

PARLIAMENT OF TASMANIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

East Tamar Highway, Dilston Bypass

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

MEMBERS OF THE COMMITTEE

Legislative Council

House of Assembly

Mr Harriss (Chairman) Mr Hall Mr Best Mr Green Mrs Napier

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INTRODUCTION

To His Excellency the Honourable Peter George Underwood, Officer of the Order of Australia, 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: -

East Tamar Highway, Dilston Bypass

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

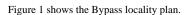
The submission of the Department of Infrastructure, Energy and Resources was as follows:-

BACKGROUND

In June 2006 the Australian and Tasmanian Governments signed a Memorandum of Understanding (MOU) for upgrading the East Tamar Highway between Launceston and Bell Bay. The Australian Government funding of \$60 million together with the State Government contribution of \$8.3 million has been allocated to a range of projects on the Highway. The Dilston Bypass is fully funded by the Australian Government.

In March 2007 the Department of Infrastructure, Energy & Resources (DIER) completed the East Tamar Highway Dilston Bypass Planning Report which investigated the options available for upgrading a 9km length of the East Tamar Highway between Barnards Creek and Doctors Rise. That Report recommended the construction of a new highway on an alignment to the east of the existing highway.

Based on the study recommendations the Dilston Bypass Project was initiated and a design for the concept design for the Bypass was developed. The design has now progressed to an advanced stage with the detailed design nearing completion.





OBJECTIVES

The objectives of the project include:

- Bypass of rural/urban settlements;
- Provision of a highway with gradients, alignment and cross section that allows safe and consistent truck travel of 100 km/h;
- Improvements in transport cost efficiency/reduction in travel times for freight vehicles;
- Provide a more consistent travel speed environment;
- Safety improvements;
- Elimination of flooding and drainage problems at Coulsons Creek;
- Lifestyle and amenity improvements for the residents of Dilston; and
- Demonstration of best practice in environmental management and project sustainability.

THE EXISTING SITUATION

The Existing East Tamar Highway

Under the Tasmanian State Hierarchy the East Tamar Highway is classified as a Category 1 – Trunk Road.

The East Tamar Highway between Barnards Creek and Doctors Rise is predominantly a two lane road with a northbound overtaking lane at Station Creek (gradient approximately 7%) and a south bound overtaking through Dilston (gradient approximately 5%). Lane widths are typically 3 metres. The shoulders are sealed and vary in width from 0 to 2 metres.

The highway passes through rolling terrain between Landfall and Dilston, flat to undulating terrain north of Dilston and undulating to hilly terrain at the northern end of the project at Doctors Rise. The alignment generally meets design standards for at least 80 km/h but the sag vertical curve at Barnards Creek only meets comfort criteria for 70 km/h. There are several crest vertical curves north of Dilston that only meet design standards for 70 km/h or less.

Between Dilston and Coulsons Creek the alignment is characterised by undulations with short vertical curves and, in places, the pavement has poor shape.

At Coulsons Creek the highway is subject to ongoing settlement and there is readily observable deformation of the pavement that is regularly topped up with asphalt.

The highway generally has a speed limit of 100 km/h with a reduced speed zone of 80 km/h through the township of Dilston.

There are a number of services that cross, or are in close proximity to, the highway along its length. These include:

- Telecommunications;
- Overhead and underground power;
- Launceston City Council sewer and water; and
- Ben Lomond Water services.

The following are the major structures located along the highway:-

- Barnards Creek 20 m single span bridge with 4.5 m clearance incorporating stock track and light vehicle access beneath the bridge.
- Lady Nelson Creek 2 x 22m span bridge with 9 m clearance.
- Coulsons Creek Flood Opening No.1 triple cell 2.4m x 1.8m reinforced concrete box culvert.
- Coulsons Creek Flood Opening No. 2 7.4m single span bridge with 2.4 metre clearance.
- Doctors Creek 9 m single span bridge with 3.5 metre clearance.

Traffic Operation

From 2007 data the annual average daily traffic (AADT) south of Dilston was 5,500 with 12% trucks and a growth rate of 1.9%.

Road Crashes

Crash statistics on this section of the East Tamar Highway are summarised below:

- Over the past 6 years there have been 27 recorded crashes with 4 fatalities and 2 serious injuries.
- Recent analysis by DIER suggests that the East Tamar Highway in the vicinity of Dilston had a medium crash rate per km (probably reflecting the fact that there are 5,500 veh/day); and a low crash rate per veh-km travelled.

COMMUNITY CONSULTATION

General

Community consultation has been a key feature of this project and has led to a number of significant improvements in the final project. The community consultation has included:

- February 2007 Public displays
- December 2007 Submission of Development Application to LCC
- December 2007 Community meetings expressing serious concern about junction arrangements for access to and from Dilston
- January 2008 Engagement of Traffic Specialist Robert Morgan to address safety issues raised at the Public meetings

Following the public consultation, concerted lobbying from Dilston residents, numerous newspaper articles and television coverage the following changes were made to the project:

- Adoption of a partial grade separation at the southern intersection.
- Adoption of a sea gull intersection rather than a standard Tee junction at the northern intersection.
- Incorporating fog and ice and intersection vehicle approach warning signs and variable speed limit signs at the northern intersection.

Public Displays and Community Meeting

An important aspect of the design development for the Bypass has been consultation with the community and other project stakeholders.

Public displays of the proposed bypass were held in February 2007 at Launceston City Council, Georgetown Council and the Dilston War Memorial Hall. Public comments were invited and the responses were reviewed and implemented where practical. The results indicated strong community support for the bypass.

A community meeting was held at Dilston in December 2007. In attendance were DIER officials and Pitt & Sherry consultants.

A second community meeting was held in May 2008.

In addition there were various representations made by community representatives to DIER officials and the Minister.

Launceston City Council

The planning and design for the Bypass has been developed in collaboration with the Launceston City Council; as part of this process extensive modelling of the safety aspects of the Bypass, particularly the two intersections, has been undertaken. As a result of this modelling and discussions with the Council and the broader community the Bypass proposal underwent a number of changes:

- The southern intersection was modified to incorporate an on ramp for southbound traffic with an underpass below the highway. This eliminated a major community concern in relation to right turns across two lanes of traffic.
- The northern intersection was altered to a seagull arrangement and now includes a weather station and associated fog and ice warning signs and advance warning signs for northbound traffic advising of side traffic approaching the intersection.

The following development approvals were issued as the project progressed through the planning approval processes and the final stages of community consultation and concept design modifications.

