

NEW BRIDGEWATER BRIDGE MAJOR PROJECT

Representation by Geoff Lucas to the Tasmanian Planning Commission

My Interest in the Bridgewater Bridge replacement

- I was one of the community representatives at the original Value Management Workshop in 2000 - it was a very good process that came up with some practical, commonsense and generally well-supported options for the bridge replacement.
- When the new design emerged in 2010, I was, along with many people in Granton and Bridgewater, astonished by the size, negative impact, and extraordinary departure from the sensible designs that came out of the 2000 Value Management Workshop. We formed a working group of residents from around the bridge catchment, looked at all aspects of impact on the community, transport connectivity and functionality as well as getting our heads around the project teams reasons for such a design.
- Community anxiety led to a public meeting, attended by the project team, the Minister David O'Byrne and many others. Subsequently a further Value Management Workshop was convened and ran its course. I was extremely disappointed by the outcome, as very little changed - certainly not in the area of impact to the surrounding community.
- It became clear to me that the often quoted principal of *"the benefits from a bridge that provided consistent flow from the Brighton Bypass to the Brooker Highway where the vehicles could glide along without losing momentum - saving time and diesel/petrol"* were so significant that nothing else mattered. (These are my version of the words as I can't find it in print after all these years)
- To achieve the height on the Granton side it was decided that a core design principal was *"grade separation at Blacksnake Lane"*. This is a nonsense - the roundabouts/slip lanes/ big loops needed to make this work have been redesigned many times - always with the same outcome - they can't make it work, and the negative impact on Blacksnake Lane, Lyell Highway and Main Road traffic FAR FAR outweighs any gains from a few seconds and a bit of fuel saved by crossing the bridge on cruise control.
- As someone who has been involved for 22 years, I've had opportunities in the last few years to comment on recent developments which I have always taken up. Most recently I offered an alternate design concept which will I'll include later in this document to illustrate my representation to 4.2 Transport of the Assessment Criteria.
- I wasn't advised by the project team of the exhibition period, and only noticed it on a small sign on a stick at the bottom of Blacksnake Lane a couple of weeks ago. It was blown over the next day. If my representation is lacking, it's because I've only had a few days to get it together.
- I've consulted with Alan Seath, a resident of Bridgewater, whose interest and involvement has also covered a long period. He has provided me with another point of view, a great deal of support and some input to include in this representation. He also was not aware of the exhibition period.

My Details

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We built our house in Blacksnake Lane over 30 years ago. Our family consists of myself, my wife Christine, son Justin and 6 year old granddaughter Ricki-Lee.

4.0 Relevant land use planning matters

4.1 Policy and strategy context

4.1.1 A major project impact statement must provide an assessment of how the use and development of the land will:

- (a) be consistent with furthering the objectives specified in Schedule 1 of the Act;
- (b) not be in contravention of a State Policy and any made Tasmanian Planning Policy (TPP);
- (c) not be inconsistent with the relevant regional land use strategy; and
- (d) not be inconsistent with any relevant local strategy.

My Representation on 4.1

The report by Midson Traffic Pty Ltd (4.10) summarises the Planning Scheme Road and Railway Assets Code Assessment. I'd like to make the following observations:

- **Page 51 Brooker Highway.** Midson Traffic advise that the design **DOES NOT** meet the requirements of the Planning Scheme.
"The Project will alter traffic flows by transferring Lyell Highway traffic onto the southern interchange. This will increase traffic flow beyond 10% of existing flows. The Acceptable Solution A1 of Clause E5.5.1 of the Planning Scheme is therefore not met at the Brooker Highway junction."
- **Page 52 Main Road.** Midson Traffic advise that the design **DOES NOT** meet the requirements of the Planning Scheme.
"In this case the Project will rely on the redevelopment of the section of Main Road north of the existing Brooker Highway interchange to provide connectivity with Lyell Highway. This will increase traffic flows greater than 20% of existing movements. The Acceptable Solution A3 of Clause E5.5.1 of GIPS is therefore not met."
- **Page 50/51 Blacksnake Lane.** Midson Traffic advise that the design **DOES** meet the requirements of the Planning Scheme west of the interchange, but fails to mention that Blacksnake Lane continues to the waterfront. The section of Blacksnake Lane that goes under the highway will carry all vehicles going from the Derwent Valley across the bridge and also from the bridge going to the Derwent Valley, including fully-laden 25 metre log trucks going to Boyer (as they are too big to use Boyer Road). This is on top of existing traffic. The figures of these Derwent Valley/bridge interactions are not quantified in the Midson report (that I can see) - I've tried to extract them from the Peak Survey Data on pages 62 and 63 - my best estimate is 3,800 a day. I'm happy to be corrected. If in the ball-park, the Blacksnake Lane design also clearly **DOES NOT** meet the requirements of the Planning Scheme.

