per day.



Figure 3 – ‘Toll fatigue’, courtesy of *Sydney Morning Herald*

The potential inability of car users in particular to afford the full tolls proposed, which will be adjusted annually above inflation for at least 30 years, is expected to incentivise drivers to use only a part of the tollway, and then switch to local roads.

As motorists drive more between the toll network and the local network they will cause intense traffic levels around on and off ramps. This congestion that was previously distributed and filtered across the broader road network will now be heavily concentrated around the motorway access points. This led the NSW Government to put forward a decade-long roads and tunnel upgrade program to relieve its newly created congestion.

If toll users cannot afford to use the proposed WestConnex to the extent the business case predicts, the saleability of the road will be severely compromised and the ability to continue building the network will either fall to the taxpayer, or will grind to a halt.

The ‘missing link’

Much has been made by the government of the need to provide “the missing link” between the M4 and the M5. This is a complete misnomer, as there are multiple links between the two motorways, not the least of which is the M7, itself a \$2 billion project.

It is worth noting that in the *WestConnex Updated Strategic Business Case* there is this figure:

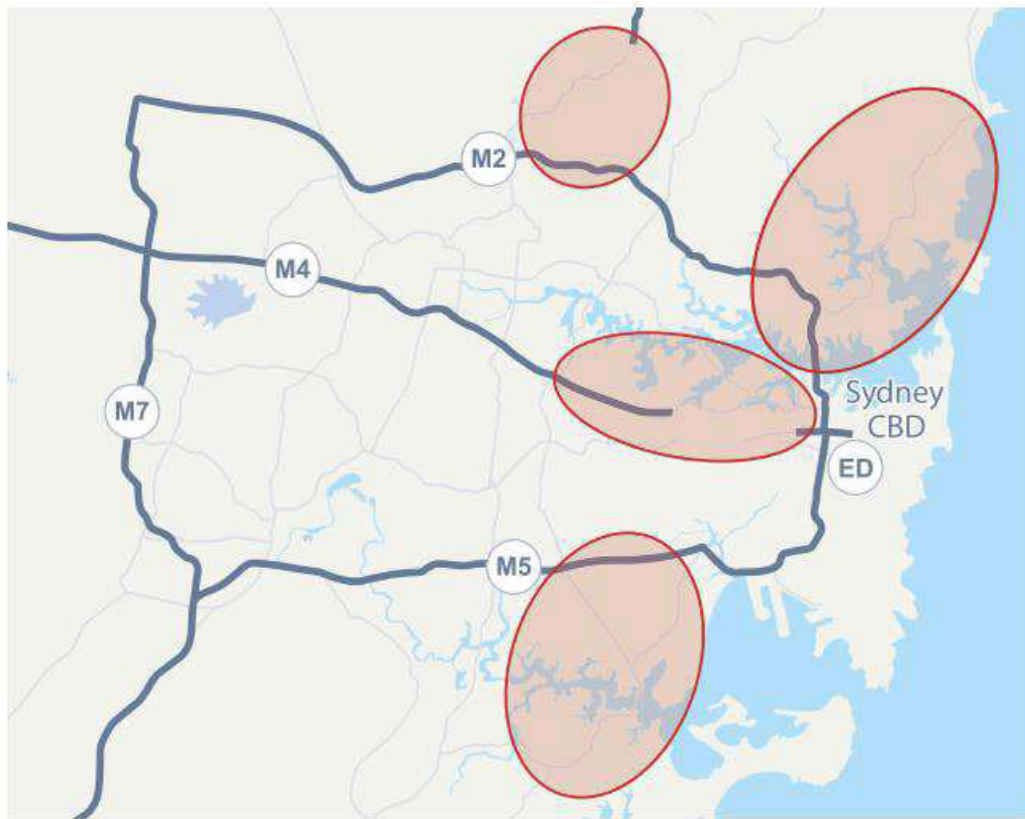


Figure 4 – From *WestConnex Updated Strategic Business Case*, page 71

It purports to show the “missing links” in the road network in the red ovals. Note it does not show the proposed M M5 connection as a missing link. It does show that the Eastern Distributor connects the two roads. Neither does it show any missing connection between the western suburbs and Sydney Airport or Port Botany, even though this demand is referenced throughout the report.

The real demand driver for freight is to connect Port Botany truck traffic to the M4 without it having to go further west.