- June 2008 Development application approved with the requirement of roundabouts at the northern and southern intersections and a requirement for the applicable planning scheme to be amended
- March 2009 Approval of revised development application with roundabouts at north and south junctions
- May 2009 Development approval granted by LCC for an amended design incorporating partial grade separated interchange at the southern junction (a south bound on ramp for Dilston) and fog activated speed limit reduction signs at the northern junction.

Landowners

Throughout the design process regular contact has been maintained with the affected landowners. This consultation has lead to the incorporation of five stock crossings; one at the Barnards Creek Bridge and four other stock underpasses, access points along the Bypass and improved water supply and other improvements requested by the landowners.

Prior to works commencing written agreement is required from the three landowners. This has already been received from two of them, Richard Doak and Drew and

Suzanne Hudson. On-going discussions are being held between DIER and the third property owner Gerald Archer to resolve any outstanding issues.

Dilston Fire Brigade

Discussions have been held with the Dilston Fire Brigade to ensure they have acceptable access to the Bypass and the eastern side of the Bypass.

Two special access points have been provided – one to the western side of the bypass from the fire station and the other through a stock underpass to provide access to the eastern side of the by-pass.

PROJECT FEATURES

The key features of the Bypass project include:

- Duplicated road from the existing Rocherlea Interchange for a distance of 1.5km;
- 8km of three lane road with the second lane alternating between north and south bound carriageways;
- Opposing traffic lanes separated by a wire rope safety fence;
- A grade separated on ramp for south bound vehicles at the southern intersection and an at grade intersection for other movements;
- A seagull intersection treatment at the northern intersection;
- Use of an Intelligent Transport System at the northern junction to lower the speed limit when fog and/or ice is detected:
- Introduction of road kill mitigation measures;
- Five stock crossing underpasses; and
- Provision for cyclists by the provision of sealed shoulders.

PROJECT JUSTIFICATION

The justification for this project derives from enhanced amenity for local residents, reduced travel times, greater freight transport efficiency, reduced maintenance costs, safety improvements and the elimination of flooding problems at Coulsons Creek.

The main justifications for the project are discussed below.

Traffic Operation

Construction of the Bypass will lead to significant reduction in travel time for through traffic. Allied with the improved alignment and grading this will provide major benefits in terms of Vehicle Operating Costs and freight efficiency.

Safety Benefits

It is expected that the Bypass will lead to a significant reduction in numbers and severity of vehicle crashes.

The partially grade separated southern intersection will eliminate the major cross turning movement and allow southbound traffic to join the Bypass traffic stream via a dedicated lane.

The northern intersection is a seagull layout, a proven intersection type that is much safer than the existing intersections along the highway.

Crash performance at the side road junctions with the existing highway is expected to improve due to the very large reduction in traffic that will be using the road. This reduction in traffic volume on the existing highway may also improve safety for pedestrians and cyclists. Cyclist safety on the Bypass will be improved by the provision of sealed shoulders.

A wire rope safety barrier is to be provided between opposing directions of traffic on the Bypass. The safety barrier will reduce the potential for head on collisions.

Local Amenity

Construction of the Bypass will remove the through traffic from the settlements along the existing highway. Locating the Bypass some hundreds of metres to the east will lead to a major reduction in traffic noise for nearly all residents in the area. Overall the amenity of the area is expected to be significantly enhanced by provision of the Bypass.

Maintenance Cost Savings

It is anticipated that the maintenance responsibility for the existing East Tamar Highway will be transferred to Launceston City Council following the construction of the Bypass. DIER has been consulting with Launceston City Council to confirm details regarding the handover. Once the Bypass is complete maintenance requirements on the existing East Tamar Highway are expected to reduce significantly due to a reduction in the number of heavy vehicles using the road.

The Bypass will significantly reduce the recurrent pavement maintenance costs compared to the existing East Tamar Highway through:

- Improved pavement strength;
- Installation of an efficient pavement drainage system reducing the rate of pavement deterioration; and
- Construction of wide sealed shoulders to reduce road edge maintenance.

Flooding at Coulsons Creek

Flooding at Coulsons Creek has regularly disrupted traffic along the East Tamar Highway. Locating the Bypass on higher ground to the east and raising the road level relative to the flood level is expected to maintain the Bypass as flood free. The Bypass will provide an alternative means of access for residents cut off when the old highway is inundated.

Road User Benefits

The main benefits for road users include:

- A reduction in travel time.
- A higher standard road.
- Improved intersections.
- Improved safety through use of the central wire rope safety barrier.
- Flooding at Coulsons Creek will no longer create delays for through traffic.

THE PROJECT DESCRIPTION

The Bypass Corridor

The Bypass corridor is located to the east of the existing East Tamar Highway.

Land adjacent to the road is mostly rural. However, residential properties are located in close proximity to the highway at Dilston and residential areas are also located along Dilston Road, Rostella Drive, Windermere Road and Los Angelos Road. Dilston Road, Windermere Road and Los Angelos Road all have direct access onto the highway.

Road Works

The Bypass commences north of the Rocherlea Interchange and is located on the eastern side of the existing East Tamar Highway. At the southern end, the Bypass connects to the existing duplicated highway. The duplicated highway will be extended 1.5km northwards to about 500m north of Barnards Creek.

From Barnards Creek the Bypass will predominantly consist of a single carriageway with a 2+1 lane configuration, being a single lane each way with an overtaking lane that alternates between the northbound and southbound sides generally associated with the direction that has a rising grade. The opposing traffic flows are separated by a wire rope safety fence.

The road connects back into the existing highway at Doctors Rise.

The southern intersection will have a grade separated on-ramp from the old highway onto the Bypass for southbound traffic. Other traffic movements will be catered for by a standard T junction. A U-turn facility is provided at this intersection.

The northern intersection is a seagull layout providing a merge for vehicles turning right onto the southbound carriageway of the Bypass. A U-turn facility is provided at the intersection.

A G-Turn facility is provided approximately halfway along the Bypass to provide direct property access to the property owned by Richard Doak and to serve as a U-turn facility to provide easier access to left in/left out accesses along the Bypass. This arrangement is intended to minimise the number of crossing movements that will occur.

The road reserve has been established so as to allow for future duplication of the highway.

Cross Section

Traffic lanes on the Bypass will be 3.5 metres wide.

The duplicated section will have a 3.5 metres wide median and 1.0 metre shoulders adjacent to the median.

The three lane (2+1) configuration will have a sealed median containing the wire rope safety fence which will be 1.8 metres wide.

For the entire length of the Bypass 2.0 metre wide sealed shoulders will be provided on the left hand side of the traffic lanes. This will reduce the likelihood of broken down vehicles preventing the passage of other vehicles and provide a safe path for use by cyclists.

Alignment

The geometric alignment of the Bypass has been developed in accordance with relevant design guidelines for a design speed of 100km/h.

