FRANKSTON BYPASS
EES INQUIRY REPORT

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APRIL 2009

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Lester Townsend, Chair

Chris Banon, Member

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Abbreviations

CAD	Central Activities District
CFA	Country Fire Authority
CHMP	Cultural Heritage Management Plan
DARA Land	Part of the Pines Flora and Fauna Reserve formally owned by the Department of Agriculture and Rural Affairs
DPCD	Department of Planning and Community Development
EES	Environment Effects Statement
EMP	Environment management Plan
EPA	Environment Protection Authority
EPBC Act	Environment Protection and Biodiversity Act
EVC	Ecological Vegetation Class. An EVC consists of one or several of vegetation communities associated with a recognisable environmental niche, and which can be characterised at the landscape scale.
LPP	Local Planning Policy
LPPF	Local Planning Policy Framework (consisting of the MSS and Local Planning Policies)
MMBW	Melbourne and Metropolitan Board of Works
MPAMS	Mornington Peninsula Access and Mobility Study
MSS	Municipal Strategic Statement
PAO	Public Acquisition Overlay
Ramsar	Wetland recognised under the Convention on Wetlands, signed in Ramsar, Iran, in 1971.
RAP	Registered Aboriginal Party
Section 173 agreement	Agreement made pursuant to Section 173 of the *Planning and Environment Act* that runs with the title of the land
SEITA	Southern and Eastern Integrated Transport Authority
SEPP (AQM)	State Environment Protection Policy (Air Quality Management)
SPPF	State Planning Policy Framework
TCPB	Town and Country Planning Board
UGB	Urban Growth Boundary
VCAT	Victorian Civil and Administrative Tribunal
VNVMF	Victorian Native Vegetation Management Framework
VPP	Victoria Planning Provisions

Introduction and background

1. Key issues

1.1 Need for the Bypass

The Frankston Bypass (the Bypass), more recently referred to as Peninsula Link, is a $750 million project intended to serve the anticipated growth of over 32,000 households within the existing Urban Growth Boundary in Mornington Peninsula and Frankston by 2031, together with anticipated economic growth.

Mornington Peninsula Council submitted that construction of the Bypass is:

> *… even more fundamentally an issue of social equity – where the land use pattern, the distribution of population and accessibility is a key to the opportunities and the quality of life which people can enjoy.*

Once it is constructed the Bypass will not be at capacity; this does not mean that it is not needed. Whether or not a road is needed is determined by the anticipated performance of the transport system without it: not how much of its capacity will be used. Transport modelling and current experience clearly shows the congestion that is anticipated if the Bypass is not built.

Other options

The route of the Bypass follows a route established in the 1960s in the then Metropolitan Planning Scheme, and is shown in the 1969 *Transportation Plan* for Melbourne.

It is appropriate from a road hierarchy point of view that the Bypass form a continuous freeway link between the existing Frankston Freeway and the Mornington Peninsula Freeway.

We have reached the conclusion that alleged benefits of a partial upgrade of Moorooduc Highway (Options 2A and 3A) are illusory: there is no practical upgrade of the Moorooduc Highway that could save significant costs yet deliver a safe and adequate road network. A detailed investigation is not required to prove this, the material presented by the Southern and Eastern Integrated Transport Authority (SEITA) and various submitters makes this abundantly clear.

1.2 Environmental impacts

Many of the environmental concerns dealt with in the EES are accepted as issues to be managed in a major road project, and that for the most part, the Bypass is a conventional freeway proposal along a reserve that has been in existence for a long time. The impacts are consistent with those of a typical freeway and we are confident that these issues can be satisfactorily addressed.

There are a number of issues where the impacts of the Bypass are more significant than for a typical freeway in a suburban or rural setting and where we think modification and mitigation is required to meet other policy objectives of Government. These are predominantly around issues of impact on flora and fauna.

Flora and fauna

The existing reservation contains 75.76 hectares of native vegetation and development of the Bypass would destroy 55.28 hectares. This involves the loss of 27.02 habitat hectares and would require an offset of 47.77 habitat hectares to satisfy the requirements for net gain set out in the Victorian Native Vegetation Management Framework (VNVMF). It is clear that appropriate offsets are unlikely to be found for some of the most significant vegetation to be cleared.

These figures do not include any allowance for Very Large and Large Old Trees which also require offsets.

The development of options for the Bypass has considered alternative alignments in the Pines Flora and Fauna Reserve and near Tuerong Creek. We think further design refinements and possible variation of the alignment should also be considered to minimise impacts on Westerfield.

Habitat connectivity and waterway crossings

There is no doubt that the Bypass reservation as it now exists fills an important function of providing habitat linkages between areas of remnant native vegetation. This function will be significantly reduced by the construction of the Bypass.

The Bypass also crosses a number of waterways and the design of the Bypass should maintain habitat connectivity along these waterways.

There is an opportunity to encourage and foster the enthusiasm expressed in the submissions concerning the importance of habitat linkages by identifying, protecting and developing alternative linkages.

We recommend that Frankston and Mornington Peninsula Councils, DSE, Melbourne Water, Parks Victoria and relevant Catchment Management Authorities work together to identify a potential network of habitat links across the Mornington Peninsula.

1.3 Greenhouse gas emissions

There was concern about the precise way greenhouse gas emissions were calculated. We have broader concerns because we don't think that a project by project approach to greenhouse gas emissions is appropriate with respect to transport infrastructure.

Sustainability issues of land use and transport need to be addressed at the broad metropolitan scale. *Melbourne @ 5 million* and the *Victorian Transport Plan* recognise sustainability issues. We do not think it is appropriate to single out specific capital works programs for off setting in the absence of a broader process. This broader process might involve a number of 'carbon neutral' or 'reduced emissions' construction projects.

2. The Inquiry

2.1 Appointment of the Inquiry

On 13 January 2009 the Minister for Planning appointed Lester Townsend (Chair), Chris Banon and Henry Turnbull under Section 9 of the *Environment Effects Act* 1978, to conduct an Inquiry into the environmental effects of the Frankston Bypass, in accordance with Terms of Reference dated 24 November 2008.

Under the *Ministerial guidelines for assessment of environmental effects* (June 2006), 'environment' for the purposes of assessment includes the physical, biological, heritage, cultural, social, health, safety and economic aspects of human surroundings, including the wider ecological and physical systems within which humans live.

2.2 Terms of Reference

The tasks of the Inquiry are:

- *To inquire into and make findings regarding the potential environmental effects (impacts) of the proposed Frankston Bypass, including impacts on relevant matters under the EPBC Act.*
- *To recommend any modifications to the Frankston Bypass as well as environmental mitigation and management measures that may be needed to achieve acceptable environmental outcomes, within the context of applicable legislation and policy.*
- *To advise on the considerations relevant to the Assessment that will inform decisions on the Frankston Bypass under the* Planning and Environment Act 1987 *and* Environment Protection and Biodiversity Conservation Act 1999.

The Inquiry must consider the exhibited EES, any submissions received in response to the exhibited EES, the proponent's response to submissions and other relevant information provided to or obtained by the Inquiry.

The Inquiry is required to prepare a report for the Minister for Planning presenting:

- The Inquiry's response to the matters detailed in its tasks, taking into account the reporting requirements for accreditation of the EES process under the EPBC Act.

- Relevant information and analysis in support of the Inquiry's recommendations.
- A description of the proceedings conducted by the Inquiry and a list of those consulted and heard by the Inquiry.

2.3 Description of proceedings

2.3.1 Hearings and inspections

A Directions Hearing was held on 28 January 2009 at Frankston Council Offices. The Inquiry Hearings were held on 16, 17, 18, 23, 24 and 25 February, 3, 4, 10, 12 and 13 March 2009 at Frankston Cultural Centre.

We conducted an accompanied site inspection along the route on 3 March 2009 and a range of unaccompanied inspections at various other times.

2.3.2 Submissions

We have considered all written and oral submissions and all material presented to us in connection with this matter.

2.3.3 Procedural issues

Appointment of the Inquiry members

Issues were raised in relation to the environmental expertise of the Inquiry members. The Inquiry members have extensive experience in flora and fauna issues. This experience has been gained by their involvement in a range of Panel and Inquiry hearings in the past (including a number dealing primarily with environmental issues), as well as managing environmental protection strategies and providing advice to environmental organisations.

Mr Rod Kerley alleged a conflict of interest by stating the following in an email sent prior to the Directions Hearing:

> *I note that one of the review Panel members has a business that is reliant on VicRoads and in fact has acted for VicRoads at VCAT hearings. This hardly qualifies him as independent when VicRoads are the proponent of the project.*

This refers to Mr Turnbull. We note:

- VicRoads is not the proponent of the project.
- Mr Turnbull is the Managing Director of Traffix Group Pty Ltd. That business is not reliant on VicRoads, but does work on projects that involve VicRoads.

- Mr Turnbull appears as a witness at VCAT both supporting and opposing VicRoads.
- Mr Turnbull has sat on a number of Inquiries where VicRoads has been the proponent.
- Mr Turnbull was previously employed by the Country Roads Board, but had no involvement in the setting the route for the Bypass (which occurred some decades ago).

Mr Turnbull has skills and experience relevant to the Inquiry. It is not possible to obtain such skills and experience in Victoria without having had an association with VicRoads.

Having formed the view that Mr Turnbull has no conflict of interest with VicRoads (or SEITA, the proponent) we see no reason to take any action on this issue.

Standing of SEITA

It was put to us that SEITA had not been properly commissioned to prepare the EES. We directed that unless and until we were advised to cease the Inquiry by a person or Body authorised to do so, we intended to continue to undertake the Inquiry in accordance with our Terms of Reference.

3. Policy context

3.1 A snap shot of regional planning history

The planning for the greater Mornington Peninsula Freeway (including the proposed Frankston Bypass) began in the 1960s in the then Metropolitan Planning Scheme. At this time, the Metropolitan Planning Scheme did not extend south of Frankston.

By the mid 1960s concerns about the impact of development on the Mornington Peninsula led to work by the Town and Country Planning Board (TCPB) and the introduction by the Hamer State Government in 1971 of Statement of Planning Policy 2, with the aim of preventing urban sprawl on the Southern Peninsula.

In the early 1970s, the potential for future development in the northern section of the Mornington Shire (the Moorooduc Plain) was still an open question, and this area was included as an investigation area in the *Land Requirements and Recommended Designated Areas* (1975) report prepared by the TCPB. Plans produced for the Mornington Shire Council in 1970 feature a freeway as part of a major urban expansion area.

At the hearing number of submissions contended that the Bypass alignment was no longer valid for today's needs as it was from an era when a radically different land use future was intended for the Mornington Peninsula. Indeed in a 1971 review, the MMBW continued to include Baxter as potentially the most southern neighbourhood within the Frankston residential growth corridor.

Plans produced by the Western Port Regional Planning Authority at this time, such as *Somerville Guidelines for Growth* (1977), recognised the need to plan for the northern section of the Shire in a way which still maintained growth options, albeit with a view towards providing substantial 'inter urban breaks'. It may also be noted that the Somerville Guidelines report (p38) indicates the Mornington Peninsula Freeway reserve as a well established feature.

By the early 1980s the Moorooduc Plain and Baxter area were more clearly established as permanent non-urban areas and this was reflected in the planning schemes introduced at that time, particularly the Shire of Hastings Planning Scheme (1981).

The effect of this policy decision was to focus metropolitan growth into the designated Growth corridors, such as the Berwick–Pakenham corridor, although the Mornington Peninsula planning schemes created at that time continued to include the freeway reserve along the Option 1 alignment.

Mornington Council submitted:

> *Arguably, these regional planning decisions substantially reduced the anticipated rate of growth and this, combined with the relatively high capacity of the arterial road system in the northern Peninsula, has resulted in a low priority being given to the proposed freeway connection (now referred to as the Peninsula Link). However, the need for this link has now been well established, as outlined in the Mornington Peninsula Access and Mobility Strategy (MPAMS), …, and through the EES process itself.*

To determine whether the Bypass is still supported one needs to see whether or not it is supported by current policy, not whether the policies that once supported it are still current. The justification for the Bypass today is different to that of the 1960s and 1970s.

3.2 Metropolitan planning

In 2002 the State Government released *Melbourne 2030* to provide a long-term plan for Melbourne and the surrounding region. *Melbourne 2030* directs growth to activity centres and the five designated growth areas, and identifies 12 green wedges. It also introduced the Urban Growth Boundary (UGB) as a tool to manage the outward growth of metropolitan Melbourne.

Melbourne 2030 reinforces the role of the Mornington Peninsula in providing recreational opportunities, the conservation of the environment, continuing productive agricultural use, opportunities for port development on Western Port and township based development.

This is a different role to that of the major Growth Areas, and is reflected in the *Melbourne 2030* Strategic elements plan and in the planning policies and land use framework plan for the Mornington Peninsula. Settlements on the Mornington Peninsula have limited prospects for expansion as they are bounded by Urban Growth Boundaries.

Melbourne's population is forecast to pass the original *Melbourne 2030* population projections before 2020 and is likely to reach five million before 2030. *Melbourne @ 5 million* is the State Government document that outlines the implications of the rapid growth projections for Melbourne's future settlement pattern and provides the essential context for the *Victorian Transport Plan*.

The *Victorian Transport Plan* uses population and travel demand data to set directions for transport to 2020 and beyond. The plan includes:

- More than $38 billion in projects and initiatives.
- A framework for future land development to bring where people work and where people live closer together.

Melbourne @ 5 million has been prepared in consultation with the Department of Transport to ensure that the future shape of Melbourne and Victoria is well serviced by an integrated and modern transport system.

Melbourne @ 5 million provides complementary policy initiatives to the directions of *Melbourne 2030* and the two documents need to be considered together.

Transport and Land use planning

Melbourne @ 5 million identifies population and job growth predictions:

> *Recent transport modelling, combined with the population and household projections, demonstrate that Melbourne's transport performance is greatly affected by journey to work patterns. These patterns are driven by the distribution of jobs relative to where people live.*
>
> *In 2006, 1.86 million people had jobs in Melbourne. This is expected to grow to nearly 3 million by 2036.*

It is generally accepted that dispersed patterns of development served primarily by private transport have higher transport energy needs. Reducing these energy needs requires a different land use pattern as well as a different transport pattern.

Melbourne @ 5 million goes on to identify the commuting patterns that will flow from this and comments:

> *This pattern of commuting has environmental consequences. Demand for travel is forecast to steeply increase, with cars and trucks likely to remain the primary mode of transport. The challenge to reduce greenhouse gas emissions is significant.*

Part of the planning outlined in *Melbourne @ 5 million* is to shorten commuting journeys.

Role of Frankston CAD

Melbourne has a strong central city and a network of activity centres and suburban industrial areas. While this has served the community relatively well until now, it will not operate as effectively for a population of five million people and more.

Melbourne @ 5 million states:

> *A refinement of the settlement pattern for metropolitan Melbourne is required to accommodate the higher level of growth and manage its impacts – particularly as we adjust our lives to the reality of climate change.*
>
> *The imbalance between the location of jobs and where people live is increasing congestion on the transport networks in the inner and middle suburbs. The predominance of single direction travel during morning and evening peaks congests roads and public transport. Outer suburban dwellers experience long commute times and are much more likely to use cars as their primary means of travel.*

A 'multi-centre' city structure is proposed. This builds on the principles and directions of *Melbourne 2030* but acknowledges the need for a better distribution of jobs and activity, so that Melbournians can work closer to where they live.

Frankston is identified as one of six newly identified Central Activity Districts to provide:

- similar services and functions to central Melbourne, such as commercial, retail, highly specialised personal services, entertainment, education, government and tourism,
- significant employment concentrations, and
- high quality, well designed, living and working urban environments.

Population

The critical issue from a policy perspective is whether the population growth predicted is consistent with metropolitan policy.

Victoria in the Future 2008 projections released as part of the recent *Melbourne @ 5 million* update of *Melbourne 2030*, projects an increase of 15,288 households on the Mornington Peninsula in the period between 2006 and 2026.

A number of submissions queried the accuracy of the projections given the firm urban growth boundaries around townships which prevent further urban growth outside the boundaries. Mornington Council advised:

> *The Southern Regional Housing Statement (2006) has also projected a potential increase of 27,600 households in the period 2001 – 2031. Work on the Housing Statement indicated that a substantial proportion of that household growth (in the order of 60 %) would occur on the southern Peninsula, around the major activity centre (Rosebud) and major*

> *township centres (Dromana, Rye), through dispersed infill and through the gradual conversion of holiday homes to more permanent occupancy. These projections reflect a capacity assessment rather than simple trend lines, although the timing of development, particularly involving infill re-development, is subject to many variables.*

While the level and timing of population growth depends on a range of factors, these figures indicate the magnitude of potential change, and associated travel demand, over time, and show that the population growth that justifies the Bypass is achievable within the current planning framework that limits the expansion of townships in the Mornington Peninsula.

4. The project

4.1 Project overview

Description

The Frankston Bypass (the Bypass), more recently referred to as Peninsula Link, is a project of the *Victorian Transport Plan*. The project is a 25 kilometre freeway standard connection between EastLink at Carrum Downs to the Mornington Peninsula Freeway at Moorooduc.

The alignment

The Frankston Bypass has been identified since the 1960s. Figure 1 shows the current reservation (similar to the proposed Option 1) in its land use context.

The Bypass commences at the interchange of EastLink–Frankston Freeway with the Mornington Peninsula Freeway at Carrum Downs. It runs south through the Carrum Downs industrial area and the Pines Flora and Fauna Reserve to an alignment close to McClelland Drive. It follows this alignment south to Baxter where it continues south on an alignment some 700 metres to the west of Stumpy Gully Road before veering south-west to join the northern end of the Mornington Peninsula Freeway at Moorooduc.

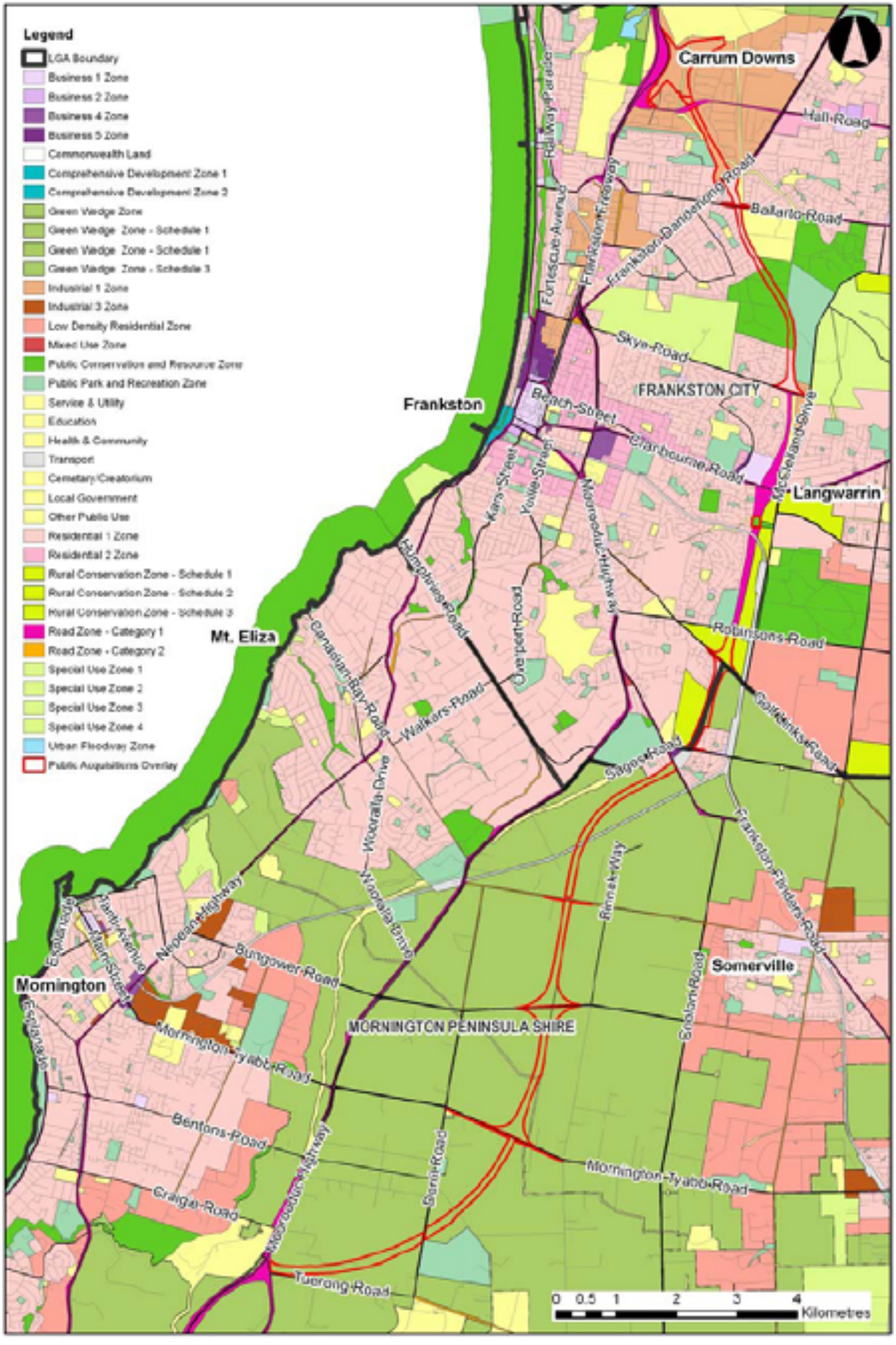
The project

On 19 April 2007, the Southern and Eastern Integrated Transport Authority (SEITA) referred the proposed Bypass to the Minister for Planning under the *Environment Effects Act 1978*. The proposal is for a freeway standard dual carriageway, a limited access arterial road or a combination of these configurations from the EastLink–Frankston Freeway interchange at Carrum Downs to the Mornington Peninsula Freeway at Moorooduc.

The Frankston and Mornington Peninsula Planning Schemes identify a potential route for the Frankston Bypass as a combination of Road Zones and Public Acquisition Overlays for the proposed 'Mornington Peninsula Freeway'.

On 1 June 2007, the Minister for Planning decided that an Environment Effects Statement (EES) was required under the *Environment Effects Act 1978* to assess the potentially significant effects of the Bypass.

Figure 1: Current alignment in its land use context



On 29 September 2007, the Minister approved scoping requirements for the EES, which specify a range of matters to be addressed in the EES, including the investigation of relevant alternatives.

Approvals

The Minister for Roads and Ports is required to make a decision on the final form of the route.

The Bypass will require amendments to the Frankston and Mornington Peninsula Planning Schemes under the *Planning and Environment Act 1987*. It will also require planning permits for works unless the schemes as they currently stand are amended.

Works cannot commence until a Cultural Heritage Management Plan has been approved under the *Aboriginal Heritage Act 2006*.

Approval of the Minister for Environment and Climate Change will be required to remove some vegetation under the Victorian Native Vegetation Management Framework.

A permit under the *Flora and Fauna Guarantee Act* is required to destroy plants that form part of the Plains Grassy Wetland EVC present at the interchange with EastLink.

If Westerfield is listed as being of State heritage significance a permit will be required from Heritage Victoria.

Any work impacting a Melbourne Water designated waterway is subject to Melbourne Water's approval.

The proposal also requires approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Commonwealth Government decided to accredit the Victorian EES process for the Frankston Bypass as the required assessment approach for impacts relevant to the following EPBC Act controlling provisions:

- Sections 16 and 16B (Wetlands of international importance),
- Sections 18 and 18A (Listed threatened species and communities), and
- Sections 20 and 20A (Listed migratory species).

4.2 Objectives

Project objectives

The primary project objective of the Frankston Bypass as set out in the EES is:

- To provide a continuous and balanced road network into the future with sufficient road system capacity in the Frankston–Mornington Peninsula corridor to meet the likely road travel demands resulting from *Melbourne 2030* having due regard to the social, environmental and economic implications [emphasis added].

Transport and land use planning are interconnected, and different urban forms have different transport characteristics. The Frankston Bypass has been justified on the basis of serving population and employment growth.

The secondary project objectives are to:

- Reduce existing road congestion through the central area in Frankston, particularly at the southern terminal of the existing Frankston Freeway (and its intersection with Cranbourne–Frankston Road), and along Moorooduc Highway.
- Assist the development of Frankston as a Transit City by providing better access and improved amenity.
- Improve access to the Mornington Peninsula thus assisting the region's business and tourism.
- Improve road safety in particular along the Moorooduc Highway.
- Assist the Frankston City and Mornington Peninsula Shire Councils achieve their long term access, mobility and planning objectives (such as reduction in traffic along the Nepean Highway).

These objectives are consistent with *Melbourne 2030* and *Melbourne @ 5 million*.

EES objectives

The EES assessed the project in terms of a number of objectives. The evaluation objectives identified by the Minister for Planning in the Scoping Requirements reflect legislation and government policy and take into account the key environmental, social and economic issues relevant to the proposal. These objectives are:

- To provide a continuous and balanced road network into the future with sufficient road system capacity in the Frankston–Mornington Peninsula corridor to meet the likely road travel demands resulting from *Melbourne 2030 – Planning for Sustainable Growth.*

- To reduce traffic congestion in the central area of Frankston and assist its development as a Transit City under the framework established by *Melbourne 2030* and *Linking Melbourne*.
- To protect residents' amenity and well-being, and minimise any dislocation of residents or severance of communities, to the extent practicable.
- To avoid or minimise impacts on species and communities listed under the *Flora and Fauna Guarantee Act* 1988 (Vic) and *Environment Protection and Biodiversity Act* 1999(Cth) to the extent practicable, to avoid or minimise impacts on other indigenous species and communities and habitat connectivity, and to comply with net gain requirements for biodiversity outcomes.
- To avoid or minimise impacts on Aboriginal and post-settlement cultural heritage, to the extent practicable.
- To minimise any impacts on the long-term viability of rural land uses potentially affected by the infrastructure corridors.
- To protect waterway and floodplain function, including river health values, surface water quality and stream flows and groundwater quality.
- To protect catchment and biodiversity values (including habitat connectivity) and protect against weed invasion.
- To protect the character of significant landscapes, open space and recreation values, to the extent practicable.
- Overall, to provide a clear societal benefit, taking account of residual environmental effects as well as economic outcomes.

4.3 Development of the options

4.3.1 Phase 1 Options

In response to the overall project objectives, SEITA developed a series of alternatives. Phase 1 involved the assessment of 20 different alternatives resulting in the selection of three options for further assessment as part of Phase 2.

The Phase 1 options included relevant options from the *Mornington Peninsula Access and Mobility Study* (Booz Allen Hamilton, 2006) and other options identified by the project team that appeared capable of meeting the draft EES evaluation objectives 'to a substantial degree'.

The assessment criteria included:

- traffic and transport,
- flora and fauna,

- cultural heritage,
- water,
- social and amenity, and
- overall social benefit.

A number of options were eliminated as they were prohibitively expensive involving long tunnels or elevated structures.

Other options that increased congestion in the central area of Frankston were also eliminated as these were not seen as consistent with the development of Frankston as a Transit City.

From the remaining options, those that rated best against the assessment criteria were given further assessment in Phase 2.

An arterial road option was also evaluated but found to be unable to meet the project transport objectives.

4.3.2 Phase 2 Options

Three options analysed during Phase 2 of the EES:

Option 1: Frankston Bypass as a continuous freeway standard road with controlled entry and exit locations (interchanges) generally within the length of the reserved corridor.

Option 2: Frankston Bypass as a continuous freeway standard road with controlled entry and exit locations (interchanges) generally in the reserved corridor to the south of Baxter then connecting to Moorooduc Highway at Mt Eliza (south of Eramosa Road) and upgrading Moorooduc Highway to freeway standard to Mt Martha.

Option 3: Frankston Bypass as a continuous freeway standard road with controlled entry and exit locations (interchanges) largely in the reserved corridor to the south of Baxter then connecting to the Moorooduc Highway at Mt Eliza (south of Sages Road).

Options were refined as part of Phase 2 including:

- alternative horizontal and vertical alignments through the Pines Flora and Fauna Reserve, and
- alternatives for configuration of the interchange in the vicinity of Tuerong Creek.

These options were then assessed by technical experts against identified technical criteria. The conclusion from this assessment was that Option 3 did not meet traffic demands based on Melbourne 2030

Option 2 would cost more than Option 1 to construct but would not provide commensurate additional benefits. Option 2 was determined to be economically unattractive so long as Option 1 is available.

It was determined to take Option 1 forward to Phase 3.

