24 Conclusion

Figures

24.1 OVERVIEW

Melbourne's southern movement corridor is a strategic transport corridor connecting Melbourne to the Mornington Peninsula, the bayside and southern suburbs. The project would increase network efficiency and performance, road safety and access for this corridor, and would reduce local traffic congestion and amenity issues. The detailed design for the project would be developed to maximise these benefits while minimising the potential for adverse effects on the environment and community.

The potential construction impacts identified through the Environment Effects Statement (EES) are generally typical of large infrastructure projects of this nature, and relate primarily to social and amenity effects. These effects would be temporary during the construction phase and would include impacts arising from construction noise and vibration, dust emissions, surface water quality (potential spills or siltation from works) and any changes to normal traffic conditions. Construction is expected to have insignificant effects on the local road network due to most of the works occurring within a greenfield, undeveloped area outside the existing road network and therefore minimising traffic disruption.

Other potential construction impacts arise from the project construction footprint, including removal of existing vegetation and the potential to disturb existing contaminated sites and soils in the northern part of the alignment, or potential acid sulfate soils in the southern half of the alignment.

Construction impacts would be managed in accordance with Environment Protection Authority (EPA) Victoria guidelines for major construction sites, noise control and waste management (including spoil). A construction environmental management plan (CEMP) would be produced in consultation with Melbourne Water, EPA Victoria, local council and other stakeholders. The required management practices to meet existing legislation, standards and policies would be incorporated in management plans for construction, traffic, community and stakeholder engagement, and spoil management.

Ultimately, detailed design and construction of the project would be required to meet the Environmental Performance Requirements (EPRs) recommended in this EES, which have been developed to ensure the required environmental outcomes and minimal adverse impacts are achieved.

Potential operational impacts from the project have also been assessed in this EES. The key operations phase impacts identified relate to public amenity (i.e. air quality, noise and visual effects) and improvements to local traffic and transport conditions. A Landscape Concept Plan has been developed by Major Road Projects Authority (MRPA) to ensure that sufficient planting is included to protect the visual appeal of the landscape. The plan also provides detail on which native and exotic trees have been incorporated into the design.

One of the key requirements for the EES was to determine the potential for surface water and groundwater impacts, and the effects on adjacent and nearby wetlands, including the Ramsar-listed Edithvale Wetland. Groundwater, surface water and contamination assessments found there is unlikely to be any unacceptable impact to the wetlands from construction or ongoing operation of the road. Relevant EPRs have been developed and are required to be met during construction and operation.

The potential impacts were assessed against the draft evaluation objectives in the EES Scoping Requirements based on a reference design for the project and standard construction methodologies employed for this type of project. EPRs requiring standard controls have been recommended where potential impacts were found to be a low risk. Where potential impacts to public health and the environment were assessed to be medium or higher, EPRs have been recommended which would require both standard and additional mitigation measures. To demonstrate how the EPRs could be met, potential mitigation and management measures were proposed and the potential impacts reassessed to evaluate the residual risks.

24.2 SUMMARY OF ASSESSMENT AGAINST EVALUATION OBJECTIVES

The key reasons for an EES being required for the project, as outlined in the Minister for Planning's decision, were:

"The project has the potential for a range of significant environmental effects. In particular:

- *the habitat value and quality of wetlands and other habitats adjoining or traversed by the project, especially with regard to threatened species*
- *the surface water and groundwater systems which contribute to the health and habitat quality of adjacent and nearby wetlands, including the Ramsar-listed Edithvale wetland*
- *Indigenous cultural heritage values that may occur within the project alignment*
- *the containment and management of potentially contaminated soils and potential acid sulphate soils; and*
- *amenity values of adjacent land, especially residential land and parkland".*

The EES Scoping Requirements contained seven draft evaluation objectives for the project. A summary of MRPA's response to these objectives with evidence from the effects assessment is provided in the following sections.

Thirteen specialist investigations (listed in Chapter 1: *Introduction*) identified and assessed potential impacts associated with construction and operation of the project. Eight of these related to the five key technical areas outlined in the Minister's decision above: biodiversity, surface water and groundwater, Aboriginal cultural heritage, contaminated land and acid sulfate soils, and amenity (including noise, air quality and visual amenity).

The remaining five related to other potential effects including traffic and transport, land use, social and community, economic effects and historic heritage. All 13 investigations assessed the potential effects from the project as described in Chapter 6: *Project description*.