Cyclists

As mentioned previously the project provides for cyclists by the provision of a 2.0 metre sealed shoulder along the full length of the Bypass.

Public Utilities

The project requires extensive relocation of public utilities including:

- Telecommunications cables and pits:
- High and low voltage overhead power;
- Ben Lomond Water mains; and
- Launceston City Council water mains.

The owners of the public utilities have been consulted throughout the development of the design and the required modifications have been designed to minimise interruptions to users of the public utilities during construction.

Bridges

The project requires the construction of one grade separation structure at the southern intersection for southbound traffic from the old highway.

A bridge is also required at Barnards Creek. This will require staged construction to enable the existing bridge to remain in service until the new bridge is available for traffic. This bridge will also act as a stock underpass.

Four other stock underpasses will be constructed, two reinforced concrete box structures, one across the East Tamar Highway and the second at Ch 6600; the latter has been sized to allow passage of the Dilston Fire Brigade tanker. Corrugated metal plate underpasses will be constructed at Chs 2585 and 7852.

Large corrugated metal arches are to be constructed at Coldwater, Lady Nelson, Coulsons and Symons Creeks.

Safety Review

Road safety audits will be undertaken at;

- At the completion of detailed design; and
- Following completion of the project prior to opening to traffic.

These reviews will be undertaken to ensure that the safety objectives of the project have been met and that the safety features incorporated in the design have been implemented appropriately.

Existing Environment

The following background surveys were undertaken for the project:

- A Botanical Survey and Fauna Habitat Assessment¹;
- An Aboriginal cultural heritage survey²; and
- An historic heritage survey³.

Flora

The study area is characterised primarily by modified pasture with small but valuable representation of fragmented vegetation communities.

The Bypass was identified as possibly having potential impacts on natural values. A summary of North Barker's findings for the Bypass flora is:

- A small stand of degraded Eucalyptus ovata forest occurs near the Bypass route. This community is listed as endangered by the Forest Practices Authority (FPA).
- Several stands of Melaleuca ericifolia swamp forest occur along Bypass route. This community is listed as vulnerable at the state level by the FPA. It is not previously recorded as occurring in the Northern Midlands bioregion and so its presence here would qualify it as rare at the regional scale.
- Several stands of Eucalyptus viminalis grassy forest and woodland occur along the route. This community is listed as vulnerable or rare and depleted at the bioregional scale.

The Bypass route seeks to avoid the *Melaleuca ericifolia* community. It is anticipated that some impact on *Eucalyptus viminalis grassy forest* will occur. Similarly, the degraded *Eucalyptus ovata* forest in the southern extent of the route will be impacted upon.

A pure stand of *Melaleuca ericifolia swamp forest* (NME) is located north of Lady Nelson Creek adjacent to the route alignment to the west. The community develops in riparian areas associated with watercourses or poorly drained locations. The Bypass route avoids this lower lying terrain and is located approximately 100 to 150 metres to the north east of the community along its length.

A number of stands of the *Eucalyptus viminalis grassy forest and woodland* (DVG), which is listed as vulnerable and rare at the bioregional scale, will be impacted by the Bypass. This community occurs in various sizes throughout the study area. The riparian scrub at Lady Nelson Creek is DVG and the route avoids significant impact on this community.

The clearing of endangered forest communities is approved through the Forest Practices System. However, the requirement for a Forest Practices Plan and subsequent approval is not required pursuant to Section 5 (1)c of the *Forest Practices Regulations 1997* for the:

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Northbarker Ecosystem Services 2007:East Tamar Highway Dilston Bypass – Botanical Survey and Fauna Habitat Assessment

² Stanton, S. 2007. Aboriginal cultural heritage assessment- proposed Dilston Bypass.

³ pitt&sherry. 2007. Cultural Landscape Assessment, Burnside, DIlston

Harvesting of timber or clearing of trees on any land for the following purposes:

(iii) public roads

Compensatory planting is to be carried out for the *Melaleuca ericifolia*. As this species has limited suitable habitat the planting will be placed adjacent to the existing communities and within the road reserve.

Weed management will be an integral part of the project.

Fauna

The Bypass was identified as possibly having potential impacts on natural values. A summary of North Barker's findings for the Bypass fauna is:

- A potentially active nest of the white-breasted sea eagle was located on the Bypass route. This species is listed as endangered on the schedules of the Tasmanian Threatened Species Protection Act 1995 and is listed as a migratory species under the EPBC. The construction of the road would result in either the destruction of the nest or probably deterrence of the eagle from nesting if built in the near vicinity.
- Potentially suitable nesting habitat for the masked owl exists adjoining the southern half of (the longer) route. This habitat consists of a number of old growth white gum trees containing hollows.
- Habitat of the eastern-barred bandicoot may occur in the corridor away from the two proposed routes. The bandicoot is listed as vulnerable on the EPBC Register but is not regarded as threatened at the state level and therefore is not likely to be a constraint on the road development⁴.

The White breasted Sea Eagle *Haliaeetus leucogaster* is widely distributed from India to Australia, the Tamar and adjoining estuaries are regarded as a key site for the species. While the species is listed as *vulnerable* under State legislation, the nests, which do change over time, are not recorded on public databases⁵. Consultation with the Conservation Assessment Section (CAS) of the Department of Primary Industries & Water has occurred, the focus of which was management implications for the proposed alignment and likely construction phase requirements. The status of the nest has been confirmed as non-active, consequently there should not be significant implications on the species.

No nests of the Masked Owl have been found in the suitable habitat trees.

The potential impact on the Eastern Barred Bandicoot and Spotted Tailed Quoll, which rely on the interface/ecotone between pasture and remnant vegetation, will not be significant.

The proposed Bypass alignment avoids lower lying swampy areas in the northern half of the area of impact. Importantly this should mitigate any negative impact on the

NorthBarker Ecosystems (2007) East Tamar Highway Dilston Bypass: Botanical Survey and Fauna Habitat Assessment – reconnaissance survey.

Threatened Species Unit, Parks and Wildlife Service (1999) Tasmania's Threatened Fauna Handbook: what, where & how to protect Tasmania's threatened animals.

Green & Gold Frog. A recent survey of the watercourses that cross the Bypass has determined that none of these represent core habitat for the Green & Gold Frog⁶.

An additional survey was also carried out to determine the presence of the Australian Grayling. This endangered fish species was not found in any of the watercourses at the Bypass itself and for at least 300m on either side⁷.

Road kill mitigation measures have been incorporated into the design of the Bypass consisting of:

- Culvert crossings typically associated with watercourses to facilitate the movement of fauna along their preferred paths;
- Fencing intended to funnel the fauna into the crossings;
- Wallaby proof fencing alongside the Bypass at the northern end where bushland is close to the road or on both sides of it. This fencing will restrict access for wildlife onto the road. A large arch at Symons Creek will be the principal point for wildlife crossing at this end of the Bypass.