The WestConnex, although claiming to be part of an integrated plan, appears to stand alone as an overlay of the existing transport and road network. It is poor practice to consider adding even one additional link without fully understanding the broader roles and functions of all of the options for people travelling according to their transport need. The WestConnex assumes that people should travel by road, predominantly in single occupancy vehicles, regardless of trip purpose or the need to use a road to complete the trip.

The M4–M5 link was investigated independently for the City, and the traffic experts found that a significant proportion of the users of the link would be local road users, essentially travelling between points close to Haberfield, Rozelle and St Peters. Therefore, the justification that the link is required primarily to connect freight traffic from the M4 to the M5 is not supported by the WestConnex business case. This appears to be more so, given that since the business case the design has changed

significantly and increased the distance required to be travelled to connect between the two roads.

This is further supported by there being a number of existing connecting state roads between the M4 and M5 which would provide a shorter route between the port and airport to the M4, and would not require such extensive work. They might, with the right attention, even provide competitive travel times.

While the WestConnex business case states that it considered some of these links, it does not give any detail about why they were dismissed, and does not identify whether it considered any upgrades to existing assets to make them perform better, rather than dismissing them as they currently operate.

If the motorway network was not so focussed on generating toll revenue by increasing demand, the complexity of connections could be greatly reduced. In fact, all existing connections between the two roads could be greatly improved at far less cost than the proposed M4–M5 link.

Local impacts

For the City of Sydney area to remain Australia's global city and the economic powerhouse of the NSW Government, producing a quarter of the NSW economic output with an annual value of \$109 billion, it needs to be an attractive place to live and invest.

Sydney is slipping down world city rankings from consistently being in the top 1-3, to regularly dropping from the top 10, primarily due to its poor transport performance for commuters.

That performance will not be solved with motorways, which are critical for freight and services movement, but are far less important to commuters. While many city workers are increasingly living closer to their work, with housing affordability reaching crisis levels, efficient and attractive public transport is more important than ever.

It is also important to maximise the limited physical space in the city to those high value, knowledge-economy jobs that create wealth for the entire NSW Government. To do that Sydney needs to have multiple centres with tiered investment.

The Greater Sydney Commission proposes having distributed centres across the Sydney Region connected by quality public transport services. The City of Sydney strongly supports this.

A great global city like the Sydney Region has more jobs closer to the people, and centres of opportunity that connect and collaborate seamlessly. Congested motorways do not provide for that connectivity.

At a site by site impact, the Sydney Motorway Corporation is overseeing a massive construction task that is destroying local environments. The NSW Government is then following that up with degradation of local communities through road widening, removing trees, narrowing parks and degrading pedestrian environments.

The so called Alexandria to Moore Park Connector, which is from the St Peters Interchange to Moore Park at the corner of Dacey Avenue and Anzac Parade, will double in demand to 61,000 cars per day, growing to 85,000 cars per day by 2041. This does not include the traffic expected from the newly announced F6 Southern

Connector, which would likely double the number. To cater for this, Roads and Maritime Services is planning a seven lane freeway through the most densely populated area of Australia, requiring buildings to seal their windows against noise and air pollution. At the Moore Park intersection, RMS has proposed a 300 metres long, 12 lane wide intersection that is conservatively estimated to cost \$500 million. That is from state coffers, not from the WestConnex project funding.

The expected health effects of the St Peters interchange, due largely to particulate matter and brake dust increases and shedding, include increased respiratory illness particularly in children and older people (the most typical park users, adjacent to the interchange), shortened life span and greater likelihood of contracting serious diseases.

The road safety of the feeder roads required to support the interchange are also questionable, raising average traffic speed and increasing the complexity and length of time it takes to cross widened roads. And with the proposed removal of all kerbside parking, kerbside trees and any infrastructure next to the kerb to protect motorists who mount the kerb at speed, pedestrians will be highly exposed to any accident.

The St Peters interchange also removes a site that would house up to 13 000 people, close to the daily number of travellers to the CBD that WestConnex is expected to generate.

Figures 5 and 6: Examples of the poor quality of WestConnex infrastructure with the finished interchange at James Ruse Drive, Parramatta and the Kingsgrove bike path.





3. Solutions package

This section proposes options worthy of further consideration and investigation by the NSW and Australian Governments. Both governments are allocating billions of taxpayer dollars to the WestConnex without offering any broad context or understanding of what other options might better fix the issues the WestConnex purports to solve.

