



PARLIAMENT OF TASMANIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

West Tamar Highway Near Brady's Lookout

*Presented to His Excellency the Governor pursuant to the provisions of the
Public Works Committee Act 1914.*

MEMBERS OF THE COMMITTEE

Legislative Council

Mr Harriss (Chairman)
Mr Hall

House of Assembly

Mr Booth
Mr Brooks
Ms White

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INTRODUCTION

To His Excellency the Honourable Peter Underwood, AM, Governor in and over the State of Tasmania and its Dependencies in the Commonwealth of Australia.

MAY IT PLEASE YOUR EXCELLENCY

The Committee has investigated the following proposal: -

West Tamar Highway Near Brady's Lookout

and now has the honour to present the Report to Your Excellency in accordance with the Public Works Committee Act 1914.

BACKGROUND

This reference recommended that the Committee approve existing horizontal and vertical alignment of a section of the West Tamar Highway in the vicinity of Brady's Lookout. The proposed works also include the installation of a tensioned wire rope safety barrier and improvement of the road pavement.

The objective of the proposed works is to improve road safety by preventing head-on collisions and reducing the severity of loss of control crashes.

The full submission of the Department of Infrastructure, Energy & Resources in support of the reference is published on the website of the Committee at:

<http://www.parliament.tas.gov.au/ctee/Joint/works.htm>

PROJECT COSTS

The cost of the works has been estimated based on historical rates for similar works delivered by DIER recently. The main components of the base estimate are shown in Table 2.

Table 2 Base Estimate

Item	Estimated Cost
Project Specific (eg walls, traffic counter)	\$723,425
Earthworks	\$965,460
Drainage	\$514,054
Pavement	\$1,974,465
Bitumen Surfacing	\$351,384
Traffic Facilities	\$790,082
Landscaping	\$152,208
Miscellaneous (eg service alterations, testing, traffic & environmental management)	\$160,500
SUB-TOTAL	\$5,631,577
Additional Items (eg acquisition)	\$317,000
Professional Fees	\$520,000
DIER Internal Overheads and Fees	\$475,237
DIER Supplied Materials and Services	\$337,000
TOTAL BASE ESTIMATE	\$7,280,814
P50 Estimate	\$7,594,146
P90 Estimate	\$8,211,744

The base estimate has subsequently been probabilistically modelled and P50 and P90 estimates obtained. The P50 estimate notionally represents the project budget that will not be exceeded 50% of the time and the P90 estimate similarly represents the project budget that will not be exceeded 90% of the time.

It should be noted that as the base estimate is derived from historic rates, the P50 & P90 estimates by their nature already incorporate some allowance for risk and presume a stable market.

EVIDENCE

The Committee commenced its inquiry on Thursday, 9 February last with an inspection of the site of the proposed works. The Committee then returned to the Conference Room, 4th Floor, Henty House, 1 Civic Square, Launceston whereupon the following witnesses appeared, made the Statutory Declaration and were examined by the Committee in public:-

- Damion Beety – Project Manager, Department of Infrastructure, Energy & Resources
- Peter Hubble - Manager Traffic Projects, Department of Infrastructure, Energy & Resources
- David Rolph - GHD Project Manager

Overview

Mr Beety provided the following overview of the proposed works:-

... the West Tamar Brady's Lookout project. It is approximately 3 kilometres long in the existing overtaking lane section of the highway that has deteriorated considerably. There have been a lot of requests from a lot of sources to upgrade this section of the highway. It has been identified from crash history that it is a fairly serious area that needs some work so the project is to widen the road, improve the vertical and horizontal geometry and install a tension-wire rope barrier system. That is really in a nutshell what the project is so from that we have developed a design, we have done a couple of options and we have come up with what we think is a reasonable project at this stage to go to tender and present to this committee.

Cyclists' use of the highway

The Committee questioned the witnesses as to what, if any, provision had been made for cyclists in the proposed works. Mr Beety responded:-

Approximately 2 metres of seal for the single-lane section, and that reduces to 1 metre for the two-lane side.