The full extent of road kill mitigation is still being developed and it is proposed to conduct before and after studies at selected crossing points to determine the effectiveness of the mitigation measures.

Aboriginal Cultural Heritage

Most of the area of impact from the Bypass has been modified and fragmented by both agricultural and forestry activities; consequently it was anticipated that there will be limited record of existing Aboriginal heritage. However two sites were identified as potential sites of interest. These have been registered and designated TASI 10460 and 10461. Extensive areas of the sites have been, and are undergoing, investigation for relic recovery. These works have been under permit from the then Department of Environment, Parks, Heritage and the Arts.

Historic Heritage

A desktop search of the Register of the National Estate, Australian Heritage Inventory, Tasmanian Heritage Register and Schedule 2 (Heritage Schedule) of the *Launceston Planning Scheme 1996* reveals that there are two properties within the project vicinity that contain identified heritage values. These are:

- Dilston Lodge, 1348 East Tamar Highway; and,
- Burnside Flour Mill, East Tamar Highway opposite Windermere Road

The Bypass route does not impact on the Dilston Lodge. However the proximity of the Bypass is likely to have an impact on both the Cultural Landscape and Structural integrity of the Burnside Flour Mill. Burnside, a former Flour Mill built before 1850, is a large three level stone and brick farm building and easily viewed from the highway. Since its initial operation as a Mill it has been used as a sawmill and more recently a barn for hay storage⁸.

B DEH (n.d.) Australian Heritage Database: Burnside Flour Mill (Former), East Tamar Highway, Dilston, TAS. Department of Environment and Heritage. http://www.deh.gov.au/cgi-bin/ahdb/search.pl?mode=place_detail;place_id=12642. [Accessed online 5th October 2006]

⁶ NorthBarker Ecosystems (2009) East Tamar Highway-Proposed Dilston Bypass; Extension Survey for Green and Gold Frog Habitat

⁷ Freshwater Systems (2009) Dilston Bypass Stream Crossing Fish Survey

A study was completed by pitt&sherry that assessed cultural significance and the likelihood and magnitude of impact on these values should the highway be constructed and used. In summary the likely impacts from the Bypass on the Burnside Flour Mill include:

- Development of a road across the paddock adjacent to the building would represent a medium level impact on a value of local importance. (i.e. the impact will be noticeable but not catastrophic, but effort should be made to reduce the impact, if possible).
- Removal of the old growth Eucalypt (located at E 504405 N 5427014 AMG66) in order to develop the road would represent a high level impact on a value of local importance. (i.e. the impact will substantially degrade the heritage value - and effort should be made to reduce the impact, if possible).
- If the amount of fill (or cut) required to construct the highway at *Burnside* was significant, there would be potential for an impact on the visual character. This is considered to be a medium level impact on a value of local importance. (i.e. the impact will be noticeable but not catastrophic, but effort should be made to reduce the impact, if possible).

These recommendations were considered during the design development for the Bypass and the impacts minimized by relocating the Bypass alignment to a distance well beyond the existing highway. The highway alignment was adjusted to preserve the historic tree.

Structural Assessment of Burnside Flour Mill

A structural assessment of the building was made by **pitt&sherry** which concluded:

- The building is in poor condition, and a number of defects were noted. In its current state the building has reduced capacity to tolerate any imposed loads.
- There is a risk that activities associated with the construction phase, even if completed within the requirements of the relevant standards, could induce vibrations in the building resulting in further damage.
- Further investigation is recommended and a detailed survey of the building condition before, during and after construction should be conducted.
- Recommended management and remedial works required to ensure the ongoing structural integrity of the building requires further detailed assessment.

Prior to, and during, construction the contractor will be required to carry out detailed inspections of the building to ensure the construction activities are having no deleterious effects. In addition the contractor will be required to monitor ground vibrations to ensure that vibrations do not reach levels that could impact on the structural integrity of the building.

Visual impact

Construction of the Bypass will have limited impact on the visual appeal of the area as the route is some hundreds of metres to the east of the existing highway which shifts it further away from a significant majority of existing houses. Most of these houses look west, towards the Tamar River, away from the proposed Bypass.

The impact on the visual landscape and natural topography will include:

- Cut and embankment of the proposed route, particularly on the steeper terrain between Barnards Creek and chainage 2000;
- Prominence of route along higher ground between Chainage 2000 and Lady Nelson Creek;
- New structures that cross Barnards, Coldwater, Lady Nelson, Coulsons and Symons Creeks.
- Loss of existing vegetation to accommodate construction.

Extensive landscaping is being incorporated into the design to minimise the visual impact of the Bypass.

Earth mounds are being constructed to provide visual screening to houses on the property owned by Richard Doak and the Thorp Property owned by Gerald Archer.

Noise

Adjacent areas surrounding the existing East Tamar Highway are exposed to highway traffic noise. It is anticipated that the improved engineering of the Bypass will limit noise impacts associated with acceleration and de-acceleration currently experienced along the East Tamar Highway within the Dilston region. The relocation of the road approximately 700 metres to the East of existing residences is expected to lessen the current levels of noise.

Two properties, the first owned by Richard Doak and the Thorp Property owned by Gerald Archer will have earth mounds constructed, as mentioned in the previous section. These will provide noise attenuation to houses on the properties and keep noise levels within guideline limits.

Land Capability

The land capability of the area has been mapped by KE Noble.

The aims of the land capability mapping project were to:

Identify and map the extent of different classes of agricultural land in order to provide an effective base for land use planning decisions.

Ensure that the long-term productivity of the land is maintained at a sustainable level.

The study area as demonstrated in Figure 2 below is predominantly class 4 and 5 land. This is reflected in the range of uses that are limited to grazing. Class 4 land is regarded as having low suitability for cropping and high suitability for grazing. Class 5 land is not suitable for cropping but provides medium pastoral suitability 9. The underlying dolerite geology in the area also restricts the cropping suitability due to shallow soil depths and the presence of stones and floaters 9.

⁹ Noble, KE (1990) Pipers Report: Land Capability Survey of Tasmania. Department of Primary Industry, Tasmania, Australia.

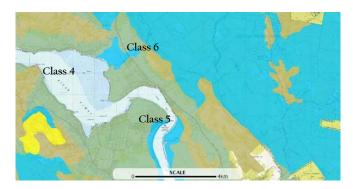


Figure 2: Land capability of the project area¹⁰

The proposed Bypass route essentially runs along the natural border between the eastern extreme of existing agricultural paddocks and natural vegetation found in adjacent gullies and steeper slopes. The proposed alignment will have an impact on the operational nature of the properties along its length. However the location of the Bypass alignment will locate the majority of cleared and utilised Class 4 land between the existing highway and the proposed alignment.

