



PARLIAMENT OF TASMANIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

Arthur Highway

*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, AC, 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 proposals: -

Arthur Highway

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 upgrade works on the Arthur Highway at three sites: North of Murdunna; South of Murdunna; and South of Taranna.

The objectives of the proposed works are to provide:-

- Improved road safety for all road users; and
- Reduced speed differential between light vehicles and larger vehicles (including campervans and buses) caused by poor horizontal alignment.

Such objectives will be achieved on these sections of the Arthur Highway (based on a design speed of 90 kph) by:-

- Meeting AUSTROADS Guidelines for horizontal and vertical curvatures;
- Provision of 3.0 metre wide lanes with sealed shoulders 1.0 metre wide; and
- Provision of overtaking sight distance where it is practical to do so.

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

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

PROJECT COSTS

Cost Estimate (P50) for North of Murdunna

Cost Item	Amount (\$)
Scoping and Development	\$235,000
Design, Project Management & Contract Administration	\$285,000
Property Acquisition	\$135,000
Environmental Works	\$10,000
Temporary Works / Traffic Management	\$55,000
Public Utilities Adjustments	\$155,000
Bulk Earthworks	\$1,762,000
Drainage	\$484,000
Pavements	\$1,784,000
Road marking, signage, furniture	\$195,000
Landscaping	\$49,000
Supplementary Items	\$234,000
Reseal and linemarking	\$156,000
Inherent Contingency (P50)	\$676,000
Contingent Contingency (P50)	\$1,505,000
Escalation (P50)	\$800,000
TOTAL	\$8,500,000

Cost Estimate (P50) for South of Murdunna

Cost Item	Amount (\$)
Scoping and Development	\$233,000
Design, Project Management & Contract Administration	\$272,000
Property Acquisition	\$98,000
Environmental Works	\$10,000
Temporary Works / Traffic Management	\$42,000
Public Utilities Adjustments	\$0
Bulk Earthworks	\$614,000
Drainage	\$181,000
Pavements	\$626,000
Road marking, signage, furniture	\$136,000
Landscaping	\$25,000
Supplementary Items	\$158,000
Reseal and linemarking	\$50,000
Inherent Contingency (P50)	\$250,000
Contingent Contingency (P50)	\$701,000
Escalation	\$300,000
TOTAL	\$3,700,000

Cost Estimate (P50) for South of Taranna

Cost Item	Amount (\$)
Scoping and Development	\$235,000
Design, Project Management & Contract Administration	\$288,000
Property Acquisition	\$165,000
Environmental Works	\$10,000
Temporary Works / Traffic Management	\$70,000
Public Utilities Adjustments	\$123,000
Bulk Earthworks	\$433,000
Drainage	\$167,000
Pavements	\$846,000
Road marking, signage, furniture	\$82,000
Landscaping	\$45,000
Supplementary Items	\$78,000
Reseal and linemarking	\$92,000
Inherent Contingency (P50)	\$354,000
Contingent Contingency (P50)	\$838,000
Escalation	\$400,000
TOTAL	\$4,200,000

EVIDENCE

The Committee commenced its inquiry on Wednesday, 3 April last. The following witnesses appeared, made the Statutory Declaration and were examined by the Committee in public:-

- Adrian Paine, Senior Project Manager, Department of Infrastructure, Energy and Resources
- Craig Tarbotton, Project Manager, Department of Infrastructure, Energy and Resources

Overview

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

On the Arthur Highway we have three sections of road we intend to upgrade. They have been given numerical names for the project but geographically we are starting north of Murdunna. Further south of that we will have an additional section which we have called 'south of Murdunna', and further south is the third section - 'south of Taranna'. The first video will be for north of Murdunna; it is approximately 2 kilometres of upgrade works. We are adjusting both the horizontal and the vertical alignment of the road. We are taking out any tight bends. Any dips or rises in the road which affect the sight distance will be taken out and flattened off. We are doing similar sections in the south of Murdunna, the second section. Again, there are some fairly tight horizontal bends that we will be straightening out to increase that sight stopping distance, as well as flattening off the hills and filling in any sags.