Rather than proposing only adjustments to the infrastructure plan, the City proposes that a broader, integrated approach be taken that can effectively manage demand, defer major infrastructure investment, increase opportunities to connect to employment and services across the Sydney Region, and reduces the risks to taxpayers.

The City recognises that a sophisticated scenario modelling and assessment process would need to be applied to this solutions package, as would be expected with a proposal to spend nearly \$17 billion of public funds. It is not too late for the NSW Government to commence a transparent process to assure the public, investors and the federal government that it is using the best combination of solutions to ease congestion across the Sydney Region.

The City of Sydney proposal



Figure 7 – The City's proposal (preliminary, for further investigation)

Demand management

- Reduce demand for long distance car commuting by shifting demand onto public transport wherever feasible. This includes:
 - bringing forward Sydney Metro projects as far as possible with Sydney Metro West to commence in 2020, connecting from the south western suburbs, through the Western Sydney Airport terminal locations, to Parramatta and then to the Sydney CBD to reduce demand along the entire corridor, including Victoria Road; and
 - removing the station access fee at the Sydney Domestic and Sydney International Airport Line stations to maximise use of the already announced doubling in service provision from 2018.
- The Western Sydney Airport should be brought forward as far as possible and the Australian Government should reallocate its \$2 billion low interest concessional loan for the building of WestConnex and offer it towards the construction of the cross regional Metro rail connection to the airport, thereby shifting long distance demand to the Sydney Airport, and enabling rail commuting to local jobs being created in the Western Sydney Airport precinct.
- Toll private cars appropriately (network wide) to deter them from interacting with more economically important freight, services and construction traffic.

Application of the toll to the M5 could be softened with a free Opal card for a year for existing registered Cashback users.

- Manage the demand for freight to occur out of peak travel times, to avoid unnecessary congestion (as occurred during the Olympics) and use truck tolls to incentivise movements outside of the peak.
- Avoid inducing demand to the Sydney CBD, where there is no capacity to absorb that traffic and which, to now, has been reducing.

Network upgrade

- Instead of building the WestConnex M4 – M5 connection between Rozelle and St Peters interchange, upgrade the A3 connection between the M4 at Homebush and the M5 at Canterbury with grade separations, intersection upgrades, and localised widening. This could be achieved at a cost of less than a fifth of the M4–M5 link, would have similar travel time benefits and would not require a toll. It would also significantly improve local amenity by reducing queuing at major intersections and reduce air pollution by reducing stop-start traffic for large trucks.
- M4 East to Haberfield should terminate at the Haberfield interchange with the City West Link.
- The work commenced on the City West Link should be completed to a stage where it can be capped and held until required.
- The New M5 tunnel should be halted immediately and a complete design review and business case refresh take place considering the alternatives to either delivery or design.
- The St Peters interchange site should be sold for residential development, with an international design competition to maximise its yield while creating an attractive environment, and returning the cost of site procurement and remediation to the Sydney Motorway Corporation.
- The NSW Government should accelerate its cooperation with the Australian Government to clear the way for more efficient connected and autonomous vehicles to enter service on roads to maximise the efficiency of vehicles, particularly heavy vehicles, and embark as soon as possible to upgrade the connected vehicle supporting technology.

The business case

- Re-investigate the entire WestConnex business case based on the major changes to key assumptions arising from the approval and funding of the Western Sydney Airport; removing the station access fee for airport stations; bringing forward the Sydney Metro West to commence construction by 2020; taking into account the changes in residential capacity near and within both the Sydney and Parramatta CBDs.
- The new business case should clearly articulate the origin and destination of the vehicles expected to use the WestConnex, and it should show predicted growth scenarios with and without the public transport and Western Sydney Airport developments.

- The predicted traffic should also be based on both growth in local employment being achieved through densification and new industries (like the new airport, or the 20 000 banking jobs at Redfern), as well as residential growth, taking into account the preference for local work and avoiding long commutes.

Transparency

- The state should set up an independent WestConnex Ombudsman with the role of collating and releasing all relevant information to ensure that all funders of the proposed motorway – including investors, tax payers, toll customers and ratepayers in every local government area the road passes through – understand what they are paying for, what is being sold and at what cost, and how the investment is performing.
- While Cabinet confidentiality needs to be protected, public investment must not be hidden behind corporate structures for the singular purpose of obfuscation. Furthermore, a contract to build a road that will become a public asset, funded using a road tax (toll), should not be commercial in confidence. A high degree of transparency is required and expected to protect the public investment.
- If there are any clauses in any sales documents that inhibit the NSW Government from benefiting from public transport investment within the catchment of the WestConnex, a great swathe of the metropolitan area, that needs full disclosure and public debate prior to signing.