The following sections summarise the project's performance against the draft evaluation objectives of the EES Scoping Requirements. This concludes the outcomes of the EES, identifying where potential significant impacts have been identified, mitigated and what residual impacts and risks would remain.

24.2.1 Effects on traffic and transport

Evaluation objective: ***Transport efficiency, capacity and safety*** *– To provide for an effective connection between the Mornington Peninsula Freeway and the Dingley Bypass, to improve travel efficiency, road safety, and network capacity, as well as improve amenity and local transport networks in the Aspendale/Dingley area.*

The project is expected to provide several benefits to the existing and future transport network, most notably providing:

- improved travel times within the existing network
- enhanced safety with reduced traffic collision potential
- active transport through a proposed shared use path corridor
- bus priority treatments
- improved road network capacity and future growth potential supporting proposed major developments such as Moorabbin Airport and Monash National Employment and Innovation Cluster.

The existing transport network experiences heavy congestion with morning peak north and westbound and evening peak south and eastbound travel. Currently, high competing traffic movements and network constraints lead to congestion and high travel times. Crash statistics are increased especially at intersections and on key north-south corridors. In addition, buses lack priority treatments and in areas pedestrian and cycle routes are inadequate.

The project would provide greater network capacity relieving pressure on parallel routes. This will result in improved travel times on key origin/destination routes of up to 7.7 minutes in the morning peak and 10.6 minutes in the evening peak. This improvement in travel times will not only improve user experience, but also reflects reduced congestion and a decrease in heavy vehicles (13,000 per day expected to use the bypass) on local roads which will improve local amenity in the project area.

A significant reduction in daily traffic volume will be experienced on surrounding roads, including a 70–75 percent reduction along Wells Road (west of Springvale Road; Figure 24.1) and approximately 60 percent reduction along Boundary Road (south of Governor Road). However, increases in traffic volumes will be experienced on arterial roads interconnecting to the Freeway.

Safety will be significantly improved with the freeway by reducing crash risk through the reduction of traffic volumes, including the number of heavy vehicles on the local network. It will also be improved by providing a higher standard of road connection – including grade separation of conflicting and opposing traffic (i.e. via bridges), and improvement of intersections.

Active transport will be promoted through the provision of a shared use path that will be greater than eight kilometres in length, north to south, along the project corridor which will improve existing active transport options, provide connection to park and recreational facilities and contribute to the wider bicycle network.

Figure 24.1 Weekday afternoon traffic travelling south-east on Wells Road

The project area is mostly within the road reservation that is currently a greenfield undeveloped area therefore construction works will largely remain outside of the existing roads. Based on construction traffic assumptions of three axle rigid-trucks with 3–4 axle dog trailer (mass capacity limit 42.5 tonnes) operating over a six-day working week, for a two-year construction period and truck movements over 12 hours (7am to 7pm), the assessment identified an insignificant impact from construction traffic on the local network, including the following arterial roads:

- Springvale Road between Edithvale Road and Westall Road
- Dingley Bypass between Boundary Road and Westall Road
- Boundary Road between Springvale Road and Dingley Bypass.

Risks associated with the construction traffic routing to site, road and lane closures and associated issues will be managed through a Transport Management Plan (EPR T2).

Overall the freeway will help support the future growth of major land use developments and employment clusters in the project area, including Moorabbin Airport and Monash National Employment and Innovation Cluster, by enhancing access equity and providing better network connections.

24.2.2 Effects on biodiversity

Evaluation objective: ***Biodiversity*** *– To avoid, minimise or offset potential adverse effects on native vegetation, listed migratory and threatened species and communities, as well as habitat for other protected species.*

Wetland areas of high ecological value occur adjacent or nearby to the project area including Waterways wetlands, Woodlands Industrial Estate Wetlands, Braeside Park Wetlands and Edithvale Wetlands. A total of 12 ecological vegetation classes (EVCs) were mapped within the project area, the majority of which are classified as endangered in the Gippsland Plain Bioregion. The total amount of these EVCs to be removed is 10.34ha. Up to 24 large trees will be lost due to the project works. However, impacts on vegetation and trees are likely to be substantially lower following detailed design and assessment by an arborist to inform additional areas to be added to no-go zones.

Two *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) (EPBC Act) listed communities and two *Flora and Fauna Guarantee Act* (FFG Act) listed communities were mapped within the project area. The amount of these communities to be impacted is small and not considered to have a significant impact on the communities. Five significant flora species were recorded in the study area. Only two of these species are likely to be directly impacted: Leafy Twig-sedge (rare), and Large River Buttercup (poorly known). The impact on both species is considered minor. No significant flora species are expected to be substantially affected by the project.