In the third section, south of Taranna, the horizontal alignment is essentially remaining as is, so not straightening or bending the road. All we are doing is fill in a fairly large sag which affects the stopping distance or the sight distance of vehicles travelling at a set speed.

Cycle use

The Committee questioned the witnesses as to what provision, if any, would be made for cyclists and whether future works on the Arthur Highway would replicate the current works. Mr Tarbotton responded:-

It is a one-metre sealed shoulder. There will not be a dedicated bike path at this section. We are only doing three isolated sections of the Arthur Highway. The sealed shoulder, at a metre wide, will obviously allow some pedestrian transport.

...The shoulder is the same standard as the trafficable portion of road. It is not designed as a pedestrian pathway. The shoulder is designed to a standard to take that traffic.

Mr Paine added:-

Any further work that was done on that road would maintain that standard.

The Committee questioned the witnesses as to whether what was proposed would meet the Australian standard for bike lanes. Mr Tarbotton responded:-

I will look into whether proximity to that traffic lane would satisfy the requirements for cyclists.

The Committee subsequently sought a written response from the Department as to whether the proposed shoulder width would meet the national standard width for bike lanes. Mr Paine provided a response by letter dated 1 May last which, *inter alia*, stated as follows:-

... the ... project objectives (of) the road design did not specifically include ... a designated cycling facility and it should be acknowledged due to the speed and mass differentials between cyclists and vehicles, providing for cycling on high speed roads (above 70 Km/h) presents significant challenges. Further, in considering providing for cyclists on high speed roads, it should be noted that the greatest road safety benefit is achieved through separating cyclists from high speed vehicles as opposed to providing a wider shoulder width.

The Arthur Highway from Sorell to Port Arthur is not a designated cycle route and it's not practical or affordable to provide designated cycle facilities. However, it's recognised that cyclists are legally allowed to use all roads within the State, and therefore occasional cyclists along this route can be expected. To mitigate against the inherent risk for cyclists, the project includes construction of a 1.0 metre wide sealed shoulder marked with edge lines which provides a cycling area separated from vehicles.

The relevant Austroads Guidelines (the accepted national standard) for Road Design suggests that roads with less than 3,000 vehicles per day are generally suitable for cyclists and drivers to share the same space. Traffic volumes on the Arthur Highway are less than 2,000 vehicles per day and have a low heavy vehicle content, the 1.0 metre sealed shoulders satisfies the Austroads requirements and is considered an appropriate level of infrastructure for this road corridor.

In summary, the sealed shoulders will not only improve safety for cyclists, but provide a recovery area for errant vehicles, remove dangerous drop-offs adjacent to the traffic lane, provide space for slower road users such as tractors, and extend the life of the road infrastructure.

The Committee was not content that such response answered the questioned. Accordingly, the Committee sought an answer to the question, "What is the Australian Standard width for on-road bicycle lanes?" The following response was received from Mr Tarbotton in an email dated 16 May last:-

With regard to 'standard' bicycle lane widths [regrettably](#) there is no single answer, as the width of the lane depends upon several factors including the following;

- Expected volume of bicycle users*
- Traffic volume using the road*
- Type of traffic e.g. trucks / cars*
- Type of road e.g urban / rural / freeway etc*
- Shared pedestrian use*
- one-way or two-way bicycle traffic*
- Etc*

In addition to the above factors there is no federal or state 'regulatory' requirement, rather it depends upon the local transport authority (i.e. DIER) to develop relevant policies and internal standards.

There is however a national 'guideline' for road designers, called 'Austroads', which provides advice to road designers on what is considered to be best practice. These guidelines are discretionary only and are not enforceable.