Community generated options: Options 2A and 3A

A lot of energy at the hearing was directed to alternative routes for the Bypass south of Baxter which proposed upgrading the Moorooduc Highway (but not to full freeway standard). It was argued that it would be cheaper and still deliver suitable traffic outcomes. These options were referred to as Options 2A and 3A.

There were no detailed drawings prepared for these options as part of the EES process (there was no common agreement of exactly what these options would consist of), but it was accepted that the costs would be higher for Option 3A than Option 3 but less for Option 2A than Option 2.

4.3.3 Phase 3 refinements

Following Phase 2, there remained a number of design alternatives for Option 1 that required further consideration by project specialists. These alternatives were:

- a route alignment through the Centenary Park Golf Course as an alternative to the route along the eastern edge of the Pines Flora and Fauna Reserve,
- an interchange at a location south of Baxter as alternative to the interchange at Frankston–Flinders Road,
- a gradeline in fill through Baxter as an alternative to a gradeline in cut through this area, and
- a gradeline in fill in the area south of Cranbourne–Frankston Road as an alternative to a gradeline in cut at this location.

It was determined that the first three alternatives offered no net advantage.

Gradeline in cut in the area south of Cranbourne–Frankston Road

The Bypass was initially proposed in cut in this location, but later placed in fill due to concerns over changes to groundwater affecting Willow Road Reserve. Since exhibition of the EES and Technical Reports, additional hydrogeological investigations have been carried out.

Placing the Bypass in cut in this area is unlikely to alter the hydrogeological regime of the Willow Road Reserve.

There are a number of advantages that flow from placing the Bypass in cut:

- impacts on adjoining properties are lessened, and
- the overall fill deficit for the project is reduced.

The EES assesses the refined Option 1 against the assessment objectives and concludes:

> *The Frankston Bypass has been developed to improve accessibility and mobility to and from Frankston and the Mornington Peninsula. The process has been iterative with significant community and stakeholder engagement.*
>
> *The Bypass, constructed largely in the reserved corridor, will best achieve the overall project objectives with the least impact on private properties and amenity. It has been designed to minimise environmental impacts and a number of mitigation measures would be implemented during construction and operation to further minimise residual impacts.*

4.3.4 Environment Management Plan

The EES identifies mitigation measures to reduce environmental risks to acceptable levels and to ensure that the regulatory requirements of the project are met. They include the commitments made by SEITA to monitor and control potential environmental impacts of the bypass during the design, construction and operation phases and are based on the recommendations made by specialists as documented in the Technical Volumes to this EES.

These mitigation measures are outlined in Table 22.2 of the EES and are reproduced in Appendix B of this report.

5. Nature of submissions

5.1 Exhibition

The EES was placed on exhibition in November and December 2008, and 119 submissions were received from a range of individuals, community groups and agencies. Submissions addressed:

- Issues about the EES process.
- Issues about the options considered in the EES.

5.2 Submissions about process

A number of submissions expressed concerns about the process of developing the EES particularly the community consultation process and notification.

We have considered these submissions, particularly in the light of:

- the long standing nature of the reservation and its inclusion in street directories,
- the consultation process undertaken by SEITA,
- the publicity given to the Bypass in various media outlets,
- the easily accessible website SEITA has maintained (searching for 'Frankston Bypass' identifies this site), and
- the range of submissions the EES attracted.

While the community is now fully aware of the project, concern was raised that in the earlier stages of the consultation not everyone was aware of the EES process and options. The concern is that reports of community support for various options might have been misrepresented, or that options that should have been explored were not.

We are satisfied that the EES has considered a broad range of options, and while some refinement or further modification is warranted, no viable options were excluded from consideration (see Section 4.3). The issue of the relative support of options is discussed below.

5.3 Submissions about options

This report addresses the issues raised in various submissions under the topics presented in the EES.

We do not pay too much attention to the number of people who support or oppose a particular option, though clearly a public groundswell of opinion is reflective of something. Rather we pay more attention to the quality of the arguments and issues that are presented to us, in the light of the tasks set out in our Terms of Reference.

In terms of the submissions to the EES, according to our reckoning:

- about one half of submissions oppose the option presented,
- one third support the option presented without modification, and
- the balance support it, but seek modifications.

5.4 Approach of the Inquiry

We have considered the environmental effects of the Bypass in a synergistic or holistic way, though we have presented our discussion under the heading of the EES for ease of navigation and consistency with the EES.

We have not repeated in this report the details of the analysis contained in the EES or its technical volumes. All EESs wind up being long and complex documents and there is always a wealth of technical detail. We have reviewed the EES and technical material and are broadly satisfied that it addresses relevant issues in a clear and thorough manner.

We are aware that the Government has announced that it wants to proceed with the Bypass, and its construction is supported by recent policy documents.

Many submissions raised concerns that could be applied to any freeway project (or major road project). Many of these concerns – noise, air quality, effect on surface waters – are accepted as issues to be managed in a major road project and subject to detailed technical analysis. We are confident that these issues can be satisfactorily addressed. We do not want to downplay the importance of managing these effects properly, but we make the observation that for the most part, this is a conventional freeway proposal along a reserve that has been in existence for a long time, and the impacts are consistent with those of a typical freeway.

There are a number of issues where the impacts of the Bypass are more significant than a typical freeway in a suburban or rural setting and where we think modification and mitigation is required to meet other policy

objectives of Government. These are predominantly around issues of impact on flora and fauna.

There are other places such as waterway crossings where important commitments have been made that will need to be properly carried through to achieve acceptable outcomes. There was no suggestion that this would not be the case.

The EES addresses the issue of greenhouse gas emissions. We conclude that assessing greenhouse gas emissions on a project by project basis has little to recommend it and sheds no light on how we might, as a community, move to reduce carbon pollution to a level that will not precipitate unacceptable climate change.

5.5 Broader issues with the EES

A number of submissions addressed issues with the adequacy of the EES in specific locations or in terms of specific issues. We are broadly satisfied that the EES identifies the relevant environmental impacts of the proposal in accordance with its scoping requirements, and we address specific issues in the body of this report.

However, there were a number of broad submissions that addressed more fundamental issues. We make the following observations.

Habitat links

Terry Coates submitted:

> *The two overarching principles (for planning and policy) are minimizing roads in and around large natural patches and maximizing effective habitat connectivity between the large natural patches.*

The Biosis Technical Report identified the issue of habitat fragmentation. Habitat fragmentation is the division of a single area of habitat into two or more smaller areas. In addition to the loss of total habitat area, the process of fragmentation can impact on the species within the newly created fragments in a number of ways:

- Barrier effects occur where particular species are either unable or are unwilling to move between suitable areas of fragmented habitat.
- Genetic isolation occurs where individuals from a population within one fragment are unable to interbreed with individuals from populations in adjoining fragments.

- 'Edge Effects' describes a zone of changed environmental conditions (i.e. altered light levels, wind speed, temperature) that occurs along the edges of habitat fragments.

A number of submissions identified fragmentation as a critical issue across the whole of the Mornington Peninsula and addressed more far reaching issues of habitat connectivity, including showing how habitats across the Mornington Peninsula and beyond could be linked. Some of these issues are discussed in Section 8.9.

We agree that habitat fragmentation is an issue on the Mornington Peninsula and that the provision of habitat links would be an appropriate response to this issue. However, we see this as a much broader issue than the immediate impacts of the Bypass.

Finding future offsets

The Victorian Native Vegetation Management Framework calls for a three step process of: avoid, minimise and offset. The issues in complying with the framework are discussed in Chapter 8.

It was clear in the hearing that for some Ecological Vegetation Classes (EVCs) there was no real prospect of obtaining offsets (they just don't exist) and for others the task was difficult as it involves negotiation with the owners of the potential offset.

We were made aware of a project in western Melbourne where the local Council had acquired land for offsets in advance of them being needed, and we are also aware of the work of the Growth Area Authority in looking at the management of native vegetation across the whole of a growth area.

We think that in the longer term these proactive approaches to offsets would have significant advantages over a reactive approach.

Other freeway reserves

The reservation for the Bypass has been in place for a long time and its purpose is to prevent development along the Bypass route. Preserving the route from development has resulted in it now containing important natural values.

It was mentioned in the hearing that the reservation to the south of the existing Mornington Freeway also has important natural values. We think that it would be worthwhile to review the natural values of the rest of the Mornington Freeway reserve (and other reserves in Victoria) to determine whether a better outcome might now be to keep the reserve for its natural values and to identify an alternative alignment for the proposed road. This is

particularly the case in terms of the timeframes needed to conduct surveys over different times of the year.

Road Impact Zone

Terry Coates (who appeared as a submitter, but who has relevant professional experience in conservation) submitted:

> *Habitat degradation appears to have a greater ecological effect than does habitat loss or fragmentation in the landscape.*

The issue of edge effects is well understood and was discussed in the EES and in a number of submissions. Dr Coates introduced the concept of a 'road impact zone' that looked at effects across a wider corridor than would be considered in an analysis of edge effects.

We accept the basic premise that the impacts of a road extend some distance from it. In an untouched environment we think it might be possible to observe these impacts relatively easily. The concern we have with the concept is how significant the more distant impacts of the road are compared with existing impacts from human activity – either suburban development or agriculture. For example, it is by no means clear what the relative impact on bird life might be from a new road compared to an existing population of domestic cats. Some of the impacts included in the road impact zone concept have in fact been addressed in the EES, though not explicitly using this terminology.

In raising these concerns we do not want to play down the importance of the road impact zone concept, simply to point out that it seems to us to be a concept still under development.

We think that in scoping future EESs the road impact zone concept might be explicitly considered, especially where roads are proposed through undeveloped areas.

Environmental effects, modifications and mitigation

6. Transport

6.1 Introduction

Extensive traffic modelling was carried out as part of the EES. The projected population and economic growth to be experienced over the next 20 or so years will result in increased traffic volumes along arterial roads in the study area. Without upgrading these roads through widening, duplication or the introduction of an additional route, increased congestion will be experienced.

Concerns were raised in submissions over:

- the traffic modelling and induced traffic,
- the need for the Bypass,
- whether or not there was a need for the Bypass to be a freeway standard road,
- traffic volumes predicted for roads which would be feeder routes to the proposed Bypass,
- the provision for a freight railway in the median of the Bypass,
- the proposed shared path for cyclists and pedestrians,
- a number of interchanges,
- the Derril Road underpass, and
- fog in Moorooduc.

6.2 Adequacy of the traffic modelling

6.2.1 What is the Issue?

Concerns were raised over the traffic modelling in particular Environment Victoria raised concerns that induced traffic was not included in the traffic modelling.

6.2.2 Evidence and submissions

Induced traffic

Induced traffic growth refers to the new demand created for road travel following a reduction in travel times brought about by an increase in road capacity. It was submitted that if induced traffic is not included in assessments for new projects it can lead to significant overestimates of the benefits of a project and significant underestimates of the additional greenhouse gas emissions that would be generated by the project.

Dr Ziebots, an expert on transport called by Environment Victoria (61) outlined the history and theoretical basis for induced traffic, as well as some empirical studies. We do not think that there is any doubt that induced traffic is a real phenomenon, and agree that a common sense approach suggests it to be the case.

The increase in travel speed that occurs after an increase in road capacity triggers several different forms of travel behaviour change that take place including:

- **Trip redistribution:** where changes in prevailing travel speeds may also mean that preferred destinations that had previously taken too long to access fall within reasonable travel time budgets, inducing people to travel to more distant destinations.
- **Route reassignment:** where some commuters may find that the new or improved road is more attractive than an old route and so switch from one to the other.
- **Mode shift:** where people find that travel by car on a new or improved road is able to provide a faster trip than using parallel rail or public transport services and so shift to the car.
- **Time of day shift:** where the increase in road capacity may also reduce congestion during peak travel periods and so encourage some people who had scheduled their trips outside the peaks to change their departure time, thereby increasing peak period traffic volumes.
- **Generated trips:** faster network speeds may also result in people choosing to make more trips as part of their standard travel routine, undertake trips where they had previously not travelled at all, or choose to drive their own car where previously they were travelling as a passenger in another car.

Mr Pelosi, called by SEITA, stated that the first stage of the transport modelling undertaken incorporated three of the five main sources of induced demand:

- trip redistribution,
- route reassignment, and
- mode shift.

Mr Pelosi considered that time of day shifts will not affect the conclusions made with respect to the modelling since daily (24-hr) traffic volumes will remain the same.

With respect to generated trips he stated:

> *Whilst (new) generated trips could potentially occur with the provision of the Bypass, the magnitude of these are not likely to be significant. This is supported by an analysis of data from the Victorian Activity and Travel Survey (VATS) which showed that motorised trip rates remained relatively constant from 1994 to 1999 (at around 3.5 trips per person per day) despite investment in transport infrastructure over this period.*

Mr Pelosi presented a graph of motorised trips per person, as well as average vehicle kilometres per vehicle.

Dr Ziebots stated that the amount of induced travel, based on previous empirical studies, was likely to have an elasticity compared to travel time savings of -0.3 to -0.6. In other words a 10 per cent reduction in travel time could be expected to generate between 3 and 6 per cent additional travel.

Development traffic

Development traffic is where districts that were once inconvenient to access because journey times were too long may become more attractive as places to locate once a network has been augmented with new capacity. The scope for development traffic on the Mornington Peninsula could be in hastening the conversion of holiday houses to permanent dwellings (accounted for or anticipated in the growth forecasts) or changes in employment or tourism activity.

We note that the *Victorian Transport Plan* identifies the project benefits as follows:

- *With 60,000 vehicles expected to use Peninsula Link each day, travel times will be slashed to just 17 minutes and congestion will be eased on surrounding roads such as the Frankston Freeway and Moorooduc Highway.*
- *Peninsula Link will enable motorists to travel from Melbourne's CBD to Rosebud without hitting a traffic light.*

We note that the predicted traffic volume of the route is not a 'benefit', and higher travel speed is only a benefit if people are spending longer travelling than they wish. *Melbourne @ 5 Million* notes:

> *Research shows that people are willing to spend up to 45 to 60 minutes each way commuting to and from work. An increasing number of people already spend longer than this to reach their workplace. Government planning and transport policy should seek to reduce these commuting times as much as possible.*

Population stabilising

It was submitted that the Mornington Peninsula was effectively fully developed and that population levels would stabilise which in turn would limit future traffic growth. As a consequence, it was submitted that there was little need for the Bypass.

We understand that the Victoria Government population forecasts were incorporated in the transport model and that these forecasts show increases in population for both Frankston and the Mornington Peninsula. These increases are likely to be associated with increased traffic demand; however elements of the proposed Bypass are justified on current traffic levels and we are satisfied that a sufficient accounting for future population and future traffic demands has been incorporated into the analysis.

6.2.3 Discussion

Induced traffic

Overall reduction in travel time for the existing north south route is shown in Table 7.6 of the EES. It shows travel time savings in the order of 63 to 70 per cent for 2011.

Table 1: Travel time savings

	No project	With project		Percentage reduction	
	Existing route (minutes)	Existing route (minutes)	Bypass (minutes)	Existing route	Bypass
	A	B	C	(A-B)/A	(A-C)/A
2006	28.4	20.1	15.7	29%	45%
2011	56.8	21.1	17.0	63%	70%
2021	65.1	21.1	17.9	68%	73%
2031	73.3	22.1	18.7	70%	74%

On Dr Ziebots evidence of elasticity of travel time from other projects, this could lead to induced traffic in this route of 10 to 20 per cent for the existing route and 13 to 27 per cent for the Bypass. Some of this will already be accounted for in the traffic modelling but not all (generated trips were not accounted for).

We note Mr Pelosi's response that trips per person and average vehicle miles per vehicle have remained steady, but accept Dr Ziebots contention that vehicle miles per person is the relevant measure. This has been far from constant. Clearly rising vehicle miles per person are related to increasing affluence, greater workforce participation and (if the time series is taken back far enough) women becoming drivers. These factors have played out in a way that favours car travel, where increasing demands for accessible jobs and services have been delivered by car based mobility.

We do not think that the failure to fully account for the generated trip component of induced traffic is a fatal flaw in the EES. The potential level of induced traffic that has not been accounted for does not materially effect the performance of the road network. The issue of greenhouse gas emissions are discussed in Section 14.2.

6.2.4 Conclusions

We conclude:

Induced travel has not been fully counted for in the traffic modelling.

The traffic modelling used for the Frankston Bypass is adequate to predict future traffic demands and that there will be no detrimental impacts on the arterial road network and substantial benefits for the Moorooduc Highway.

Traffic modelling for future transport projects should include induced travel.

6.3 The need for road capacity improvements

6.3.1 What is the Issue?

The need for the Bypass was questioned, and some submission suggested public transport alternatives.

6.3.2 Evidence and submissions

Traffic needs

The conclusions of the EES state:

> *Traffic assessments and transport modelling of existing and future travel demand have demonstrated a need for the Frankston Bypass.*
>
> *Without the Bypass, traffic conditions on the existing road network in the Mornington Peninsula and Frankston areas will continue to deteriorate thus inhibiting accessibility and mobility for local residents, visitors and the business sector.*
>
> *The Bypass would provide the missing link in the Mornington Peninsula Freeway corridor, thereby providing a consistent standard facility capable of meeting the likely road based travel demand resulting from Melbourne 2030 – Planning for Sustainable Growth.*

This conclusion was supported by evidence presented to the enquiry and a significant amount of traffic investigation and modelling.

Public transport alternatives

It was submitted that it was inappropriate to rely on road based transport but that public transport facilities should have been upgraded instead. In particular, extensions to existing heavy rail and express bus services were seen as providing a more sustainable alternative to a freeway for servicing the Mornington Peninsula.

The Bypass provides for a railway within its median which is compatible with the provision on EastLink, but this railway would not be suitable for passenger services. Central median freeway rail facilities are generally difficult for passenger services because of station access issues. In any event, the railway proposal associated with EastLink–Frankston Bypass corridor is envisaged as a new service to facilitate freight rail to the Port of Hastings (see Section 6.6).

Modelling undertaken as part of the MPAMS for Frankston City Council and Mornington Peninsula Shire Council showed that the provision of unconstrained public transport services in the area would have little effect on altering road based travel demand in the region.

6.3.3 Discussion

Traffic needs

Although issue was taken with some of the modelled results and the interpretation of these results by a number of submitters, we found that there was to be significant traffic growth in the corridor based on current development predictions and more importantly, that the traffic demands particularly at the current terminal at the Frankston–Cranbourne Road exceeded those which could be achieved by either at-grade or limited grade separation solutions to the existing road network within Frankston.

Public transport

The *Victorian Transport Plan* sets out the Government's immediate and longer term plans for transport.

Rail services to Mornington or beyond are not identified in the plan. In light of the significantly higher rail priorities elsewhere within Metropolitan Melbourne and the State generally, it is unlikely that a rail project to serve the Mornington Peninsula would achieve sufficient priority in the foreseeable future.

The introduction of express bus services which may link to rail at Frankston would be beneficial, but it is noted that buses (like the majority of Melbourne's public transport) rely on the road system. The current network is unable to provide additional road space or give up road space to provide express bus lanes. Development of the Bypass increases the potential for providing these facilities in the future.

6.3.4 Conclusions

We conclude:

An upgrade in road capacity is required to cater for predicted traffic.

It is not possible to obviate the need for road capacity improvements in the region by providing improved public transport.

6.4 The need for a freeway standard road

6.4.1 What is the issue?

A significant issue raised by many submitters was whether or not there was a need for the Bypass to be a freeway standard road.

6.4.2 Evidence and submissions

Northern section

North of Baxter the proposed Bypass was the only option (other than a do nothing case) before us.

In her submission on behalf of the Frankston North Community Group, Ms. Collins argued that the traffic problems at the Frankston–Cranbourne Road Freeway terminal could be overcome by the construction of an overpass to relieve the queuing and increase the capacity for through traffic flow. This was not supported by the empirical traffic evidence provided by SEITA.

Southern section

A lot of energy at the hearing was directed to an alternative route for the Bypass south of Baxter which proposed upgrading Moorooduc Highway (but not to full freeway standard). It was argued would be cheaper and still deliver suitable traffic outcomes. These options were referred to as Options 2A and 3A, and while SEITA attempted to document what these might mean (based on submissions) there was no common agreement of exactly what these options would consist of.

It was argued that a better arrangement would be a mix of freeway and arterial road characteristics with the worst intersections along the Moorooduc Highway being grade separated, and other parts operating as an arterial road. Access to abutting properties could be retained in some cases, provided by means of service roads or curtailed in order to provide a maximised level of service and safety.

Option 2A would mean less local access disruption and property impact when compared to Option 2, but also a lesser transport outcome. Conversely, Option 3A would provide a better transport outcome than Option 3, but increase local access disruption and property impact.

The Devil Bend Landcare Group submitted that it was inappropriate to build the southern section of the Freeway across the Moorooduc grasslands but rather supported the upgrading of the Moorooduc Highway using Option 3A.

The group submitted that the construction of the southern section was not consistent with the MPAMS which had recommended no freeway in the reserve south of Baxter. They argued that just because a freeway reserve was in place didn't mean that it should be there forever, using the example of a planning permit expiring if not acted on within two years. A similar submission was made by Mr Andrew Cox that noted that the Moorooduc Highway will still be available for traffic even when the Bypass is opened.

He noted that the congestion predicted for year 2011 would simply be moved to the east and argued that the Auslink modelling for 2021 showed little congestion along the Moorooduc Highway.

It was argued that there would be significant cost savings if the southern section of the Bypass was not constructed but rather Moorooduc Highway was upgraded. In her submission, Ms Dee-Ann Kelly also included the Nepean Highway as a road for upgrade to offset the need for the Bypass.

On the other hand, submissions from Mr Incoll highlighted the issues in relation to development of Moorooduc Highway as a major traffic route into the future. In particular, he highlighted the dislocation to local access and the need for significant property acquisition and changes to access.

6.4.3 Discussion

The project alternatives Option 2 and Option 3 were seen as extreme alternatives by some community representatives in that they involved making the Moorooduc Highway section a total freeway (Option 2) or arterial road (Option 3).

We have reached the conclusion that the so called Options 2A and 3A are illusory: there is no practical upgrade of the Moorooduc Highway that could save significant costs yet deliver a safe and adequate road network. A detailed investigation is not required to prove this, the material presented by SEITA and various submitters makes this abundantly plain.

The issue is relatively clear; only one option – the construction of the Bypass generally within the reservation – caters for the through traffic movements and relieves, to a significant extent, existing traffic demands on the at-grade arterial network of the Moorooduc Highway. Reduction of traffic on Moorooduc Highway would give a better level of service, amenity and safety for local residents.

We agree with Mr Incoll that any upgrading at the Frankston–Cranbourne Road would simply channel additional traffic onto the arterial network creating insoluble congestion issues further south.

While we are not altogether comfortable with the generalised costings for the Moorooduc Highway upgrade provided by SEITA, the approval or otherwise of the desired route was not in our view based on cost. The Bypass reservation is a longstanding planning element for the future road network. It is rightfully seen as a Peninsula Link and it is appropriate from a road hierarchy point of view that the Bypass forms a continuous link between the existing Frankston Freeway and the Mornington Peninsula Freeway.

6.4.4 Conclusion

We conclude:

> **The Community proposed Options 2A and 3A are not practical options.**
>
> **It is appropriate from a road hierarchy point of view that the Bypass forms a continuous freeway link between the existing Frankston Freeway and the Mornington Peninsula Freeway.**

6.5 Traffic increases on the surrounding road network

6.5.1 What is the Issue?

A number of submissions raised concerns in relation to the increases in traffic volume predicted for roads which would be feeder routes to the proposed Bypass.

In particular, increases on Bungower Road and Mornington–Tyabb Road were a concern.

6.5.2 Evidence and submissions

The effects on the surrounding road network were modelled by means of detailed screen lines and while it is true that as a consequence of the location of interchanges on the arterial road network there will be increased traffic on the feeder road network, the level of traffic increase was well within accepted capacity limits for the Model Year 2031.

6.5.3 Discussion

It is significant in consideration for future traffic volumes that traffic is deflected away from the Moorooduc Highway route (and to a lesser extent the Nepean Highway), where capacity and safety concerns were identified by the Mt Eliza community and raised during the hearings.

We are satisfied that the modelling adequately identifies gains and reductions in traffic volumes on the local arterial network and that it adequately demonstrates that there will be no insurmountable capacity issues on the local network as a result of the Bypass.

6.5.4 Conclusions

We conclude:

> **There will be no insurmountable capacity issues on the local network as a result of the Bypass.**

6.6 Rail to Port of Hastings

6.6.1 What is the Issue?

EastLink and the Bypass should make provision for a freight railway in their median that would ultimately serve the Port of Hastings.

6.6.2 Evidence and submissions

There were few submissions on the freight rail. Some submitters felt that the EES should have included consideration of the rail as it could increase potential adverse impacts.

6.6.3 Discussion

Our understanding is that the rail is something more than a general idea, but something less than a fully defined project.

In general, it makes sense to provide a freight rail corridor in the freeway median. However we have some concerns:

- It is not clear that revised horizontal and vertical alignments cater for the needs of rail which are not the same as vehicles.
- Given the impacts of the Bypass on flora and fauna it would be unwise to increase the footprint of the Bypass for a rail project, if that project has no realistic prospects of ever being constructed.

We think that there is a need to check that, within reason, any revised design of the Bypass maintains the rail option.

We understand that any connection between the Stony Point rail line and the potential rail line along the Bypass would occur in the vicinity of Aquarius Drive and we discuss elsewhere (see Section 8.4) possible changes in alignment to the immediate south of this area to reduce impacts on the Westerfield property (see section 8.4). We think that there are some detailed design issues that warrant further investigation of the route alignment in this area.

6.6.4 Conclusions

We recommend:

SEITA, in collaboration with the Department of Transport, review the detailed design of the Bypass alignment as to its suitability for a rail connection.

SEITA, in collaboration with the Department of Transport, review the detailed design of the connections of a rail link between the Bypass and the Stony Point Rail line north of Robinsons Road.

6.7 The shared path

6.7.1 What is the Issue?

A new shared path for cyclists and pedestrians would be constructed adjacent to the Bypass from its interchange with EastLink to the interchange with Bungower Road.

A number of submissions proposed changes or additions to the path.

6.7.2 Evidence and submissions

The new shared path will connect with existing pedestrian and cyclist paths along its route. Existing shared use paths will be maintained.

The new path is also proposed to be linked to the Dandenong Creek trail along Patterson River to the north and ultimately towards Mornington along the disused rail reservation south of Baxter. Both these additions will need to be investigated in consultation with Councils, VicRoads and the Department of Transport's Public Transport Division.

There were real concerns expressed about the path following along the Bypass alignment in areas where there would not be sufficient surveillance available for path users. In particular, the area behind properties fronting Stumpy Gully Road was identified as a section totally lacking surveillance.

On the contrary, a number of submissions supported further connections of the shared path, and concern was expressed about it terminating at Bungower Road and not continuing to Devil Bend Reservoir.

Frankton Council submitted that the shared path must connect to EastLink and that provision be made for disadvantaged members of the community to access the path.

6.7.3 Discussion

The shared path will be a great community asset and will provide for different elements of the community to differing extents in different areas.

We understand that the shared path is to link to the EastLink path.

Facilities for bicycle riding will also be enhanced as part of the provision of shared paths, particularly in the northern section, and of course the reduction in traffic on other 'on road' routes such as Nepean Highway and Moorooduc Highway.

The provision of a 'standard facility' to adequately provide for all cyclists, pedestrians and horse riders is a difficult task. In particular, we understand that there is a reluctance to continue the shared path to the Devil Bend Reservoir because the management plan for the reservoir does not encourage bicycle access.

6.7.4 Conclusions

We recommend:

Refine the location and detailed design of the shared path.

6.8 Interchanges

6.8.1 What are the Issues?

A number of issues were identified by submitters prior to and during the formal hearing process. These can be summarised as:

- a need for a link to/from the Bypass to Lathams Road,
- a need for a link between the Lathams Road industrial area and EastLink northbound, and
- a preference for a full-diamond interchange at the Mornington–Tyabb Road and/or Eramosa Road rather than at Bungower Road.

6.8.2 Evidence and submissions

The City of Frankston submission raised issues of the general access provision to the Latham Road Industrial Area as part of the Bypass. In particular, it thought that there should be a better 'return' provision for Melbourne bound traffic.

Ms Megan Travaskis resides in a property to be acquired as part of the land requirement for the Bungower Road interchange. She, and others, were

opposed to an interchange at this location and were concerned that the land take was too large, possibly to allow for a freeway service centre.

Other submitters preferred full freeway access at Eramosa Road and Mornington–Tyabb Road rather than at Bungower Road based on current travel and development patterns.