A total of 210 fauna species have been recorded at the site (e.g. Figure 24.2), including 41 species of conservation significance, 13 of which are EPBC Act listed migratory birds. Habitat loss, mortality and injury of wildlife from vehicles collisions, reduced habitat connectivity, habitat degradation from increased disturbance and physical changes are considered the main impacts from the project. Construction impacts will be managed through the application of a CEMP and additional controls including application of no-go zones, barriers to reduce noise and light spill from construction activities and specific measures such as invasive weed management to be adopted by the contractor (EPRs B4 and B5).

There is limited scope to move the road within the project area, and there are no alternative corridor options available. Therefore, minimisation strategies and mitigation measures to reduce impacts have been developed, including refinement of the project footprint and revegetation under the bridge at Waterways Wetlands (EPR B1). The four main operational phase impacts that require mitigation are reduced connectivity, vehicle lighting, road noise and wildlife mortality due to vehicle collisions.

Figure 24.2 Egret fishing in local wetlands

The project may lead to changes in ecological character of environments in and adjacent to the project area. These changes, mainly from noise and light impacts, may include changes in species composition and loss of species due to fragmentation and reduction in habitat quality. The mitigation measures proposed, including application of recommended lighting design guidelines, barriers, culverts and crossings and revegetation, are likely to substantially reduce negative ecological character effects.

Residual impacts upon threatened and migratory fauna are unlikely to be significant with the incorporation of sufficient mitigation (e.g. multi-function fauna barriers), and implementation of the recommended EPRs (B1 – B6). This will ensure that the nearby wetland habitat maintains its habitat values both during and after construction.

24.2.3 Effects on the water environment

Evaluation objective: ***Water, catchment values and hydrology –*** *To minimise adverse effects on groundwater, surface water and floodplain environments and minimise effects on water quality and beneficial uses, including the ecological character of the Edithvale-Seaford Wetlands Ramsar site.*

As outlined in the Minister's decision, a key reason for the EES being required, was the potential for significant impacts on the surface water and groundwater systems which contribute to the health and habitat quality of adjacent and nearby wetlands (e.g. Figure 24.3), including the Edithvale component of the Ramsar-listed Edithvale-Seaford Wetland.

Figure 24.3 Braeside Park wetlands adjacent to the project area

Surface water

The project is located within the Dandenong major catchment area within the Mordialloc Creek waterway system, largely within the designated Braeside West and Waterways wetlands and Smythes Drain surface water catchment areas. These catchments contribute tributary runoff flow to the larger Mordialloc Creek drainage system. The surface water impact assessment assessed the potential impacts of the project on flooding and the health of the waterways and wetlands that would receive runoff from the project.

During construction, there is the potential for short-term flooding due to the presence of temporary works within the floodplain, reducing flood conveyance or floodplain storage. Temporarily diverting overland flow and restricting flow paths could also increase flood risks. Erosion of disturbed areas within construction sites and pumped water from excavated construction areas has the potential to contribute sediment loads and pollutants which may increase turbidity of receiving water bodies and reduce water quality. Runoff could also contain pollutants including contaminated sediments, oils and chemicals.

Construction phase risks were assessed as low with the implementation of standard construction environmental management practices. These include the requirement to develop and implement a CEMP outlining how the contractor will comply with any environmental conditions for the project and providing a framework for managing environmental risks (EPR W3). Standard management techniques would be included in a stormwater management plan within the CEMP and would include minimising land disturbance, soil erosion and discharge of sediment and other pollutants to surface waters. To minimise impacts of construction on overland flow paths and floodplain storage, works would be carried out in accordance with Melbourne Water requirements and in consultation with relevant drainage authorities (EPR W4).

The initial risks to flooding and water quality during road operations were assessed as medium. The assessment found that the proposed design can achieve the required Water Sensitive Road Design targets for the whole project area (EPR W1). Localised mitigation measures are required to ensure no increase in pollutant loadings entering the three water sensitive receptors: Edithvale Wetlands, Waterways Wetlands and Woodlands Industrial Estate Wetlands. It was found that this could be achieved with the provision of bio-retention systems to treat surface water runoff from the project.