The Committee later questioned the witnesses as to the rationale for such variation in widths. Mr Hubble responded:-

Our normal standard is to have a metre shoulder and in this instance where we are having a two plus one with a single lane we have decided that we will have it wider to try to get that field of the bend wider and not being so constrained and that is why we have gone to the 2 metres.

...(it allows cars to) pull over. Therefore they pull over and they are not impeding through traffic.

The Committee questioned the witnesses as to what standards would be required were a dedicated bicycle lane to be provided on the subject section of the highway. Mr Hubble responded:-

A bicycle lane would have to be between 1.2 and 1.4 metres wide if that is what you were doing for a designated bicycle lane so 1 metre is within that region where they would have an area where they could cycle safely away from the traffic.

... You have your traffic lanes, a white line and then you have the sealed shoulders and then beyond that we also have some gravel shoulder.

Mr Beety added:-

(the one metre shoulder for cyclists' use is) ... more towards our standard road infrastructure policies on this type of category road. It's a 3 and we have specified requirements that we need to make these shoulders and lane widths for these types of roads and that's the approach we have adopted.

The following exchange then ensued:-

Mr BOOTH - In other words, your design brief was to design this road and construct it in accordance with the criteria for a category 3 road?

Mr BEETY - Yes.

Mr BOOTH - So is there no ministerial direction or policy position in DIER, that comes from the Government, that you should be putting cycle lanes along the side of all new road infrastructure?

Mr BEETY - Cyclists don't really go well next to fast-moving traffic, but we appreciate that that's an area where they would want to ride and that's why we have made provision for a 1-metre-wide sealed shoulder. We wouldn't want to encourage them to put a cycle lane there, which would encourage the activity, because of the conflict with the high-speed traffic.

Mr BOOTH - What you're saying is that you have acknowledged that they'll be on there so you have provided a 1-metre seal but you haven't made it to standard, which would be 1.2 metres as a minimum standard?

Mr HUBBLE - It's 1.2 metres if you mark it as a cycle lane, but we have no intention to mark it as a cycle lane and that's why have come to the conclusion of 1 metre.

Mr BOOTH - Can you give the committee an indication of what the additional cost would have been to simply seal that extra 200 mm and make it into a dedicated cycle lane?

Mr ROLPH - No. The concept of the design was to cut into the hillside rather than go over the batter because once you went over the batter there are some significant drops there so we'd have to go back and rework; the earthwork batters have to be calculated. There would be extra infrastructure, culverts required to be extended. We would have to go back and look at the walling that we intend to put up there. Moving it 200 mms may seem an insignificant amount but it would create a lot of work, and there would be our consultancy fee on top of that.

Anticipated lifespan of the works

The Committee questioned the witnesses as to what measures were proposed to ensure the longevity of the works. Mr Beety responded:-

... that comes out of the geotechnical investigation that was undertaken. One of the main recommendations of that was the three in one batters. Normally we would go two in one batter - there are quite a lot flatter batters through this area because of the stability of the sites.

Mr Rolph added:-

We are proposing to put a modified pavement in there and cement stabilise it, so it will stiffen up the pavement and make a stronger road base. Below the sub-base there will be subgrade lay-off, as you can see on the drawings, the modified 300 subgrade. That will be a 1.5 per cent cement mixture down into that, so it will stiffen it up, and then it'll have the normal two 150 layers - 150 of base and 150 of sub-base. We also propose that we'll put in a wider table drain. One of the recommendations out of the geotech report was to provide good drainage. Normally on a road like this we'd put a 2.1 metre wide table drain but in this case we're putting in a 2.8 metre table drain. This means the water will be below the pavement. We intend to put a subsoil drain all the way down

on the cut side so that any water will filter into the subsoil drain and won't infiltrate the materials below the pavement. A lot of the pavement up there is reactive clay and when it gets wet it swells, so improving the drainage and putting this modified base on it will improve the quality and it will last for 20 years which is what the pavement is designed for, it is a 20-year life.