6.8.3 Discussion

Industrial access in the vicinity of the EastLink–Frankston Freeway connection

Road access to the industrial area will be provided to and from EastLink via Rutherford Road as well as access from the Frankston Freeway at this location.

Direct access to Rutherford Road or Lathams Road to provide a northbound on-ramp to Frankston Freeway as well as an interchange at Lathams Road is not technically feasible (within responsible cost parameters) because of the existing and proposed interchange arrangements at the EastLink–Frankston Freeway connection.

In addition, the northbound carriageway at the Mornington Peninsula Link to EastLink connection significantly impacts on the grassland at the existing EastLink–Frankston Freeway connection.

We note that this carriageway is already provided with a designed speed of 80 km/h and therefore there is little scope to tighten curves to minimise any impacts on native vegetation.

Connection to the Frankston Bypass will be available to allow southbound links at the Frankston–Dandenong Road interchange. This interchange will also allow for movements headed for the Frankston Freeway northbound.

While this arrangement was not favoured by some industrial area submitters, we find that it is an appropriate response in the circumstances and will allow the industrial area to continue to be well served. Upgrade of local arterial roads and intersections to favour movements to and from the industrial area will be a management issue for Council.

Bungower Road Interchange

While there was a wish by some submitters to have full-diamond interchanges at Eramosa Road and at Mornington–Tyabb Road (instead of the proposed half-diamond northerly oriented arrangement), the proponent defended the proposed arrangement for a full-diamond at Bungower Road and half-diamond at Mornington–Tyabb Road.

The modelling of the proposed interchanges indicated sufficient demand for the arrangement. Significantly, it was explained that the longer term plan was for Bungower Road to be upgraded to a primary arterial being the preferred east-west route, while Mornington–Tyabb Road was to be a local arterial road.

In any event, provision of a full interchange at Mornington–Tyabb Road and an interchange at Eramosa Road would require land acquisition outside of the existing reservation and involve addition property impacts.

We are satisfied that the proposed interchange arrangement is suitable. We also note that the possibility to provide southern oriented ramps at Mornington–Tyabb Road in the future is available should the need arise.

We also note that the area required for the Bungower Road rural standard interchange is that which is to be acquired and no additional land would be available for a freeway service centre at this location.

6.8.4 Conclusions

We conclude:

> **The access arrangements for the Lathams Road industrial area, while not providing for all direct connections to/from the various freeway elements, is appropriate in the circumstances of limited opportunity to physically provide the links. Access via the Frankston–Dandenong Road will satisfactorily augment direct freeway access.**
>
> **The full-diamond interchange at Bungower Road and the half-diamond interchange at Mornington–Tyabb Road are appropriate.**

6.9 Derril Road

6.9.1 What is the Issue?

The issue is the loss of native vegetation that results from a desire to retain access along Derril Road.

6.9.2 Evidence and submissions

The Bypass proposes to maintain Derril Road for traffic (we understand at Mornington Peninsula Shire Council's request) and to maintain access to the Moorooduc Saddle Club from Derril Road. In particular, we note the Mornington Shire Council's concern that:

> *The design of the Loders Road overpass and the Derril Road underpass is also particularly important to maintain connections for equestrians. This*

is a designated section of the Shire's equestrian trail network, linking to the Moorooduc saddle club which operates a riding for the disabled program. The draft management plan for the Devil Bend Natural Features reserve also supports informal equestrian access to the existing trails.

Significant clearing of roadside vegetation to the south of the Bypass alignment is proposed to provide an underpass for Derril Road (all be it a restricted accessway underpass) and to re-grade Derril Road to provide adequate site lines to the existing entrance of the Saddle Club.

Approximately 80 metres north of Derril Road a major crossing of Devil Bend Creek is proposed which would consist of a significant Bypass flyover.

6.9.3 Discussion

Derril Road is currently an unsealed single lane carriageway and we do not think that there is a need to provide vehicular access on this road. Alternative routes are available to access properties east of the Freeway via Loders Road and Tuerong Road.

It would be desirable, in our opinion, to provide a horse trail underneath the major waterway crossing to link Derril Road either side of the Freeway.

This arrangement would maintain the Shire's equestrian trail as well as facilitating the activities of the Moorooduc Saddle Club while minimising the impact to native vegetation on Derril Road south of the Bypass and allowing a potential reduction in the impact of crossings on Devil Bend Creek.

6.9.4 Conclusions

We recommend:

Delete the link underneath the Bypass for vehicular traffic on Derril Road and do not re-grade Derril Road south of the Bypass route but terminate it at the Moorooduc Saddle Club entrance.

Provide a horse trail linking Derril Road South to Derril Road North underneath the major waterway opening adjacent to Devil Bend Creek.

6.10 Fog

6.10.1 What is the Issue?

Concern was expressed that the Bypass route through Moorooduc is subject to 'frequent heavy fogs in winter, autumn and early spring' that generally do not disperse until mid morning (Riseley, 67).

6.10.2 Evidence and submissions

We were shown a number of photographs of fog along the Bypass route. Expert evidence relied on the fog records from Cranbourne as this is the only Bureau of Meteorology site in the area that records fog incidence.

Mornington Council submitted that the Moorooduc plains area attracts fog during the winter months; however it affects the existing Moorooduc Highway as well and therefore should not influence the selection of an alignment.

6.10.3 Discussion

We do not doubt that fog will affect the Bypass from time to time. The potential effect of fog on the Bypass only really makes sense if there is a dramatically different likelihood of fog along one alignment than another. There is no evidence or topography to suggest that this is indeed the case and while the Moorooduc Highway may not be as affected by fog as the Bypass route, it is not as if one route is always clear and the other hopelessly fog bound.

The EES (Section 7.6.2) proposal for the installation of warning signs for foggy conditions is supported, and this could be supplemented by retro-reflective line marking, audio-tactile edge lines and the like to further mitigate the effects of fog, if required.

6.10.4 Conclusions

Potential environmental effects (impacts)

We conclude:

> **Fog issues are not so obviously, or dramatically different between the route options to warrant any modification to the route.**

We recommend:

> **Take fog mitigation measures into account in the detailed design.**

7. Land use

7.1 Introduction

The northern portion of the Bypass is within Frankston City Council. Land use in this area is mainly urban, including industrial and residential land uses. The southern portion of the Bypass is within the Mornington Peninsula Shire in an area dominated by the rural landscape of the Moorooduc Plain.

This Chapter addresses land use and planning issues including concerns raised about:

- Limiting overdevelopment,
- Land fragmentation,
- Acquisition and access,
- Houses close to Bypass,
- Freeway service centres, and
- The Planning Scheme amendment.

7.2 Limiting overdevelopment

7.2.1 What is the Issue?

A number of submissions (including, Mr Laverack (68)) were concerned that the Bypass would contribute to overdevelopment of the Mornington Peninsula.

7.2.2 Evidence and submissions

SEITA submitted that Frankston is identified in State Government Strategies as a Transit City and more recently a Central Activity District and hence an appropriate location for further development. The townships on the Mornington Peninsula have strong urban growth boundaries and outward expansion is controlled.

7.2.3 Discussion

There are already strong development pressures on the Mornington Peninsula and these are managed by strong planning controls (and have been managed for many years under successive governments). We do not see that the Bypass will dramatically alter development pressures on the Mornington Peninsula.

We note that strong controls over the expansion of towns already exist. The development of townships on the Mornington Peninsula are limited by the Urban Growth Boundary, and this can only be changed with the approval of State Parliament. The Bypass will cater for development proposed under current planning policies. This is discussed in Chapter 3.

Within the rural areas of the Mornington Peninsula similar controls limit development.

7.2.4 Conclusions

We conclude:

> **The existing planning schemes protect the Mornington Peninsula from 'over development'.**

7.3 Land fragmentation

7.3.1 What is the Issue?

The Bypass will fragment some landholdings south of Baxter.

7.3.2 Evidence and submissions

The rural area through which the Bypass passes has a minimum lot requirement for a house of 40 hectares. The Bypass will cut across a number of lots potentially creating land parcels less that 40 hectares. Mornington Peninsula Council (78) has expressed concerns about this fragmentation of land in the Green Wedge.

The EES states (page 22-14) that in consultation with Council, SEITA will consider when disposing of any land that may be surplus to the Bypass requirements:

- consolidating any surplus land with adjoining lots if the land is less than 40 hectares or where safe access will not be possible, or
- alternatively, disposing of surplus land with a covenant specifying that no dwelling may be constructed on the lot.

These recommendations are strongly supported by the Mornington Peninsula Council, which submitted that any covenants should also prohibit the use of surplus land for the purpose of accommodation (rather than being simply limited to the prohibition of a dwelling).

The Mornington Peninsula Shire has raised the use of a Restructure Overlay as a mechanism to ensure that the Bypass does not create an opportunity for inappropriate development. A Restructure Overlay (VPP Clause 45.05)

provides a mechanism to control development to facilitate the restructure of old or inappropriate subdivisions.

SEITA submitted that there are two locations where this possibility to develop land inconsistent with the Green Wedge Zone objectives (in particular to construct additional dwellings) might occur. There are two landowners, one at Mornington–Tyabb Road (Dickson) and the other who owns land south of Baxter (AREB Pty Ltd). These affected landowners do not appear to have made a submission to the EES Inquiry.

SEITA submitted that:

> *The opportunity to negotiate an outcome appropriate and acceptable to individual landowners is a preferred outcome. It is anticipated that this would be done in conjunction with the formal land acquisition process and would involve a consolidation of sub-size parcels to those which met the minimum lot size and or restrictive covenants being placed over the respective sub-standard size parcels of land.*

SEITA does not object to the imposition of a restructure overlay as a 'fall back' position.

7.3.3 Discussion

We understand that where land is acquired for the Bypass the underlying lot will not be legally subdivided but will continue as one lot, albeit in two parts. In some cases one part of the lot will not have road access and new access will need to be provided so that it can be accessed. The two parts of the lot will, of course, have access from different sides of the Bypass.

Ultimately, the best outcome would be to ensure all land holdings on a particular side of the Bypass meet minimum lot size controls under the Planning Scheme and no lots are severed by the Bypass (this would mean subdivision of the traversed lots).

If this can be achieved by negotiation then all well and good, but the application and the Restructure Overlay would provide a formal planning scheme mechanism to address these types of issues, if required.

7.3.4 Conclusions

We recommend:

Any future planning scheme amendment should include:

- **A Restructure Overlay to ensure lots and landholding dissected by the Bypass can be restructured into lots that can readily be used in conformity with the Planning Scheme.**

7.4 Acquisition and access

7.4.1 What is the issue?

Appropriate access will need to be reinstated to various parcels of land, and this will require some additional land acquisition.

7.4.2 Evidence and submissions

Mornington Peninsula Council expressed concerns about the detailed location of some new proposed access, but noted that this cannot be accurately identified in all cases until the final design of Peninsula Link is completed given that some land that is outside the existing Public Acquisition Overlay is already presently owned for the project.

7.4.3 Discussion

We recognise that there are a number of properties where alternative access arrangements are required. Details of proposals for land acquisition to achieve this are identified in the EES and were discussed at the hearing.

While detailed design issues or negotiations with property owners might lead to some changes in these arrangements we are broadly satisfied that appropriate access arrangements can be achieved for affected lots.

7.4.4 Conclusions

We conclude:

Any future planning scheme amendment should include:

- **A Public Acquisition Overlay to provide for access to any 'landlocked' lots or portions of lots.**

7.5 Houses close to Bypass

7.5.1 What is the Issue?

A number of submissions (Harkness (7), Hosler (39)) raised concerns about the proximity of residences to the Bypass particularly on Aquarius Drive.

7.5.2 Evidence and submissions

The Hoslers submitted that the Bypass could be located closer to the Stony Point Rail line and away from properties. This section of the Bypass is the section north of Robinsons Road.

SEITA submitted that it is not unusual to see residential properties such a distance from freeways throughout Melbourne. Noise attenuation walls along this section of the Bypass will assist in reducing impacts such as noise and visual intrusion.

This is an issue along other sections of the Bypass. Mornington Peninsula Shire submitted:

> *… it is recognised that the subdivision pattern adjoining the freeway reserve has already been substantially modified over time to accommodate the reserve i.e. most lots now back onto the reserve and the EES indicates that the effect on land use is likely to be limited.*

7.5.3 Discussion

The reservation for the Bypass has been established for many years and is clearly shown in street directories. The residential development that is close to the Bypass was established after the road reservation was identified.

People have moved into the area knowing where the freeway was proposed. People buying into the area would know (or should have known) about the freeway reservation.

If an alignment has been in the planning scheme for some time and people have built their houses knowing that a freeway will be constructed, then this is good planning, and we do not see the need to move the reservation for this reason.

7.5.4 Conclusions

We conclude:

> **Existing dwellings are not atypically close to the Bypass.**

7.6 Freeway service centre

7.6.1 What is the Issue?

Concern was expressed by Andrew Cox (47) and Mornington Peninsula Council (78) about the impact on 'green wedge' values of a freeway service centre. The need for a freeway service centre was questioned, and a desire expressed to prevent commercial development of land adjacent to the Bypass.

7.6.2 Evidence and submissions

Concern was expressed that the interchange on Bungower Road had been sized to facilitate the provision of a freeway service centre.

Mornington Peninsula Shire submitted that any freeway service centre should be located outside of the Green Wedge and suggested commercially zoned land in Baxter.

SEITA submitted that planning approval for any proposed freeway service centre is a separate matter and would need to be considered on its merits by Council, in the event that an application is made.

7.6.3 Discussion

We agree that the issue of a freeway service centre is a separate matter. No proposal has been presented as part of the EES, and it is clear to us that the Bungower Road interchange follows standard design practice for a rural interchange and has not been configured to support a service centre.

We think that it would be logical and appropriate to provide a freeway service centre (including convenience restaurants) somewhere south of Frankston to service the traffic on the Bypass, but its precise location, configuration and design would be subject to a separate process. Sites within the Green Wedge Zone are likely to be the most appropriate for a freeway services centre.

If there is demand for a freeway service centre, feasibility of co-location of a visitor information centre should be considered. A visitor information centre at a 'gateway' location and providing 'gateway' and visitor-relevant signage along the freeway could improve the visitor experience of the region. Designing the centre to emphasise the tourism 'brand' of the Mornington Peninsula rather than the brand of the service outlets within the centre would strengthen this gateway function and reinforce the distinctive experiences of the Mornington Peninsula.

7.6.4 Conclusions

We conclude:

The issue of a freeway service centre is a separate matter.

7.7 Planning scheme amendment

7.7.1 What is the Issue?

A number of planning scheme provisions require a planning permit for works associated with the Bypass. A planning scheme amendment will be required to facilitate land acquisition.

7.7.2 Evidence and submissions

SEITA submitted that the most appropriate way of obtaining planning approval was by way of a site specific provision incorporated under Clause 52.03 of the relevant planning schemes.

Clause 52.03 provides for land identified in a schedule to the clause to be used or developed in accordance with 'site specific' controls contained in an incorporated document, rather than in accordance with the provisions of the planning scheme that would normally apply.

The specific controls may:

- allow the land to be used or developed in a manner that would otherwise be prohibited or restricted, and
- exclude any other control in this scheme.

It is anticipated that this would exclude the need for permits for vegetation removal or earthworks under various overlays.

SEITA submitted that:

> *The Minister for Planning has agreed to use the provisions of Section 20(4) of the Act to approve a planning scheme amendment without the need for public exhibition.*

A planning scheme amendment is required to:

- Apply the Public Acquisition Overlay where additional land is required for the Bypass, and
- Manage the range of other permissions required under the Frankston and Mornington Peninsula Planning Schemes.

The majority of the alignment is already subject to a Public Acquisition Overlay (PAO) or has been purchased by VicRoads. Technical Appendix 3 to the EES sets out the proposed additions to the Public Acquisition Overlay (PAO). Essentially these changes are required to reflect the refinement of the alignment (in particular through the Pines Flora and Fauna Reserve and the modification to accommodate an improved outcome at Tuerong Creek) and to provide access to land affected by the route (see Section 7.4).

7.7.3 Discussion

Use of Clause 52.03

We agree that the most appropriate way of obtaining planning approval is by way of a site specific provision incorporated under Clause 52.03 of the relevant planning schemes. We note that this approach has been used on a number of similar projects including EastLink. This would remove the need to obtain permits under overlays.

Amendment

Section 20 (4) of the *Planning and Environment Act* allows the Minister for Planning to amend planning schemes without public notice or submissions. The use of these powers is governed by the *Ministerial Powers of Intervention in Planning and Heritage Matters Practice Note*.

The EES exhibition process has allowed the views of all affected parties and agencies to be considered, and the strategic basis of the Bypass to be established.

The Practice Note requires the Minister for Planning to meet certain criteria in the exercise of Ministerial powers of intervention. As an overriding consideration, Ministerial powers will only be exercised having regard to and within the confines of, the legislative provision in question.

We have considered the criteria set out in the Practice Note, and support a Ministerial Amendment under section 20(4) of the *Planning and Environment Act*.

Applying the Road Zone

The Ministerial Direction on *The Form and Content of Planning Schemes* under Section 7(5) of the *Planning and Environment Act* 1987, directs:

> 15 *A road which is declared as a freeway or an arterial road under the Road Management Act 2004 must be shown as a Road Zone - Category 1 on the planning scheme maps.*

We note that parts of EastLink are <u>not</u> within the Road Zone, and EastLink itself does not appear to be a declared main road. It is not clear to us whether the Bypass will in fact be declared as a freeway under the *Road Management Act* 2004, but consider for the sake of transparency in zoning maps the road should be within a Road Zone.

There appears to be no impediment to applying the Road Zone to private land, though this would only make sense where this land was to be acquired

for the Bypass component of the project (as opposed to being acquired for local access).

Summary of planning scheme changes

The planning scheme changes required can be summarised as follows:

- Extend the PAO to the extent of the refined alignment and for re-establishment of access. This variation to the existing PAO affects both Frankston and Mornington Peninsula Planning Schemes.
- Apply the Road Zone to the arterial road component of the Bypass (some parts of the project area will remain in other zones, for example where new access is created).
- Amend Clause 53.03 to add a new incorporated document '*Mornington Peninsula Freeway (Frankston Bypass) Integrated Approvals Requirements*' into both Frankston and Mornington Peninsula Planning Schemes to allow construction of the Bypass without need for a planning permit.
- Apply the Restructure Overlay as recommended in Section 7.3.
- Amend the schedule to clause 81.01 of both the Frankston and Mornington Peninsula Planning Schemes to add the document '*Mornington Peninsula Freeway (Frankston Bypass) Integrated Approvals Requirements*' to the documents incorporated under clause 53.03 specific sites and exclusions to remove the need for any planning permit for works or vegetation removal associated with the Bypass.

7.7.4 Conclusions

We recommend:

Introduce a planning scheme amendment of the Frankston and Mornington Peninsula Planning Schemes to:

- **Extend the PAO to the extent of the refined alignment and for re-establishment of access.**
- **Amend Clause 53.03 to add a new incorporated document to allow construction of the Bypass without need for a planning permit.**
- **Change the list of incorporated documents as required.**
- **Rezone land to the Road Zone 1 where appropriate.**
- **Apply the Restructure Overlay as appropriate.**

We conclude:

The Inquiry is satisfied that the circumstances for Ministerial intervention and the nature of the recommended amendment satisfy the relevant criteria in the Ministerial Powers of Intervention in Planning and Heritage Matters Practice Note on the following basis:

- **Criterion 1 – The matter is one of genuine State significance as it raises a major issue of State public interest.**
- **Criterion 2 – The matter will give effect to an outcome where the issues have been reasonably considered and the views of affected parties are known.**
- **Criterion 5 – The matter requires the co-ordination to facilitate decision-making by more than one agency.**

8. Flora and Fauna

8.1 Introduction

The Option 1 route contains areas of significant native vegetation and important habitat.

We stated in Section 5.4 that while many of the impacts of the Bypass are typical of a freeway in a suburban or rural setting there are a number of issues where the impacts of the Bypass are more significant. The impact of the Bypass on Flora and Fauna is one of these issues.

Since the original reservation was put in place in the late 1960s, development has advanced in many places up to the reservation. This has resulted in clearing of native vegetation and the associated loss of habitat. The consequence is that now the reservation not only contains remnant vegetation representative of previous vegetated areas, but also links other important areas of remnant native vegetation and associated habitat.

The existing reservation contains 75.76 hectares of native vegetation of which the proposal as set out in the EES proposes to clear 55.28 hectares. This involves the loss of 27.02 habitat hectares which, according to calculations in the Biosis Technical Report, requires an offset of 47.77 habitat hectares to satisfy the requirements for net gain set out in the Native Vegetation Management Framework. These figures do not include any allowance for Very Large and Large Old Trees which also require offsets.

The Biosis Technical Report provides a convenient summary of the ecological attributes of the proposed alignment area. This is reproduced below:

- *The proposed alignment area (and footprint) bisects two Biosites of State significance (The Pines Flora and Fauna Reserve and Devil Bend Creek);*
- *The presence of two additional sites of state significance (Patches 1a-f & j; 46a) and six sites of regional significance (Patches 4&5; 6-8; 17&19; 29-30b; 32c-36; 45) within the proposed alignment area (significance determined by Biosis Research);*
- *The presence of seven endangered (40.04 ha total), three vulnerable (23.0 ha total) and two rare (3.14 ha total) Ecological Vegetation Classes within the proposed alignment area (conservation status within the Gippsland Plain bioregion).*

- *The presence of an established population of one flora species of national significance (River Swamp Wallaby-grass)within the proposed alignment area (0.03 ha of habitat known to support individuals impacted by the proposed Bypass footprint);*
- *The presence of two fauna species of national significance, (Southern Brown Bandicoot and Dwarf Galaxias) within The Pines Flora and Fauna Reserve;*
- *The presence of a large source population of the nationally significant Dwarf Galaxias in the vicinity (i.e. downstream) of the proposed alignment area;*
- *The potential presence of three additional flora species of national significance (Appendix 4) within the proposed Bypass footprint;*
- *The presence or potential presence of four fauna species of national significance (Appendix 6);*
- *The presence of one FFG listed plant community, Herb-rich Plains Grassy Wetland (West Gippsland) within the proposed Bypass footprint;*
- *the presence of one FFG listed flora species (that is not listed under the EPBC Act 1999) within the proposed Bypass footprint (Appendix 4);*
- *The potential presence of one FFG listed flora species (that is not listed under the EPBC Act) within the proposed Bypass footprint (Appendix 4);*
- *The potential presence of six flora species listed under the DSE Advisory List of Rare or Threatened Plants in Victoria within the proposed Bypass footprint (Appendix 4);*
- *The presence or potential presence of up to 14 fauna species of state significance;*
- *The presence of a high number of regionally significant flora and fauna species within the proposed Bypass footprint; and*
- *The study area south of Cranbourne–Frankston Road is within the area proposed as stage 1 of the Mornington Peninsula and Western Port (MPWP) Biosphere Reserve recognised by the United Nations Education, Scientific and Cultural Organisation (UNESCO) through its Man and the Biosphere Program. The MPWP Biosphere Reserve is a part of the world network of biosphere reserve and is one of four biosphere reserves in Victoria – the other three being national parks.*

Most of the ecological issues (though not all) occur in the area north of Golf Links Road.

The Biosis Technical Report draws the following distinction between the areas north and south of Golf Links Road:

> *The majority of native vegetation within the proposed alignment is north of Golf Links Road, where areas such as The Pines Flora and Fauna Reserve, Willow Road Reserve and other large patches of indigenous vegetation provide linkages to surrounding reserves (i.e. Langwarrin Flora and Fauna Reserve).*
>
> *South of Golf Links Road much of the proposed alignment area has been cleared and indigenous vegetation is largely restricted to narrow linear remnants such as along roadsides and rail reservations.*

We have identified several issues relating to flora and fauna that raise particular concerns or are of particular importance. These concerns and areas of importance have been identified from the submissions, material in the EES and Technical Reports and our own observations. Other than these particular matters listed below we are of the view that the EES adequately addresses flora and fauna issues.

There are three areas of native vegetation that are of state significance that will be severely impacted by the proposed route. In all of these areas there are questions about the availability of appropriate offsets. The three areas are:

- the Pines Flora and Fauna Reserve,
- the interchange with EastLink, and
- Westerfield (includes Patch 46a).

Each of these areas are discussed in detail in later sections of this chapter.

In addition there are two fauna species of national significance that have the potential to be severely impacted by the proposed Bypass. These are:

- the Southern Brown Bandicoot, and
- the Dwarf Galaxias.

The habit for the Southern Brown Bandicoot is identified as being in the Pines Flora and Fauna Reserve and accordingly this issue is addressed in the section of this chapter which addresses the Pines.

The Dwarf Galaxias is a species of fish, and is addressed in a later section of this chapter.

Other areas discussed in separate sections of this Chapter are:

- Devil Bend Creek (a Biosite of state significance),
- Willow Road Wetland, an extensive area of native vegetation with Very High Conservation values and providing suitable habitat for several significant fauna species, and
- Habitat links between areas of remnant vegetation.

Finally the EES process has been accredited as the appropriate process under the EPBC Act and it is therefore important to address the particular issues that are raised by the provisions of the EPBC Act and this is done in a separate section of this chapter.

Each of the specific issues identified above are addressed in the following sections.

8.2 Pines Flora and Fauna Reserve

8.2.1 What is the Issue?

The proposal envisages the loss of 9.15 hectares of native vegetation in the Pines Flora and Fauna Reserve. This is acknowledged by the proponent as having a significant impact at state level. This will result in direct removal of Southern Brown Bandicoot habitat and is likely to fragment a known population of this species which is listed under the EPBC Act and is of national significance.

Other significant species that are likely to occur in the Reserve (but have not been recorded) and be impacted by the proposal are:

- the Growling Grass Frog,
- Dwarf Galaxias (one record remote from alignment),
- Australian Bittern,
- Australian Painted Snipe, and
- Swift Parrot.

The proposal also involves the realignment of the Tamarisk Creek over a length of approximately 500 metres and this will have a significant ecological impact on the aquatic ecological values associated with the creek.

There are doubts that the necessary offsets will be available for all of the vegetation proposed for removal.

8.2.2 Evidence and submissions

Proposed Alignment

The alignment currently proposed throughout the Pines is different from that proposed when the original reservations were considered in the 1960s.

The earlier alignment was along the western boundary of the Pines in the northern section. It then crossed the Reserve towards the western boundary of the Centenary Park Golf Course.

The new alignment diverts to the east in the northern section of the Reserve before rejoining the original alignment halfway along the western boundary of the Centenary Park Golf Course.

A comparison of the old and new alignment was carried out by Biosis Research and this comparison concluded that the new alignment, while having a substantially greater impact on Tamarisk Creek, had a lower overall impact. The greater impact on Tamarisk Creek is balanced by the lower impact on the relatively unique value of the natural transition between Ecological Vegetation Classes (EVCs). The new option also results in the maintenance of a larger core area of high quality vegetation and habitat.

DSE agrees that the relocated option has lower biodiversity impacts than the original alignment. DSE specifically acknowledges that the new alignment minimises fragmentation of key habitat especially habitat for the Southern Brown Bandicoot.

Ms Alison Kuiter has a different view. She considers the original alignment to be superior. She maintains that the valuable heathland along the original alignment is an EVC not present in other parts of the Reserve. It is, she believes, apparent along the western park boundary as a result of a fire in the area some 10 years ago. Ms Kuiter places a high value on the importance of the Tamarisk Creek and describes it as:

> *The only example of a complete water catchment naturally vegetated in the south eastern metropolitan area.*

Environmental Values

The Biosis Report states that:

> *The proposed Bypass footprint would result in the loss of less than 10 per cent of the total area of the state significant site, however due to the impact on core values of the site (eg, habitat for state and naturally significant species), the impacts are considered to be significant on a state level.*

The Biosis Report also provides a detailed description of the environmental values of the Pines. The submission from DSE states this report '*recognised habitat that either contains or supports significant species.'*

The DSE submission goes on to agree with the Biosis criteria used for determining significant sites.

There are no submissions that disagree with the Biosis identification and classification of the environmental values. There are submissions that suggested that more surveys at different times would have been appropriate.

There was one submission from Cr Hampton, Mayor of the City of Frankston, who disagreed with the importance of the Pines and rates it, in his words, 'a three out of ten'. This view was not supported by any other material placed before us.

The Biosis Report indicates:

- The ecological attributes of the Pines result in it being a biosite of state significance.
- It has vegetation communities of state significance and it contains two recorded fauna species and two recorded flora species of national significance.