A spill risk assessment was conducted for the operation phase to identify risks associated with spills of fuels and oils during operation of the road to impact on waterway health. It was found that the highest risk areas were near outfalls which drain to the Edithvale Wetlands, Waterways Wetlands and Woodlands Industrial Estate Wetlands. These risks would be managed through provision of sufficient spill containment at the stormwater discharge outfalls as required by EPR W1.

To minimise the risk of flooding impacts, EPR W2 requires that the project must be designed to achieve operational compliance with the requirements set out by Melbourne Water in *Performance Criteria for Waterways and Floodplain Planning and Management – Mordialloc Bypass, June 2017*, unless otherwise directed by Melbourne Water. A number of potential flood mitigation measures for detailed design of culverts and drainage have been proposed which would meet this requirement and, as such, the residual risk is considered to be low.

Through the implementation of the EPRs, the project would have minimal impact on surface water, and floodplain environments and minimal effects on water quality and the beneficial uses under *SEPP (Waters of Victoria)*, including the ecological character of the Edithvale-Seaford Wetlands Ramsar site.

Groundwater

The main aquifers in the project area are the Quaternary Alluvium and the Upper Tertiary Aquifer. Groundwater in the project area is expected to be close to the surface, approximately 0–3m below ground level. However, due to the low-lying nature of the project area, the project would be predominately built above the existing surface level without the need for major excavations.

The risk assessment found that the identified potential impacts on groundwater presented a negligible to low risk. This includes potential water quality impacts from geotechnical investigations, fuel and chemical spills, disturbance of existing contaminated soils and mobilisation of contaminated groundwater, and impacts on the water quality of wetlands due to groundwater regime changes from construction activities.

Embankment structures along the alignment and at interchanges have the potential to compress soils and constrict groundwater flows in underlying aquifers. However, the impact assessment determined that construction of the project would result in minimal impact to groundwater caused by the embankment structures, including those proposed at Governor Road and Springvale Road bridge. Water level changes would be primarily beneath the embankment structures and within the natural variability range of each aquifer, with negligible impacts outside the embankment footprints. As the embankments have minimal impacts on regional groundwater flow and levels, negligible impacts are expected on groundwater contributions to the Edithvale Wetlands. Modelling results indicated water levels within the wetlands showed little sensitivity to changes in groundwater baseflow into the wetland cells. Following the conclusion of predictive modelling, residual groundwater risks associated with the embankments were assessed as being low.

Based on the risk assessment, all the assessed risks were found to be negligible to low and no special design considerations would be required in relation to the embankments.

As a result of the detailed investigation, additional EPRs are not considered necessary for the management of groundwater. The impact assessment has investigated potential impacts to groundwater levels at all Groundwater Dependent Ecosystems (GDEs) and specifically at the Edithvale Wetlands, and the predicted water level changes as a result of the project are well within natural variation at the site at 500m from the project.

Groundwater contamination has been investigated as part of Chapter 18: *Soils and contaminated land.* However, the associated EPR W5, is found in Chapter 16: *Surface water and* outlines the requirement for a Water Management and Monitoring Plan to be developed for the project to ensure the project causes no impact to groundwater quality.

24.2.4 Effects on land contamination

Evaluation objective: ***Land contamination and acid sulphate soils*** – *To prevent adverse environmental or health effects from disturbing, storing or influencing the transport/movement of contaminated or acid-forming material.*

Existing conditions were established through site history investigations which identified that the area had various existing uses, including quarrying, landfilling, agricultural purposes and market gardening. Surrounding land uses have become predominantly industrial in recent years.

The potential for existing contamination was assessed and key contaminants of concern were identified based on the surrounding historical and current land uses, including landfill gases, inorganics (including ammonia, sulphides, nitrates), pesticides and herbicides, metals, phenolics, hydrocarbons and asbestos. There is also the potential for per- and poly-fluoro alkyl substances (PFAS) chemicals from the former landfill and the nearby Moorabbin Airport.

A preliminary sampling program identified some areas of contaminated soils, including landfill waste and low level metals. The sampling also identified acid sulfate soils (ASS) to the south of Braeside Park. During the field investigations, landfill gas and leachate was identified at the former landfill site.

Potential contaminated land and ASS impacts resulting from the project include:

- disturbance handling, storage and disposal of potential (unknown) and actual ASS, contaminated soil and groundwater during the construction and operation phases resulting in environmental or health impacts
- management of soil repositories (including PFAS contaminated wastes), landfill waste, leachate and landfill gas during the construction and operation phases resulting in environmental or health impacts
- changes to groundwater migration flow paths and environmental impact on adjacent and nearby wetlands, including the Edithvale Wetlands, and movement of contaminants resulting in environmental or health impacts
- fuel, chemical and waste water spills during the construction and operation phase resulting in environmental or health impacts.