4.2 Transport

4.2.2 Safety and efficiency of the road and rail network

Provide a traffic impact assessment that provides details of how use and development minimises any adverse effects on the safety and efficiency of the road and rail network and uses dependent upon it, including consideration of:

My Representation on 4.2

(a) safety and efficiency for vehicles, public transport and strategic freight movement, such as speed limit, traffic flow and public access;

Ever since the "Blacksnake Lane solution" was conceived, the traffic problems of diverting the Lyell Highway, using a small local road (Blacksnake Lane) and trying to squeeze it into spaces that are too small and have some steep inclines, and adding travel time and inconvenience for every trip on the Lyell Highway - are by far the most severe deficiencies of this flawed design. By my estimate, the Western intersection is at least 60% less efficient than the present roundabout (even taking into account the present roundabout's design flaw that banks up northbound traffic every afternoon).

Reading the report by Midson Traffic Pty Ltd brings to light the following:

- Traffic from New Norfolk going across the bridge, and also from the bridge turning right to New Norfolk are not shown in this report (That I can find). My estimate of 3,800+ a day of travelers to and from the Derwent Valley across the bridge are SEVERELY disadvantaged, followed by the 9,500

Derwent Valley vehicles per day that travel Hobart/Derwent Valley and return each day.

- Blacksnake Lane is a dead-end street. There is only one way in and out - that is, through this convoluted interchange. Approximately 9,800 additional vehicles will pass the exit from Blacksnake Lane every day - getting in and out will be really difficult, particularly in peak hour when we are trying to get kids to school and get to work. But the real problem may well be the affect of a traffic incident anywhere in the interchange - as there is no escape route for Blacksnake Lane residents, we may be trapped in or out of our homes - not able to pick up kids etc.
It a possibility that traffic lights will be needed here, if this design goes ahead.
- Page 37 and 38 of the Midson report have some commentary on the Southern intersection where all this Lyell Highway traffic will be going, but it doesn't make any sense - or show numbers that are anywhere near the reality.
- There is no risk-assessment or any scenarios of what will happen if there is a prang somewhere in the interchange. There are at least 4 potential danger spots in the Blacksnake Lane interchange, and at least the same number again that will slow and impede all Lyell Highway, Main Road and Blacksnake Lane traffic - all day every day.
- Because "*grade separation at Blacksnake Lane*" has been a design criteria for the last decade, no effort has been put into properly evaluating the cost/benefit of the interchange - as it has simply been a given that it will be built.



(b) safety of junctions, vehicle crossings and level crossings;