The recorded fauna species of national significance are the Southern Brown Bandicoot and the Dwarf Galaxias. The Southern Brown Bandicoot was identified within the proposed footprint by scats and hair. It is nationally significant because it is listed as endangered under the EPBC Act and near threatened under the Natural Action Plan, and by DSE.

A single individual of Dwarf Galaxias was recorded in Boggy Creek. This was remote from the proposed Bypass footprint. There is potential for Dwarf Galaxias to be present along the Tamarisk Creek when it floods within the proposed footprint. It is this creek that is proposed to be diverted.

The Dwarf Galaxias is of national significance because it is listed as vulnerable under the Environment Protection and Biodiversity Act (EPBC Act), the Natural Action Plan, and by DSE.

The recorded flora species of national significance are River Swamp Wallaby-grass and the Large White Spider-orchid. River Swamp Wallaby-grass is located within the proposed footprint. It is nationally significant because it is listed as vulnerable under the EPBC Act.

The Large White Spider-orchid is not likely to be present within the proposed footprint. Its recorded siting was in 1989 in the DARA block (part

of the Reserve formally owned by the Department of Agriculture and Rural Affairs).

There are ten EVCs within the Reserve and of these nine will be directly impacted by the proposed footprint. These nine are:

- Aquatic Herbland – endangered.
- Damp Heathland – rare.
- Damp Heathy Woodland – vulnerable.
- Damp Sands Herb Rich Woodland – vulnerable.
- Heathy Woodland – least concern.
- Sand Heathland – rare.
- Swamp Scrub – endangered.
- Swampy Riparian Woodland – endangered.
- Swampy Woodland – endangered.

The whole site is classified as being of state significance based on the EVCs.

The net gain calculations carried out by Biosis show that offsets of 10.22 habitat hectares are required, based on the removal of 9.15 hectares spread over the nine different EVCs.

Of the 9.15 hectares proposed to be cleared 8.23 hectares are rated as very high for conservation significance. The remaining 0.92 hectares are rated as high. These ratings are determined as part of the net gain calculations.

Flora and Fauna Surveys

Flora survey work was carried out in the Pines Flora and Fauna Reserve over a twelve month period. This involved 18 to 25 person days for each season.

A three month cycle of targeted survey to identify presence or absence of significant fauna species and their habitat was also carried out. This included target survey specifically for the naturally significant Southern Brown Bandicoot. DSE has advised that the more intensive surveys carried out in the Pines have been sufficient.

Golf Course Options

SEITA investigated the possibility of diverting the Bypass through the western part of the adjoining Centenary Park Public Golf Course and then providing replacement land for golf on the southern portion of the old DARA land adjacent to the northern boundary of the existing golf course.

To investigate this proposal SEITA commissioned a feasibility study by Thompson Perrett (Golf Course Architects) into how the golf course could be redesigned to accommodate the change in layout.

This feasibility study examined various options for redesign of the golf course. The proposal was not supported by Frankston Council or the operators of the golf course. Their position was essentially that the disruption to the golf course was unjustified and not warranted. See also Section 16.4 on social impacts.

Subsequent to those investigations SEITA commissioned Biosis to carry out additional habitat assessments associated with diverting the alignment into the golf course and compensating expansion of the golf course into DARA land. The result of the habitat hectare assessments indicated that there was an environmental loss associated with the proposal. This was essentially because of the extent and conservation value of the DARA land proposed for the golf course expansion.

As a result of these findings from Biosis SEITA did not wish to pursue this option any further. DSE, however, saw considerable benefit in the proposal because there would be less impact on the Southern Brown Bandicoot. Further DSE considered that vegetation lost in the DARA block due to golf course expansion was of less value than the vegetation affected in the Option 1 proposal.

DSE suggested that the expansion of the golf course could occur in the 'orchard area' of the DARA land as this area does not contain significant vegetation.

Native Vegetation Management Framework

The three guiding principles are:

- Avoid,
- Minimise,
- Offset.

<u>Avoiding impacts</u>

In respect of avoidance SEITA stated that:

> *The ability to avoid is significantly constrained by the ability to design outside the constraints of the alignment due to adjacent housing and other community and public infrastructure and assets. Relocation of the alignment through the Pines Flora and Fauna Reserve demonstrates avoidance consistent with this step of the policy.*

In the case of the Pines we are not convinced that relocation of the proposed footprint from one area of native vegetation to another albeit with overall less value constitutes avoidance. It is instead we think a minimising measure.

There were submissions suggesting that a tunnel or viaduct should be provided to remove impact on the Pines. Indeed Dr Meredith of Biosis agreed that from an environmental perspective this was desirable.

The EES and written evidence from Mr Tom Beck of GHD in response to an Inquiry direction indicated the following costs:

- Two lane tunnel $200–$300 million per kilometre.
- Two lane viaduct $95–$135 million per kilometre.

The significant section of the footprint through the Reserve is approximately 1.7km long. There would be a need for two 2 lane tunnels or viaducts (4 lanes in total). This would result in a cost of between $680 to $1,080 million for a tunnel and $323 to $459 million for a viaduct – possibly more given the provision for a central future railway.

SEITA advised that these costs when considered in the context of a total project cost of $750 million were prohibitive.

Minimising impacts

Biosis recommends minimising the footprint throughout the Pines by use of retaining walls. The EES acknowledges that reduction in footprint through the Pines will occur by steepening of batters or the use of retaining walls in critical areas all in consultation with DSE.

Habitat connectivity is an important issue and while this is not a minimisation issue within the provisions of the framework it is for convenience included here. It is a mitigation measure.

Biosis recommends the inclusion of a significant underpass to assist with maintaining habitat connectivity especially for the Southern Brown Bandicoot. In addition, Biosis proposes a number of small habitat connectivity structures such as culverts. The EES incorporates the Biosis recommendations in this regard.

There were significant concerns expressed by various submitters regarding the effectiveness of the proposed cross connections. Views were expressed that there was no evidence to support the contention that the Southern Brown Bandicoot would use the underpass.

Dr Meredith presented evidence that similar species were known to use such structures; however the design of the structures was critically important. He was of the view that the structures would be used if properly designed.

On the other hand Dr Terry Coates expressed the view that the structures proposed were experimental and that observations of animals using crossing structures does not constitute evidence of mitigation of threat.

Offsetting impacts in the event that clearing is carried out

Biosis have advised that there is a risk that offsets for the removal of the Very High Conservation Significant Vegetation on a like-for-like basis is not assured. This is identified as a risk in the Biosis Report as set out in the table below.

Table 2: Area and significance of removed vegetation

EVC	Area of Vegetation to be Removed	Conservation Significance	Risk Assessment
Damp Heathy Woodland	0.21	Very High	Medium
Swamp Woodland	0.81	Very High	High
Heathy Woodland	0.54	High	Medium
Damp Sands Herb Rich Woodland	1.16	High	High

From the above there are 0.81 hectares of very high conservation significance vegetation to be removed that Biosis have identified as having a high risk of appropriate offsets not being available.

8.2.3 Discussion

Proposed Alignment

On a comparison between the alignment option originally proposed in the 1960s and the current alignment, it is clear that the new proposed option is significantly better from the perspective of maintaining a larger core area. The original proposal divided significant existing vegetation and valuable habitat into two parts, with the result that the eastern smaller section would be at least initially significantly isolated.

The issue of impact on Tamarisk Creek can, on the evidence from Biosis, be addressed and with care result in an improvement from the status quo given the current degraded state of the water course. The evidence from Biosis is that the potential habitat for the Dwarf Galaxias would in the long run be improved by works identified in their report. The detail of works are at a

preliminary stage and this is of concern to DSE. However given the existing pressures on Tamarisk Creek the proposals appear positive.

Environmental Values

The evidence before us is compelling to the effect that the Pines Flora and Fauna Reserve is very significant from both a flora and a fauna perspective.

We believe that the identification of the various species, and communities carried out by Biosis has been thorough and complete.

In the event that the Bypass is constructed, we are satisfied that the Bypass must go through the Pines Flora and Fauna Reserve. The impact of this will be significant and actions to reduce impacts including alternative routes within the Pines, the reduction of the Bypass footprint, and the provision for fauna crossings are important.

Flora and Fauna Surveys

We noted that DSE indicated that the surveys within the Pines were adequate. We are of the same view and consider that there is sufficient information on individual species and EVCs. That is not to say that the Environmental Management Plan won't identify some future specific requirements.

The Golf Course

We are satisfied on the basis of the Biosis assessment that the extension of the golf course into the southern portion of the DARA land would not result in an environmental gain.

The DSE suggestion regarding the relocation of the golf course land onto the old orchard part of the DARA land was not investigated by SEITA.

In considering the potential benefits of further investigations into this possibility it is relevant to consider the future plans for development and improvement of the whole of the Pines Flora and Fauna Reserve.

DSE acknowledges that appropriate mitigation measures would be:

> *Significant investment in the transfer of crown land directly north of the Pines Flora and Fauna Reserve (currently occupied by DPI) and together with the former DARA block be revegetated to an EVC standard.*

Parks Victoria supports these mitigation options and views the Draft Master Plan (prepared by Biosis):

> *As an opportunity to discuss the future vision for the Pines Flora and Fauna Reserve.*

The Draft Master Plan identifies the orchard area in the DARA land as being the first priority for revegetation. This priority relates to the importance of establishing a habitat link across the Pines Flora and Fauna Reserve in particular for the Southern Brown Bandicoot. This would in essence improve connectivity within the Pines Flora and Fauna Reserve in the vicinity of the existing and future pinch point between the DPI land, the golf course, and further exacerbated by the Option 1 freeway location.

It is important to consider the future development, expansion and improvement of the Pines when deciding the merits of relocating the golf course in part into the DARA land (in particular onto the old orchard area).

There is general agreement that improvement works in the Pines Flora and Fauna Reserve are likely to involve revegetation and improved habitat for the Southern Brown Bandicoot in the vicinity of the old DARA orchards, indeed this work may well be part of the offset works carried out or funded by SEITA. This work is identified as being important to reducing the impact of the existing pinch point dividing the Pines Flora and Fauna Reserve and impacting on the Southern Brown Bandicoot. In these circumstances we do not consider that investigation into relocating the Golf Course into the old orchard area is justified.

Native Vegetation Management Framework

We are satisfied that there is no reasonable or practical option to avoid the Pines Flora and Fauna Reserve. To take the Bypass out of the Reserve would involve the destruction of many houses. Tunnelling appears to be prohibitively expensive.

The Pines Flora and Fauna Reserve consists of very important vegetation and wherever the alignment is selected within the Reserve, the result will be removal of very significant vegetation. The vegetation is so significant that in the normal course of events its removal would not be contemplated. State Government Policy in terms of *Victorian Native Vegetation Management – A Framework for Action* provides that removal of vegetation of this significance must not occur unless exceptional circumstances apply and then only with the approval of the Minister for Environment and Conservation.

In addition there are fauna species of national significance occurring within the Reserve. In particular the Southern Brown Bandicoot is listed in the EPBC Act as endangered.

The proposed route will divide a known community of this species. The evidence is that this division will pose a serious risk to the survival of this local community.

We are persuaded that the Pines Flora and Fauna Reserve is a very special place because of the significance of its flora and fauna. How then should the competing interests of the demonstrated need to provide a new road through this reserve and ecological values be resolved?

The EES together with the evidence of Dr Meredith of Biosis and others have devised a compromise solution including:

- relocation of the footprint as now proposed,
- reduction of footprint width,
- investigation of (now rejected) further alternative routes (Golf Course Option),
- fauna crossing structures including a major underpass,
- significant mitigation measures including monitoring of the population of the bandicoot, creation of improved wetlands, preparation of a Draft Master Plan for the Reserve and implementation of some of the measures contained in the Master Plan, and
- offset planting as required (in so far as possible) by the Victorian Native Vegetation Management Framework (VNVMF).

If the Bypass is to proceed the Minister for Environment and Climate Change will need to approve removal of vegetation classified as having a very high conservation value.

If the approval is given DSE may well be faced with the problem of offsets not being available in accordance with the VNVMF requirements of like-for-like provisions.

The Biosis Report recommends that various works identified in the Pines Flora and Fauna Reserve require implementation. Clearly some of the offset work to compensate for vegetation removal will be carried out within other parts of the Reserve. In circumstances where there is an issue with locating appropriate offsets it may be appropriate to consider extending the works in the Pines Flora and Fauna Reserve as the best available solution. We think there is scope for an overall positive environmental outcome for the Pines.

We have observed that the Pines Flora and Fauna Reserve, while clearly being very significant, is in need of substantial care and management. This is supported by the provisions of the Draft Master Plan prepared by Biosis.

Perhaps the Bypass presents an opportunity to substantially improve the Reserve now and into the future. That is not to say that the works and projects identified in the Draft Master Plan are all the final works. The Draft itself identifies that Parks Victoria will prepare a Management Plan once the Master Plan is approved. Parks Victoria acknowledged in the DSE

submission that it 'views the Draft Master Plan as an opportunity to discuss the future vision for the Pines Flora and Fauna Reserve.' Our understanding is that the preparation of the Master Plan is awaiting finalisation of the Bypass alignment.

One of the practical issues in achieving significant improvements and development in such reserves as the Pines Flora and Fauna Reserve is that of competing budget pressures. These circumstances provide an opportunity for the Bypass to fund improvements and ongoing management for a period until the revegetation is established.

Biosis have recommended that the project includes certain works identified in the Draft Master Plan. These include revegetation of the DARA orchard areas and transfer of some of the DPI land and its revegetation.

SEITA has indicated its willingness to consider these issues and discuss this further with DSE, and its agreement with the Biosis proposals regarding the DPI land and the DARA orchard areas.

We suggested that these proposals could be explored further in an endeavour to achieve a good outcome. There are many additional proposals in the Draft Master Plan and considering the funding of these as part of the Bypass project maybe a worthwhile exercise.

We reach this conclusion in the context of the importance of the Bypass , the very significant ecological values of the Pines Flora and Fauna Reserve, the impact of the Bypass on these values, and the prohibitively expensive or socially unacceptable options for avoiding these adverse impacts. We also note that like-for-like offsets in accordance with the VNVM Framework requirements are unlikely to be obtainable.

The possibility of this concept being extended to address other locations where appropriate offsets cannot be found is suggested elsewhere in this report.

8.2.4 Conclusions

We conclude:

There is no reasonable or practical option to avoid the Pines Flora and Fauna Reserve.

The identification of the various species, and communities carried out by Biosis has been thorough and complete and there is sufficient information on individual species and EVCs.

The eastern option through the Pines Flora and Fauna Reserve has less environmental effects than the original 1960s alignment. This conclusion is contingent upon significant and appropriate mitigation works associated with the realignment of Tamarisk Creek and associated wetlands.

The environmental values of the Pines Flora and Fauna Reserve are very significant and every effort should be made to minimise impacts.

Relocation of the Bypass into the golf course and subsequent extension of the golf course is not justified because of:

- **the implications associated with the removal of vegetation in the southern section of the DARA land, and**
- **the implications for future revegetation of the orchard area of the DARA land.**

We recommend:

Reduce the footprint of the Bypass throughout the Pines Flora and Fauna Reserve by the use of retaining walls in place of batters.

Carry out substantial works within the Pines Flora and Fauna Reserve, well in excess of those minimum requirements associated with improving habitat for the Southern Brown Bandicoot, to gain a positive outcome for the environment in the context of allowing the Bypass to proceed.

Implement all other mitigation measures proposed in the EES relating to flora and fauna issues subject to approval of details with DSE.

8.3 The interchange with EastLink

8.3.1 What is the issue?

The proposal envisages the loss of 7.88 hectares of native vegetation in this location. The majority of this is within the Plains Grassy Wetland EVC, and 5.06 hectares of this vegetation is classified by Biosis as being of state significance. It was suggested in the hearing that some of this vegetation was part of an offset for EastLink. This is not the case.

8.3.2 Evidence and Submissions

Importance of Vegetation

The vegetation proposed to be removed contains 7.37 hectares of Plains Grassy Wetland. This EVC is listed as vulnerable under the *Flora and Fauna Guarantee Act* 1988 endangered under the Gippsland Plain Bioregion and in this location is considered as being of state significance by Biosis.

This EVC consists of a number of floristic communities, one of which is the Herb-rich Plains Grassy Wetland. Biosis has identified the floristic community at the interchange location as being one of the two best remaining examples of this vegetation community in Victoria.

Because the EVC is listed under the *Flora and Fauna Guarantee* Act (FFG Act) the community is a protected community. The result is that a permit under the FFG Act is required to take members of this listed community.

There were no significant fauna recorded on this site. However Biosis identified that the site contained suitable habitat for many species of significant fauna. Biosis identified that more detailed surveys for these species should be carried out prior to commencement of the project.

Victorian Native Vegetation Management Framework

Total avoidance of the vegetation in this area is not possible. Biosis have recommended that final design should endeavour to avoid removal of native vegetation in so far as possible. Minimising provisions are identified in the Biosis Report as:

- use of retaining walls in place of batters, and
- reduction of construction footprint to being within final freeway alignment to minimise impacts to adjacent vegetation.

Biosis also suggested that a possible mitigation to be considered was the translocation of the Plains Grassy Wetland community. It was acknowledged that the risk of failure is high due to the complexities of translocating a whole vegetation community. However, of all EVCs wetlands have the best prospects for translocation.

In the Draft Environmental Management Plan (EMP) in Section 22 of the EES there is no specific inclusion of the Biosis recommendations relating to avoidance and minimising impacts associated with design of the interchange. There is a general provision which then goes on to identify specific critically important sites such as the Pines Flora and Fauna Reserve and the Willow Road Reserve but not the Interchange area. In any event this provision does not include specific requirements to reduce the footprint by

using retaining walls. Instead the EMP proposes that steepening batters and or using retaining walls in consultation with DSE will be utilised to reduce the construction footprint.

DSE indicated that additional effort should be made to reduce the construction footprint by special construction techniques including specialist equipment.

The offset requirements for the Plains Grassy Wetlands on the basis of the exhibited footprint are significant. The 7.37 hectares of this EVC proposed to be removed corresponds to a net gain offset of 6.88 habitat hectares of very high conservation significance.

Because of the very high conservation significance rating the Victorian Native Vegetation Management Framework (VNVMF) requires a like-for-like offset.

Biosis rates the opportunity to locate a suitable offset as most unlikely. DSE agreed with this assessment. We requested DSE to provide advice on the likelihood of locating an appropriate offset.

DSE provided advice that it undertook a reasonably thorough exploration for a potential offset site. In this exploration, the DSE BushBroker System and consultation with ecological consultants did not identify any new sites. DSE did advise of one known site within the Urban Growth Boundary, but expressed the reservation that it may be prohibitively expensive to purchase.

DSE also confirmed that the consent of the Minister for Environment and Climate Change would need to approve any removal of very high conservation significance vegetation.

8.3.3 Discussion

It is clear that the wetland vegetation at the commencement of the Bypass is very significant. It is equally clear that if the Bypass is to proceed, removal of some of this very significant native vegetation cannot be avoided.

There is significant doubt about the availability of appropriate offset sites to compensate for any loss as is required under the VNVMF.

Under these circumstances it is imperative that every possible effort be made to minimise the amount of vegetation to be removed. Mitigation measures must be pursued with as much vigour as possible.

Having reduced the amount of clearing as much as possible and carried out as much mitigation by care with construction and translocation wherever practical the remaining issue is that of the appropriate offsets.

The dilemma of how this should be addressed in circumstances where no appropriate offset, in accordance with the requirements of the VNVMF, is addressed in Section 8.2 of this report. The difference in this case is that the possibility of finding the necessary offset is even more remote.

The possible outcomes are for DSE to refuse approval to any proposed offset on the basis that it does not meet the VNVMF requirement of like-for-like. Alternatively DSE may approve the best available offset even though it does not meet the like-for-like requirement. In these circumstances it may be worth considering the proposal discussed in Section 8.2 of this report which identifies opportunities for significant positive environmental outcomes available within the Pines Flora and Fauna Reserve.

8.3.4 Conclusions

We recommend:

Carry out all of the avoidance, minimising and mitigation measures recommended by Biosis for the interchange area.

Minimise the Bypass footprint in the EastLink Interchange area by use of retaining walls through all of the area of Grassy Plains Wetland.

In the event of an appropriate like-for-like offset not being available for vegetation losses at the interchange with EastLink, gain a positive outcome for the environment by undertaking substantial works within the Pines Flora and Fauna Reserve.

8.4 Westerfield

8.4.1 What is the Issue?

The Westerfield property contains the original freeway reservation but is still privately owned by Mr and Mrs Welsh who have lived on the property for the past fifty years. This property is located between Robinsons Road and Golf Links Road just west of Bayside Christian College.

There is a heritage overlay which applies to the house but does not extend onto the reservation area. The reservation area contains very significant vegetation.

The most significant vegetation is identified in the EES as Patch 46a. This contains 3.22 hectares of vegetation of state conservation significance. The exhibited EES proposes that 2.18 hectares of this will be destroyed.

8.4.2 Evidence and Submissions

The Biosis Technical Report identifies Patch 46a as Grassy Woodland EVC and it describes the vegetation as set out below:

> *Due to the high flora species diversity and vegetation quality of Patch 46a (3.22 ha), this patch is of State Conservation significance (Figure 7h). It is considered to be an ecologically intact bioregional representation of Grassy Woodland (endangered) within the Gippsland Plain Bioregion, and makes a substantial contribution to biological conservation of an endangered EVC at a state level due to the ecological integrity, richness and diversity and connectivity values (Appendix 3) that the site contains.*
>
> *The patch obtained a habitat score of 67/100 (Appendix 7), which is a very high score for Grassy Woodland within the Gippsland Plain Bioregion. This is partially attributable to the diversity of the site, with >90% of understorey lifeforms present, and of those <50% modified (understorey score of 20) and the high landscape score which recognises the location of the site as part of a larger remnant patch (approximately 20 ha.), and close proximity to Langwarrin Flora and Fauna Reserve.*
>
> *As the proposed Bypass footprint would result in the loss of more than 10% of the total area of this site, the proposed impact is considered significant on a state level.*

The Biosis Report goes on to recommend various actions to minimise impacts on this site. These Biosis recommended actions are as follows:

- *This patch contains significant biodiversity and habitat connectivity values. Options to avoid impacts on these values (e.g. tunnelling) should be investigated.*
- *After consideration of avoidance option, options for minimising impacts should be considered. This includes use of retaining walls to minimise vegetation loss, and allowing construction to occur within the footprint of the proposed Bypass only (e.g. no 5 m buffer to allow for construction works). All areas outside of the proposed footprint should be securely fenced 'no go zones' to prevent accidental damage. Access by construction personnel should be prohibited.*
- *Management of the retained areas should minimise threats to the vegetation present (e.g. ongoing weed control should be undertaken).*
- *Potential indirect impacts as outlined in various recommendations above, should be incorporated into the EMP to ensure that they are implemented.*

The original Biosis Flora and Fauna surveys did not identify any individual significant species on the site. The report however acknowledges that the site may contain such species and in some cases is likely to.

Dr Meredith agreed that further surveys should be carried out on this site for targeted significant species.

Flora and Fauna

Surveys carried out on behalf of Mr and Mrs Welsh by Nick McCaffery and Malcolm Legg identified the presence of several significant flora and fauna species.

The Biosis Technical Report calculated that the requirement to offset the removal of 2.18 hectares is 2.92 habitat hectares. This report also raised significant doubts as to the possibility of obtaining the required like-for-like offset.

DSE advised in response to a request from the Inquiry that it was difficult to confirm the location of any suitable site. There was an unconfirmed site that may be close to the 90 per cent intactness equivalent to Patch 46a. This property is very large and contains numerous high quality EVCs many of which would complement other losses along the Bypass alignment.

We asked SEITA to investigate how the footprint within Westerfield could be reduced by such options as:

- use of retaining walls, and
- alteration of the full-diamond interchange proposed at Golf Links Road to dual half-diamond interchanges at Robinsons Road and at Golf Links Road.

SEITA produced two preliminary sketches in response to our request. These plans showed the use of a retaining wall on the west side of the Bypass through Westerfield would result in substantial reduction in vegetation loss. The preliminary indication was that approximately one hectare less vegetation would be lost.

SEITA did not support the dual half-diamond option because it:

- did not reduce clearance of significant vegetation on Westerfield,
- involved clearance of vegetation on other properties, and
- involved acquisition of parts of other properties including school land to the east and an existing dwelling to the north of Robinsons Road.

The options presented by SEITA did not include:

- reviewing the alignment of the shared path,
- moving the alignment to the east because SEITA was concerned regarding impact on the existing school, or
- retaining walls on the east side of the alignment.

Mr Boyd of Maunsells, a geotechnical engineer, in response to a question advised that constructing a tunnel under the Westerfield property would be difficult due to ground conditions. It would, he said, necessitate special techniques such as 'Ground Water Draw Down or Ground Freezing'. He commented that it would be a most expensive exercise and from a cost perspective it would be better to change the alignment.

8.4.3 Discussion

There is agreement that the Westerfield property is very important. The ecological experts consider that the Bypass should avoid the property if possible. If that is not possible then significant efforts should be made to minimise impacts.

These possibilities need to be considered in the light of the importance of the vegetation.

The State Government places a high value on preserving all vegetation but an especially high value on preservation of vegetation such as that at Westerfield.

The level of this value is demonstrated by the provisions in the Victoria Planning Provisions (VPPs) and in the Victorian Native Vegetation Management Framework (VNVMF) which is incorporated in all Victorian planning schemes.

In the circumstances of the Westerfield property the following issues need consideration:

- The very high value of the vegetation.
- The fauna species present on the land.
- The presence of the existing reservation.
- The possible impact on adjoining properties including:
  - the Bayside Christian College,
  - the dwelling to the north of Robinsons Road and east of the existing road reservation, and
  - Robinsons Reserve north of Robinsons Road and west of the existing road reservation.
- Vegetation issues including value of vegetation on adjoining properties that may be impacted by changes of alignment.

- Costs of various proposals.

The right solution lies in the correct balancing of all these issues.

The EES does not include material that demonstrates that this balancing exercise has been undertaken. Rather, SEITA appears to have worked on the premise that the existing reservation is of prime importance. Acquiring land outside the reservation, especially when it may involve an existing dwelling or even school buildings, has been taken as sufficient justification not to investigate matters further.

We do not agree with this approach. It is recognised that the existing reservation is important, and the social implications of house or school acquisitions are high. However, this is not just another piece of bush, and it warrants a consideration comparative to a house or a school.

Schools, houses and sports grounds are replaceable. They are not of 'state significance' and they do not have explicit protection in the State Provisions of all Victorian Planning Schemes.

The reservation is in place and this is an important consideration. Any change to this reservation is likely to be time consuming and costly. However, at the time the reservation was put in place it is unlikely that the ecological values of Westerfield were considered to be as important as they are today, if indeed, they were considered at all.

In these circumstances it seems appropriate to investigate options for alternative alignments thoroughly and then come to a balanced decision. It may well be that when this is done the best option is through the Westerfield property; however at this stage that cannot, in our view, be reasonably concluded. We note that there are other issues in this location that also need to be considered (see section 6.6).

In the event that the final decision is that Westerfield is the best option we turn to how the impact can be minimised.

Reducing impacts on Westerfield if the property cannot be avoided

Reducing the impact of the Bypass on vegetation needs to be approached with the purpose of achieving the best environmental outcome. This may involve a realignment slightly to the east. This would involve acquisition and demolition of a dwelling, acquisition of school land and possible demolition of school buildings. The same principles that apply to avoidance equally apply to minimisation. They need to be investigated and not discounted simply because they involve works outside the existing reservation.

While SEITA provided details of a retaining wall along the western side of the cut through Westerfield, it did not show a similar treatment on the eastern side. We strongly favour a retaining structure on both sides to reduce the footprint, thereby minimising the vegetation loss.

It should also be possible to substantially reduce the width of the central median in this area by adopting a central median barrier. We understand that the future railway line is not proposed in this location, and we do not see that there is any sense in providing a wide median for potential widening of the Bypass given the competing issues of minimising the footprint. In addition, moving the shared path out of the Bypass reservation at this point could further reduce the Bypass footprint.

Finally we turn to the issue of offsets. Offsets need to be resolved prior to removal of vegetation in order to comply with the VNVMF provisions. DSE has indicated that there is a large site that may be appropriate to provide offsets for Westerfield. It is our understanding that the usual approach to obtaining offsets is to enquire as to the interest of the land owner in making land available for offsets. If the land owner is not interested then the matter is not pursued. In the current circumstances, where it may be very difficult to locate suitable offsets, and where the Bypass is contingent (at least to some degree) upon finding and securing suitable offsets before clearing commences, we think that a different, more assertive, approach is warranted. Such a new approach should involve compulsory acquisition of the whole property if this were the only way to provide the offset.