Technology

- Use connected vehicle technologies to increase the capacity of existing motorways by as much as 60 per cent, particularly for heavy vehicles (building on the work of the NSW Transport Future Transport team);
- Use information and booking platforms for on and off street parking to reduce circulation of traffic and provide shortest-route advice (building on the work of the NRMA)
- Provide total trip cost and length information to road users to assist in exercising choice between public transport and driving – given driving will cost more and take longer
- Introduce metro rail more quickly from the west to improve the public transport experience and options
- Use more appropriate transport modelling that takes into account the actual capacity of not only the motorway, but the speed at which it will operate as it congests and the inability to discharge effectively into the local road network.

Sydney Airport

Access to Sydney Airport is an important justifier for all WestConnex stages. The NSW Government should urgently review its commitments based on a doubling in demand from the airport stated in the business case because:

- Predicted growth of private vehicle traffic to Sydney Airport could be significantly reduced by removing the hugely counterproductive station access fee on both the Domestic and International Airport stations, reducing the fee payable by

passengers by nearly 70 per cent. This would significantly reduce private vehicle traffic, taxi and hire car demand.

- If the removal of the fee increased rail use to Sydney Airport by just 10 per cent of drivers, it would significantly undermine the business case by alleviating the congestion on the approaches to the airport, including the Eastern Distributor/Southern Cross Drive/General Holmes Drive combination that is regularly at a standstill. Since the fee was removed from the Mascot and Green Square Stations in 2010 there has been a 115 per cent increase in passengers and growth continues.
- The estimated doubling in demand assumed there would be only one international airport servicing the Sydney Region. From 2026 the unrestricted Western Sydney Airport will commence operating on a limited basis, just three years after the Sydney Gateway (which feeds the airport) is proposed to open.

There is significant political agitation for the Western Sydney Airport to commence services earlier, and the Prime Minister is seeking a deal to extend rail services to the airport by 2026. This would reduce the need for WestConnex and poses a significant threat to its business case, particularly for the New M5, St Peters Interchange and M4–M5 connection.

- Tolling private cars on the M5 airport exits at a higher than normal rate would reduce car demand to the airport significantly, up to 25 per cent, in conjunction with the removal of the station access fee. The lack of a toll for car commuters on the M5 stimulates additional demand for driving and leads to far more traffic in the tunnel than originally proposed. It is open to the government to remove the subsidy at any time.
- The St Peters Interchange proposal shifts airport access to the north, and requires realignment of the existing freight lines and impinges on the corridor to replicate the freight lines.

If another M5 proves to be required, the tunnel alignment should be to the south and directly link cars from the tunnel to the airport precinct, avoiding rail clashes, shortening the tunnel and freeing up surface connections for local traffic. It would allow the duplication of the rail to the port to proceed unimpeded.

The ground conditions south of the airport appear to be the principal reason a northern alignment was chosen, quite possibly to speed construction. However, tunnelling in such conditions is not prohibitive, particularly if a smaller tunnel is required than proposed through reducing demand. By applying the toll and taking off the station access fee along with the introduction of the Western Sydney Airport, this connection may not even be required, or would certainly be deferred by a decade or more.

A southern alignment would also connect to the Eastern Distributor, significantly improving airport access from the north as well.

- This combination of measures would likely save the road users of NSW \$7 billion to \$10 billion in tolls.



Figure 8 – City proposal is to realign new M5 south with direct airport connection if demand justifies in 2035. WestConnex proposes new M5 to the north, surface connections to the airport, realignment of the rail link to Port Botany by 2023.

Port Botany

Port Botany was the original problem to be solved by what has become WestConnex. However, additional capacity to the Port is almost an afterthought via the New M5 and then a complex network of surface connections called “Sydney Gateway”, which won’t be delivered until 2023, four years after the New M5 opens.

Port Botany container traffic was predicted by the sales prospectus to triple over the next 50 years, however that has not been independently tested.

Nonetheless, port access certainly requires attention, particularly links to the western logistics hubs, and this connection is used as a justification for the M4–M5 link in the WestConnex business case, to connect St Peters interchange and Rozelle.

