

FINAL REPORT of the  
**Channel Highway  
(Margate-Oyster  
Cove)**

REFERENCE GROUP

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## Executive Summary

This report summarises the deliberations of the Channel Highway (Margate-Oyster Cove) Reference Group. The report identifies several safety projects and also identifies opportunities to manage growing traffic volumes at junctions. Road safety improvements have been identified based on specific crash sites on the Highway, with the timeframe for the implementation for all recommendations being 12 months.

The Group's agreed vision for the Channel Highway is:

*A safe and efficient road providing an important connection for residents, commuters, tourists and freight, supporting local communities and businesses, and connecting the region to other Kingborough communities and the surrounding area.*

The Group's agreed objectives were to:

*Understand the current and future performance of the road.*

*Identify improvements that will make the road safer.*

*Provide information to assist in future land use and development decisions.*

The Reference Group now recommends that this report be sent to the Minister for Infrastructure, Hon Lara Giddings MP, for her consideration and action.

## Introduction

The Group operated under Terms of Reference (see Appendix A) agreed by the then Minister for Infrastructure, Graeme Sturges, the Leader of the Opposition, Will Hodgman, the Leader of the Greens, Nick McKim, and Kingborough Mayor Graham Bury.

The Group met five times to receive and consider relevant data, in particular information on traffic volumes, crash history and speed regimes.

## Vision

The Group's vision for the Channel Highway is that it is safe and efficient and provides an important connection for residents, commuters, tourists and freight, supports local communities and businesses, and connects the region to other Kingborough communities and the surrounding area.

## Objectives

The following objectives underpin the delivery of the vision for the Channel Highway:

- Understand the current and future performance of the road.
- Identify improvements that will make the road safer.
- Provide information to assist in future land use and development decisions.

## Strategic Context

### General

Kingborough Council is the local authority for the Channel area and has powers under the *Land Use Planning and Approvals Act 1993* to regulate development.

The Department of Infrastructure, Energy and Resources (DIER) is responsible for managing the State Road Network. Legislative powers for this function come primarily from the *Roads and Jetties Act 1935* and the *Traffic Act 1925*.

DIER has limited powers to regulate direct access to the Highway, and relies primarily on its relationship with Council, as the planning authority, to manage this issue. This is particularly important where development occurs that does not have direct access onto the Highway (and therefore does not fall under DIER's jurisdiction), but generates traffic that will have to access the Highway somewhere.