The Dam

Concern was also expressed that destruction of the dam would adversely impact on nearby plants and remove an important water source and feeding ground for birds.

The groundwater level in the area of Westerfield, based on drilling information from two investigation bores on either side of the property, averages around 8m below ground level. Under these conditions, deep rooted plants in this area are unlikely to be dependent on groundwater for their primary water source.

The dam is (of course) a man made structure and so potentially it can be recreated elsewhere. However, a shifting the Bypass to the east to avoid the dam may provide a better compromise and significantly improve mitigation of the adverse impacts discussed above.

8.4.4 Conclusions

We recommend:

Investigate further options for avoiding and or reducing the need for vegetation removal at Westerfield (Patch 46a) including:

- **Realignment to the east to varying degrees including total avoidance of Westerfield land.**
- **Rerouting of the shared path between Robinsons Road and Golf Links Road to reduce native vegetation removal.**
- **Significant reduction of the construction footprint including the use of retaining walls on both sides of the Bypass, replacement of the central median by traffic barriers, shortening of ramps and any other feasible measure.**

In the event that destruction of vegetation at Westerfield (Patch 46a) cannot be avoided, carry out detailed targeted surveys for flora and fauna prior to commencing works and implement appropriate relocation of significant flora species.

Implement all other mitigation measures at Westerfield (Patch 46a) recommended in the Biosis Technical Report.

In the event that destruction of vegetation at Westerfield (Patch 46a) cannot be avoided, initiate all measures necessary to obtain the appropriate offsets including acquisition or protection of whole properties.

8.5 Dwarf Galaxias

8.5.1 What is the Issue?

The Dwarf Galaxias (a species of fish) is listed as vulnerable under the EPBC Act, the Natural Action Plan, and DSE. It is also listed under the FFG Act.

8.5.2 Evidence and Submissions

Biosis recorded a single individual at Boggy Creek and stated the recording is 'likely to have been a vagrant from a known upstream population'.

At Tuerong Creek records were:

> *Indicative of refuge habitat and a source population critically important for future dispersal between water bodies during high flow / flooding events*

The Biosis report concludes that the isolated population in the Boggy Creek catchment is unlikely to survive whether or not the Bypass proceeds. This conclusion is based on a variety of reasons including: a high degree of creek disturbance, loss of suitable habitat, and proliferation of the predatory introduced fish Eastern Gambusia.

We were shown the fish at Tuerong creek on our site inspection and the Biosis report identifies:

> *The population of Tuerong Creek in the vicinity of Tuerong Road and Old Moorooduc Road is the largest population of the species known to occur on the Mornington Peninsula and is likely to be critical to the ongoing survival of the species within the Balcombe Creek Catchment.*
>
> *The population is at risk of desiccation due to the combined effects of drought and insensitive water extraction practices.*

The potential impacts to this population have, according to Biosis, been largely avoided by altering the alignment of the Bypass from the original proposal.

The species have not been recorded from other water body sites surveyed in the vicinity of the Bypass. There is, Biosis, believes some potential for this species to occur at many sites and locations. This is particularly the case in the upper tributaries and drains of the Balcombe Creek Catchment.

These locations have the potential for impact where the Bypass crosses the drains and upper tributaries.

The Biosis Report makes recommendations designed to minimise impact on this species. These are as follows:

- *Design the proposed Bypass alignment route and waterway crossings in such a way as to avoid removal and modification of known and potential aquatic habitat for this species wherever practicable.*
- *All road designs in the vicinity of the important population of Dwarf Galaxias inhabiting Tuerong Creek in the vicinity of Tuerong Road and Old Moorooduc Road should be developed in close consultation with suitably qualified aquatic ecologists to ensure this population is protected.*
- *Offset the required modification to aquatic habitats within and adjacent to Tamarisk Creek within The Pines Flora and Fauna Reserve, by creating and enhancing habitats to the benefit of the Dwarf Galaxias population within the Boggy Creek catchment. The preferred option would be to reinstate a more natural drainage regime through The Pines Flora and Fauna Reserve by allowing a*

diversion of Tamarisk Creek at an appropriate location to reinstate the natural overland flow through the Reserve. This would entail diverting the creek under the proposed Bypass through a proposed fauna underpass in the south and allowing overland flow toward the constructed wetland. This would increase the permanence of the constructed wetland and natural depressions located around it's southern perimeter, which like Tamarisk Creek are not currently capable of supporting permanent populations of most aquatic fauna (i.e. fish). If done in conjunction with eradication of pest fish species (Eastern Gambusia) from connected dams upstream this would result in the creation of a suitable translocation site for he establishment of a secure Boggy Creek catchment population of Dwarf Galaxias within The Pines Flora and Fauna Reserve.

- *Use Water Sensitive Road Designs (Wong et al. 2000) to avoid/minimise alterations to receiving stream hydrology and water quality.*
- *Ensure all waterway and floodplain crossings allow for unimpeded Dwarf Galaxias dispersal under flood conditions.*
- *Revegetate riparian zones of selected waterways in the immediate vicinity of waterway crossings (i.e. within the road reserve) to increase shade and water temperature.*
- *Design and strategically locate proposed stormwater treatment / retention ponds offline in consultation with suitably qualified aquatic habitat created favours Dwarf Galaxias instead of Eastern Gambusia. Once established, such wetlands / ponds could provide suitable translocation sites for Dwarf Galaxias and creation of additional source populations from which dispersal could occur under favourable conditions. This is particularly relevant in the lower Balcombe Creek catchment, particularly in the vicinity of Devil Bend Creek.*
- *Further survey for this species within waterbodies traversed by the proposed Bypass footprint should occur in summer 2008/autumn 2009, particularly within the Balcombe Creek catchment.*
- *The important Tuerong Creek Dwarf Galaxias population should be monitored during and post construction.*

We received several submissions which emphasised the importance of the Dwarf Galaxias and the likelihood of its presence in other parts of Tuerong Creek. There were also submissions that there was an abundance of Dwarf Galaxias in Devil Bend Creek, possibly due to its pristine condition. These submissions suggested that crossings of this creek in two locations would

severely impact the condition of the creek and have disastrous effects on the Dwarf Galaxias.

8.5.3 Discussion

We acknowledge the importance of the population of Dwarf Galaxias at Tuerong Creek and fully appreciate the significance of this colony for the continued presence of this species in the Balcombe Creek catchment. We accept the evidence of Dr Meredith including the Technical Report of Biosis regarding these issues.

The recommended provisions in the Biosis Report to reduce impact are thorough. We are satisfied that the impact on the Dwarf Galaxias is appropriately addressed.

8.5.4 Conclusion

We conclude:

> **All of the impact minimisation proposals identified in the Biosis Report for the Dwarf Galaxias are appropriately addressed in the Draft Environmental Management Plan (Table 22.1 of the EES, reproduced in Appendix B of this report).**

8.6 Willow Road Reserve (Pobblebonk Wetlands)

8.6.1 What is the Issue?

The Willow Road Reserve is important because it contains a significant area of remnant native vegetation and a wetland.

The proposed Bypass will result in the removal of 3.97 hectares of native vegetation which results in the loss of 2.47 habitat hectares with a net gain offset requirement of 4.08 habitat hectares.

The area of loss of vegetation has the following overall conservation significance:

- 2.15 hectares – very high conservation significance.
- 1.12 hectares – high conservation significance.
- 0.70 hectares medium conservation significance.

8.6.2 Evidence and submissions

The alignment in this location is now proposed in cut and in part this bisects a wetland. There was concern that the construction being in cut would result in the rest of the wetland being drained. This is addressed in Section 10.1.

There were submissions concerning the importance of the vegetation being removed and the adverse impact this would have on habitat corridors.

8.6.3 Discussion

The Willow Road Reserve and its wetlands contain important vegetation and habitat and are part of significant habitat linkages. Efforts should be made to reduce the area of footprint and to avoid as much of the wetlands as possible.

The Biosis Technical Report addresses the general issues arising for minimising footprints associated with removal of vegetation. These are carried through into the draft Environmental Management Plan at Clause 22 of the EES.

The critical issue with the Reserve is the impact on the hydraulics of the wetlands associated with lowering the water table and this has been resolved.

8.6.4 Conclusion

We conclude:

> **The Willow Road Reserve will be significantly impacted by the Bypass, but the remaining wetlands can be retained and the appropriate offsets appear to be available.**

8.7 Devil Bend Creek / Reservoir biosite

8.7.1 What is the Issue?

The Devil Bend Reservoir/Creek and the Pines Flora and Fauna Reserve are both classified as biosites of state significance. The Devil Bend Golf Course is on land adjoining the Devil Bend Reservoir site and between the Bypass and the reservoir is a biosite of regional significance.

8.7.2 Evidence and Submissions

The impact on this biosite due to the proximity of the Bypass to the Devil Bend Reservoir has some importance but more important is the proposed crossing of Devil Bend Creek system in two locations.

One of these crossings is at the intersection of Derril Road with the Devil Bend Creek.

8.7.3 Discussion

The issue of habitat connectivity along the creek for such species as Dwarf Galaxias has been addressed in Section 8.5 of this report.

Provided the crossings are undertaken to ensure connectivity and habitat the major issue associated with this biosite is reasonably addressed.

8.7.4 Conclusion

We have addressed the need to retain Derril Road as a throughroad where the Bypass crosses the creek in Section 6.9 and concluded this is not warranted. This will result in the retention of native vegetation at this location that would otherwise be at risk and the provision of a minimalist crossing of the creek, suitable for a horse trail rather than a vehicle crossing.

8.8 Environment Protection and Biodiversity Act issues

8.8.1 What is the Issue?

In the letter of accreditation the Commonwealth Department of Environment and Water Resources identifies matters protected by the Environment Protection and Biodiversity Act (EPBC Act) that the proposed action is likely to have significant impact on. These protected matters are:

- Ramsar Wetland (section 16 and 16B).
- Threatened Species (sections 18 and 18A).
- Migratory Species (sections 20 and 20A).

The advice goes on to provide examples of why the proposed action is likely to have significant impact. These examples are:

> *Southern Brown Bandicoot (Isoodon obesulus obesulus) known habitat in the Pines Flora and Fauna Reserve is likely to be fragmented by the proposed Bypass.*
>
> *The action is likely to result in changes to hydrological regimes of the Edithvale–Seaford Ramsar site, which is known to support an important population of Sharp-tailed Sandpiper (Calidris acuminata), in the absence of adequate safeguards.*
>
> *There is insufficient information to assess potential impacts on the Growling Grass Frog (Litoria reniformis), Dwarf Galaxias (Galaxiella pusilla) and listed flora species.*

The EES identifies all species listed in the EPBC Act that have been recorded within the impacted area, and that are likely to be present within the impacted area.

The Biosis Technical Report identifies the potential impacts and makes recommendations to minimise them.

8.8.2 Evidence and Submissions

Endangered Species

The Biosis Technical Report identifies the following species listed in the EPBC Act as endangered and as either being recorded or having potential to be present in the area:

- Southern Brown Bandicoot.
- Swift Parrot.
- Frankston Spider-orchid.
- Creame Spider-orchid.
- Fringed Spider-orchid.
- Matted Flax-lily.
- Maroon Leek-orchid.
- Metallic San-orchid.

The Southern Brown Bandicoot has been recorded in several locations in the Pines Flora and Fauna Reserve. The associated issues are further discussed in Section 8.2 of this report.

The Biosis Technical Report identifies in detail the potential impacts on this species. This report quotes from a letter of advice to Biosis from Dr Rodney Van der Ree, Senior Ecologist, Australian Research Centre for Urban Ecology. Mr Van der Ree's advice states:

> *The overall or combined effect of these various effects will result in the increased probability that the population of Southern Brown Bandicoot at the Pines Flora and Fauna Reserve will become extinct.*

In light of this advice, the Biosis report lists in considerable detail recommendations designed to minimise impacts on this species. These recommendations include:

- minimising clearance,
- connecting links across the proposed alignment, including a large underpass,
- rehabilitation of degraded areas to provide additional habitat and improved linkages between existing habitat areas,

- ascertaining and monitoring the size of the bandicoot population,
- intensive program to increase population size,
- monitoring the habitat connectivity structures for at least 5 to 10 years, and
- monitoring mitigation measures generally.

The Biosis report concludes that the Bypass is not expected to have any impact on the remaining identified endangered species except for the Maroon Leek-orchid.

There are no records for the Maroon Leek-orchid species within the proposed alignment or within 5 km of it. The species however has the potential to occur within the alignment. The report recommends further targeted surveys in October to November prior to construction commencing. If recorded the report makes a series of recommendations including avoidance as a first priority.

Vulnerable

The Biosis Technical Report identifies the following species listed in the EPBC Act as vulnerable and as either being recorded or having potential to be present in the area:

- Australian Painted Snipe.
- Growling Grass Frog.
- Dwarf Galaxias.
- Yarra Pygmy Perch.
- River Swamp Wallaby-grass.
- Thick-lip Spider-orchid.
- Clover Glycime.
- Leafy Greenhood.
- Swamp Fireweed.
- Swamp Everlasting.

The Australian Painted Snipe has several records in proximity to Seaford Wetlands and the Eastern Treatment Plant. It could occur in dense vegetation near wetlands in the area of the Bypass. Recommendations to minimise impacts in relation to identified wetlands are first avoidance and then minimising the footprint. Identified wetlands are at the EastLink Interchange, Tamarisk Creek and Willow Road Reserve.

The Growling Grass Frog while not recorded within the proposed Bypass footprint it has potential to occur. It has been recorded in close proximity

(2005) to the intersection of the proposed Bypass with the existing Moorooduc Highway (The Briars).

The Biosis Technical Report lists recommendations designed to minimise impact on this species. These include:

- mitigation measures along Tamarisk Creek in the Pines Flora and Fauna Reserve must include crossings designed to maximise habitat connectivity,
- any reduction in area of wetlands should be minimised and if removed replacement in nearby habitat should be considered,
- maintenance of the habitat link along Devil Bend Creek connecting Devil Bend Reservoir to the Briars, and
- further surveys should be conducted at suitable locations during the 2008/9 breeding season.

Issues relating to the Dwarf Galaxias are discussed in Section 8.5 of this report.

River Swamp Wallaby-grass has a significant population in the Bypass footprint around the existing constructed wetland within the Pines Flora and Fauna Reserve (0.76 hectares in area).

The whole wetland provides appropriate habitat for this species. Of the 0.76 hectare wetland 0.03 hectares will be affected. Care needs to be taken to ensure that the wetland does not dry out as a result of hydrological changes associated with the Bypass.

The population of this species is well documented within the Pines Flora and Fauna Reserve; however, there is suitable habitat at the interchange with EastLink and in Aquatic Herbland patches. There needs to be further targeted surveys in these areas.

The report lists recommendations to minimise impacts on this species. These include:

- prevent the wetlands in the Pines Flora and Fauna Reserve from drying out due to hydrological changes associated with the Bypass,
- monitoring of the known species locations pre and post construction,
- possible trans-location of individuals within the Pines Flora and Fauna Reserve,
- target surveys (November to March) within patches of appropriate habitat,
- avoidance where possible, and
- appropriate construction techniques to protect retained individuals

- management of retained areas.

Neither Clover Blycine nor Swamp Fireweed species have been recorded within 5 kms of the proposed alignment. However suitable habitat exists within the Bypass alignment for both species.

Target searches, September to December for Clover Glycine and November to March for Swamp Fireweed are recommended. In the event that either species are identified then if possible avoidance should occur followed by minimising the area of impact. Appropriate protective construction techniques should be implemented and the retained areas appropriately managed.

The remaining vulnerable species with potential to occur are:

- Yarra Pygmy Perch.
- Thick-lip Spider-orchid.
- Leafy Greenhood.
- Swamp Everlasting.

There are no records of any of these species. None of these species were identified in extensive surveys within the Pines Flora and Fauna Reserve.

No further targeted surveys are recommended and it is not expected that the Bypass will have any impact on any of these species.

Ramsar Wetlands

There are two relevant Ramsar sites and these are Edithvale–Seaford Ramsar Wetland and Western Port.

The Biosis Technical Report concludes that the potential impact on these sites is drainage discharge as well as construction and management effects for the Seaford site (See Section 9.7).

The conclusions are that with proper construction practice as proposed there will be no impact on the Ramsar Wetlands.

Listed Migratory Species

There are 59 species listed under (migratory) provisions of the EPBC Act which have been recorded in the area. There are 43 of these that could occur in the proposed alignment area.

Biosis states that some of these 43 species would be expected to use parts of the alignment area on occasions and some may do so regularly. The report goes on to say:

It does not provide important habitat for an ecologically significant proportion of any of these species

8.8.3 Discussion

We are satisfied that the Biosis Report identifies impacts and appropriate mitigation measures where necessary for all relevant species and sites listed under the EPBC Act.

We are concerned that some of the explicit recommendations contained in the Biosis Technical Report (which forms part of the EES) have been translated into the proposed Environmental Management Framework with less explicit expression. Some examples follow.

With regard to the Southern Brown Bandicoot the Biosis report recommends specific actions relating to 'an intensive program to increase the local population'. The EMP identifies the need to develop a management plan for the Southern Brown Bandicoot in consultation with DSE and Parks Victoria to include:

An intensive program designed to increase the size of the local population.

The point here is that the evidence states the Bypass will increase probability that the population of Southern Brown Bandicoot at the Pines Flora and Fauna Reserve will become extinct unless action is taken. Biosis have produced some definitive actions designed to decrease the likelihood of this demise.

The EMP agrees to consult with DSE and others concerning the development of a program. It is however silent about responsibility for implementation.

Further examples include explicit recommendations for further targeted surveys from Biosis. These degenerate in all cases to:

Consider the need for targeted searches … in consultation with DSE.

The mitigation measures identified in the Biosis Report are in our view the correct and properly researched measures. When the Environmental Management Plan is prepared the mitigation measures identified in this document should reflect the recommendations in the Biosis Technical Report rather than the abbreviated descriptions contained in Section 22 of the EES.

8.8.4 Conclusions

We conclude:

> **The Biosis Technical Report in the EES identifies impacts and appropriate mitigation measures where necessary for all relevant species and sites listed under the EPBC Act.**
>
> **Provided that the mitigation measures identified in the Biosis Technical Report are fully implemented we are satisfied that the provisions of the EPBC Act are adequately addressed.**

8.9 Habitat links

8.9.1 What is the Issue?

A number of submissions raised broad issues about habitat connectivity and the role the Bypass plays as a habitat link.

8.9.2 Evidence and submissions

The Biosis Technical Report recognised the importance of the existing native vegetation along the reserved land especially in the northern sections. The Report stated:

> *In the developed environment in which the Frankston Bypass is proposed to be built, native vegetation is often restricted within the Right Of Way (ROW), and additional narrow bands along roads, railway lines, reserves and drainage lines. Clearing associated with the proposed Bypass footprint will result in the loss of large areas of native vegetation and associated fauna habitat. Some of these areas function as important habitat corridors/patches and the loss of these habitats are likely to have permanent and significant ecological impacts.*
>
> *The southern portion of the proposed Bypass footprint passes through an extensively cleared environment with remnants largely restricted to narrow linear sections such as along road or railway reserves. The northern section of the proposed alignment area (and the proposed Bypass footprint) contains the majority of native vegetation present. This linear corridor (within the proposed alignment area) currently provides an important link connecting the few larger remnants of habitat that remain in the local area, such as The Pines Flora and Fauna Reserve, Willow Road Reserve and Langwarrin Flora and Fauna Reserve. However, significant barriers to movement of fauna, and possibly of dispersal of indigenous flora, already exist along the proposed alignment area in the form of roads, cleared areas and quarries. Damage to this link,*

> *and to less continuous links elsewhere, could thus have broader implications for dispersal of flora and fauna movement through the landscape.*

There were many submissions that contained a consistent concern regarding this issue. Typical concerns are illustrated by Andrew Booth (97) who said:

> *The Bypass will be constructed through a woodland habitat link (apparent from native vegetation mapping, also comprising some heathland and wetland vegetation) which extends north of the Pines reserve to Boggy Creek wetland, and south as far as Golf Links Road. In general the width of the Bypass construction footprint will be about 50m, though the footprint width increases substantially when off-ramps are provided to intersecting roads. The result will be substantial clearing and fragmentation also most of this habitat link.*

The Devilbend Land Care Group (59) referred to the Devilbend Reserve and the current preparation of a Draft Management Plan for this Reserve. The Devilbend Land Care Group submission draws attention to aspirations in the Draft Plan as follows:

> *The aspiration includes intentions to establish wildlife corridors which will connect the Devilbend Reserve with other conservation areas on the Mornington Peninsula.*

The issue of the existing reservation for the Bypass providing important habitat links was also stressed in both the Frankston City Council and the Mornington Peninsula Council submissions.

The Biosis Technical Report contains several recommendations designed to minimise the loss of habitat generally and associated habitat linkages in particular. These recommendations include:

- Only use native and indigenous plants in landscaping the Bypass.
- Control weed infestation.
- Minimise clearing.
- Provide Fauna crossings.
- Maximise retention of habit features such as old trees and hollow logs.

These recommendations and others are listed in the Biosis Technical Report. The Draft Environmental Management Plan recognises the issue and commits to appropriate measures in both the design and construction phases of the project.

8.9.3 Discussion

There is no doubt that the Bypass reservation as it now exists fills an important function of providing habitat linkages between areas of remnant native vegetation. This function will be significantly reduced by the construction of the Bypass.

The opportunity, identified in many submissions, to improve on the existing habitat linkage function of the reserved land will be largely lost.

It is true that the original reservation was not put in place to provide habit links or to preserve native vegetation. This however does not mean that it does now not serve such a function. It clearly does and this is mostly due to the past clearing that has occurred on nearby and adjoining land to facilitate development.

It is not possible to retain the existing habitat linkage function as it currently exists and to build the Bypass. The impact can be reduced by implementing the measures identified in the Biosis Technical Report. The intent to do this has been identified in the Draft Environmental Management Plan.

There is an opportunity to encourage and foster the enthusiasm expressed in the multiplicity of public submissions concerning the importance of habitat linkages by identifying, protecting and developing alternative linkages.

8.9.4 Conclusions

We conclude:

> **The Bypass reservation provides a degree of habitat connectivity and this will be lost or reduced as the Bypass is developed.**

We recommend:

> **Identify any potential for maintaining habitat connectivity along the Bypass as part of the detailed design process.**
>
> **Frankston and Mornington Peninsula Councils, DSE, Melbourne Water, Parks Victoria and relevant Catchment Management Authorities work together to identify a potential network of habitat links across the Mornington Peninsula.**

9. Surface Water

9.1 Introduction

The Bypass crosses a number of waterways and drains: Boggy Creek, Tamarisk Creek, MWC Main Drains, Watsons Creek, Balcombe Creek, Tuerong Creek and Devilbend Creek.

Based on the risk assessment, the key issues identified in the EES for the surface water assessment were:

- disturbance of channel geometry and river health values during waterway crossing,
- fragmentation of river health values in the catchment during construction,
- reduction in the hydraulic capacity at waterway crossings,
- changes to floodplain characteristics of waterways during construction,
- increased sediment and contaminant loading to waterways,
- increased stormwater run-off to waterways,
- potential for chemical/fuel spill to discharge to waterways during operation.

Potential impacts and mitigation measures associated with these key issues are discussed in the EES.

Any freeway development has the potential to adversely impact on waterways, and a freeway through a relatively undeveloped rural environment has greater potential for impact than a freeway in an existing urban area. For this reason Melbourne Water consider use of the Moorooduc Highway to be preferable to Option 1, but conceded that a range of other factors might lead to Option 1 being the preferred outcome.

Issues raised in submissions included:

- issues of overall waterway function and waterway health,
- impacts on Watsons, Devilbend, Tuerong, Tamarisk, and Balcombe Creeks, and
- impacts on Waterways that feed Ramsar wetlands.

Issues of the dam at Westerfield are discussed in Section 8.4.

9.2 Waterway function and waterway health

9.2.1 What is the Issue?

Juliet and Ian Riseley (67) expressed concerns about flooding and concerns about the impact of the Bypass on water quality were expressed by a range of submitters.

The impact on specific creeks is considered in following sections.

9.2.2 Evidence and submissions

Melbourne Water's general criterion for waterway function is for no adverse or detrimental impacts to the pre-existing flood (afflux) levels.

It is understood that preliminary design flow estimates vary from the flow values provided by Melbourne Water for several crossings. Agreement on the design flows will need to be part of the detailed design process.

SEITA submitted that:

- The Bypass will be designed to minimise impacts on flooding regimes in accordance with standard road and design practice.
- The EES commits to water sensitive road design and the potential use of stormwater runoff associated with the Bypass will be resolved at the detailed design stage of the project.
- The EMP requires that works be undertaken to minimise impacts on the downstream environment (eg. construction to occur in low flow periods).

Melbourne Water submitted that:

> *Should the Inquiry recommend that the project proceed as the proposed Option 1, Melbourne Water makes the following recommendations:*
>
> · *The detail design of the direct impacts to Melbourne Water's waterways, consider the holistic and long term aspects of the catchments, over and above a straight hydraulic engineering solution.*
>
> · *For works in and around waterways, Work Method Statements are to be prepared to the satisfaction of Melbourne Water prior to the commencement of works.*
>
> · *Site Environmental Management Plans are to be prepared to the satisfaction of Melbourne Water and DSE, and are to be subsequently implemented, reviewed and regularly reported upon.*

Melbourne Water submitted that it sees no reason to believe that at the detailed design stage that a design outcome which achieves an appropriate balance between engineering function and environmental function cannot be achieved.

Any work impacting its designated waterways is subject to Melbourne Water approval.

9.2.3 Discussion

There are specific issues with particular waterways and these are discussed in the following sections.

Melbourne Water seeks long term outcomes under its *River Health Strategy* and emphasised that a small diameter culvert crossing can cause fragmentation of the waterway as it will not allow for riparian habitat and can restrict continuity and connectivity along the waterway.

The general issue is the need to provide for the ecological health of waterways, not just hydrological function.

Clearly there are potential impacts on the creek, but the days of concrete drains such as Moonee Ponds Creek beside the Tullamarine Freeway are long gone – and rightly so. Mr Grant from Melbourne Water showed a series of slides identifying the treatments used as part of EastLink and identifying the acceptable outcomes achieved on that project for waterway health.

Melbourne Water is currently improving the quality and health of waterways through a variety of programs and these were outlined at the hearings.

Too many waterways have been adversely impacted by development in the past (not just road projects) and community members are understandably concerned when major projects are proposed near waterways. However, there have been good efforts by Melbourne Water, Councils, community groups and some developers at restoring waterway health in recent years.

The issue of the need to protect waterways, particularly sensitive habitats from potential spill events on the Bypass was raised. This approach is supported. Spills have the potential to have a major adverse impact and spill prevention would be appropriate in light of the broader efforts at minimising adverse impacts for the Bypass.

9.2.4 Conclusions

Potential environmental effects (impacts)

We conclude:

> **There are potentially significant impacts on waterway function and health, but these can managed effectively.**

We recommend:

> **The EMP address the issue of spill containment to protect waterways.**

9.3 Watsons Creek

Watsons Creek meets the Bypass in Baxter (Melway 106 K5).

9.3.1 What is the Issue?

Environmental values of Watsons Creek have not been assessed. Further hydrologic investigations are required to assess the implication of change to flow regime and redistribution of catchment between Balcombe Creek and Watsons Creek (35, 89).

9.3.2 Evidence and submissions

Melbourne Water submitted that:

> *Flow management of the Watsons Creek catchment with respect to a fill gradeline, must relate to a long term outlook for open waterway and flood plain management outcomes (compared to the current ephemeral conditions).*

Any cut would also require the agreed management of any intercepted groundwater.

The environmental values for Watsons Creek are acknowledged in the Surface Water Technical Report.

SEITA acknowledge that a 'longer term outlook for waterway/floodplain management outcomes' should be considered. This would be considered as part of the scope for further investigations as described in Surface Water Technical Report Section 10.3.1, pg 75. These investigations, however, seem to refer to the preferred gradeline of placing the Bypass in cut in Baxter.

> *10.3.1 Further Investigations*
>
> *Further hydrologic and drainage investigation are required into the management of flows under the preferred gradeline, along with*

> *implications for surface and groundwater interactions. The adoption of the alternate option (i.e. fill through Baxter) would negate the requirement for such investigations.*

The EES has identified that it proposes to construct the Bypass in fill through Baxter (page 4-53). It goes on to identify possible disadvantages, including:

> *Additionally, construction of the Bypass in fill would result in fragmentation of river health values, although the risks associated with this change are not considered to be as high as if the Bypass is constructed in cut.*

Melbourne Water has carried out woody weed control for this area and there are current initiatives to improve water quality in this catchment. The preferred alignment option will need to consider future rehabilitation efforts and waterway health initiatives by Melbourne Water.