There are multiple strategies that can be used to achieve better freight travel time reliability, some of which are part of the WestConnex business case, and others that require investigation:

- The doubling of rail capacity is critical to managing container traffic from the port. However the Sydney Gateway component of Stage 2 requires that even the existing freight rail connection is shifted. In fact, it calls into question whether the duplication can be achieved. Shifting the airport access to the south avoids this, and allows the rail duplication to be brought forward, taking further pressure off the existing M5. Note that Infrastructure Australia still rates the freight rail duplication its number one freight priority for NSW, above WestConnex.
- The M5 is proposed to be tolled in the WestConnex business case, and this is absolutely essential to avoid having to build yet another tunnel. The NSW Government has previously backed away from applying the M5 toll, but for WestConnex to work the toll must be applied, as is proposed from 2026.
- Much of the traffic congestion in the peak that prevents the existing M5 working efficiently appears to be airport demand for private vehicles and taxis. Removing the station access fee could significantly reduce this congestion, greatly

extending the life of the existing tunnel investment. As per above, tolling the exits to the airport from the existing M5 earlier than applying the toll for the use of the M5 could significantly ease congestion at the airport, if applied with the removal of the station access fee.

- Shifting any New M5 to the south would also make it a direct connection to the port. While more difficult in terms of ground conditions and engineering, and certainly requiring extra time to construct, it would also remove diverting trucks by nearly 9 kilometres from the straightest route, and having them operate 7 kilometres on surface roads, including major intersections. It could still be delivered prior to the current 2023 proposed opening of the gateway.
- Implementation by TfNSW of a more sophisticated Port Botany Land Side Improvement Strategy, using GPS and traffic flow information to dynamically allocate slots for container pick-up, to ensure that increasing truck movements happen predominantly outside of peak and that queuing is largely avoided both within and on the approach to the port.
- Prior to considering further construction of the New M5, the NSW Government should as soon as possible upgrade the A3, which was built as a link road between the M4 and M5. Grade separating four key intersections would provide a link to the M4, without the need to go via Rozelle and St Peters, and would be toll-free. At a cost of less than \$1 billion there would be marginal time differences compared to the existing proposal.
- With less traffic being pushed to the Anzac Bridge and the proposed Rozelle interchange, that link could be deferred until the Sydney Metro West is in place and demand is known. There is significant concern in the traffic planning community that the Anzac Bridge would exceed capacity as soon as the Rozelle interchange opened. This would then trigger the immediate need to build the next congestion relief project, the Western Harbour Tunnel, costing at least \$10 billion. It might also trigger a need to replicate the Anzac Bridge and to increase capacity on the Western Distributor (already an eyesore).
- With the above demand management in place, there would also be capacity freed on the Eastern Distributor (see Airport above) to provide another link from the West via the City West/Anzac Bridge/Cross City Tunnel for south bound traffic. This would work as an overflow.

Sydney CBD

The NSW Government and Federal Governments should abandon any part of the WestConnex that aims to attract private motor vehicles to the Sydney CBD because:

- As shown in the NSW Government's own *Sydney City Centre Access Strategy* (2013) the number of people driving to the city centre in the morning peak hour has remained constant over the past 10 years (while making up a decreasing share of all trips to the CBD). It has been public transport that has taken on the bulk of growth in travel to the CBD, increasing by more than 10 per cent per annum.
- The NSW Government has since the *Sydney Centre Access Strategy* was published achieved a further seven per cent reduction in private car traffic to the

CBD in the past year, through demand management policies and this success demonstrates that no further access is required for a shrinking demand.