Use of flexible barriers

The Committee questioned the witnesses as to what consultation, if any, was undertaken with the motor cyclist lobby. Mr Hubble responded:-

The department has been working with the Tasmanian Motorcycling Council since 2009 regarding some of their concerns, and obviously they have concerns about the wire rope or what we call flexible barriers, safety barriers. The concern originally, back in 2009, was the cheese-cutting effect but I don't think it is the case at this stage where most of them have difficulty. When the rider loses control or separates from the vehicle and actually slides along the pavement then he would encounter the upright and that would do the damage to the rider. What we have looked at, working with the motorcyclists, are options of providing improvements to the design. For instance, with the wire rope, we are considering providing on tight corners, where there is a likelihood they could be unstable and separate from their motorcycle, padding around the upright posts.

... We have tried the speed cushions - they are actually called stack cushions - in some locations. There is a new product that Victoria is using at the moment called m-quad which is used for a median barrier. I have brought it along to show you - it is a product that Victoria is using at the moment and we are considering, which provides a padding around the uprights and which gives a 360° protection from both directions.

...I have some figures (on the relative costs). We looked at the options and there are three options. Safety barriers can come in three different forms: flexible, which is the wire rope; semi-rigid, w-beams; and rigid, which is the concrete barriers. We looked at all the options with the costings. Our initial preference is the wire-rope safety fence. To put in, for the whole job, the steel w-beam would be an extra \$800 000. For New Jersey barrier for the whole 3 kilometres would be \$1.5 million.

... With this sort of protection, for the wire-rope posts, for what we're looking at is to provide them onto the tighter curves where there is a higher likelihood that the motorcyclists could separate from their vehicle. For the stack cushions we're looking at around \$12 000 to \$15 000 roughly.

...Our preference is to have flexible systems. Flexible systems reduce the severity of the collision, if a collision occur. In this case, there is a crash history of people losing control. A number of people have lost control and had head-ons, so that's why the median fence is going through. The flexible barrier is much more forgiving for people who make an error; it brings the vehicle to a gradual stop and also absorbs the energy from that collision.

The Committee questioned the witnesses as to whether any analysis had been undertaken of the flexible barrier in respect to its harm to motor cyclists in the event of an accident. Mr Hubble responded:-

... At this stage motorcyclists represent 4 per cent of the registered vehicles so out there we have 96 per cent of passenger vehicles and heavy vehicles. I would like to refer to a paper that was presented at the 2011 Road Safety Conference in Western Australia

which talked about motorcyclists and safety barriers. The conclusion from that was that there is no statistical significant association between the barrier types, meaning if a motorcyclist lost control or is losing control if they hit a wire rope or concrete barrier the outcome is going to be similar but David has described that for a passenger vehicle hitting a solid barrier compared to a flexible barrier it has definitely significant safety benefits. I hope I have described that.

Access to Bembroka Lodge

The Committee cited the written submissions made by Councillor Peter Kearney of the West Tamar Council regarding the provision of an additional emergency access to the Bembroka Lodge property. Cr Kearney submitted that such land provides a corridor for services, particularly a major Transend transmission line, access to which is currently gained via a domestic driveway off Rosevears Drive owned by Mr and Mrs Taurian. The Committee questioned the witnesses as to what consideration, if any, had been given to providing such alternative access. Mr Beety responded:-

... It is a limited-access highway and as such, the department is very reluctant to grant (Mrs Taurian) a gate access near Bradys Lookout. We have met with her on a number of occasions and we have given her some fairly extensive comments back as to why we can't provide an access at this stage and we have asked her to talk to her adjacent property owner who does have an access at the moment and whether a gate through their property would be another possibility.

... The concern she has, and it is a reasonably valid one, is that Telstra, Ben Lomond Water and Aurora from time to time are required to come onto their property to access services that run through their property that do run up to the West Tamar Highway.

The Committee questioned the witnesses as to whether consideration had been given to providing a separate access for emergency services. Mr Beety responded:-

I'm not aware of that angle. I'm not quite sure of the purpose for emergency access to a private property in that case. I believe that as part of our design there is a safety fence to go through that section, so it would compromise the installation of the safety fence. I would have to verify that, though.

Mr Rolph added:-

Once you get past the cutting it drops off really significantly, so to get any sort of access in there would be very difficult and expensive, I believe.