Given the productivity of the land and the existing uses that include grazing, timber yards, forestry and remnants of extractive industries it is anticipated that the impact on viable agricultural land will be low. Ensuring connectivity between existing land parcels across any the Bypass have been incorporated to negate the impact on rural and agricultural activity.

ENVIRONMENTAL SAFEGUARDS

Proposed Management Regime

In order to limit the impact on the environmental values identified the following processes and actions will be incorporated into the project:

- The amount of land that will need to be acquired for completion of the works has been kept to the minimum practicable level required by good road design.
- All weed areas will be clearly identified and requirements for treatment of the various declared weeds included in the tender documents. Control measures will be in accordance with statutory weed management plans.
- The need for clearance of vegetation and removal of visually prominent trees has been kept to the minimum practicable level consistent with good road design and safety.
- Rehabilitation following construction will aim to improve visual amenity along the Bypass corridor over time, thereby lessening the impacts associated with construction.
- A significant offset package for the Melaleuca ericifolia has been developed.
- Measures are being taken to protect the integrity of the Burnside Flour
- Noise attenuation and visual screening by the use of landscaped earth mounds.

Noble, K.E. (1990) Land Capability Survey of Tasmania. Pipers, 1:100 000 map. Department of Primary Industry, Tasmania, Australia. • Road kill mitigation measures.

Environmental Approvals Required

A 'Permit to Destroy' will be required under the Aboriginal Relics Act 1975 for remaining relics in TASI 10460 and 10461.

Social Implications

Potential social and economic impacts as a result of the proposed works will be positive, as the aim of the works is to improve the operation of the road network at Dilston by decreasing travel times and freight operating costs at the same time as removing much of the traffic from Dilston, reducing traffic noise and improving amenity and safety.

There will be some short-term social impacts arising from inconvenience associated with the road construction activities. However this is expected to be limited as the Bypass works are mostly being constructed on a green fields site well away from existing houses.

Appropriate requirements will be included in the contract documents to minimise disruption to the travelling public and adjacent property owners.

Property Impacts

The Bypass will require acquisition of land from three landowners, Gerald Archer, Richard Doak and Drew and Suzanne Hudson. The land acquisition process is expected to commence shortly.

The works will sever the three properties and require modification to fencing and access arrangements.

Regular contact has been maintained with all affected landowners and extensive modifications and additions made to the design to minimise the impact on the properties and their operations. In particular this has led to the incorporation of five stock crossings in the design as well as improvements to irrigation and amended access arrangements.

As mentioned in Sections 6.6.5 and 6.6.6 earth mounds will be provided alongside parts of Richard Doak's property and the Thorp property owned by Gerald Archer to provide noise attenuation and visual screening.

Prior to works commencing written agreement is required from the three landowners. This has already been received from two of them, Richard Doak and Drew and Suzanne Hudson. On-going discussions are being held between DIER and the third property owner Gerald Archer.

Planning Approval

The proposed works are located within the Launceston City Council Municipality. All works must be undertaken in accordance with the Launceston Planning Scheme 1996. The proposed routes will pass through a landscape that includes:

• Land zoned – Rural & Forest Practices zones; and.

• Special areas within the region such as - Regional Significance, Buffer Zones, Historic Cultural Heritage & Scenic Protection Schedules.

The proposed development is regarded as a permitted development within land zoned Rural and Forest Practices. Pursuant to Clause 31.4 of the Scheme, "Major New Roadworks", requires that the planning submission to council embodies the requirements of Section 74 of the Environmental Management & Pollution Control Act 1994, Environmental Impact Assessment.

The Bypass becomes a Discretionary application by virtue of the Special Areas.

Development Approval for the project has already been granted by the Launceston City Council.

STATE POLICIES

State Coastal Policy

The Tasmanian *State Coastal Policy 1996* is applicable to all land within a distance of one kilometre from the high-water mark. The proposed development is not within one kilometre of the high water mark and, accordingly, the *State Coastal Policy 1996* does not apply.

State Policy on the Protection of Agricultural Land

The State Policy on the Protection of Agricultural Land 2000 provides for sustainable agriculture on the State's prime agricultural land. It goes further to protect prime agricultural land (defined as Class 1, 2 or 3 land) from conversion to non-agricultural use and development.

As previously discussed, the majority of the land affected is Class 4 and 5.

State Policy on Water Quality Management

In accordance with Section 35.1 of *The State Policy on Water Quality Management 1997*, all road construction works must employ measures consistent with best practice environmental management to prevent erosion and the pollution of streams and waterways by runoff from sites of road construction.

Appropriate silt control and sedimentation measures will be put in place to protect the surrounding waterways and prevent potential soil erosion on site.

CONSTRUCTION PROGRAM AND COSTS

Construction of the project is expected to commence early in 2010 and be complete by mid 2011. The key dates are shown in Table 1.

Table 1. Program

Project Phase	;		Start Date	End Date
Design devel	opment		May 2007	Sep 2009
PSCPW App	roval		Aug 2009	Oct 2009
Tendering	and	tender	Oct 2009	Dec 2009

Project Phase	Start Date	End Date
assessment		
Construction	Jan 2010	Dec 2011*

* Subject to weather conditions

The major project components and estimated costs are shown in Table 2. A detailed cost estimate is provided in Appendix B.

Table 2. Cost Estimate

Cost Item	Estimated Cost Including Contingency (\$M)
Project Specific	5.18
Earthworks	11.05
Drainage	1.74
Pavement	6.89
Bituminous Surfacing	0.80
Traffic Facilities	2.97
Landscaping	1.37
Miscellaneous	0.24
Bridges	6.78
Road handover	0.25
Additional Items	1.15
Overheads	7.85
Outturn costs	2.46
TOTAL PROJECT COST	48.7

EVIDENCE

The Committee commenced its inquiry on Friday, 14 August last with an inspection of the site of the proposed works. The Committee then returned to Henty House, Launceston whereupon the following witnesses appeared, made the Statutory Declaration and were examined by the Committee in public:-

- Gunadasa Ginneliya (DIER Project Manager)
- David Conley Pitt & Sherry Design Manager
- Robert Farmer, P&S Design Manager
- Dion Lester, P&S Planner
- Ron Goodes, Resident of Dilston
- George Chandler, Dilston Bypass Safety Committee
- Tony Walker, Dilston Bypass Safety Committee

Overview

Mr Ginneliya provided the following overview of the project:-

In June 2006 the Australian Government and the Tasmanian Government signed a memorandum of understanding to do some upgrading of the East Tamar Highway between Launceston and Bell Bay and I have a copy of that East Tamar Highway Upgrade package. The Australian Government allocated \$60 million and the Tasmanian Government allocated \$8 million, so with that combined package a number of projects were identified between Launceston and Bell Bay. Some of them are shoulder widening, resealing, upgrading of junctions, pavement work et cetera. However, the two largest projects were the upgrading of the Batman Highway junction and Dilston bypass. From the time it was announced in June 2006, the department engaged Pitt & Sherry to do some planning work so the planning work started from July and as part of that planning process a number of upgrading options for the Dilston bypass was considered. I have the planning report and it tells us of a detailed assessment of the planning process.