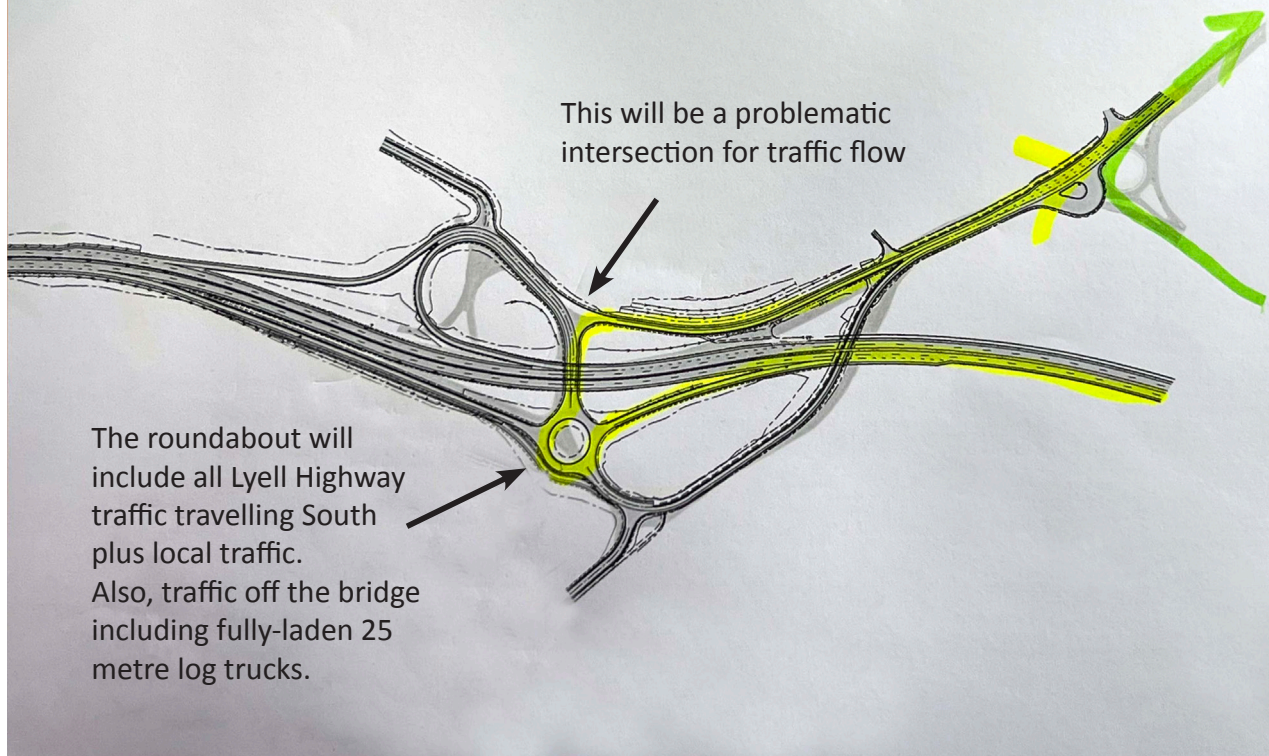
My representation will focus on the Southern (Blacksnake Lane) interchange. My comments:

- "*There is a relatively low incidence of historic injury crashes within the study area*" - quoting the Midson report, page 48. The chart on page 49 shows a five year average of 14 accidents in the study area. 5 of these are in the bridge corridor (most probably the roundabouts at either end) and the other significant location is the Blacksnake Lane interchange (3 per year). This doesn't sound many, but with relatively much fewer traffic volumes, it's significant.
- In the chart, the projections show no change in crashes. This will not be correct. The Blacksnake Lane interchange will have all of the Lyell Highway Traffic added to it. Approximately 12,000 extra vehicles per day will be navigating this interchange that includes:
 - A 4 leg roundabout where Lyell Highway through traffic will have to give way to local traffic, and also traffic coming off the bridge that wants to go to New Norfolk
 - All of the fully-laden 25 metre log trucks going to Boyer - they can't use Boyer Road as they exceed the load rating for that road. These trucks will come down off the bridge into the roundabout, navigate safely around it, climb up an incline under the highway from (almost) a standing start, stop and give way when they intersect with northbound Lyell Highway traffic, then restart when they find a gap. Aside from the trucks themselves, any traffic behind them will be held up. When you consider that at present they come across the causeway to the roundabout and turn right on to the Lyell Highway and off to New Norfolk, this is a good example of how this bridge design has decimated the Lyell Highway/Bridgewater Bridge intersection for users of the Lyell Highway.
 - The log truck example might seem extreme, but every vehicle traveling the Lyell Highway will be caught up in delays trying to navigate this terrible bit of traffic and infrastructure design.
 - The project managers have promoted the Lyell Highway through-traffic as being unimpeded. This could not be further from the truth. An example is Southbound traffic will reach the roundabout and have to give way. Then they are facing a steep incline to get on to the Brooker. For modern cars this might not be an issue, but every truck and bus traveling the Lyell Highway will not be as lucky - having to climb a steep on-ramp from a standing start - and every car behind them will feel the same pain.
 - At the moment if you drive from New Norfolk to Hobart and back, your trip is largely unimpeded. In a Southerly direction you go through the roundabout, in a Northerly direction you bypass the roundabout in a slip lane.