- There are opportunities for the NSW Government to manage freight demand within the CBD much more rigorously, through a combination of access controls and improvements that build on the Sydney Olympics experience, information provision re the availability and location of parking to greatly reduce unnecessary circulation, and pricing parking to shift demand from the peak.
- There are opportunities for the NSW Government to change parking controls, particularly by providing a binding definition of “early-bird” parking, and to coordinate the introduction of technology that allows casual parkers to book a bay and take the shortest possible route to the parking station (building on the work of the NRMA). Similarly it could work with councils to implement a range of technologies to make street parking far more comprehensible and easier to understand, further reducing congestion in business districts.
- The NSW Government is already building the Sydney Metro North West/City/South to Bankstown and has announced a desire to build the Sydney Metro West, all of which will reduce private vehicle demand through providing high capacity, high comfort, high quality public transport services, as is the trend worldwide, (along with removing motorways).
- Changes to how polycentric Sydney Region functions are already occurring with Parramatta now growing more rapidly than the CBD, and this region and the Western Sydney Airport need the investment more than a Sydney CBD-centric motorway.
- Housing growth in and around the Sydney CBD is outstripping the total supply elsewhere in the Sydney Region, creating far more supply of workers for the CBD from nearby. The demand for private car travel to the CBD is expected to decrease over time as a result of these demographic shifts.
- The WestConnex business case seems to show that a lot of demand for the Stage 3 will be generated by attracting drivers from within 5 kilometres of the CBD to drive to the CBD, directly going against attempts by the NSW Government to reduce demand for private cars in the city.

Cars and motorways

The Government should prioritise the movement of service and freight vehicles without also prioritising private car movements, thus reducing the overall capacity needed of the WestConnex, which would also reduce the complexity of entry and exit points and focus on the highest productivity for scarce road resources. It should consider instead:

- Mode shifting demand from private cars by increasing the availability and quality of public transport, particularly by bringing forward the Sydney West Metro which is a direct competitor to the WestConnex, and would service far more taxpayers and boost the economy significantly by having a rapid connection between the Parramatta and Sydney CBDs.
- Support the Parramatta/Sydney Olympic Park region by improving local public transport connections, upgrading the Parramatta/Liverpool T-way, implementing

the Parramatta light rail project, improving local road connections and improving park and ride facilities.

- Move to implement the Greater Sydney Commission recommendations to create far more job intensive centres in Parramatta and the Western Sydney Airport precinct, reducing demand to the east.
- A comprehensive pricing policy that favours public transport over car use creating room on the road network for the most productive uses.
- Adopting the NRMA mobility policy to accelerate the “Smart Transport Future” which would reduce the number of vehicles required to move the same number of people, and reduce the amount of motorway required to cater for the same number of people by using connected and autonomous vehicle technologies. It is estimated that by using smart technologies the capacity of existing motorways could be increased by between 40 and 60 per cent.
- Instead of building the WestConnex M4 – M5 connection between Rozelle and St Peters interchange, upgrade the A3 connection between the M4 at Homebush and the M5 at Canterbury with grade separations, intersection upgrades, and localised widening.

ⁱ *Principles and Guidelines for Economic Appraisal of Transport Initiatives (2013)*, Transport for NSW, p27.

ⁱⁱ *Extra million catching trains to Sydney Airport prompts need for more services*, Matt O'Sullivan, Sydney Morning Herald, 14 May 2017, <http://www.smh.com.au/nsw/extra-million-catching-trains-to-sydney-airport-prompts-need-for-more-services-20170513-gw4coq.html>

ⁱⁱⁱ *Record works test city's temper*, Brad Norington, The Australian, 9 June 2017, p6.

^{iv} *WestConnex Business Case Review*, SGS Economics and Planning, P7.

^v *WestConnex: Assurance to the Government*, NSW Auditor-General's Report to Parliament p29, Exhibit 15: Preliminary business case Gateway review ratings; and *The Approval and Administration of Commonwealth Funding for the WestConnex Project*, Australian National Audit Office Conclusion 2.7, <https://www.anao.gov.au/work/performance-audit/approval-and-administration-commonwealth-funding-westconnex-project>

^{vi} *WestConnex Business Case Review*, SGS Economics and Planning, P31.

^{vii} *The Conversation*, Michiel Bliemer, <https://theconversation.com/why-fewer-drivers-are-likely-to-use-westconnex-than-predicted-38286>

^{viii} *WestConnex Business Case Review*, SGS Economics and Planning, P30.

^{ix} *The Approval and Administration of Commonwealth Funding for the WestConnex Project*, Australian National Audit Office, Chapter 3 points 20-23,

<https://www.anao.gov.au/work/performance-audit/approval-and-administration-commonwealth-funding-westconnex-project>

^x *WestConnex Business Case Review*, (quoting Transport for NSW data) SGS Economics and Planning, P16-17.

^{xi} *Motorists Unwilling To Pay For More Toll Roads*, Sydney Morning Herald, November 11, 2015, <http://www.smh.com.au/nsw/sydney-motorists-unwilling-to-pay-for-more-toll-roads-study-20151110-gkv5b3.html>