At the end of that planning phase the department also conducted a public consultation phase in February and March 2007 which included a public display and at that time there was overwhelming community support to do the long bypass instead of the short bypass followed by the recommendation given by our consultant based on a number of criteria. The long bypass became the superior choice, as explained at the site visit, for a number of reasons. The long bypass was adopted and then we went to the next stage of the design process which was the preliminary design. At that time there was one scope change, which was the inclusion of the wire rope safety fencing which was not included in the original design. The original package was \$39 million and with the inclusion of the wire rope safety fencing and median strip it jumped to \$43 million.

With that in mind, design works progressed and various consultation took place between the service authorities, property owners, farmers and the council. That went on for some time between November and December 2007 at which time the department submitted the development application to the council. Mr Lester will talk in more detail about the planning issues. At that time we were advised that it has to be a combined rezoning and development application. Based on that advice we submitted an application and we also displayed some of the design drawing at the site of this.

The community at that time had seen those design drawings and they expressed their concern. A meeting was held on 12 December 2007 at which they expressed their reservations. They were happy with the bypass but they were not happy with the northern and southern junction arrangement. Discussions went on and a letter was submitted to the minister. At that time the minister was Jim Cox who in due course announced an independent safety assessment of the junction upgrade which was carried out in January or February 2008. I have a copy of that safety assessment by Mr Robert Morgan, an independent expert from Melbourne. The department agreed at the end of the day that those recommendations were to be fully carried out as part of the upgrade.

The council considered our development application at that time. A lot of meetings were held, there were newspaper articles and lobbying, media releases and questions raised in Parliament. During that time they were all there. The council approved the development application with the recommendation of installing a roundabout at both the northern and the southern intersection. The department was not satisfied with that and we were planning to appeal that development application but we were told by the RPDC that the process we followed was not correct procedure so that planning application was not

unnecessary, according to the RPDC ... in the sense that it was not the correct procedure to be followed. We were told that the process was invalid and not required.

We can do the development application directly, and Mr Lester might talk a bit later about that. At that time there was a concerted effort between various parties, between the department and the council. Various media sessions were held between the community groups, the council and the department and there were representatives from the community who went to see the minister through our senior department officials and a process was undertaken to see whether some kind of understanding or compromise could be achieved, but nothing happened. Then the department submitted another development application as recommended by RPDC, which happened in 2009. With that again the council recommended this. They approved the application subject to ensuring roundabouts at the northern end - for the second time. At that time the department decided not to appeal the second application and to negotiate with the council whether a compromise position can be achieved. Through those negotiations a couple of mediation sessions were held. Through those discussions the department agreed to enhance or upgrade the southern junction with one single ramp heading south, which was the biggest concern for the community. For the northern junction the biggest concern at that time was the foggy and icy conditions so that it may be unsafe for people to take right turns heading south. The department agreed to use modern technology to detect foggy and icy conditions which would illuminate some speed reduction signs and advanced warning signs.

With that package of work the council agreed that it is the best compromise we can achieve. It was accepted and we were given amended approval in 2009 and then we started. We are at the moment finalising the detail design. Subject to the committee's decision, we should be able to go to tender soon, within a month or so I suppose. The current cost of the project is \$48.7 million. We intend to complete the job towards the end of 2011. If we find reasonably good weather over winter we might be able to complete a bit earlier as well. We have sent to Canberra to change the upgrade package because the original completion date was at the end of 2009, so they have accepted the change in the timing in that regard.

Mr Conley concluded:-

... We sought these transport efficiency outcomes and the road will be good for trucks. Clearly we have the constraints at each end. You have quite steep approaches in the vicinity of Barnards Creek and you saw the terrain this morning up at Doctors Rise. For the actual bypass itself, it will meet the needs of all road users very well by restricting the grades to 3 per cent. That will keep the truck speeds up. The overtaking opportunities with the two-plus-one configuration should be beneficial to your faster moving traffic and, of course, there are safety benefits with the wire rope.

I guess the debate is probably going to move down to these two junctions. I probably cannot add a lot more about particulars of design. I can be more expansive if you wish but you pre-empted this morning that you would like to have a look at the junctions, and we have these bigger scale drawings.

Planning process

Mr Lester provided the following evidence in relation to the planning process:-

... the planning process was somewhat of a saga, it is fair to say. The advice from Launceston Council early on throughout the consultation was that it would require a combined scheme amendment and DA. They did not think that the existing scheme provisions allowed for the submitting of a development application. The department took the position that that was appropriate and forwarded the necessary documentation to down that pathway for which, as Guna highlighted, the T-junctions and the design issues were one thing. Once it got to the RPDC they came to the decision that it was not required. Under LUPA, if you do not need to change the scheme, if the scheme as it stands now can deal with the development, then you cannot follow that route - from a legislative perspective. So they rejected what is called a section 43A combined planning scheme amendment and development application on the basis that they did not have any power to see it because the existing planning scheme ordinance can accept an application for this road. So we went back and that process took a number of months because there was a statutory public exhibition period and various other periods as council assessed it.

Then the department went back and submitted what was then a valid straight development application. Then, of course, that was subject to some amendment, as Guna explained, with the southern junction. But subsequently the Launceston City Council has accepted the position of the commission and did not challenge that, and accepted the second DA earlier this year and approved it with conditions. It took a little bit longer than probably should have but we got there in the end.

More broadly, from an environmental perspective, the planning issues and Aboriginal heritage are the two key constraints or challenges associated with this route. It is a fairly benign route from an environmental perspective. It goes through what has been pasture and has been for quite a long time. As David pointed out when we were at site, there is the Burnside Mill towards Doctors Rise. There has been a fair bit of work put into that because that is a very historic structure and it has elements associated with its landscape. The trees are one of them and they are quite important. There was quite some investigation into the landscape elements of that Burnside property and also the structural elements. As a result the highway was moved further away and there has been a detailed structural inspection. There will be ongoing work to make sure that the property maintains an appropriate curtilage, which we have, but also that the highway works and the vibrations do not damage that.