9.3.3 Discussion

The scope for modification of the alignment in this area is limited; this is where the Bypass passes through Baxter. Placing the Bypass in cut was ruled out because of the complex surface drainage in the area.

It is not clear how the EES proposes to address river health issues in the area. While there is potential for impact and fragmentation of river health values, the area is in the upper reaches of the creeks and a number of tributaries are ephemeral. The values certainly need to be protected, but are not so obvious or significant that they would lead to a rethink of the alignment in this location, or an abandonment of the Bypass. In this regard they can be considered as part of design refinement.

The issue of habitat links (discussed in Section 8.9) should also be considered at this location.

9.3.4 Conclusions

We recommend:

> **Refine the detailed design through Baxter to support future rehabilitation efforts and waterway health initiatives by Melbourne Water, and provide any appropriate habitat links between waterway systems.**

9.4 Devilbend and Tuerong Creeks

Devilbend and Tuerong Creeks are crossed by the Bypass in Moorooduc near Tuerong Road (Melway 152 D1, 152B1) and Derril Road (Melway 146 J11).

9.4.1 What is the Issue?

The Bypass impacts on Devilbend and Tuerong Creeks.

9.4.2 Evidence and submissions

The alignment of the Bypass has been modified in this location to avoid Dwarf Galaxias habitat in Tuerong Creek.

The EES specifies 'waterway opening to meet Melbourne Water requirements'.

Melbourne Water submitted that Devilbend and Tuerong Creeks have been identified as having 'high' regional importance, under the Regional River Health Strategy, especially given the presence of Dwarf Galaxias within these creeks. With improved land management, these waterway systems could be greatly improved. Melbourne Water considers that a clear span bridge crossing is preferred at these locations.

SEITA submitted:

> *The Melbourne Water Submission raises a number of technical matters which are to be addressed during the detailed design of the Project. Specific waterway crossings will be subject to a more detailed investigation and concept design being submitted to Melbourne Water for approval to ensure that waterway crossings achieve an appropriate hydrogeological outcome.*

9.4.3 Discussion

The issue is not so much the hydrological performance of the waterway opening, but the ecological performance. On this basis the current state of the waterways should not be used to set the standard of the crossing, rather the long term vision for a healthy waterway should be the criterion.

There was some confusion in submissions as to the extent that Devilbend and Tuerong Creeks would be affected by the Bypass. One submitter showed an excerpt from the 'flyover' animation that showed the Bypass reserve over Devilbend Creek. This is not the case: while the Bypass will run close to Devilbend Creek it crosses it in two locations and is not located 'on top of' the creek.

9.4.4 Conclusions

We conclude:

> **The EES identifies appropriate mitigation measures at Devilbend and Tuerong Creeks at this stage though ultimately these will be a matter of more detailed design.**

9.5 Tamarisk Creek

Tamarisk Creek is affected by the Bypass in the vicinity of the Pines Flora and Fauna Reserve (Melway 100 D7).

9.5.1 What is the Issue?

As part of the revised alignment through the Pines Flora and Fauna Reserve it is proposed to realign and reconstruct Tamarisk Creek. This is discussed in Section 8.2.

9.5.2 Evidence and submissions

It was submitted that the environmental values of Tamarisk Creek are degraded in this location and that a realignment could create the opportunities for improved habitat and environmental values.

Melbourne Water submitted that the Creek has high value habitat associated with the Growling Grass Frog, Swamp Skink, and Dwarf Galaxias, but that:

> *While not preferred, Melbourne Water will accept in principal the realignment of Tamarisk Creek through the Pines Reserve, in consideration of all the other constraints relating to the Bypass alignment options. This will be subject to the actual detail of the conceptual plans, including the overall functionality of the waterway.*

9.5.3 Discussion

The technical report states that:

> *further investigation will need to be undertaken to understand the current and natural hydrologic regime of Tamarisk Creek to inform the design of the channel and/or flow structures.*

The realignment of the creek would need to recreate a more natural drainage regime and enhance habitat, and this would need to include connectivity of the creek.

9.5.4 Conclusions

We conclude:

The EES adequately addresses the work need to reinstate Tamarisk Creek.

9.6 Balcombe Creek

Balcombe Creek and tributary runs parallel to the Bypass in Moorooduc (Melway 106 B9 to 147 B7)) and Balcombe Creek (tributaries) cross the Bypass, at the following locations:

- Melway Reference: 106 – G6 [Crossing W 20].
- Melway Reference: 106 – E9 [Crossing W 21].
- Melway Reference: 147 – D4 [Crossing W 22].

9.6.1 What is the Issue?

The Bypass will impact on Balcombe Creek.

9.6.2 Evidence and submissions

Melbourne Water submitted that the high regional habitat and ecological values of the catchment, extensive waterway works currently being undertaken by Melbourne Water, and need to avoid fragmentation of habitat means that Melbourne Water considers a clear span bridge crossing is preferred at Balcombe Creek.

9.6.3 Discussion

The EES has made a commitment to comply with Melbourne Water requirements in avoiding or mitigating the fragmentation of river health values. While Balcombe creek is identified in the text it is not identified on the Bypass layout plans. The plans should identify the creek crossing and identify that it is to be to Melbourne Water requirements.

9.6.4 Conclusions

We recommend:

Design waterway crossings of Balcombe Creek to meet Melbourne Water requirements.

9.7 Waterways that feed Ramsar wetlands

9.7.1 What is the Issue?

The Bypass must avoid disturbance of waterways that support or feed the Ramsar wetlands.

9.7.2 Evidence and submissions

Melbourne Water submitted:

> ***Boggy Creek:*** *Given the significant high environmental values and regional importance downstream of Boggy Creek, associated with the Seaford/Edithvale wetlands and Kananook Creek, the risks associated with site environmental management are to be fully understood, managed and acted upon in a preventative manner.*
>
> ***Watsons Creek:*** *Melbourne Water considers the hydrologic assessment associated with Watsons Creek is of high importance. The potential risks relate to the downstream connection with Yaringa National Park, a Ramsar wetland site of international significance, need to be fully quantified and qualified, as part of the planning, design and construction of the Bypass. This is to include the estimated additional 12 ha of catchment draining into the Watsons Creek system, especially in terms of the potential interruption of base flows and/or increased flow volumes and resultant stream instability and erosion issues.*

SEITA submitted that the Surface Water Assessment states that Boggy Creek is hydrologically separated from the Ramsar wetland other than in major flood events.

9.7.3 Discussion

The EMP measures do not seem to explicitly recognise or address these issues. We see this as an issue that needs to be addressed as part of the detailed design process of the Bypass and the modelling of the drainage system, retention ponds and the like to ensure that an appropriate hydrologic regime is maintained for waters that flow into Ramsar wetlands.

9.7.4 Conclusions

We recommend:

> **Act in a preventative manner in relation to the risks associated with site management at Boggy Creek.**
>
> **Fully quantify and qualify the potential risks related to the downstream connection of Watsons Creek with Yaringa National Park as part of the detailed design and construction of the Bypass.**

10. Groundwater

10.1 Introduction

Groundwater issues relate to:

- Impacts on the natural environment in particular anecdotal reports have been received regarding spring flow in the Willow Road area.
- Impacts on human use. The Frankston area as an intense groundwater development area. The most common use for bores in the region is stock or domestic purposes.

10.2 Willow Road Reserve (Pobblebonk Wetlands)

10.2.1 What is the Issue?

Concerns were expressed about the alteration of the hydrological regime of the Pobblebonk Wetland (at Willow Road Reserve).

10.2.2 Evidence and submissions

On the site inspection a number of parties contended obviously wet conditions indicated that the wetlands were spring fed.

Timothy Anderson for SEITA stated:

> *In assessing an alternate vertical gradeline option involving cut through Willow Road Reserve, saturated sand lenses were identified in the preliminary geotechnical investigations (2008). Drainage of the sands were considered a potential threat to the wetlands …*

Since exhibition of the EES and Technical Reports, additional hydrogeological investigations have been commissioned by SEITA and undertaken by SKM with assistance from VicRoads.

The VicRoads / SKM (2009) investigations indicated:

- *The wetland area retained after road construction is elevated at least 5 m above the water table. Under these conditions, direct hydraulic connection with the remaining wetland is highly unlikely.*
- *Aquifer testing of the water table aquifer also indicated low permeability materials and low groundwater flow rates.*

- *Groundwater flows into a cut were calculated to be low and treatable with common engineering treatments.*
- *Low permeability materials would reduce the radial extent of dewatering to within an estimated 180 m.*

Mr Anderson concluded that placing the Bypass in cut through the Willow Road Reserve is unlikely to alter the hydrogeological regime of the Reserve. However, he acknowledged the following data gaps:

- *Groundwater level response under drought conditions / climate change;*
- *Monitoring network has been spatially limited by access restrictions (e.g. gap between alignment and McClelland Drive).*

Further investigations were recommended to inform the engineering design process regarding groundwater (and surface water) management should a cut be considered.

10.2.3 Discussion

There are a number of advantages that flow from placing the Bypass in cut:

- impacts on adjoining properties are lessened, and
- the overall fill deficit for the project is reduced.

Clearly it is not appropriate to place the Bypass in cut if this would adversely affect important environmental features or impact on drainage or groundwater.

We are satisfied that the groundwater issues along this length of the Bypass have been investigated sufficiently to proceed with the Bypass in cut in this area.

10.2.4 Conclusions

We recommend:

Place the Bypass in cut in the area south of Cranbourne–Frankston Road.

10.3 Loss of water and water quality

10.3.1 What is the Issue?

There is a need to retain access to water, where bores are directly affected or the water table is lowered where the Bypass is in cut.

Concerns were also raised over:

- degradation of quality of groundwater in the Moorooduc area – in particular, whether a spring dam fed on the high point of Loders Road property will be adversely affected by the cut, and
- fault lines as pathways and salinity risk.

10.3.2 Evidence and submissions

Dams and groundwater bores within the proposed alignment will need to be decommissioned to enable road construction. SEITA will replace the affected bores and dams where this is feasible. This is an important requirement and should be addressed through the compensation process and where necessary replacement infrastructure.

SEITA submitted that:

- In the vicinity of the cut at Loders Road the groundwater level is approximately 6 m below ground level based on investigations undertaken by VicRoads. With the cut of 7-8m deep, the potential lowering of the groundwater level in the cut is likely to be around 2m.
- Land salination has been observed in the area under the existing land management conditions. Salination processes in this area result from the flow of groundwater through aquifers and discharge at the surface in low-lying areas. It is not considered that the weight of the embankment on the water table would result in a rise in water table which would cause land salination.

10.3.3 Discussion

The material presented in the expert statements deal with these issues, and while it is accepted that the precise interaction between ground and surface water is unknown the nature and extent of works proposed by the Bypass are not likely to cause a decrease in groundwater quality.

Where the Bypass is in cut there may be a drawdown in the water table and this will need to be managed during and after construction. If bores are adversely impacted post construction, alternative or improved water supply will need to be provided. This is addressed in the EMP.

10.3.4 Conclusions

We conclude:

The potential impact of the Bypass on groundwater is appropriately dealt with.

11. Geology, Soil and Contaminated Land

11.1 Introduction

The EES addresses a range of issues in terms of Geology, Soil and Contaminated Land and the EMP identifies a range of mechanisms to deal with issues. The EES did not deal with erosion testing.

11.2 Erosion

11.2.1 What is the Issue?

Concern was expressed about the lack of erosion testing.

11.2.2 Evidence and submissions

SEITA submitted that some erosion test results have become available since the report was prepared and confirm assumptions.

11.2.3 Discussion

We do not see that geological issues are a potential fatal flaw in the Bypass proposal, though clearly as design progresses a number of geological and soil issues will need to be fully resolved.

11.2.4 Conclusions

We conclude:

> **Geology, Soil and Contaminated Land issues can be adequately managed.**

12. Noise

12.1 Introduction

An increase in noise levels (traffic noise) from the operation of the Bypass may affect approximately 1,250 noise sensitive buildings adjacent to the Bypass. Sensitive areas within 250 metres of the proposed Bypass would also be subjected to new noise impacts, including the Pines Flora and Fauna Reserve.

Noise modelling for the Bypass was undertaken for road traffic volumes in the year 2021. The noise modelling indicates that, at most locations, future noise levels would exceed accepted limits in the year 2021 if noise barriers are not installed.

Mitigation could be achieved by installation of noise barriers or mounding along appropriate sections of the Bypass. The indicative locations and sizes of proposed noise barriers are shown in the EES, but the exact height of noise barriers would be determined in the detailed design phase of the project.

12.2 Noise level to be achieved

12.2.1 What is the Issue?

The City of Frankston (90) submitted that lower noise level objectives within *VicRoads Noise Reduction Policy* (a limit of a 12 dB(A) increase) should be used. Other submissions including Mornington Peninsula Council (78) and Jeff Symons (14) were concerned about the impact on quiet rural areas.

12.2.2 Evidence and submissions

The expected noise levels from the Bypass have been modelled as part of the EES. This modelling takes into consideration reflection of surface noise from proposed noise barriers where they are placed along one side of the Bypass.

VicRoads' noise policy sets the following objectives for new roads:

> *Where arterial roads and freeways are built on new alignments,…, the traffic noise level will be limited to the objectives set out below or the level that would have prevailed if the road improvements had not occurred, whichever is the greater.*

- *Category A: - For residential dwellings, … , the noise level objective will be 63 dB(A) L_{10} (18hr) measured between 6 am and midnight,*
- *Where the noise level adjacent to Category A or B buildings prior to road improvements is less than 50 dB(A)L_{10} (18hr), consideration will be given to limiting the noise level increase to 12 dB(A).*

SEITA responded it will comply with the VicRoads noise policy; however, there cannot be a commitment to the application of the limit of a 12 dB(A) increase.

The City of Frankston submitted that noise assessment should consider impact on reserves.

Concern was also expressed by Mornington Peninsula Council (78), Frankston Council (90) and Jim Kerin (82) that acoustic treatments such as low noise road surfaces finishes, open graded asphalt have not been considered.

12.2.3 Discussion

There is no doubt that roads (including freeways) are noisy. However, traffic noise levels are relatively insensitive to small changes in traffic volume. For example a 10 per cent increase will generate an inaudible increase of 0.4 dB(A) in noise levels.

The VicRoads noise policy is applied across road projects in Victoria. The VicRoads noise policy has been developed to balance the impacts of noise with the impacts and costs of noise treatments including noise walls.

In our mind there are two significant questions:

- Should the VicRoads policy apply to the Bypass, or some other standard?
- Can the VicRoads policy be met?

We can see no reason why a different standard to the VicRoads policy should apply to this Bypass, either in terms of noise levels or the types of land use that need to be protected from noise. This a conventional freeway development along an established reserve in a suburban and rural context that is not really any different to other freeway alignments.

The evidence presented in the EES and as part of the hearings show that the noise levels under the policy are capable of being achieved.

The policy makes reference to situations where the existing noise is less than 50 dB(A)L_{10} (18hr). In these situations limiting the increase in noise to 12 dB is to be considered. This aspect of the policy might potentially apply to some

parts of the route, but would be difficult to achieve. The route has been identified for a long period of time. Part of the purpose of identifying routes is that people can inform themselves of what future conditions will be like when making important choices on housing and business location. SEITA considered but does not support the application of this attenuation level on the basis of capital costs, amenity and visual impacts. We agree that in this case achieving the lower level is not warranted.

12.2.4 Conclusions

We conclude:

> **The Bypass will produce noise impacts broadly typical of other Freeways and noise levels can be managed to conform with policy.**

12.3 Impacts on native fauna and horses

12.3.1 What is the Issue?

Concerns were expressed about:

- Noise impacts on horses by Moorooduc Saddle Club (62), and
- Noise impacts on roadside habitats Gillian Collins(71) and Australian Wildlife Protection Council (85).

12.3.2 Evidence and submissions

SEITA submitted:

> *There is limited research on traffic noise impacts on wildlife populations in Australia. Noise barriers will be erected to control the noise impacts in the Pines Flora and Fauna Reserve.*
>
> *In general terms horses don't react to 'average' and constant noise levels. However some horses may be startled or react to peak noise.*

Noise barriers are not proposed for the Saddle Club area, because the activities of the Saddle Club do not fall into the noise sensitive uses defined in the VicRoads Traffic Noise Reduction Policy.

12.3.3 Discussion

The issue of the 'road impact zone' has been discussed earlier (see Section 5.5).

In terms of the impacts of the Bypass on flora and fauna, noise is not obviously a major impact. Issues of loss of habitat and fragmentation of

habitat seem to be much more pressing. Noise barriers are proposed in the Pines.

12.3.4 Conclusions

We conclude:

> **The Bypass will have a noise impact on animals broadly typical of other Freeways and the mitigation measures identified are appropriate.**

12.4 Construction noise

12.4.1 What is the Issue?

Noise during construction phase, including noise impacts at Bayside Christian College.

12.4.2 Evidence and submissions

Construction noise will be addressed in the construction Environmental Management Plan (EMP). Construction noise will be managed in accordance with EPA and VicRoads guidelines. Excessively noisy activities could be undertaken outside school times.

12.4.3 Discussion

This matter is adequately addressed in the EES and EMP.

12.4.4 Conclusions

We conclude:

> **Construction noise issues are adequately dealt with in the EES.**

13. Air Quality

13.1 Introduction

Future air quality was modelled to assess the likely impact of the Bypass operation on air quality at both a local and regional scale.

For local air quality, the modelling for all hotspots shows that all pollutants are predicted to be below the SEPP (AQM) intervention levels. For regional air quality modelling, the models predicted pollutant loads to the atmosphere in 2011 would be reduced with the Bypass, compared with the 'no project' scenario, because the traffic flow on the Bypass is smoother than stop start traffic.

The assessment period for road projects is generally 10 years after road opening as EPA is not comfortable predicting beyond this period. Road traffic emissions is changing and travel and the vehicle fleet change.

13.2 Overall effects

13.2.1 What is the Issue?

There were concerns about air pollution from the Bypass.

13.2.2 Evidence and submissions

Concerns included the Mt Eliza escarpment affecting dispersion of exhaust fumes raised by Mr Incoll (9), and the ecological effects of dust and pollutants by a number of submitters.

A detailed response to this issue is provided in the Expert Witness Statement of Barry Cook. Synergistic effects are taken into account when compared to legislated assessment criteria. Dust is the issue of most concern; toxics and other pollutants are very low compared to assessment criteria.

13.2.3 Discussion

The volume of pollutants generated by the Bypass and their likely dispersal was modelled using variable meteorology (including hourly wind speed and direction) along the Bypass alignment.

There are no areas along the Bypass that raise particular issues about heavy exposure to traffic fumes, given the nature of the road and the overall likely background air quality.

13.2.4 Conclusions

We conclude:

> **The Bypass will impact on air quality but these impacts are broadly typical of other Freeways and the mitigation measures identified are appropriate.**

13.3 Health impacts and domestic water

13.3.1 What is the Issue?

Concern was raised about the effect of pollution on rainwater tanks used for domestic consumption.

13.3.2 Evidence and submissions

It was submitted that Health Impact assessment should be undertaken to better understand the impact of the project on communities especially Frankston North.

The EES considered, but did not identify any requirement for undertaking a health assessment.

13.3.3 Discussion

The risk of an adverse health impact is low because of the small contribution from Bypass compared to background air quality. Investigations have shown that the EPA intervention levels will not be triggered.

For local air quality the modelling shows that all pollutants are predicted to be below the SEPP (AQM) intervention levels. Based on these findings, there are unlikely to be any effects on human health as a result of the construction and operation of the Bypass.

13.3.4 Conclusions

We conclude:

> **The Bypass will not have particular adverse health impacts.**

13.4 Construction dust

13.4.1 What is the Issue?

Impact of construction dust and construction dust management plan. Impacts of dust on swimming pools, dwellings and vehicles.

13.4.2 Evidence and submissions

Construction dust management plan deals with all situations of dust impacting on off-site areas.

13.4.3 Discussion

Dust is a potential problem on all construction sites, especially large road projects. There do not appear to be any features of the Bypass construction, location or nature of earthworks that suggest that it would have atypical dust issues.

13.4.4 Conclusions

We conclude:

> **The Bypass will potentially impact on air quality from construction dust but these impacts are broadly typical of other construction projects and the mitigation measures identified are appropriate.**

14. Greenhouse gas emissions

14.1 Introduction

Greenhouse gas emissions have been estimated for the 'no project' and 'with project' scenarios based on transport modelling that was conducted for the Bypass. Evidence from Mr Roy was called by SEITA.

Emissions were calculated based on fuel consumption, using methods derived from the *Handbook of Road Technology*. The greenhouse gas emissions calculations were based on the current vehicle fleet and are considered conservative for both the 'no project' and 'with project' scenarios, because emissions per vehicle kilometre are decreasing.

14.2 Greenhouse gas emissions

14.2.1 What is the Issue?

The impact of the Bypass on greenhouse gas emissions was raised, primarily by Environment Victoria.

14.2.2 Evidence and submissions

Induced traffic

The issue of induced traffic was raised primarily in relation to greenhouse gas emissions. The issue of induced traffic is discussed in Section 6.2.

Calculations

The bulk of greenhouse gas emissions come from the operation of the Bypass, less than half a per cent will come from its construction. Table 3 presents Mr Roy's calculations and the calculation we prepared based on the figures in the EES.

Table 3: Proportion of greenhouse gas emissions from operation

Phase	Emissions (tCO_2e)		Proportion of emissions	
	Proportion reported by Mr Roy	Based on EES 2011 to 2031	Proportion reported by Mr Roy	Inquiry calculation based on EES
Design	Not estimated	Not estimated	< 1 %	
Construction	528,000	550,000	5 %	0.5 %
Total Operation	- 10,225,000	125,445,000	95 %	99.5 %
Decommissioning	Not estimated	Not estimated	< 1 %	
Total	- 9,700,000	125,995,000	100 %	

Mr Roy appears to have used the 'saving' figure to determine the proportions of greenhouse gas emissions attributable to operation, as opposed to the total for 20 years of operation. If the construction and operation figures from the EES are used then it is clear that construction amounts to only 0.5 per cent of the total 20 year emissions (not 5 per cent as claimed by Mr Roy) and would be much less over a longer period (assuming no significant improvement in vehicle efficiency).

The EES presents figures showing that the Bypass will reduce greenhouse gas emission relative to the do nothing base case by 7.5 per cent in 2031 (Technical Report page 25). This is shown in Table 4.

To the extent that this estimate leaves out the generated trip component of induced traffic it will be less than this. (See previous section).

Table 4: Greenhouse gas emission savings (Table 15.4 of the EES)

	2011	2021	2031	Total
Project				
Vehicle use	5369000	6191000	7334000	
Lighting and signalling	1000	1000	1000	
Total project	5,370,000	6,192,000	7,335,000	125,445,000
No project	5,627,000	6,791,000	7,929,000	135,690,000
Difference	-257,000	-599,000	-594,000	-10,245,000
Saving	5 %	9 %	7 %	8 %

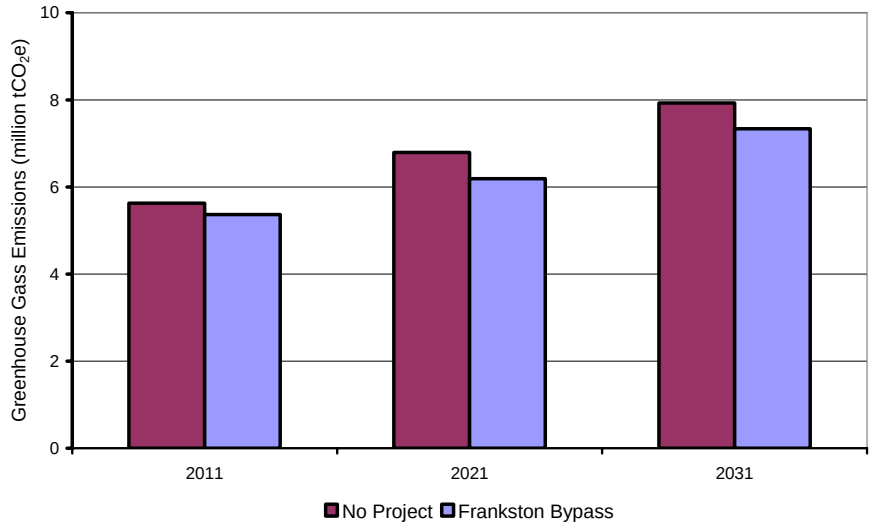
Policy to reduce carbon pollution

The Australian Government has a commitment to reduce Australia's greenhouse gas emissions by 60 per cent of 2000 levels by 2050. By 2020, the

Government has committed to reduce Australia's carbon pollution by up to 15 per cent below 2000 levels.

The Technical Report presents the following graph (Figure 4 recreated by the Inquiry) which shows greenhouse gas emissions increasing.

Figure 2: Greenhouse gas emissions



It was put to Mr Roy that his evidence was akin to recommending someone bail their boat with one bucket as opposed to another on the basis that it was 5 per cent bigger, when in fact neither bucket was big enough to stop the boat from sinking. Mr Roy stated that this was a 'not unreasonable' analogy.

14.2.3 Discussion

It is hard to see the logic of completing a greenhouse gas assessment of the Bypass when the key issue of induced traffic is not fully taken into account, and not made transparent. While induced traffic might not be viewed as significant from a traffic modelling point of view it appears to be the same order of magnitude as the greenhouse gas savings identified.

The failure to account for induced traffic undermines the usefulness of the greenhouse gas assessment. We would be more concerned about this if we thought that the greenhouse gas assessment actually told us anything useful.

Usefulness of greenhouse gas emissions calculation

The issue is not that Mr Roy has produced a 'wrong answer', but that he was asked to answer a 'wrong question'. This is an issue of how greenhouse gas emissions have been conceptualised in the EES process. We note that the Minister's scoping requirement includes:

4.7.10 Greenhouse Gas Emissions

The EES should assess the implications of the Frankston Bypass for greenhouse gas emissions and energy consumption associated with the proposal, as well as the measures to be implemented for their management, in the context of relevant policies and strategies.

The EES should:

- *Address any relevant requirements of State Environment Protection Policy (Air Quality Management); and*
- *Estimate the greenhouse gas emissions resulting from the construction and operation of the Frankston Bypass relative to the 'no project' scenario and other relevant alternatives, in the context of projected urban growth and traffic growth.*

The problem as we see it is that it makes no sense to address the greenhouse gas emissions of a specific project in the absence of a broader understanding of the greenhouse gas emissions of the macro-urban form and the vehicle fleet.

Recent work carried out by the Department of Transport (and reported on their website) on the relationship of macro-urban form (the structure and layout of the city and its prevailing infrastructure) and transport energy use clearly shows 'the environmental benefits of focussing future urban development in already transport rich areas, and in a select number of leading activity centres'.

It is at the broad metropolitan scale that the sustainability issues of land use and transport need to be addressed. *Melbourne @ 5 million* has clearly addressed issues of sustainability and these have informed the *Victorian Transport Plan* which includes the Bypass.

We see the Bypass as part of an overall approach to managing urban growth that addresses sustainability by supporting development in existing areas, while recognising the need to provide growth outside of established areas. We expect that there is a range of opinions on whether the *Victorian Transport Plan* and *Melbourne @ 5 million* have addressed sustainability issues in an appropriate fashion, but it is not our role to revisit or critique these planning processes.

Work carried out by the Department of Premier and Cabinet in 2007 and presented in the EES (Fact sheet: Greenhouse Gas Emissions) shows that efficiencies in the vehicle fleet also have the potential to play a role in reduced greenhouse gas emissions from transport.

It is not credible to think that building a freeway can reduce greenhouse gas emissions. There is an energy cost to the type of development proposed on the Mornington Peninsula (but not consolidation around a Frankston CAD). This does not automatically mean that we should stop this form of development (even if this were possible), but it does mean that as a community we will need to recognise this cost and find other ways to reduce the greenhouse gas emissions from transport.

14.2.4 Conclusions

We conclude:

The failure to fully account for induced travel undermines the greenhouse gas emissions assessment.

Sustainability issues of land use and transport need to be addressed at the broad metropolitan scale. *Melbourne @ 5 million* and the *Victorian Transport Plan* recognise sustainability issues.

The construction of the Bypass will not reduce greenhouse gas emissions from transport.

14.3 Offsetting emissions

14.3.1 What is the Issue?

Submissions were received that the Bypass should offset its emissions.