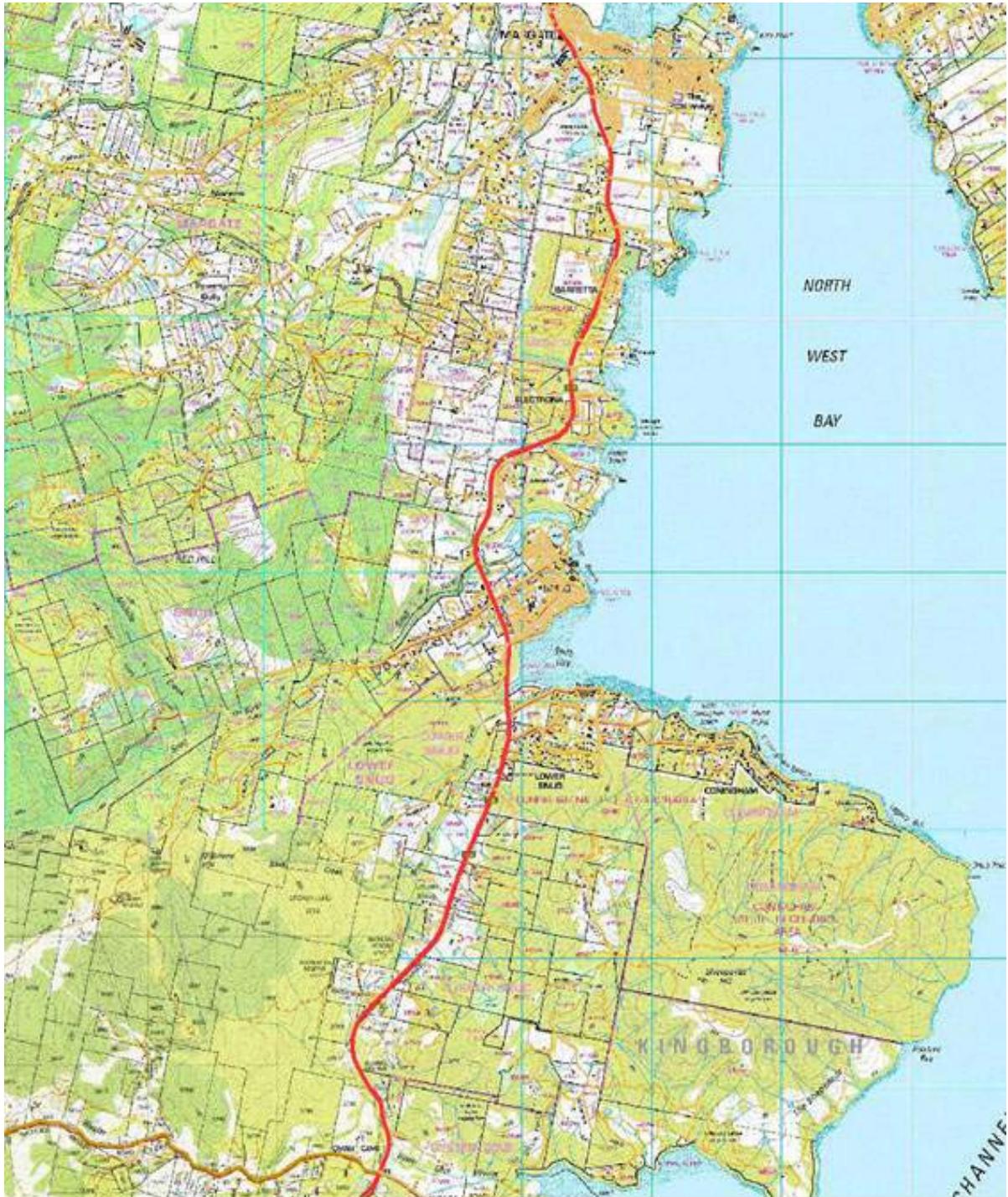
### Channel Highway

The Channel Highway is a State owned road, classified as a Category 3 Regional Access Road in the Tasmanian State Road Hierarchy. It serves an expanding residential and commercial community.

The Reference Group evaluated the section of the Channel Highway between the southern boundary of Margate and the northern boundary of Oyster Cove. This section is 9.5 kilometres long and is the main road through the township of Snug and the smaller residential areas of Barretta, Electrona and Lower Snug. This section carries around 6,000 vehicles per day.

Other State roads that have similar characteristics to the Channel Highway (i.e. traffic volumes, road conditions and strategic function) include the Arthur Highway on the Tasman Peninsula and Esk Main Road in the State's northeast.

**Map 1. – Channel Highway (Margate-Oyster Cove)**



## Traffic Volumes and Demand

Data from the permanent traffic counter on the Highway south of Lower Snug indicates that daily traffic volumes have approximately doubled in the last 25 years. In 2009, traffic counts were taken for a week on the Highway at two locations: near Powers Road, Lower Snug; and near Harts Road, Electrona. From these counts, annual average daily traffic volumes are estimated at 4,500-5,000 vehicles at Lower Snug to 6,300-6,800 vehicles at Electrona.

The increase in traffic heading north reflects the residential and commercial development patterns of the area, while the variation in numbers at each location reflect seasonal fluctuations, particularly with increases in tourist traffic in the summer months.

Duplication of single carriageway roads, such as the Highway, is generally not considered until volumes are in the order of 16,000 vehicles per day. The current Council vision for land use and development south of Margate will keep traffic volumes well below this threshold.



## Road Crash Analysis

### General

Crashes that have been reported to Police in the preceding five years are included when investigating road safety. A crash is counted only once, even though multiple vehicles, or vehicle occupants, may have been involved. This consistent approach allows crashes along a road to be equitably compared, as well as assessed against crashes on other roads.

### Channel Highway

DIER's Crash Data Manager computer system records that there have been 37 reported crashes on the Margate-Oyster Cove section of the Channel Highway in the last five years.

There have been 21 casualty crashes and 16 property damage crashes. Casualty crashes are those crashes where a person involved has been injured or died.

The casualty road crashes consisted of 1 fatal, 2 serious injury (hospital visit overnight or longer), 9 minor injury (hospital visit lasting less than 24 hours), and 9 first aid (provided at the crash site).

In order to place this crash history in the context of the crash history for the State, crash rates for this section of road were calculated. Casualty crashes are used to determine crash rates, because of their greater cost to the community.