There was not a great deal from a flora point of view. There are no threatened species located throughout the route. There are some patches of vulnerable forest, eucalyptus viminalis, and some melaleuca ericifolia, which is a tea tree, in some of the lower sections and which is actually being offset as a result. So the impact that the highway is having, which is minimal, will be offset as part of the rehabilitation and landscaping plan.

It is on an interface between pasture and bushland so from a faunal point of view the key issue with this highway is road kill and there are extensive measures being undertaken for road kill. There are a number of crossing culverts throughout. They have been designed in a fashion that will allow for various native species to go under the highway. Almost extensively along the eastern side of the highway there will be fencing to prevent wallabies and other native animals getting across, so the only way they should get across that highway is through the provisions that we have made underneath for medium-sized fauna, such as wallabies and the like, and also some of the smaller stuff. The culverts are in positions which are low and they take water but you can design them so they are little animal walkways so that when they are carrying water they are still appropriate for devils and quolls and such things to get across.

We have done some extensive fauna work. There were issues raised in the community about the green and gold frog. The route itself does not contain any habitat. There was a second survey looking at between 500-800 metres further upstream from any creek or waterway that crossed the route to make sure that there was no habitat upstream. Similarly with the Australian grayling; every single waterway that it crosses has been surveyed for Australian grayling and found not to contain any. Beyond that, from a flora and fauna point of view, it is a clear site, fairly benign.

Aboriginal heritage: there were two sites and they are indicated on the plan you have that shows the northern junction.

There are two Aboriginal heritage sites located along the route and there have been extensive investigations over a number of months looking at those sites, under permit, obviously, from Aboriginal Heritage Tasmania. Those investigations are complete now so there is no further need to undertake any field survey. There does need to be some dating of some of the artefacts that were found, which is a process to inform the final reporting. This will then go to Aboriginal Heritage Tasmania for endorsement and a subsequent permit to destroy the sites, which will happen over the next few weeks in fact, I would anticipate.

Noise is the only other issue I probably should mention. Noise modelling has been undertaken and background measurements taken for this. As you would appreciate, because the highway is moving a considerable distance away from the existing residences the amenity of Dilston and the residences along the route is substantially increased as a result. It is obviously a greenfield site so from a noise perspective the only two properties that are within cooee are the Burnside Mill and Dilston Lodge and both of those are within DIER's guidelines as far as noise is concerned. Both of those actually experience an improvement anyway within their noise because the highway is going from right out the front of their house to many hundreds of kilometres in their backyard.

Northern intersection

The Committee questioned the witnesses as to the management of vehicles at the northern intersection. Mr Conley responded:-

...The turning volumes are not high there but we have space. As you can see, that is the width of a lane. We made two turning lanes so that there any delayed vehicles waiting to right turn were not holding ones back that wanted to turn left. This was one of the recommendations from Robert Morgan who was the safety auditor. These are very wide traffic islands and they will be highly visible. Noone should be confused about what they are confronting here. The movements are broken up into a series of steps so this right turner has to cross the traffic

stream. We have made this wide so that if people misjudge it or approach it with some speed because they saw a car approaching - and bear in mind all the traffic coming up here will be pulling up a fairly steep hill, so even though it is a 100 kph design the grade itself will limit the speeds. I know you only have to put your foot down but the average speeds will tend to be lower. This is quite forgiving and different from perhaps other configurations that you might see in a rural situation in Tasmania, so if someone comes into this at even 30 or 40 kilometres an hour they will not shoot across the road, they have time and a bit of space to adjust, and of course there is significant room. This is a sheltered lane for several hundred metres and then there is what we call a left-side merge where you will have to merge in with the traffic stream but it enables you to break that move into two distinct sequences.

There is a lot of room for manoeuvre, there are dedicated lanes and the layout should be quite clear. In that sense it should be quite a forgiving design and it is a much higher standard than has been implemented at anything comparable.

... This layout is based on Australian design standards, this is the way you lay them out and they work, but I suppose to answer the question, there is nothing specific but it is intuitive.

Speed limit

The Committee questioned the witnesses as to the proposed speed limit for the road and in particular, whether a speed reduction would be imposed at the intersection. Mr Ginneliya responded:-

... It's an AusLink road now. That's how we got the money. It's not going to go to 110 kmh, it's designed for 100 kmh and will remain 100 kmh.

Mr Conley added:-

There will be no speed reduction through the (intersection). ... As it is done currently - and you see on the Midland Highway - there is no speed limit sign posted at junctions; it is only built-up areas that would normally attract speed limits.

... If you looked at lots of intersections on both the Midland and Bass highways, the road to Oatlands, Ross and Tunbridge, there is no speed reduction on them.

Burnside Mill

The Committee questioned the witnesses as to whether there was any likelihood of damage to the Burnside Mill. Mr Conley responded:-

We think it is a very low likelihood. On one of the overview drawings, this is a big cutting up here. We initially thought it had a lot of rock in it but we have drilled to the bottom and it is all clay, so given it is soft material there won't be blasting. So probably next to no impact. Again we will be having heavy equipment which generate vibration, but the distance back to the mill is over 150 metres and it is unlikely that the vibrations will be of a level to cause any damage - and we have set a limit on them. We have said that they must put detectors at the mill and equipment must not generate what is called a peak particle velocity

greater than a certain limit. If that limit is exceeded - and they have to do tests before they start the work - then they will have to come up with a different construction methodology.

Firstly, we are pretty confident it will not be an issue and, secondly, there are measures in place if things are a little different from what we are expecting.

Doctors Hill

The Committee questioned the witnesses as to whether a reduction of the gradient of Doctors Hill to around 5 per cent was feasible as suggested by Mr Goodes in his submission, and if so, what modification of the proposed works would be required to achieve such reduction. Mr Conley responded:-

I think to choose between 5 per cent or 6.5 per cent is a minimal gain, unless you are able to make it flat. There is a massive amount of earthworks even on what Mr Goodes is proposing to achieve - the 5 per cent. It raises the embankment height - the large embankment behind Burnside - from 15 metres to 22.5 metres or more. We have said that the height of 15 metres is about the practical limit, not from a construction point of view - engineers can do anything; it is not a structural limitation - but in terms of cost, impact on the environment and visual impact. We have had some difficult negotiations with Mr Hudson at Burnside. He has been opposed to the road from day one and he has been quite open in his statements and has made representations in the political arena. Part of that resulted us in moving the road right up to the tree line to get it as far as possible away from his property. It will be a significant impact as it is - at 15 metres high - I suspect more than Mr Hudson might envisage. That is nearly as high as this building and so on. It will be a big impact. There are measures that can be put in place. It can be screened with trees to attempt to mitigate the impact, but not to go to another level, to take it to 5 per cent, for what I see in the end as a marginal gain. If I were to take this committee out to a couple of areas and say that is 5 per cent and that is 6.5, I do not think you would see a discernible difference. So it is a marginal gain.