The following page illustrates what is proposed for Lyell Highway on and off the bridge.

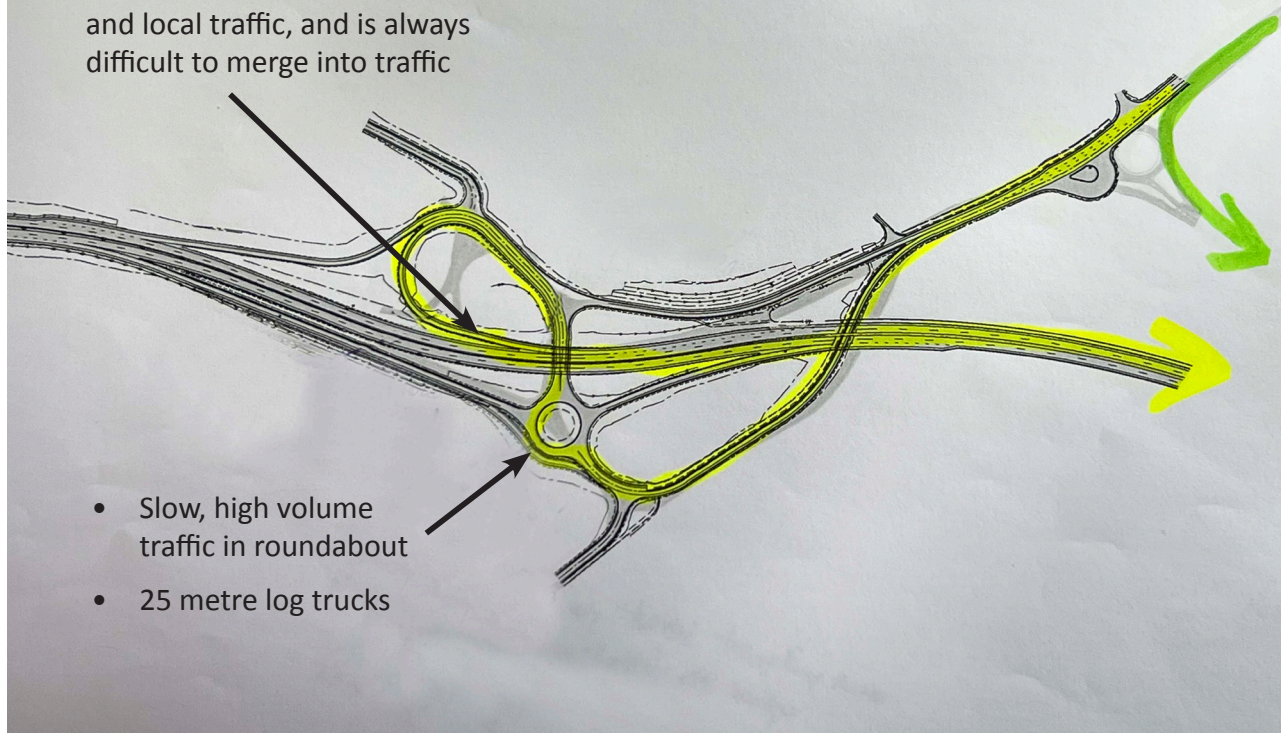
FROM BRIDGE TO NEW NORFOLK

2021 
2024 



FROM NEW NORFOLK ACROSS BRIDGE

2021 
2024 



- From a safety point of view, replacing a single roundabout to interchange traffic on the Western side of the bridge with grade separation at Blacksnake Lane has added several new potential black spots and due to increased traffic volumes in local roads, has increased safety concerns for present intersections and also built in slowing of the traffic at multiple locations and for multiple reasons (Ref my notes earlier on trucks etc).
- The Austroads Guide to Road Design Part 4B clearly articulates that roundabouts slow traffic down. Also that legs should intersect at approximately 90 degrees and that the roundabout should be clearly visible from the approach sight distance at the road operating speed. Neither of these criteria are met with the proposed design.
- It's disappointing that none of this analysis has been done, and that a resident of the area has to try and do this kind of analysis to put in a reasonable representation to the Tasmanian Planning Commission a few months out from the bridge works commencing, on Tasmania's largest ever transport infrastructure project.