Two rates are used:

- The number of casualty crashes per kilometre. This is the number of casualty crashes per year divided by the length of the road section where the crashes occurred. The rate for this

section of the Channel Highway is 0.48 crashes per kilometre per year, which is Medium in a statewide context.

- The number of casualty crashes as a function of the number of vehicles using the section of road. This rate recognises that as the volume of traffic increases, so does the probability of a crash occurring. The rate for this section of the Channel Highway is 23 crashes per 100 million vehicle-kilometres per year, which is Low-Medium in a statewide context.

All crashes (both casualty and property damage crashes) were considered in the investigation and the Group identified three crash clusters for further analysis.

A map showing the crash history of the Margate-Oyster Cove section of the Highway is included at Appendix B.

### **Crash Clusters**

The crash analysis revealed clusters of crashes at three locations:

- between Crescent Drive (southern junction) and Gemalla Road, including Meredith's Orchard shop frontage;
- Barretta Waste Transfer Station junction; and
- the northern downhill curves on approach to Oyster Cove ("Red Hill").

All three sites were investigated in the field in conjunction with the data available. The results of the investigation of these crash clusters are detailed in Appendices C, D and E.

#### ***Crescent Drive (southern junction) to Gemalla Road***

There have been six road crashes in the last five years in this section: 1 fatal, 3 minor, and 2 property damage.

Three of the crashes are associated with the Meredith's Orchard shop access (2 minor, 1 property damage) but there is only a weak crash trend, with only two of these crashes being of the same type.

The fatal crash is currently under investigation by the Coroner, but there is no evidence at this time to associate this crash with the Meredith's Orchard shop access.

The last two crashes in this area were at separate locations and the associated circumstances do not appear to be linked to this road section but could have led to the crashes occurring anywhere along the road.

Given the general public interest in the Meredith's Orchard shop access arrangements and the volumes of traffic using the access, DIER undertook a risk assessment using the Australian Standard principles and guidelines. The assessment determined that the risk associated with this access is Medium. The appropriate response for Medium risk is to try to identify improvement opportunities.

Three options for improvement were identified:

1. Install a median island to prevent turning movements across oncoming traffic;
2. Install a right turn lane; and
3. Improve driver awareness of the access, by providing advance warning signs and improving delineation.

The first option would prevent three of the crashes at this location (two rear-end, 1 right turn into oncoming traffic) by preventing right turns into and out of the Meredith’s Orchard shop. However, a median island of sufficient length to discourage drivers from doing U-turns either to the south or north of the access would restrict turning movements at Gemalla Road and possibly also at Crescent Drive (southern junction). This option was not considered further.

The results of the assessments for the second two options are summarised below.

	<b>Option 2 Install right-turn lane</b>	<b>Option 3 Improve driver awareness</b>
<b>Crash Likelihood</b>	<b>Possible</b> but less likely (no change from current situation)	<b>Possible</b> but less likely (no change from current situation)
<b>Crash Consequence</b>	<b>High</b> (no change from current situation)	<b>High</b> (no change from current situation)
<b>Action Level</b>	<b>Medium</b> (no change from current situation)	<b>Medium</b> (no change from current situation)
<b>Constraints</b>	Road alignment Land acquisition may be required	None apparent
<b>Estimated Cost</b>	\$1 million	\$2,000
<b>Benefit Cost Ratio</b>	0.06 (returns 6 cents for every dollar invested)	7.3 (returns \$7.30 for every dollar invested)

Recommended Actions:

- DIER to arrange for guideposts and RRPMs (“cats eyes”) to be replaced.
- Kingborough Council to approach shop owner to reduce signage “clutter”.
- DIER to provide tourist style signs on each Highway approach to the shop.

#### ***Meredith’s Orchard Shop – Further Discussion***

The technical analyses above have found that there is little justification at this time to fund costly physical works adjacent to the Meredith’s Orchard shop. However, the Group acknowledges the significant level of local community concern about safety issues relating to the shop access arrangements, as evidenced by the recent petition lodged with Parliament.

The Group has considered these concerns and has agreed on the additional actions below.