On the East Derwent Highway, if you go through Lindisfarne and past Geilston Bay High School heading towards Risdon Vale and you climb the four lanes and on the right is the turn off to Risdon Vale, that is 6.5 per cent. It is not a massively steep road. The Tasman Bridge is about 5 per cent. I would put it to you that there is not a discernible difference between driving up the Tasman Bridge or driving up the East Derwent Highway, and the East Derwent Highway is over 6 per cent. It has a T-junction, crosses four lanes and has a number of parallels with this. It has an excellent safety record. We would always prefer perfect drain and flood conditions and so on, but I do not believe it is warranted to go to that level of work for what I see as a marginal gain.

We have not costed that. It would be a large amount of extra earthworks. It is a very big fill. We have a culvert structure underneath Doctors Creek that is already 80 metres long. By raising it seven and a half metres you would add another 30 metres to that. It is 110 metres long. Again, there is an environmental issue. With the length we have we unfortunately create, on a creek, a long dark tunnel which all the little creatures in the creek do not like. If you just focus on costs it is probably a \$1.5 million structure we have there, so if you increase it from 80 metres to 110, say 40 per cent, there is another \$600 000. The earthworks could well be another 50 000 or 60 000 cubic metres at \$15 for

each cubic metre, so that is \$1 million in earth works. It would exceed \$2 million and it would really have to be designed so we could look at it and see what the implications are. There would be some environmental issues we would have revisit. There are design costs. We would really have to look at it in detail. It would be a significant change to the project.

Dilston Bypass Safety Committee

The following evidence was received from representatives of the Dilston Bypass Safety Committee:-

Mr CHANDLER - Very briefly, originally two T-junctions were proposed. There were two meetings of residents of the Dilston-Windermere-Swan Bay-Rostella-Los Angelos Road communities and as a result of those two meetings a safety committee was set up. Ron is a member of the safety committee, and Tony and I, and we have quite a number of other people who are members.

This area really does need the bypass. It is not just a matter of like; it is need. There have been 17 people killed in that area just in the time I have lived there, and I would not know how many injured. I think the insurance companies work on about 58 injuries for every death so it gives you a bit of an idea.

The main point is that negotiations with DIER and the Launceston City Council and the bypass committee occurred over a period of about two years. As a result a compromise was reached between those three groups and that compromise is, as you have before you, the underpass at the southern junction. We did traffic counts and the vast number, I think 90 per cent, of people travel in that direction and there is an improved seagull junction at the northern end. Residents and the committee accepted that compromise but we do harbour concerns regarding the northern junction.

Mr WALKER - The committee felt that T-intersections on high-speed highways are not a good idea. We looked at the Bass Highway as our example of best practice, where you will not find a T-intersection between Launceston and Deloraine. Everything is either underpass or overpass, as it should be. However, we realise that there are financial constraints on the project. Our original objection was that there are no alternatives for residents of the areas we represented to access the highway and make that difficult right-hand turn, turning south. Acceptance of the compromise proposal took into consideration that the people who would normally use the northern access have an alternative they can drive down on the old road and use the underpass at the southern access. So for nervous people and inexperienced drivers, for school buses, for people with horse floats - whatever - they have an alternative to access the highway, and that was why we felt that the compromise in all the circumstances was acceptable to the committee.

Mr CHANDLER - I should add that the man in charge of our school buses was most concerned - and I do have a letter from him about that - and so was one of the school bus drivers who resided in the area. But that was dealt with by DIER in the concerns and, as Tony said, has given us at least one safe method of getting on the highway.

The Committee questioned the witnesses as to whether drivers wishing to travel south would be more likely to continue to use the northern access. Mr Chandler responded:-

What we are saying is that somebody from George Town in foggy or icy conditions or in cases where there is very heavy traffic, can say, 'Blow it, I am not going to try to cross that lot' and continue right through the length of the bypass and come back the other way. It does provide that opportunity through the road to the overpass.

Mr Walker added:-

It is very hard to say. The original DIER estimate was 60:40 ... You are saying 40 per cent on the northern, 60 per cent on the southern. We felt that was a bit heavily weighted to the northern, to be honest; we thought it would probably be more like 70:30, but I guess you cannot really predict how people will behave and people may still try to make that right-hand turn on the northern access if it will be quicker for them. But there is an alternative now for anyone who is nervous about using that access.

The Committee questioned the witnesses as to whether the angle of inclination of the Doctors Hill section was a cause of concern to the community. Mr Chandler responded:-

The concern is that there is a curved downhill slope, and heavily-laden trucks will have a difficulty stopping if there is a problem. It might help if I give an example. About two weeks ago a Jones's garbage truck was parked right near Doctors Creek, in the middle of the road to turn down the old Windermere Road. A loaded B-double came down Doctors Hill, recognised that he was not going to stop, couldn't get through on the left-hand side because of the bridge, so he was going to go on the driver's side and just bore through. Then he saw the car coming the other way, so he locked up everything he could and did a brilliant job of stopping, except the trailer behind jack-knifed and cover-drove the car straight into the bushes near where the creek is. The lady was not hurt. One of the residents who were there said the three of them - the two truck drivers and the lady - were totally shaken up by the whole thing. Those are the sorts of situations that make us concerned. Some are going to use the southern outlet all the time and are not particularly concerned. Others that are using the northern outlet to go north are concerned.

DOCUMENTS TAKEN INTO EVIDENCE

The following document was taken into evidence and considered by the Committee:

- East Tamar Highway, Dilston Bypass Submission to the Parliamentary Standing Committee on Public Works Department of Infrastructure, Energy & Resources August 2009;
 - George Chandler for the Dilston Bypass Safety Committee, Submission undated
- Ron Goodes, Submission dated August 2009

CONCLUSION AND RECOMMENDATION

The Committee is satisfied that on the evidence received the design of the proposed Dilston Bypass has been carried out in accordance with appropriate design standards and guidelines. The community consultation raised numerous concerns. Many of these have been incorporated into the project. The most significant item was the grade separation of the on ramp for southbound traffic at the southern intersection.

Once complete, the works will provide the following benefits:

- Decreased travel times;
- Greater freight efficiency;
- Improved amenity of Dilston residents;
- Improved safety performance; and
- Elimination of flood delays at Coulsons Creek.

Accordingly, the Committee recommends the project, in accordance with the documentation submitted, at an estimated total cost of \$49,700,000.

Parliament House Hobart 8 September 2009 Hon. G. R. Hall M.L.C. Acting Chairman