(c) any alternative vehicle crossing or level crossing;

In 2020 we had an opportunity to make a submission to the latest designs from the project team. I took the opportunity to look at alternate designs as clearly the project team was still treating grade separation at Blacksnake Lane as a given, and not considering other options.

The basis of my submission is shown below. It's based on consideration of the Tasman Bridge and how it has performed efficiently day in day out since it was built.

Where the Tasman Bridge meets the Western shore, it has similar requirements to the Bridgewater Bridge.

- Traffic flows in and out of Hobart across the bridge.
- It intersects with the Domain Highway - vehicles access on to the bridge is by an on-ramp, vehicles turning right off the bridge use a flyover
- Domain Highway traffic in and out of Hobart flows continuously.
- It seems to work quite efficiently.

The illustration below shows replication (minor variations) of this functionality at Granton:

Clearly I'm not a bridge designer, and do not have the resources to subject this concept to engineering or traffic planning scrutiny. However, the concept is simple and base on a proven model.



- Lyell Highway traffic would be at the ground level, flowing both ways.
- The minimum bridge height would need to cater for future rail under the bridge.
- This height may be sufficient to provide clearance for on and off ramps. If not, it will need to be raised to the correct height.
- In any case, I imagine this is a fairly stock standard, simple configuration for an experienced bridge designer and bridge builder.
- As an alternative to grade separation at Blacksnake Lane, it ticks all the boxes

As mentioned previously in this representation, the project team has for more than a decade promoted the benefits of their design as saving time and fuel for Midlands Highway/Brooker Highway through traffic.

These savings are minuscule compared to the cost to road users of the proposed downgrading of the Lyell Highway traffic flow, most significantly where it interacts with the Bridgewater Bridge.

Consideration of further alternatives made me think about the Design Requirements for the bridge, and I drew the following conclusions:

I believe the Design Requirements are incorrect

- The grade separation at Blacksnake Lane/Lyell Highway should not be a design requirement. It is crippling any chance of an efficient design.
- The basic requirements of this bridge need to result in a better traffic outcome or it shouldn't be built.
- The design requirements need to be prioritised, then be progressively applied to the design.

I believe the design requirements, in order of priority, should be:

Primary requirements

1. Improved traffic flow and capacity on Midlands Highway, also allowing for future growth, with 2 lanes in either direction
2. Improve traffic flow and capacity on Lyell Highway, with access on and off the bridge at least as functional as present. Also allowing for future growth.
3. Proper on/off access to the bridge for local traffic at Granton and Bridgewater
4. Shared pathways for pedestrians and cyclists, with appropriate safety provisions

These are the requirements that should inform the basic design.

Multiple options should be considered to meet these requirements, and costings done.

This bridge is a huge investment of public money and the money needs to be primarily directed towards achieving requirements 1 to 4.

It has been mentioned to me that flyovers and on-ramps are expensive. Of course they are! But this is a critically important bridge that must do the things stated in 1 to 4. People, cars, trucks, buses all need to get efficiently on and off this bridge.

Otherwise they would be better off slightly redesigning the present roundabout so that it works, save a \$billion dollars and just let us get on with our lives.

Secondary Requirements

1. Design speed
2. Not preclude the future use of the existing rail corridor. This could consider moving the rail below the bridge as per the 2000 preferred option
3. Navigation height - to me this is a 'nice-to-have' if the available budget still allows it, after properly catering for road traffic.



An alternate version is shown here, with the bridge separated from the causeway.

- Slip lanes would be required a bit further South to get on and off the bridge connecting with the Brooker Highway.
- The interchange could take place even further South, but progressively becomes a compromise involving Blacksnake Lane.