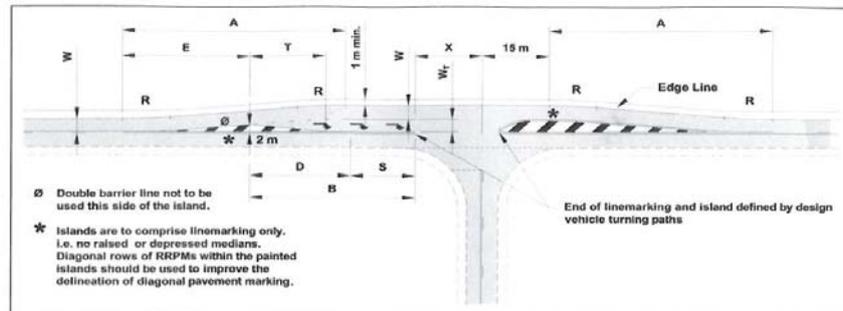
Further Recommended Actions:

- DIER and Kingborough Council to consult with Meredith’s Orchard shop owner to jointly manage ongoing safety concerns.
- DIER to continue to monitor and review the safety performance of the access arrangements and take appropriate action as required.
- DIER and Kingborough Council to explore design options for future safety improvements, taking into account surrounding future development.

The Group notes that the Kingborough Council Road Safety Committee and the DIER/Kingborough Council Traffic Committee are the groups that will facilitate the monitoring and review of the safety of the Highway.

### **Barretta Waste Transfer Station Junction**

Despite a junction upgrade in 2005, there is an obvious pattern of rear end crashes involving traffic turning right into the waste transfer station. Contemporary practice recommends revising the junction layout to provide a short right turn lane (see diagram below).



This layout can be implemented by replacing the existing linemarkings, at a cost of around \$5,000. This option has a benefit cost ratio of 22.9 (returns \$22.90 for each dollar invested).

Provision of this facility would shift through-traffic closer to residences on the eastern side of the Highway, but the need for following vehicles to slow to manoeuvre past right turning traffic is eliminated, so noise levels may be expected to be about the same as currently experienced. There is insufficient space to properly provide a noise barrier in the road reserve.

Recommended Actions:

- DIER and Council to jointly determine and action a community consultation plan on the matter of traffic noise associated with the proposed right turn facility.
- DIER to convert the southbound right turn passing lane to an Austroads protected short channelised right turn lane.

### **Northern Downhill Approach to Oyster Cove ("Red Hill")**

While wet weather loss of control crashes have been addressed by the surface reseal in 2008, there is still a clear crash trend of motorists losing control and leaving the road at the start of the curved section.

Site investigation indicates that improved delineation, by way of signage and guideposts, would reduce the frequency of these types of crashes. These improvements could be provided for an approximate cost of \$3,000 and the benefit cost ratio of the project is 211.4 (returns \$211.40 for every dollar invested).

Recommended Actions:

- DIER to relocate curve warning sign, install a second curve warning sign and post curve alignment markers on the curve proper.
- DIER to increase the number of guideposts.
- DIER to investigate the practicalities of installing a safety barrier on the curve adjacent to the embankment and if it is feasible, to install it.

- DIER to nominate for a funding allocation to upgrade the guard rail end treatments so they meet the current standards.
- DIER to investigate the possibility of expanding the end treatment upgrade into a package of similar changes to guard rails along the Channel Highway between Margate and Oyster Cove.

## Asset Performance

The surface of a significant part of the Margate-Oyster Cove section of the Channel Highway was resealed in 2008 as part of DIER's routine asset preservation activities.

In some locations, retro-reflective pavement markers (RRPMs, "cats-eyes") are missing, and the centreline is slightly worn. DIER will schedule reinstatement to occur as soon as funding is available.

Overall, the road alignment and speed environment complement each other. One exception is on the "Red Hill" corners, where it has been necessary to provide an advisory speed limit of 65 km/h.

## Speed Limits and Signs

The Channel Highway is included in the Kingborough Safer Speeds (KiSS) Demonstration. As part of this Demonstration, the rural default limit on sealed roads has been lowered to 90 km/h.

Research shows that lowering speed limits leads to significant road safety benefits. The KiSS Demonstration, which started on 24 September 2007, is providing an opportunity to look at how lower speed limits on rural roads work in real life. A 24-month evaluation report was recently prepared by Monash University Accident Research Centre and this indicates continuing public support for the reduced limits.

The Margate-Oyster Cove section of the Highway has four speed zones:

- 80 km/h posted limit between Margate and Snug – approximately 4.0 km.
- 60 km/h posted limit, surrounding a 40 km/h school zone, in Snug – approximately 0.9 km.
- 80 km/h posted limit between Snug and Lower Snug – approximately 1.2 km.
- 90 km/h rural default limit between Lower Snug and the junction of Nicholls Rivulet Main Road at Oyster Cove – approximately 3.4 km.