Aboriginal heritage assessment

The Committee sought an explanation of the written submission that states, "Aboriginal Heritage Tasmania was consulted in regard to Aboriginal heritage. AHT advised that an Aboriginal heritage assessment of the site is not required". Mr Rolph responded:-

It is standard practice for us, as consultants on behalf of DIER, to consult with Aboriginal Heritage Tasmania on every road design project and normally that process is to initially approach them and outline the project and they can sometimes give us an answer straightaway, sometimes they require more information to make a judgment, and their judgments either are, 'Because of the disturbed nature of the site we don't need an Aboriginal heritage investigation'. Obviously they will go back and search their records and if there are Aboriginal heritage sites previously recorded they will sometimes request us, sometimes they don't. It is their call and because it's their call you go and do it.

Project cost

The Committee questioned the witnesses as to why no provision is made in the costs schedule for contingencies. Mr Beety responded:-

I can clarify that. P50 and P90 is the best practice estimating that we are using at the moment that the department is heading towards and the P50 and P90 has the contingency built into it so in this case it is 314 000 for a P50 which means 50 per cent of our projects will meet that budget, so 50 per cent of our projects should meet that 7.595 million and in the worst case a P90 is used as the contingent risk on the balance of that. That looks at a range of pricings, a range of values, it assesses all the contingent type risks including Aboriginal heritage, all the risk factors that we can think of. It is a fairly robust process and we are trying to go along that line to really improve our process.

It is quite new (as a methodology). We are still coming to grips with how it all works. There is a really complex iteration process in behind it and we are still working out all the processes on that one but the idea is it really should give us a more robust estimate with a much more accurate this is what the cost will be. It drills down. As you go through the design phases it is designed to drill down to that number.

Buses

The Committee questioned the witnesses as to how bus stops were to be accommodated. Mr Beety responded:-

We have also been looking at some widening at Bradys Lookout Road and there is provision obviously to use the lookout itself as a bus-type interchange and we are having discussions with the bus company, Manion's, about that. The use through there is really inconsistent as well; some days there are a lot of students being dropped off and picked up through this area and other days there is almost none. We are working with Manion's on the best approach on that one.

... (as to how the four current informal bus stopping places are to be treated) we are working on that and looking at whether that can be done at Bradys Lookout. We are making sure there's sufficient room in there for that. There is also the possibility of a bit of widening at Bradys Lookout in the southbound direction. We could have a pull-in area, one in each direction, but we haven't completely finalised that yet because we are still trying to ascertain exactly how often a lot of these manoeuvres are occurring. There is also an informal bus that drives from Beaconsfield through to Launceston and they would pick someone up if there is someone there.

The informal ones pulling up opposite Bradys Lookout Road and the two inbound ones are also in the location, so three out of four are at Bradys Lookout Road and the other one is just a drop off at Masons. We have had a discussion with some of the residents in

Masons and there are a few more students coming through in the next few years. If they're heading towards Launceston we are encouraging those parents to bring them to a spot where the bus can safely pull up and we'll try to provide one of those near the Bradys Lookout Road location.

DOCUMENTS TAKEN INTO EVIDENCE

The following documents were taken into evidence and considered by the Committee:

- Department of Infrastructure, Energy and Resources - Submission to the Parliamentary Standing Committee on Public Works – Report for West Tamar Highway Near Brady's Lookout – October 2011;
- Peter Kearney – Submissions dated 2 and 8 February 2012; and
- Tasmanian Motor Cycle Council Inc., submission dated 13 February 2012

CONCLUSION AND RECOMMENDATION

The need for the proposed works was clearly established. Once completed the works will provide improved safety by separating opposing and turning traffic; providing a more consistent speed environment; and providing a more forgiving roadside.

The Committee notes the concerns expressed by the Tasmanian Motor Cycle Council Inc. regarding the dangers and long term maintenance and capital costs of wire rope barriers as opposed to other measures and calls on the Department of Infrastructure, Energy and Resources to thoroughly analyze the competing issues before the use of any more rope barriers is proposed.

The Committee recommends the project, in accordance with the documentation submitted, at an estimated total cost of \$9,000,000.

**Parliament House
Hobart
16 March 2012**

**Hon. A. P. Harriss M.L.C.
Chairman**