Concern was expressed about the environmental damage caused by the industrial and manufacturing processes needed to build Bypass.

14.3.2 Evidence and submissions

SEITA submitted that offset of emissions has not been included as a mitigation strategy, but there is a suggestion of using renewable energy for operational energy use including lights.

Emissions due to manufacturing of input (cement, asphalt, etc) and also emissions due to construction (materials embodied emissions) are addressed in the Greenhouse Gas Assessment.

14.3.3 Discussion

We have no doubts about the need to reduce greenhouse gas emissions, and we are aware of a range of techniques and new materials that might be able to reduce the greenhouse gas emissions from construction (about 0.5 per cent of total emissions).

We are not sure, however, that it is an appropriate policy response to single out specific projects for off setting operational or construction emissions. It is not clear why the Bypass might be expected to offset emissions when other transport or infrastructure projects, or private development projects are not.

In the case of the Bypass we think that there are other much more significant environment impacts that need to be addressed in relation to flora and fauna. Addressing these issues might increase construction greenhouse gas emissions (for example by the use of retaining walls using concrete rather than earth batters). Requirements for greenhouse gas reductions or offsets in construction might make addressing these other environmental issues even harder.

14.3.4 Conclusions

We conclude:

> **It is not appropriate to single out specific capital works programs for off setting in the absence of a broader process. This broader process might involve a number of 'carbon neutral' or reduced emissions construction projects.**

15. Landscape and Visual

15.1 Introduction

An analysis was undertaken in the EES to determine the potential extent of landscape and visual impacts of the Bypass. The area from which views of the Bypass (including the proposed noise barriers) may be possible was identified.

A range of possible mitigation treatments were developed and the EES sets out where it proposes to apply these treatments.

15.2 General issues

15.2.1 What is the Issue?

General concerns in relation to the visual intrusion of the Bypass.

15.2.2 Evidence and submissions

A detailed response to all submissions in relation to the visual impact of noise barriers was provided by Peter Haack.

Design details and materials are yet to be finalised, but SEITA submitted they will respond to and be appropriate to the local character of the setting.

Design approaches that help integrate the noise attenuation devices into the setting, through earth shaping and planting will be further developed following the approval process.

Phil Kaye (29) raised concerns about inconsistencies in the description of interchanges in the Table 2 of the EES and the actual plans of the Bypass. The table states Bungower Road and Mornington–Tyabb Roads will remain at the same level when in fact they will be elevated. The landscape assessment has been based on the plans and Section JJ on page 17 of the Frankston Bypass Landscape Concept Plan in Volume 3 of the EES clearly shows the proposed treatment for an elevated Mornington–Tyabb Road.

15.2.3 Discussion

Modern freeway design has greatly improved the visual experience of road users, as evidenced by the attractiveness of EastLink to people travelling along it.

Modern design has also made advances in reducing the visual impact of freeways to adjoining areas, but this is in the context of freeways being intrusive in nature: something to be screened, not something to be emphasised.

The approach to visual screening is thorough and based on developing screening and mitigation approaches that relate to the surrounding landscape characteristics.

15.2.4 Conclusions

We conclude:

> **The Bypass will have a range of visual impacts but these impacts are broadly typical of other Freeways and the mitigation measures identified are appropriate.**

15.3 Rural character

15.3.1 What is the Issue?

The Devil Bend Landcare Group (59) and others raised the loss of rural character and views of Moorooduc area as an issue, along with concerns that the EES only takes into account view from certain points but impact will be wider than this.

It was submitted that the green wedge areas and rural land should be protected from development.

15.3.2 Evidence and submissions

SEITA submitted:

> *Assessing every view point is impractical. Therefore, in the EES Report, typical viewpoints that represent the highest level of impact are chosen to define the likely worst case impact level for a particular area. It can be inferred, by application of the methodology that more distant viewpoints will also be subject to visual impacts, albeit at a lower level.*
>
> *The proposed Bypass alignment is generally consistent with the Green Wedges policy, particularly noting the recognition of the need to plan for access corridors to support development which provides for environmental, economic and social benefits.*

15.3.3 Discussion

It is clear that the Bypass will have an impact on the rural character of Moorooduc. However, this impact has to be balanced against the need for the Bypass and compared to the practicality of other routes.

SEITA acknowledges that the Bypass will modify the visual landscape setting to a moderate to high degree before the proposed landscape treatments have had time to establish. The visual impact will reduce as the vegetation establishes.

For much of its length in Moorooduc the Bypass will traverse a relatively flat landscape, where views are constrained by landscape, including boundary planting on properties. Much of this landscape is linear in form created by the patterning of the windrows and bands of remnant vegetation along property boundaries and roadsides throughout the area.

The Landscape Concept Plan demonstrates an approach to the landscape through the rural area between Baxter and Moorooduc Road that is sympathetic to the setting and does not continue the approach of the urbanised settings. It will be another linear element in this landscape. Over time we expect the Bypass landscape to fit reasonably well into this landscape pattern.

We think that once the landscape treatments have had time to establish the visual impact will be acceptable.

Green Wedges are a concept that is based on managing the extent of urban areas, not primarily on establishing a particular character. *Melbourne 2030* states:

> *Green Wedges are not another type of park. They are active, living areas that include agriculture and many other non-urban activities.*

15.3.4 Conclusions

We conclude:

> **The visual impacts of the Bypass in the Moorooduc area are acceptable.**

16. Social

16.1 Introduction

The social research undertaken to determine social impact included:

- social issues identification workshops,
- stakeholder interviews and community group meetings,
- household interviews,
- a telephone survey of 400 households,
- five focus groups, and
- a literature review of similar transport infrastructure projects.

Impact was assessed in terms of:

- Access and severance. Severance occurs when people's ability to move around their local area is reduced. Access is improved when travelling times are reduced.
- Dislocation. The impact of acquisition has been reduced because the Reserve has been established for a long time and parts of it have already been acquired. One house is proposed to be acquired.
- Amenity.
- Community context. The locations where social networks are most likely to be affected are Frankston North (severance from the Pines) and Baxter (internal links).

16.2 Social benefit

16.2.1 What is the Issue?

It was submitted that the EES overestimated the degree to which the Bypass would increase social accessibility.

16.2.2 Evidence and submissions

Mornington Council submitted that construction of the Bypass is:

> *… even more fundamentally an issue of social equity – where the land use pattern, the distribution of population and accessibility is a key to the opportunities and the quality of life which people can enjoy.*

Proposal to establish Frankston as a CAD is a more significant policy initiative to provide better access to jobs and services and a key way in which journey times can be reduced in the region.

SEITA responded that the assessment of potential benefits of the proposed Bypass cover the entire route. The degree of improvement in social accessibility varies along the route, and is highest north of Baxter, where there will be improved accessibility to several major community facilities and activity centres.

16.2.3 Discussion

While the Bypass will have an effect on properties near to it, we agree that the broader community impacts will be positive, and agree with Mornington Council that three critical conclusions of the EES are that:

- there are unlikely to be any adverse effects on human health as a result of construction or operation of the Bypass,
- savings in road crashes will be achieved, and
- the Bypass will reduce congestion and travel time.

16.2.4 Conclusions

We conclude:

Overall the Bypass will have a positive social impact.

16.3 Severance

16.3.1 What is the Issue?

Concerns were expressed about the effects of the Bypass severing communities.

16.3.2 Evidence and submissions

The Frankston North Community Group (71) claimed that the Bypass will dissect and disenfranchise the Frankston North community. SEITA responded that the Bypass will pass to the east of the Frankston North community and will not dissect it.

Concerned was also expressed there will be an isolating effect in Moorooduc caused by increased traffic on Bungower Road and Mornington Tyabb Roads. Bungower Road has been planned to become a regional connector road by VicRoads.

16.3.3 Discussion

We think that the issue for social severance needs to be considered in terms of reduced accessibility to community facilities or the creation of isolated pockets of development that are relatively hard to access.

Simply observing that a freeway traverses an area does not create social severance in and of itself. We note that the Bypass does not propose to close any roads (we propose the closure of Derril Road, see Section 6.9).

The potential impacts are:

- the loss of informal crossing points,
- increased traffic on other roads, and
- visual separation.

There are locations where existing pedestrian routes will be changed by the presence of the Bypass, such as north of Frankston–Dandenong Rd, but access will be maintained by the provision of new shared paths along both sides of the Bypass and providing connection at Frankston–Dandenong Road.

Two pedestrian bridges are proposed over the Bypass: approximately 400 metres north of Cranbourne–Frankston Rd and immediately north of the proposed Frankston–Stony Point rail bridge over the Bypass to reduce potential severance caused by the Bypass.

Concern was expressed about the isolating effect in Moorooduc caused by increased traffic on Bungower Road and Mornington Tyabb Road. The current Planning Scheme has a Public Acquisition Overlay along Bungower and Mornington Tyabb Road for road widening. We can understand increased traffic causing severance where pedestrian or cycle desire lines are cut across by heavily trafficked roads, but see this as being more a potential issue in urban areas. We do not think that the Bypass will create social severance on the basis of increased traffic on rural roads.

We see the greatest potential for social severance in Baxter where the Bypass cuts through the development of this settlement. The Baxter–Tooradin Road is the main spine of Baxter connecting the train station, shops and Baxter Park (a large recreation area). The Bypass will cross the Baxter–Tooradin Road by way of an overpass.

While the overpass has the potential to create visual separation in Baxter we think that this can easily be addressed by careful design. It is not uncommon for railways and freeways to cross roads on overpasses, and these crossing often have minimal visual impact. Provided good site lines are maintained and a consistent design approach is maintained along the road and carried

under the Bypass we think that there will be minimal visual severance effects. We note that access to the Bypass is proposed from the Frankston Flinders Road by way of a full-diamond interchange, and so the severance effects of traffic entering and leaving the Bypass, turning lanes etc, do not occur on the Baxter–Tooradin Road.

16.3.4 Conclusions

We recommend:

> **Design the overpass on the Baxter–Tooradin Road to maintain good site lines and a consistent treatment along the road and under the Bypass.**

16.4 Impact on specific sites

16.4.1 What is the Issue?

Concern about impact on community facilities including:

- Belvedere Reserve,
- the Moorooduc Pony Club, and
- The Centenary Golf Club.

16.4.2 Evidence and submissions

A detailed response to concerns about social impacts upon specific community facilities was provided in the Expert Witness Statement of Ruth Davies.

Willow Road Reserve is listed as a natural reserve by the Frankston City Council. The social impact research indicated limited use for recreation, but potential high value as a natural feature.

The social impact of the Bypass on the Belvedere Reserve was assessed on the basis that it would remain open for local community use. Council proposals in relation to the potential redevelopment of an additional sports oval are not relevant to this Project. However, SEITA will work with Council to achieve its desired outcome if it can be done at no additional cost to the project.

16.4.3 Discussion

The Bypass will have a range of impacts along its route but we do not see that any of these are excessive, or unforseen, given that the reservation has been publicly established for a long time.

Belvedere Reserve

Proposals in relation to the realignment of Boggy Creek are detailed design matters that can be subject to ongoing discussions with Melbourne Water and DSE.

Moorooduc Saddle Club

The Bypass proposes to maintain Derril Road for traffic (we understand at Mornington Peninsula Shire Council's request) and to maintain access to the Saddle Club from Derril Road. This means that a re-grading of Derril Road is required resulting in the loss of native vegetation.

There is a tension in this area of meeting the needs of the Bypass alignment, preservation of native vegetation, and the social needs of the Saddle Club. Of these three sets of needs, the Saddle Club is realistically the most adaptable.

As set out in Section 6.9 we do not support the Derril Road Bypass underpass and accordingly see no need to re-grade Derril Road.

Centenary Golf Club

The alignment of the Bypass in the vicinity of the Centenary Golf Club is discussed in Section 8.2.

Frankston Council and others made strong submissions on the social benefits of the golf course.

We accept that the Centenary Golf Club has a high social value. We note that golf courses can play an important role in maintaining habitat and ecosystems and cooperative approaches where the needs of golfers and ecology can be sensibly discussed seem the best way forward.

We are less sure that a short term disruption to the operation of the golf course (measured in a few years) would outweigh the permanent destruction of important natural values that have existed for ten of thousands of years and which cannot be realistically recovered.

There is no doubt that humans have significantly modified the environment of the Mornington Peninsula and driven a number of species and ecosystems to the point that they are locally extinct, or currently endangered. Privileging the short term needs of a game (even considering the obvious social importance of golf to the community) over the long term natural values doesn't seem to strike the right balance between human needs and ecological values.

16.4.4 Conclusions

We recommend:

Subject to agreement of Melbourne Water and DSE, review the detailed design of the Belvedere Reserve and Boggy Creek.

17. Agriculture, Business and Tourism

17.1 Introduction

Mornington Peninsula has a diverse mixed economy which is a strength. Economic activity ranges from township based commercial uses, through agriculture to tourism and hospitality, and a major port operation at Long Island (Hastings).

The Mornington Peninsula economy will benefit significantly from the construction of the Bypass, although there will be some localised job losses due mainly to traffic being diverted from Moorooduc Highway.

Any new route will have an economic impact upon businesses that rely on passing trade where traffic is reduced. The Bypass will create some losses to business income. We note that in other regional areas with the removal of heavy traffic flows local businesses have thrived as local people can now access that business in a more relaxed manner.

17.2 Agricultural issues

17.2.1 What is the Issue?

Concerns were expressed about loss of prime farming land (Devil Bend Landcare Group (59), Devil Bend Foundation (83) and Brian Cumming (86)) and severance imposed by the Bypass (EJ Robinson (66)).

17.2.2 Evidence and submissions

Ray Phillips assessed the farming environment as being suited to grazing rather than cropping, due to soil type characteristics and a susceptibility to winter water logging. He considered rural land in the district to be of average agricultural capability rather than prime.

It was further noted that the land is strongly fragmented, holding sizes are small, and current land holders represent a mix of rural living, part time farming and absentee land owners. Only a limited amount of commercial farm activity is practised which is reflected in the region's modest levels of productivity.

17.2.3 Discussion

There was some dispute about the precise impact on agriculture of the Bypass, in terms of the number and nature of existing and potential farming operations including vineyards.

It is not clear to us that there are really any broad agricultural impacts of the Bypass beyond the obvious impacts on individual operations. We are not dealing with an issue that will have significant impacts on Victoria's overall agricultural production.

There are a range of planning issues that can have an impact on overall agricultural productivity including: losing agricultural land to urban development; impacts on farming from rural residential development; and improved access to markets from transport improvements. These sorts of issues can affect agricultural production – we do not see the Bypass as having an impact of this order of magnitude.

17.2.4 Conclusions

We conclude:

> **There will be relatively minor and localised impacts on agricultural productivity.**

17.3 Impact on Frankston CAD

17.3.1 What is the Issue?

The economic impact on Frankston if it is to be bypassed could be negative. Questions on long term viability for businesses in and around Frankston.

17.3.2 Evidence and submissions

This issue is addressed in the Economic Impact Assessment and in the Expert Witness Statement of Marianne Stoettrup.

The Economic Impact Assessment notes that there is potential for a loss of passing trade by some CBD businesses, but that this disbenefit would be outweighed by a reduction in congestion and an improvement in amenity for businesses and visitors. Over a longer time horizon, reduced congestion will enhance the opportunities for economic development in the Frankston town centre as businesses adjust to the changed business conditions.

17.3.3 Discussion

Frankston has been identified as a CAD in *Melbourne @ 5 million*. Part of the strategic direction for Frankston is to boost its economic development as an activity centre and destination in its own right. This potentially has much greater positive effect that any loss of trade from passing traffic.

Deciding to force traffic through Frankston to support existing businesses that rely on passing trade does not sit well with this longer term vision. While there may be short term effects from the Bypass the long term effects of the broader policy settings should see significant economic development at Frankston.

17.3.4 Conclusions

We conclude:

The long term impacts on Frankston CAD will be positive.

17.4 Business impacts

17.4.1 What is the Issue?

A range of submissions were made in respect of business development.

The proposed overpass will impact on the take away business located on the corner of Lathams and Stephensons Road due to restricted parking, restricted visibility and sight lines.

17.4.2 Evidence and submissions

It is expected that as a result of removing through-traffic from Moorooduc Highway some economic activity will relocate.

The business on the corner of Lathams and Stephensons Road currently benefits from informal customer car-parking on a piece of adjacent public land on Lathams Road. This land is likely to be required for the construction of the Lathams Road overpass with a consequent loss of the informal car parking.

17.4.3 Discussion

There was a range of detailed submissions about the potential effects on individual businesses under various options, including Options 2A and 3A. Ultimately whichever option is chosen these businesses will be affected.

Either traffic will be taken off the highway, or the access to the businesses will be seriously restricted.

The level of impact is not anywhere like the situation where a whole town centre might be bypassed by a rural freeway with the consequent significant economic impacts.

It is likely that businesses that rely on passing traffic such as service stations and fast food outlets will see a decrease in custom. This custom will create other business opportunities and there will be the need for a freeway service centre somewhere along the Bypass route. The reservation has been in place for many years and business operators have had the opportunity to factor the construction of the Bypass into their business plans.

Following the construction of the overpass, the Lathams Road business should remain as visible to passing traffic as it is currently, although the opportunity for vehicles to stop may be reduced. There is sufficient parking on the property. The business currently benefits from the reservation for the Bypass. But this benefit is only there because the Bypass will be built. If there were no proposed Bypass the spare land would not be available for parking, nor would there be the open aspect with the extensive sightlines.

17.4.4 Conclusions

We conclude:

> **Direct business impact relatively minor and not dependent on the route option selected.**

18. Cultural Heritage

18.1 Introduction

The Bypass has the potential to impact on cultural heritage.

The section of the Bypass that lies across the extent of the former Tuerong Station has been subject to field survey and no historical relics relating to the pastoral and agricultural use of the land have been identified. There will be no impact on Sages Cottage.

18.2 Aboriginal heritage

18.2.1 What is the Issue?

18.2.2 Evidence and submissions

The Draft Cultural Heritage Management Plan has been prepared in consultation with AAV and will require approval under the *Aboriginal Heritage Act* 2006 on completion of the EES process.

18.2.3 Discussion

It is understood that the two RAP applicants for the project area, the Boon Wurrung Foundation and the Bunurong Land Council have been involved in the project to date at two different levels:

- high level consultation undertaken by SEITA at the outset of the project, and
- day-to-day consultation with representatives and elders during the field programme to ensure that the strategy proceeds with their approval and to allow the consideration and documentation of their views and knowledge.

The opportunity exists for further detailed consultation regarding the final outcomes of the assessment and the management recommendations towards the end of the process. The CHMP evaluation process will involve a formal opportunity by the groups to comment on the plan.

While the Bypass will impact on a proportion of the Aboriginal cultural heritage identified through the CHMP process, many impacts to this heritage can be reduced through avoidance, mitigation and management measures. The longer term conservation of significant elements of Aboriginal heritage

can also be achieved to a greater degree within the unused parts of the reservation than may necessarily be provided on adjacent private property.

Option 1 has the highest level of potential impact to known Aboriginal cultural heritage between the 3 options; however it should be noted that the non-shared sections of Options 2 & 3 have not involved field survey or test evaluation. It should also be noted that Option 1 negotiates a path of comparatively low impact through a very rich archaeological landscape.

18.2.4 Conclusions

Potential environmental effects (impacts)

The risk of harm to Aboriginal cultural heritage can be mitigated to acceptable levels through avoidance measures, design solutions and salvage operations.

18.3 Westerfield

18.3.1 What is the Issue?

Heritage listed land at Westerfield Estate should be preserved in its entirety.

18.3.2 Evidence and submissions

The Westerfield site has been recently accepted as a nomination to the Victorian Heritage Register. It is also on the Register of the National Estate. If the nomination is accepted and it is placed on the Victorian Heritage Register a permit will be needed from Heritage Victoria. In the interim, Heritage Victoria must be consulted regarding any proposed works on this site.

18.3.3 Discussion

There is no doubt that the Bypass will have a significant negative effect on the Westerfield property.

It is not clear precisely the value of heritage fabric that might be destroyed by the Bypass, though it is clear that the main buildings are not affected, and some fabric such as the perfume vats has been relocated.

At this stage we do think that the cultural heritage aspect of the land affected by the Bypass are anywhere near as important as the ecological values. If the land is determined to be of heritage value then appropriate mechanisms to manage this are in place.

18.3.4 Conclusions

We conclude

The heritage values of the land affected by the Bypass at Westerfield are a secondary consideration that reinforce (though perhaps to a limited extent) its natural values.

Summary of findings and recommendations

19. Findings

19.1 Overall finding

We conclude:

> Construction of the Bypass as a freeway standard road generally within the existing reservation, and subject to the modifications and mitigations recommended in the EES and this report is appropriate.

19.2 Findings about the EES

We are satisfied that the EES has considered a broad range of options, and while some refinement or further modification is warranted, no viable options were excluded from consideration. In respect of the EES we conclude:

Traffic modelling

A1.1 Induced travel has not been fully counted for in the traffic modelling.

A1.2 The traffic modelling used for the Frankston Bypass is adequate to predict future traffic demands and that there will be no detrimental impacts on the arterial road network and substantial benefits for the Moorooduc Highway.

A1.3 Traffic modelling for future transport projects should include induced travel.

Need for the Bypass

A2.1 An upgrade in road capacity is required to cater for predicted traffic.

A2.2 It is not possible to obviate the need for road capacity improvements in the region by providing improved public transport.

A2.3 The Community proposed Options 2A and 3A are not practical options.

A2.4 It is appropriate from a road hierarchy point of view that the Bypass forms a continuous freeway link between the existing Frankston Freeway and the Mornington Peninsula Freeway.

Freeway service centre

A3 The issue of a freeway service centre is a separate matter.

Greenhouse gas emissions

A4.1 The failure to fully account for induced travel undermines the greenhouse gas emissions assessment.

A4.2 Sustainability issues of land use and transport need to be addressed at the broad metropolitan scale. Melbourne @ 5 million and the Victorian Transport Plan recognise sustainability issues.

A4.3 The construction of the Bypass will not reduce greenhouse gas emissions from transport.

A4.4 It is not appropriate to single out specific capital works programs for off setting in the absence of a broader process. This broader process might involve a number of 'carbon neutral' or reduced emissions construction projects.

19.3 Environmental impacts

Our Terms of Reference require us:

> *To inquire into and make findings regarding the potential environmental effects (impacts) of the proposed Frankston Bypass, including impacts on relevant matters under the EPBC Act.*

We are satisfied that the EES identifies the relevant environmental impacts of the proposal.

Impacts typical of a freeway project

As discussed in Section 5.4 many of the impacts are typical of a freeway project and while these should not be lightly dismissed they would come as no surprise to anyone who has made even the most cursory examination of a freeway project. These impacts can be reduced to typical freeway impacts by existing mitigation approaches.

With respect to impacts typical of a freeway project we conclude:

Transport

B1.1 There will be no insurmountable capacity issues on the local network as a result of the Bypass.

B1.2 The access arrangements for the Lathams Road industrial area, while not providing for all direct connections to/from the various freeway elements, is appropriate in the circumstances of limited opportunity to physically provide the links. Access via the Frankston–Dandenong Road will satisfactorily augment direct freeway access.

B1.3 The full-diamond interchange at Bungower Road and the half-diamond interchange at Mornington–Tyabb Road are appropriate.

Land use

B2.1 The existing planning schemes protect the Mornington Peninsula from 'over development'.

B2.2 Existing dwellings are not atypically close to the Bypass.

Groundwater

B3 The potential impact of the Bypass on groundwater is appropriately dealt with.

Geology, Soil and Contaminated Land

B4 Geology, Soil and Contaminated Land issues can be adequately managed.

Noise

B5.1 The Bypass will produce noise impacts broadly typical of other Freeways and noise levels can be managed to conform with policy.

B5.2 The Bypass will have a noise impact on animals broadly typical of other Freeways and the mitigation measures identified are appropriate.

B5.3 Construction noise issues are adequately dealt with in the EES.

Air Quality

B6.1 The Bypass will impact on air quality but these impacts are broadly typical of other Freeways and the mitigation measures identified are appropriate.

B6.2 Fog issues are not so obviously, or dramatically different between the route options to warrant any modification to the route.

B6.3 The Bypass will potentially impact on air quality from construction dust but these impacts are broadly typical of other

construction projects and the mitigation measures identified are appropriate.

Landscape and Visual

B7.1 The Bypass will have a range of visual impacts but these impacts are broadly typical of other Freeways and the mitigation measures identified are appropriate.

B7.2 The visual impacts of the Bypass in the Moorooduc area are acceptable.

Social

B8.1 Overall the Bypass will have a positive social impact.

B8.2 The Bypass will not have particular adverse health impacts.

Agriculture, Business and Tourism

B9.1 There will be relatively minor and localised impacts on agricultural productivity.

B9.2 The long term impacts on Frankston CAD will be positive.

B9.3 Direct business impact relatively minor and not dependent on the route option selected.

Cultural Heritage

B10.1 The risk of harm to Aboriginal cultural heritage can be mitigated to acceptable levels through avoidance measures, design solutions and salvage operations.

B10.2 The heritage values of the land affected by the Bypass at Westerfield are a secondary consideration that reinforce (though perhaps to a limited extent) its natural values.

Particular environmental effects (impacts)

The Bypass also presents a range of impacts that are not immediately obvious, raise more complex policy issues, or impose unexpected costs on the project. These have all been identified in the EES and in respect of these issues we conclude:

Pines Flora and Fauna Reserve

B11.1 There is no reasonable or practical option to avoid the Pines Flora and Fauna Reserve.

B11.2 The identification of the various species, and communities carried out by Biosis has been thorough and complete and there is sufficient information on individual species and EVCs.

B11.3 The eastern option through the Pines Flora and Fauna Reserve has less environmental effects than the original 1960s alignment. This conclusion is contingent upon significant and appropriate mitigation works associated with the realignment of Tamarisk Creek and associated wetlands.

B11.4 The environmental values of the Pines Flora and Fauna Reserve are very significant and every effort should be made to minimise impacts.

B11.5 Relocation of the Bypass into the golf course and subsequent extension of the golf course is not justified because of:

- the implications associated with the removal of vegetation in the southern section of the DARA land, and
- the implications for future revegetation of the orchard area of the DARA land.

The Willow Road Reserve

B12 The Willow Road Reserve will be significantly impacted by the Bypass, but the remaining wetlands can be retained and the appropriate offsets appear to be available.

Dwarf Galaxias

B13 All of the impact minimisation proposals identified in the Biosis Report for the Dwarf Galaxias are appropriately addressed in the Draft Environmental Management Plan (Table 22.1 of the EES, reproduced in Appendix B of this report).

Habitat connectivity

B14 The Bypass reservation provides a degree of habitat connectivity and this will be lost or reduced as the Bypass is developed.

Waterways

B15.1 There are potentially significant impacts on waterway function and health, but these can managed effectively.

B15.2 The EES identifies appropriate mitigation measures at Devilbend and Tuerong Creeks at this stage though ultimately these will be a matter of more detailed design.

B15.3 The EES adequately addresses the work need to reinstate Tamarisk Creek.

19.4 Considerations under the Planning and Environment Act 1987

Our Terms of reference require us:

> *To advise on the considerations relevant to the Assessment that will inform decisions on the Frankston Bypass under the Planning and Environment Act 1987 ….*

In terms of considerations under the *Planning and Environment Act* 1987 we recommend:

C1 Introduce a planning scheme amendment of the Frankston and Mornington Peninsula Planning Schemes to:

- Extend the PAO to the extent of the refined alignment and to provide for access to any 'landlocked' lots or portions of lots.
- Amend Clause 53.03 to add a new incorporated document to allow construction of the Bypass without need for a planning permit.
- Change the list of incorporated documents as required.
- Rezone land to the Road Zone 1 where appropriate.
- Apply the Restructure Overlay as appropriate to ensure lots and landholding dissected by the Bypass can be restructured into lots that can readily be used in conformity with the Planning Scheme.

We also conclude:

C2 The Inquiry is satisfied that the circumstances for Ministerial intervention and the nature of the recommended amendment satisfy the relevant criteria in the *Ministerial Powers of Intervention in Planning and Heritage Matters Practice Note* on the following basis:

- Criterion 1 – The matter is one of genuine State significance as it raises a major issue of State public interest.
- Criterion 2 – The matter will give effect to an outcome where the issues have been reasonably considered and the views of affected parties are known.
- Criterion 5 – The matter requires the co-ordination to facilitate decision making by more than one agency.