To provide at least a partial answer to your question, I have compiled the following table;

Bicycle Lane type	Preferred Width	Scenario	Vehicle speeds
independent bicycle path separated from pedestrians and vehicles	3m	2 way traffic used in areas with high commuter numbers e.g. parks / cities etc	N/A
Shared bicycle + pedestrian	2.5 – 3.5m	Used in areas of high commuter numbers	N/A
Exclusive bicycle lane adjacent to road lane	1.2 – 2.5m	Urban areas – often coloured green with line markings and symbols.	60 km/h
	1.8 – 2.7m		80 km/h
	2 – 3m		100 km/h
Sealed shoulder	0.5m	< 1000 vehicles / day	
	1m	1000 - 3000 vehicles / day	
	1.5m	> 3000 vehicles / day	

Extracted from Austroads 2009 'Guide to Road Design' – Part 3 and Part 6A

In summary, there is no single 'standard' bicycle lane width. With regard to the Arthur Hwy the sealed shoulder being provided is a compromise solution, given that this road has not been identified as having a high bicycle usage and traffic volumes are not high, DIER feels that the sealed shoulder solution is acceptable.

Aboriginal heritage and environment impacts

Mr Tarbotton provided the following summary of the aboriginal and environmental impacts, if any, of the proposed works:-

Our design consultants have conducted environmental reports. The north of Murdunna section is not relevant to our project. There were two minor Aboriginal artefact sites identified. That was an Aboriginal cultural [inaudible] assessment. The two isolated artefacts are outside the footprint of our project. Our engineers have sent off our design footprint, so whilst those sites are being recognised, they will not be impacted upon by our works, which is good.

Additionally, a flora and fauna desktop survey was conducted by an environmental consultant to ensure that our works did not impact on any sensitive species. There was only one species that we need to monitor. That has been identified and they will be developing for us a management plan to ensure that this plant species is not negatively impacted.

Traffic management during works

The Committee questioned the witnesses as to how the traffic on this major tourist route would be managed during the works. Mr Tarbotton responded:-

We are completely aware that this road is a thoroughfare to a major tourist destination. Even from the earlier planning and design stages this was a consideration

for how we were to implement the project. One of our earlier project managers has started discussions with some key businesses down at Port Arthur to essentially get their buy-in to this, to make sure they agree with or understand what our approach is going to be. We have started to liaise and get dialogue going with the key business users.

There are three sections of road here, so there are potentially three projects, three contracts and three contractors. We decided internally to split it down into two projects from a contractors point of view. It might be that a single contractor is awarded two contracts, or it might not be. The first reason for splitting in two is that if two contractors are awarded the various contracts then we can run both concurrently. Therefore we should be able to get the works completed with the least amount of impact on that period.

We are considering staggering the start dates of those contracts. They will run perhaps not completely in parallel but there will be overlap between the start dates so we can get the works completed in sections. We will do north of Murdunna and we might do south of Taranna with a slight overlap because they are far enough apart not to affect tourist traffic and the business users.

From a management perspective, we will be combining or consolidating the north and south of Murdunna into a single contract. The reason is that the works are so large we expect a different type of contractor to bid for these works. There is a lot more earthworks, a lot more cut, whereas the south of Taranna is a smaller project, both financially and in scope. We expect a different type of contractor to bid for that.

Additionally, we are hoping to spread the wealth a bit. The bigger contractors will bid for the two larger projects, north and south of Murdunna, and we expect the middle-size contractors to bid for the smaller project south of Taranna. We are considering splitting them into two so that we can run them almost concurrently, thereby not impacting completely on the tourist trade. We have considered closing down - not completely - the works over the January period because their highest peak season is late December to late January. We are discussing it. We still have two or three months of the design period. We will be talking about the best way to send this out to contract. It is possible that we might require our contractors to ensure that one lane, heading south, is open in the morning and in the afternoons we will have the opposite path open, so tourist traffic can head south without being impeded too much, and then return in the afternoon.