A review of the speed limit zones found that the current limits are a good fit to the level of roadside activity, access frequency and the characteristics of the roadside environment. The speed limits are well signed, in a conspicuous manner, at frequent intervals and at key locations. The Group agreed that no changes should be made to the existing speed limits at this time, while noting that the limits may be reviewed as roadside development and traffic volumes at side road junctions increase.

A review of the signage indicated the Highway, with the exception of "Red Hill", has an appropriate level of traffic management signage. The Group discussed the issue of commercial signage, and agreed that the existing signage is generally not distracting to motorists. It was noted that the standard of the side-street nameplates varied and included text that was too small for the speed limit of the location.

## Future Demand

Land use and development are the primary factors affecting future demand. Existing infrastructure constraints restrict significant development to the Margate area and it is expected that demand will increase gradually. It is not expected that traffic volumes will increase to a level that will require duplication of the Highway.

However, any development will place greater demands on junction safety and capacity. If future issues are to be dealt with proactively, all development proposals with the potential to significantly increase side road traffic should be referred to DIER at the earliest opportunity.

The Group identified a number of locations that will need to be monitored for increased traffic volumes:

- Crescent Drive (northern junction);
- Gemalla Road;
- Marina Drive;
- Snug Tiers Road; and
- Pothana Road.

The Group also identified a need for the introduction of mechanisms to collect contributions from developers towards improvements at junctions, e.g. head works charges. If no such mechanism is implemented, junction upgrades will have to compete with other projects on the State Road Network for the limited funding available. The Group sees the current review of Council planning schemes as an excellent opportunity to progress this issue.

## Recommendations

The Group notes that the Kingborough Council Road Safety Committee and the DIER/Kingborough Council Traffic Committee are the groups that will facilitate the monitoring and review of the safety of the Highway.

### ***Crescent Drive (southern junction) to Gemalla Road***

- DIER to arrange for guideposts and RRPMs (“cats eyes”) to be replaced.
- Kingborough Council to approach Meredith’s Orchard shop owner to reduce signage “clutter”.
- DIER to provide tourist style signs on each Highway approach to Meredith’s Orchard shop.
- DIER and Kingborough Council to consult with Meredith’s Orchard shop owner to jointly manage ongoing safety concerns.
- DIER to continue to monitor and review the safety performance of the Meredith’s Orchard shop access arrangements and take appropriate action as required.
- DIER and Kingborough Council to explore design options for future safety improvements, taking into account surrounding future development.

### ***Barretta Waste Transfer Station Junction***

- DIER and Council to jointly determine and action a community consultation plan on the matter of traffic noise associated with the proposed right turn facility.
- DIER to convert the southbound right turn passing lane to an Austroads protected short channelised right turn lane.

### ***Northern Downhill Approach to Oyster Cove (“Red Hill”)***

- DIER to relocate curve warning sign, install a second curve warning sign and post curve alignment markers on the curve proper.
- DIER to increase the number of guideposts.
- DIER to investigate the practicalities of installing a safety barrier on the curve adjacent to the embankment and if it is feasible, install it.
- DIER to nominate for a funding allocation to upgrade the guard rail end treatments so they meet the current standards.
- DIER to investigate the possibility of expanding the end treatment upgrade into a package of similar changes to guard rails along the Channel Highway between Margate and Oyster Cove.

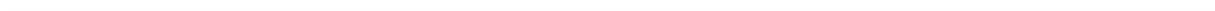
### ***General***

- Council to review the street name plates for streets joining the Highway, to ensure that the signs meet the current Australian Standard.

- With reference to the Planning Scheme and the Tasmanian Roadside Signs Manual, Council to investigate whether any existing information signs should be converted to another sign type (e.g. tourist sign).
- Council to refer to DIER for comment all significant developments served by side roads of the Channel Highway.
- Council to explore mechanisms for collecting contributions from developers to fund upgrades of side road junctions with the Channel Highway.
- DIER to schedule reinstatement of worn linemarking and missing retro-reflective pavement markers (RRPMs / “cats eyes”) to occur as soon as funding is available.

APPENDIX A

## TERMS OF REFERENCE



APPENDIX B

## CRASH MAP



APPENDIX C

**CRASH ANALYSIS & RISK ASSESSMENT - Crescent Drive  
(southern junction) to Gemalla Road**

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APPENDIX D

## CRASH ANALYSIS – Barretta Waste Transfer Station Junction

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APPENDIX E

**CRASH ANALYSIS - Northern Downhill Approach to Oyster  
Cove ("Red Hill")**

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