(d) safety and efficiency for pedestrians and cyclists;

The present causeway and Bridgewater Bridge are dangerous for cyclists and unfriendly for pedestrians. This includes the roundabouts at either end. The Austroads document says that while roundabouts are relatively safe for vehicles, the same does not apply for cyclists and pedestrians. For this reason, any roundabout in this bridge network will not be good for cyclists and pedestrians.

(e) any change in access arrangements of an existing use;

See notes earlier in this document

(f) connectivity between new and existing parts of the network;

See notes earlier in this document

(g) any change in the connectivity of the network;

See notes earlier in this document

(h) measures to minimise any adverse effects; and

There do not appear to be any measures planned that will minimise the adverse effects mentioned above.

4.2.3 Safety and efficiency of the road, rail and public transport network during construction

The Midson Traffic report (Ref page 49-50) states the requirements to meet the Assessment Criteria 4.2.3, but says it's the responsibility of the contractor to prepare a detailed traffic plan. I assume this is standard practice, but it seems a bit late in the piece if construction is to start shortly.

Initial Assessment Page 6 (bottom of the page) says:

"The MPIS in section 4.2.2, the December 2021 TIA and Road Safety Audit Report provide details of how use and development minimises any adverse effects on the safety and efficiency of the road and rail network and uses dependent upon it, including:

- identifying the design provides an improved safety and efficiency for all road users;*
- noting the grade separated interchanges will reduce the number of conflict points, with vehicle crossings located on lower volume roads which will improve safety; and*
- setting out that the removal of the through National Highway traffic from local roads will improve the safety of those roads."*

I fundamentally disagree with this statement:

- The design makes something that is now quite simple, very complicated in this bridge is built, particularly for the Lyell Highway traffic and local roads loaded up with extraordinary amounts of extra traffic.
- The Blacksnake Lane grade separation design has introduced multiple conflict points and traffic interrupting points that previously didn't need to exist, in complete contradiction of the statement above.
- The third point is quite bizarre and untrue. To suggest that non-bridge traffic including the Lyell Highway has somehow become safer with all the extra traffic and convoluted traffic flows, is just a complete fabrication, and shows that the bridge proponents have only tunnel vision in relation to the objectives of this bridge.
- In fact, if you add up Lyell Highway traffic, Bridgewater and Brighton traffic crossing the bridge, Granton traffic, Boyer Road traffic and old Claremont Main Road traffic throughout the bridge corridor and engaging with the bridge they would (I believe) **exceed in numbers the Midland Highway/Brooker Highway through traffic**. They deserve much better than what this bridge is offering. Just counting East Derwent Highway traffic adjacent to the highway and Lyell Highway traffic, in total they would exceed the Midland Highway numbers. Just because the bridge is part of the National Highway doesn't mean this minority of traffic is in some way more special.

Given that unsubstantiated statements such as this appear regularly throughout the proponent's documents, it's very concerning.

Bridge clearance for yachts

- I haven't considered this for a while, but as the bridge design is still providing for tall yachts to pass under, at significant project cost, I'd like to make this observation.
- The River Derwent is silting up. We have a motor sailer on a moorings at Austins Ferry. I've noticed between Austins Ferry and Cadbury's point the water depth is as low as 1.4 metres.
- I don't know what the rest of the navigation channel water depth is along it's way to New Norfolk, but I imagine large yachts with deep keels (and really tall masts) may no longer be able to navigate to New Norfolk. Certainly, we can see the river from home, and these days we only see occasional motor cruisers and runabouts going up the river.

I've been asking the project team for traffic analysis and risk assessment material for months. Hard to believe, but I received an email at 2:28pm today from the Project Manager Stakeholder Communications officer giving me the link. This is one day before the exhibition period and opportunity for representations expires.

I've only had a few days to prepare this Representation so I've had to focus on the documents that I've had time to read and try to understand. I hope I haven't missed something important.

I appreciate this opportunity to submit a representation to the Development Assessment panel for the new Bridgewater Bridge. It's now 22 years that I've been involved in the Bridgewater Bridge process, and I'm hopeful of a good commonsense outcome. I would welcome an opportunity to attend a hearing.

Kind Regards

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