Mr Paine added:-

The complication for us is that the best time for roadworks is the summer months and that is also the peak tourism season, so it has to be managed and there's no way around it. In our contracts, as a general rule we don't allow more than 500 metres of road to be worked on at any one time, and no more than a 15-minute delay. If you have to travel all the way to Port Arthur, a 15-minute delay is not so great in an hour-and-a-half journey. We are very aware of it and will be working with tourist operators to find out when those peak periods are so we can work around them and try to ensure that tourist traffic is not interrupted.

Passing lanes

The Committee questioned the witnesses as to what, if any, consideration was given to either passing lanes or turnout lanes. Mr Paine responded:-

The works south of Taranna are particularly targeted at providing an overtaking opportunity between Taranna and Port Arthur. The other advantage of improving the horizontal and vertical alignment on the other two sections is that the slower vehicle can go faster, so you don't get the same frustration. Because it has not the same incline or sharp corners, caravans and whatever can go along at a higher speed than they might otherwise have been able to.

Mr Tarbotton added:-

There are two objectives. One is to straighten the road from the horizontal alignment, so we are taking out the sharp bends, either left or right. We will be flattening some of the peaks and troughs.

Land acquisition

The Committee questioned the witnesses as to the status of land 'orphaned' by the re-routing of the road. Mr Tarbotton responded:-

... There is discussion at the moment as to whether they will be offered to adjacent landowners if they want to purchase at an agreed rate. The Valuer-General will determine it, not us. That is a consideration but whether they are willing is a different matter. I do not know what the rate per square metre or acre would be. If it is not then they may be retained as offsets for environmental purposes.

Mr Paine added:-

There is certainly one section where it is the same titleholders but obviously it would be part of our negotiations with the landowners.

Mr Tarbotton concluded:-

Yes, there is one portion (south of Murdunna) which is orphaned off and the property owners will be consulted. We are meeting with them next week to discuss this project. This will be a later discussion as to whether they want to purchase that at a rate or whether we keep it and offer it as an environmental offset.

Tendering

The Committee asked the witnesses to advise how 'mid tier contractors' may be able to tender for the works. Mr Tarbotton responded:-

The anticipated cost of these works, because we are going to consolidate two sections into one, is approximately \$12 million. The third section, south of Taranna, we are expecting to be sub-\$5 million - \$4.5 million. For those contractors who can't or do not have resources to bid for greater than \$10 million projects, we're hoping these smaller contractors will put their hands up and come forward.

... It is not the dollar value so much; it is the complexity or nature of the works. North and south Murdunna involve fairly large, heavy earthworks - a lot of cut and fill. We are expecting that the equipment required for that is going to be of a fairly specific nature, whereas south of Taranna you do not need that large earthmoving equipment. So it is really a resourcing issue that the contractors have.

Mr Paine added:-

The other thing that cuts some contractors out and tends to favour the larger ones is the requirement to be registered with the federal safety commissioner. These projects under the community roads program are federally funded. So that puts a few more in the ring that might have a struggle to meet that requirement.

DOCUMENTS TAKEN INTO EVIDENCE

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

- Department of Infrastructure, Energy and Resources – Arthur Highway Upgrade: North of Murdunna, South of Murdunna and South of Taranna, Submission to the Parliamentary Standing Committee on Public Works, December 2012;
- Sharon Fotheringham, Submission dated 11 March 2013;
- Correspondence dated 1 May 2013 from Adrian Paine, Senior Project Manager, Department of Infrastructure, Energy & Resources to the Secretary.
- Email dated 16 May 2013 from Craig Tarbotton, Project Manager, Department of Infrastructure, Energy & Resources to the Secretary.

CONCLUSION AND RECOMMENDATION

The need for the works was established. Once completed, the works will provide the following benefits: improved safety by increased sight distance, a wider pavement with sealed shoulders, the removal of roadside hazards and the installation of safety barriers; reduced pavement maintenance costs through improvements to pavement drainage and sealing the shoulder; and improved transport efficiency by providing a consistent speed environment through improvement to the horizontal and vertical alignment and by providing additional overtaking opportunities.

The Committee recommends the project, in accordance with the documentation submitted.

**Parliament House
Hobart
4 June 2013**

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