19.5 Considerations under the Environment Protection and Biodiversity Conservation Act 1999

Our Terms of reference require us:

> *To advise on the considerations relevant to the Assessment that will inform decisions on the Frankston Bypass under the … Environment Protection and Biodiversity Conservation Act 1999.*

We conclude:

D1 The Biosis Technical Report in the EES identifies impacts and appropriate mitigation measures where necessary for all relevant species and sites listed under the EPBC Act.

D2 Provided that the mitigation measures identified in the Biosis Technical Report are fully implemented we are satisfied that the provisions of the EPBC Act are adequately addressed.

20. Recommendations

Our Terms of reference require us:

> *To recommend any modifications to the Frankston Bypass as well as environmental mitigation and management measures that may be needed to achieve acceptable environmental outcomes, within the context of applicable legislation and policy.*

20.1 Possible modifications

We recommend the following modifications:

Overall design

E1.1 Place the Bypass in cut in the area south of Cranbourne–Frankston Road.

E1.2 Investigate further options for avoiding and or reducing the need for vegetation removal at Westerfield (Patch 46a) including:

- Realignment to the east to varying degrees including total avoidance of Westerfield land.
- Rerouting of the shared path between Robinsons Road and Golf Links Road to reduce native vegetation removal.
- Significant reduction of the construction footprint including the use of retaining walls on both sides of the Bypass, replacement of the central median by traffic barriers, shortening of ramps and any other feasible measure.

E1.3 Delete the link underneath the Bypass for vehicular traffic on Derril Road and do not re-grade Derril Road south of the Bypass route but terminate it at the Moorooduc Saddle Club entrance.

E1.4 Provide a horse trail linking Derril Road South to Derril Road North underneath the major waterway opening adjacent to Devil Bend Creek.

Possible rail link and shared path

E2.1 SEITA, in collaboration with the Department of Transport, review the detailed design of the Bypass alignment as to its suitability for a rail connection.

E2.2 SEITA, in collaboration with the Department of Transport, review the detailed design of the connections of a rail link

between the Bypass and the Stony Point Rail line north of Robinsons Road.

E2.3 Refine the location and detailed design of the shared path.

Minimise footprint

E3.1 Reduce the footprint of the Bypass throughout the Pines Flora and Fauna Reserve by the use of retaining walls in place of batters.

E3.2 Minimise the Bypass footprint in the EastLink Interchange area by use of retaining walls through all of the area of Grassy Plains Wetland.

Habitat connectivity

E4 Identify any potential for maintaining habitat connectivity along the Bypass as part of the detailed design process.

Baxter

E5 Refine the detailed design through Baxter to support future rehabilitation efforts and waterway health initiatives by Melbourne Water, and provide any appropriate habitat links between waterway systems.

Waterways

E6.1 Design waterway crossings of Balcombe Creek to meet Melbourne Water requirements.

E6.2 Design the overpass on the Baxter–Tooradin Road to maintain good site lines and a consistent treatment along the road and under the Bypass.

E6.3 Subject to agreement of Melbourne Water and DSE, review the detailed design of the Belvedere Reserve and Boggy Creek.

20.2 Environmental mitigation and management measures

We recommend the management and mitigation commitments in the EES (Table 22.2 reproduced in Appendix B) subject to the following changes:

Pines Flora and Fauna Reserve

E7.1 Carry out substantial works within the Pines Flora and Fauna Reserve, well in excess of those minimum requirements associated with improving habitat for the Southern Brown Bandicoot, to gain a positive outcome for the environment in the context of allowing the Bypass to proceed.

E7.2 Implement all other mitigation measures proposed in the EES relating to flora and fauna issues subject to approval of details with DSE.

Frankston Freeway–EastLink–Bypass Interchange

E8.1 Carry out all of the avoidance, minimising and mitigation measures recommended by Biosis for the interchange area.

E8.2 In the event of an appropriate like-for-like offset not being available for vegetation losses at the interchange a with EastLink, gain a positive outcome for the environment by undertaking substantial works within the Pines Flora and Fauna Reserve.

Westerfield (Patch 46a)

E9.1 In the event that destruction of vegetation at Westerfield (Patch 46a) cannot be avoided, carry out detailed targeted surveys for flora and fauna prior to commencing works and implement appropriate relocation of significant flora species.

E9.2 Implement all other mitigation measures at Westerfield (Patch 46a) recommended in the Biosis Technical Report.

E9.3 In the event that destruction of vegetation at Westerfield (Patch 46a) cannot be avoided, initiate all measures necessary to obtain the appropriate offsets including acquisition or protection of whole properties.

Habitat connectivity

E10 Frankston and Mornington Peninsula Councils, DSE, Melbourne Water, Parks Victoria and relevant Catchment Management Authorities work together to identify a potential network of habitat links across the Mornington Peninsula.

Fog

E11 Take fog mitigation measures into account in the detailed design.

Waterways

E12.1 The EMP address the issue of spill containment to protect waterways.

E12.2 Act in a preventative manner in relation to the risks associated with site management at Boggy Creek.

E12.3 Fully quantify and qualify the potential risks related to the downstream connection of Watsons Creek with Yaringa National Park as part of the detailed design and construction of the Bypass.

A Parties and submitters

We heard the parties listed in Table below.

Table A1: Appearances

Submitter	Represented By
SEITA	SEITA Michelle Quigley SC, briefed by Sallyanne Everett assisted by Jessica Kaczmarek of Clayton Utz and Bruno Aleksic of SEITA, who called: • Steve Pelosi (Transport) • David Hyett (Options Analysis) • Charles Meredith (Flora and Fauna) • Tim Anderson (Groundwater) • Ashley Roberts (Surface water). • Ruth Davies (Social) • Andrew Long (Cultural Heritage) • Marianne Stoettrup and Tim Nott (Business and Tourism) • Peter Haack (Visual and Landscape) • Barry Cook (Air Quality) • Andrew Roy (Greenhouse) • Phil West (Noise) • Chris Boyd (Geology and Soils) • Tim Fallaw (Planning)
DSE	Mark Winfield and Sue Hadden
Melbourne Water	Grant Shaw
Frankston City Council	Ossie Martinz (General Manager Assets), Libby Antony, (Environment Manager), Ken Poulier (Coordinator Traffic and Drainage) and Colin Hampton (Mayor)
Mornington Peninsula Council	Allan Cowley (Manager Strategic Planning)
Moorooduc Action Group	Rod Kerley, Andrew Cox, Juliet Riseley, Gary Craig and Damien Pollock
Devilbend Landcare Group	Roger Turner, Ross Thompson and Jamie Adgerton

Submitter	Represented By
Mornington Peninsula and Western Port Biosphere Reserve Foundation Ltd	Cecelia Witton
Frankston North Community Group	Gillian Collins and David Nichols
Mount Eliza Residents	Russell Incoll
Alison Kuiter	
Ian and Juliet Riseley	
Ian Hundley	
Dee-Ann Kelly	
Andrew Booth	
Megan Trevaskis	
Dr Terry Coates	
David Hughes	
Andrew Cox	
Jeffery Symons	
Rupert Steiner	
Victoria Nation Parks Association	John Hannagan of the Environment Defenders Office who called: • Lincoln Kern, Ecologist, Ecology
Environment Victoria	Elizabeth McKinnon of the Environment Defenders Office who called: • Dr Michelle Zeibots, Transport (by telephone link up)
Hans Brunner	
Joyce and Simon Welsh	Joyce and Emma Welsh with Nic McCaffrey, who called • Malcolm Legg, Ecologist, 'Mal's Environmental Services'
Jim Kerin	

A list of all written submissions to the EES is included in Table 2. Duplicates have been deleted.

Table A2: Submitters

	Submitter	Organisation (if any)
1	A G Cooper	
2	Melanie Attard	
3	Ian Hundley	Hawthorn ALP
4	Leslie Pearcy	
5	Sylvia Mair and Noel Teasdale	
6	Anton Alers	
7	Alistair Harkness MP	State Member for Frankston
8	Michelle Ceame	
9	Russell Incoll	
10	Trevor Browning	
11	Thomas Donald	
12	Rupert Steiner	
13	Robert & Rosemary Chard	
14	Jeff Symons	
15	Jamie Scuglia	
16	Bedil and Oya Boyacioglu	
17	Edna, James and Nicola McMinimee	
18	Catherine Willis	
19	Conrad and Joan Scott	
20	Cathie Sargood	
21	J S Bodycomb	
22	Alan Parker	People for Ecologically Sustainable Transport
23	A Brian Jones	
24	HTM Kebbell	
25	Janice & John Pothecary	
26	Michael Crowder	Nicols Crowder Property Solutions
27	K and J Grainger	
28	Ann Brown	
29	Phil Kaye	

	Submitter	Organisation (if any)
30	Kevin Bland	
31	Barbara Bland	
32	John & Elaine Bakker	
33	Stephen Salisbury	
34	Graeme & Sue Thomson	
35	Susan Todd	
36	David Minton	Western Port and Peninsula Protection Council
37	Alan Bryson	
38	T D Coates	
39	Gill Hosler	
40	Keith & Judy Reekie	
41	Kate Moore	
42	Peter Butland	
43	Mark Cadd	
44	Margaret Beattie	
45	Timothy Bracher	
46	Roy McCartney	City of Greater Dandenong
47	Andrew Cox	
48	Nic McCaffrey	
49	John Fraser	Centenary Park Golf Club Inc
50	Suzanne Allison	
51	Hans Brunner	
52	Coralie Davis	
53	Andrew Barrington	
54	W Cleland	
55	Terry & Marj Spalding	
56	F R Monotti	K Yachou Development, trading as 'Take It Easy Take-A-Way'
57	Jeff Lacey	
58	Alison Kuiter	
59	Roger Turner	Devilbend Landcare Group
60	Joyce & Simon Welsh	(Westerfield)
61	Mark Wakeham	Environment Victoria
62	Tanya Patterson	Moorooduc Saddle Club

	Submitter	Organisation (if any)
63	Megan Clinton	Victorian National Parks Association Inc
64	Don & Robin Fergusson	
65	Barry Hansen	
66	EJ Robinson	
67	Juliet and Ian Riseley	
68	Peter Laverack	
69	John Dusting & Joy Crompton	
70	Des Berry	Mont Eliza Association for Environmental Care
71	Gillian Collins	Frankston North Community Group Inc
72	Jeff Triplett	
73	Guy & Mary Phillips	
75	Dee-Ann Kelly	
76	Kathie and Peter Stickland	
77	Stephen Flack	
78	Alan Prentice	Mornington Peninsula Shire Council
79	Megan Trevaskis	
80	Cecelia Witton	Mornington Peninsula & Western Port Biosphere Reserve Foundation
81	Kimberley Dripps	DSE
82	Jim Kerin	
83	Janet Oliver	Devilbend Foundation Inc
84	David Hughes	
85	Maryland Wilson	Australian Wildlife protection Council Inc
86	Brian Cuming	
87	Luke Woolley	
88	Damien Cook	
89	Grant Shaw	Melbourne Water
90	Libby Anthony	Frankston City Council
91	Steve Montgomerie	D & S Golf Pty Ltd
92	Jamie & Julie Edgerton	Nature Lovers Nook
93	Ken & Heather McLeod	
94	Gale Lea	
95	Dorothy Pottage	
96	Paul Bertuch	

	Submitter	Organisation (if any)
97	Andrew Booth	
98	David Nicholls	
99	Paul Toogood	
100	Marianne Guy	
101	Garry Craig	Moorooduc Action Group
102	G & J Bonato	
103	Terri Carroll	Frankston Business Chamber
104	Jasmine Wigley & Michael Gordon	
105	Alan Nelson	Mornington Peninsula Ratepayer' and Residents' Association Inc
106	Ian Dowling	Mornington Peninsula Branch – Bird Observation and Conservation Australia
107	Lisa Siciliano	
108	Justin Stapelton	
109	Val Siciliano	
110	Lisa Farlow & Steven Wiltshire	
112	Carol Shelton	
113	Jo Edwards	
114	Ryan Dummet	
115	Julia Hebaiter	
116	Gidja Walker and Philip Jensen	Southern Peninsula Indigenous Flora and Fauna Association
117	Jill Anderson	Mt Eliza Coast Care
118	Peter Nash	
119	Gillian Collins	Friends of the Pines Flora and Fauna Reserve
121	Bill Hronopoulos	VicRoads
122	Lewis Robbins	

B Mitigation measures from EES

This Appendix reproduces Table 22.2 of the EES. It does not include the changes we have recommended.

Water pollution, sedimentation and erosion		
Disturbance of channel geometry and river health values by design and construction activities at waterways and surrounding riparian zones.	Design and construction	Comply with Water Sensitive Road Design Standards. Comply with Melbourne Water requirements.
Potential for increased sediment and contaminant loading to waterways from construction activities.	Construction	Comply with Environment Protection Authority and VicRoads guidelines, SEPP (Waters of Victoria), Water Sensitive Road Design Standards and Melbourne Water requirements. Develop an erosion and sedimentation control plan, to include: • Restriction of stream construction activities on Boggy, Tamarisk, Balcombe, Watsons, Devilbend and Tuerong Creeks to no or low flow conditions. • Methods to capture sediment and slow flow for sediment deposition (such as, installation of silt fences and sediment traps) Develop a fuel and chemical spill contingency plan.
Changed stormwater run-off to waterways from constructed road surface.	Design	Comply with Water Sensitive Road Design Guidelines and Melbourne Water requirements. Design the capacity of the Water Sensitive Road Design stormwater drainage system to meet Melbourne Water and Environment Protection Authority requirements, and to restrict runoff discharge rate to acceptable levels.
	Construction and operation	Implement temporary works to manage and minimise construction runoff to catchments.

Potential for groundwater impacts	Design	Undertake a groundwater investigation works program for study of the gradeline impacts on groundwater. The program should include, but not be limited to: • Establishing groundwater monitoring bores. • Collecting time-series groundwater level monitoring data. • Collecting groundwater quality data to evaluate disposal / construction dewatering requirements (see also soil and groundwater contamination section) Design alignment to reduce impacts on groundwater, where necessary consider: • Installation of low permeability retaining/cut-off walls to maintain water table up-gradient of cut/fill. • Avoiding dewatering of saturated unconsolidated, compressible sediments.
	Construction	Comply with SEPP (Groundwaters of Victoria) in consultation with Environment Protection Authority and Southern Rural Water. Potential impacts to surface waters to be managed in consultation with Melbourne Water. Develop a location specific groundwater management plan; to include, as necessary: • Aquifer recharge at the excavation site. • Supplying affected parties with an alternate water supply. • Minimising the depth of the drawdown.
Changes to floodplain characteristics and hydraulic capacity due to waterway crossing locations.	Design	Ensure no increase in afflux upstream of waterway and floodplain crossings. Where this is not practicable, a minor afflux of up to 30mm may be acceptable, provided that it can be demonstrated that private property flooding will not result. Modify as necessary, Tamarisk Creek within The Pines Flora and Fauna Reserve to reinstate a more natural floodplain regime, rather than necessarily restricting the flow to a narrow channel. Design the required creek realignment to function as a 1 in 100 year 'naturalised' waterway, using soft engineering and water sensitive design, rock stabilisation and revegetation with local indigenous species.
	Construction and operation	Comply with Melbourne Water requirements.
Fragmentation and risk of river health values in waterway catchments.	Design	Ensure connectivity along the waterways e.g. provide bridges at Devilbend and Tuerong Creek crossings.

	Construction and operation	Comply with Melbourne Water requirements. Reinstate Tamarisk Creek swamp heathland ecology through modifications to the flow distribution regime.
Noise and vibration		
Disturbance to the local community due to construction noise	Design	Undertake construction noise assessment at detailed design stage in order to prepare specific noise mitigation measures.
	Construction	Implement and comply with EPA Environmental Guidelines for Major Construction Sites and the EPA Technical Guidelines TG 302/92 Noise Control Guidelines. Identify specific controls for noise sensitive receptors (e.g. residential areas, Peninsula Private Hospital, the Pines Flora and Fauna Reserve and Bayside Christian College).
Air pollution – dust, exhaust emission, greenhouse gas emissions		
Construction dust	Construction	Implement EPA Environmental Guidelines for Major Construction *Sites* (e.g. dust suppression measures, dust management regimes, road watering).
Excess vehicle fuel combustion emitting greenhouse gas	Construction	Ensure that construction equipment is fuel efficient and well maintained. Encourage practices which minimise construction plant idling.
Excess emission of greenhouse gases from the use of electricity for the Bypass	Design	Adopt minimal lighting standard for interchanges and no lighting along the Bypass during operation of the road.
	Construction and operation	Use construction materials that have low-embodied emissions, where they meet specifications and are cost effective. Source construction materials locally. Consider sourcing electricity from renewable sources. Consider using energy efficient lamps.

Disturbance to flora and fauna and spreading of noxious weeds		
Removal of native vegetation and established large trees	Design	Investigate options to avoid significant impacts to biodiversity and to maintain habitat connectivity values during detailed design, inclusive of waterway areas. Minimise construction footprint to minimise impact to native vegetation (including scattered trees). Retaining walls should be provided in critical areas in consultation with DSE (in particular; Willow Road Reserve and a section of the Pines Flora and Fauna Reserve). Meet net gain offset requirements in consultation with DSE.
	Construction and operation	Develop a flora and fauna management plan in consultation with DSE, and for waterway/riparian areas, Melbourne Water. To include: • Designated protected areas and 'no go' zones (these areas are to be fenced to prevent access during construction, including large scattered trees). • Management of area unaffected by construction footprint to minimise threats to vegetation present (for example, weed management). • Use of indigenous flora species for revegetation, in line with EVCs. • Salvage (and/or translocation of) plant species. • Collection of seed from native vegetation to be removed. • Monitoring requirements as agreed with DSE and Melbourne Water (for waterway/riparian zones). Develop a weed management plan
Disturbance to waterways at waterway crossings	Design	Undertake detailed design of any crossings in consultation with DSE and Melbourne Water to ensure habitat connectivity is protected and maintained. Design waterway crossings to allow for unimpeded fish passage and to cater for the full hydraulic and flood plain management criteria, including associated maintenance access.
	Construction and operation	Comply with Melbourne Water requirements. Protect and minimise impacts to adjacent native vegetation including riparian in-stream.

Removal of plains grassy wetland	Construction and operation	Consider active management of 'islands' of this community proposed for retention to ensure ongoing viability of these remnant patches in consultation with DSE. Consider translocation of the highest quality Plains Grassy Wetland community in consultation with DSE.
Pines Flora and Fauna Reserve	Construction and operation	Undertake ecological management in accordance with the proposed Greater Pines Reserve Area Master Plan and in consultation with DSE and Parks Victoria.
Potential impact to Edithvale-Seaford Ramsar Wetland and Western Port Ramsar Wetland	Construction and operation	Avoid disturbance to any waterway which may have a connection to Ramsar sites (Boggy Creek and Watsons Creek).
Impact to Nationally significant flora species known (or likely) to be present: • River Swamp Wallaby-grass (known to be present) • Maroon Leek-orchid (likely) • Clover Glycine Swamp (likely) • Fireweed (likely)	Design	For the River Swamp Wallaby-grass , ensure design does not cause drying out of the wetlands.
	Construction and operation	For the River Swamp Wallaby-grass , • Minimise damage to retained vegetation by the use of secure fencing installed prior to commencement of works. • Ensure that during construction, the wetlands do not dry out. • Develop a monitoring program with DSE and Parks Victoria pre and post-construction. For all species, consider the need for targeted searches in critical areas, in consultation with DSE. If found, consider translocating affected flora to other areas of suitable habitat within the Pines Flora and Fauna Reserve in consultation with DSE.
Impact to State significant flora (FFG Listed) previously recorded in proposed alignment area: • Purple Blown-grass • Purple Diuris Impact to DSE Advisory List significant flora likely to be present	Construction and operation	Minimise hydrological changes and changes to grazing activities. Consider managing retained patches in consultation with DSE. Translocation of Purple Blown-grass from areas of direct impact into areas of retained habitat. Consider the need for targeted searches in critical areas, in consultation with DSE.

Impact to nationally significant fauna species known or likely to be present: • Southern Brown Bandicoot	Design	Provide habitat connectivity across the proposed alignment at the Pines Flora and Fauna Reserve, which includes a large underpass and a number of smaller culverts or pipes designed in consultation with a fauna specialist and DSE. Explore the feasibility to incorporate high quality vegetation from Keith Turnbull Research Institute into the Pines Flora and Fauna Reserve, in consultation with DSE, Parks Victoria and DPI.
	Construction and operation	Work with Parks Victoria and DSE to implement the *Greater Pines Reserve Area Master Plan*, which includes rehabilitation of the former orchards. Develop a management plan for the Southern Brown Bandicoot in consultation with DSE and Parks Victoria, to include: • Measures to determine and monitor the size of the population (benchmark) at the Reserve to gauge the long-term effectiveness of mitigation measures. • An intensive program designed to increase the size of the local population. • Monitoring the effectiveness of habitat connectivity structures post construction. • Population viability analysis post construction to monitor the extent to which the population is less vulnerable to extinction.
Impact to nationally significant fauna species known or likely to be present: • Dwarf Galaxias • Growling Grass Frog	Design	Ensure all waterway and floodplain crossings allow for unimpeded Dwarf Galaxias dispersal under flood conditions. Develop detailed road design in the vicinity of Tuerong Creek in consultation with aquatic ecologists and Melbourne Water. Design and strategically locate proposed stormwater treatment/retention pond to create an aquatic habitat that favours Dwarf Galaxias. Minimise impacts on existing wetlands. Comply with Water Sensitive Road Design standards.
	Construction and operation	Revegetate riparian zones of selected waterways in the immediate vicinity of waterway crossings (i.e within road reserve) to increase shade and reduce water temperature, in consultation with Melbourne Water. Manage construction activities to minimise impacts on habitat. Consider the need for targeted searches in critical areas, in consultation with DSE. Monitor the Dwarf Galaxias population at Tuerong Creek during and post construction.

Impact to local wildlife corridors	Construction and operation	Consider fauna proof fencing in key areas of fauna habitat in consultation with DSE (includes southern part of alignment where grassy paddocks are habitat for kangaroos).
Introduction/accelerated dispersal of biological pests and diseases (e.g.Chytrid fungus and Phytophthora Root Fungus and weeds)	Construction and operation	Develop a weed management plan, to include: • Identification and management of weed risks • Hygiene regime to prevent the spread of plant/animal pathogens during construction.
Noise/vibration disturbing native fauna (including construction works)	Construction and operation	Install noise walls within The Pines Flora and Fauna Reserve. Monitor noise and vibration during construction and operation. Review and modify construction work methods where necessary.
Light disturbing native fauna	Design, Construction and operation	Do not provide public lighting through the Pines Flora and Fauna Reserve. Minimise night works in fauna habitats during construction. Use directional lighting as required
Soil and groundwater contamination		
Human contact with toxins from contaminated soil (including landfill) and groundwater along alignment; generation of waste requiring treatment or disposal	Construction and operation	Develop and comply with occupational health and safety plan. Develop and comply with contaminated soil management plan; to include: • Appropriate separation and stockpiling of affected soils. • Bunding of contaminated soil. Develop and comply with soil and water management plan. Develop and comply with groundwater management plan. Develop and comply with erosion and sedimentation control plan.
Possible explosiveness of gases encountered at landfill	Construction	Design to avoid or minimise impact on landfill. Comply with State Environment Protection Policy (Prevention and Management of Contamination of Land).

Acid generation and uncontrolled discharge from acid sulphate soils (ASS)	Construction and operation	Develop acid sulphate soil (ASS) management plan; to include: • Monitoring of excavated soils for signs of acid run-off. Where found: • Apply the hierarchy for management of ASS - minimise disturbance; prevent oxidation; treat to reduce acidity; reuse and dispose (IWMP (WASS) EPA 1999). • Minimise water table drawdown during construction Only use potentially ASS in trench backfill below the water table. • Neutralise any leachate runoff and prevent water leaving the site. • Use non acid sulphate soils for trench capping or backfill above the water table. • Separate and stockpile potential ASS. • Bund stockpiles of potential ASS. • Neutralise and dispose or reuse ASS as appropriate.
Cultural heritage		
Impact on Aboriginal cultural heritage	Construction	Comply with approved Cultural Heritage Management Plan.
Impact on non-Aboriginal cultural heritage	Construction	Detailed inspection and recording of the Westerfield environs site in order to determine the presence of archaeological materials, to include: • Detailed collation of information (documentation and oral) for the area. • Registration of the site on the Victorian Heritage Inventory as an archaeological site. • Test excavation (if required) to define the extent, integrity and significance of any archaeological material.
Waste generation, handling and disposal		
Construction site management issues	Construction	Comply with waste management plan, to include: • Classification of all soils to be removed from the site against EPA Classification of Wastes prior to excavation. • Storage of litter, particularly litter that is able to be wind blown or is putrescible, in a lidded bin from which material cannot escape. • Emptying bins regularly (preferably daily) to ensure litter does not overflow and vermin are not attracted. • Containment of washing residues, slurries and other contaminated water within designated areas. • Designation of vehicles washing areas. • Use of temporary fencing as a secondary containment measure for litter. • Consideration of the acid generating potential of the soil prior to waste disposal.

Storage and handling of fuels and chemicals		
Construction site management issues	Construction	Develop dangerous goods management plan, to include: • Creation and maintenance of a dangerous goods register. • Disposal of any hazardous materials in accordance with Industrial Waste Management Policies, regulations and guidelines. Develop fuel and chemical spill contingency plan to include: • Training of staff in emergency action procedures. • Availability of hydrocarbon spill kits on site.
Community and community relationships		
Traffic management	Construction	Prepare Traffic Management System (TMS) and individual Traffic Management Plans (TMPs) in consultation with the Council, VicRoads and Emergency Services TMPs to include: • Haul routes and route restrictions during construction. • High traffic demand restrictions. • Pavement management and condition. • Specific responses to identified construction risks. • Use of appropriate on-site signage, speed limits and speed reducers to ensure drivers use appropriate routes through the worksite. • Provision of appropriate information regarding works, traffic management conditions and alterative routes . • Provision of adequate advanced warning signs to drivers and local residents of future conditions. • Assistance to Council in maintaining the rural character of other roads in the area to protect the overall rural character of the area. • Maintenance of safe access to all facilities along with appropriate traffic management measures. • Maintenance of access roads for all weather conditions.
	Operation	Implement traffic management measures to reduce the consequences of events associated with fog conditions.
Impacts to public transport as a result of construction activities	Construction	Minimise impact to existing public transport services in consultation with relevant authorities.

Additional lots of less than the standard minimum size may be created or not consolidated with adjoining land if not required for the Bypass	Operation	In consultation with Council, SEITA will consider: • Consolidation of any surplus land with adjoining lots if the land is less than 40 hectares; or • Alternatively, dispose of surplus land with a covenant specifying that no dwelling may be constructed on the lot
Severance of agricultural land and properties	Design	Consider the consolidation of severed properties south of Baxter taking into account green wedge zoning requirements and legislative requirements for disposal of surplus land. Maintain suitable access arrangements for land owners.
Loss of agricultural infrastructure	Design	Irrigation water supply and drainage impacts should be minimised by minimising disruption to existing water catchments. Opportunities to utilise road run-off for agricultural uses will be considered.
	Construction	Any farm infrastructure impacted will be replaced or compensated for.
Abutting land uses impacting Bypass	Operation	Provide appropriate mitigation measures to prevent impacts from adjoining land uses (e.g. netting adjacent to Centenary Park Golf Course to catch errant golf balls)

Changes in landscape and land use	Construction and operation	Implement community and stakeholder consultation plan, to include: • Consultation with affected parties during construction. • Informing affected landowners of their rights under planning law and the Land Acquisition and Compensation Act. Support implementation of the Greater Pines Reserve Area Master *Plan*, including opportunities for future access and use of the Reserve by the community in consultation with DSE and Parks Victoria. Consider the incorporation of surplus open land into existing open space and reserves. Investigate opportunities to create a linear landscaped corridor alongside the Bypass utilising surplus project land. Consider providing a secondary path to the west of the route alignment (in Frankston, Frankston North and Langwarrin) to cater for community access. Consider constructing a pedestrian bridge linking Frankston and Langwarrin communities east of McClelland Drive to the Karingal Hub. Assist the Council to undertake community development activities particularly in Frankston North and Baxter post-construction to assist the residents in managing with the changes to the local environment. Implement landscape planting to minimise the visual impact of the built form of the Bypass within rural landscapes (see landscape concept plan, Technical Volume 3)
Changes to business and trade in the region and local severance	Construction and operation	Implement community and stakeholder consultation plan, to include: • Communicating with affected businesses regarding the scheduling of construction works.
Impacts to nearby residential and commercial properties	Construction	Undertake dilapidation survey prior to commencement of construction