EPRs have been developed to reduce the residual risks to acceptable levels.

In order to meet these requirements, the former landfill in the northern portion of the site will require specific design treatments to ensure that landfill gas impacts are appropriately managed in accordance with EPA guidelines for *Best Practice Environmental Management: Siting, design, operation and rehabilitation of landfills* (EPR CL4) and production of a landfill gas monitoring and management plan for both construction and operation (EPRs CL5-7).

In addition, given the nature of construction works, it will not be possible to avoid disturbing contaminated land and ASS entirely. Potential impacts would be managed through the development, preparation and implementation of contaminated soil management plans (EPRs CL1-3) describing how acceptable outcomes would be achieved to meet the requirements of EPA Victoria and WorkSafe.

A Soil Management Plan (SMP) (EPR CL2) must be developed in consultation with the EPA prior to construction works and include an Acid Sulfate Soil Management Plan (EPR CL3) and management requirements for PFAS contaminated soils (EPR CL7).

In all but one instance, the residual risk ratings following application of the EPRs is negligible to low. The exception is the residual risk rating of medium for the exposure of workers or members of the public to contamination unidentified/unknown areas during construction activities.

This risk will be managed through the development and implementation of a CEMP (EPR EMF2 and CLM1) and a SMP (EPR CL2) containing processes and measures to manage contaminated soil in accordance with relevant standards, guidelines, statutory requirements and best practice. Through implementation of the EPRs the project would prevent adverse environmental or health effects from disturbing, storing or influencing the transport/movement of contaminated or acid-forming material.

24.2.5 Effects on cultural heritage

Evaluation objective: ***Cultural heritage*** – *To avoid or minimise adverse effects on Aboriginal and historic cultural heritage.*

Aboriginal cultural heritage

Aboriginal cultural heritage within the study area dates to the Late Holocene period (up until about 5,000 years ago). Fieldwork investigations found two new Aboriginal cultural heritage sites containing low-density stone artefact distributions. Due to previous site disturbance, it is unlikely that there are large numbers of additional stone artefacts in the project area that would be impacted by the project, therefore resulting in a low overall impact on Aboriginal Cultural Heritage. No scarred, mortuary or birthing trees were identified within the project area.

Consistent with the recommended EPR H1 for Aboriginal cultural heritage, a draft Cultural Heritage Management Plan has been prepared in accordance with the *Aboriginal Heritage Act 2006* (CHMP 15026). All impacts to Aboriginal cultural heritage can be managed appropriately within the framework of the CHMP once it has been approved by Aboriginal Victoria.

No works can be undertaken outside the approved CHMP boundary unless an amendment of the CHMP is approved by Aboriginal Victoria.

Historic heritage

At the time of publication of this EES, there were no registered historical heritage places within the study area. However, a proposed amendment to the Kingston Planning Scheme Heritage Overlay may potentially move the extent of Heritage Overlay 104 (HO104) – Braeside Park Precinct into the project area. Based on this possibility, this impact assessment was completed on the assumption that there is one site of local significance within the project area (i.e. HO104). The project reference design has accommodated this through design realignments to avoid the former Braeside Treatment Plant's administration building and chlorine store's built fabric.

The City of Kingston will be consulted on matters related to this assessment's implications for HO104 (Braeside Park Precinct) to obtain the necessary approvals pursuant to the P&E Act. Currently, MRPA proposes to include the Heritage Overlay amendment into the project PSA after further consultation with the City of Kingston and Heritage Victoria.

A high potential remains for project impacts during construction on historical archaeological features related to the Braeside Treatment Plant, but such features have been assessed and have a low historical archaeological significance (e.g. sewage pipes, access pits and the metal ventilation stack). Detailed design of the permanent and temporary works will avoid damage to the Braeside Park Precinct brick buildings (EPR H3), and avoid or minimise impacts, where practicable, on other features in the Braeside Park Precinct. EPR H2 relates to the inclusion of an archaeological discovery protocol to be included in the CEMP which specifies measures to avoid and minimise impacts on any previously unidentified historical archaeological sites and values discovered during construction.

An additional site of state and local heritage significance occurs within 200m of the project area (Former Christ Church of England – H0225, HO3). The project is not expected to directly or indirectly impact on this site.

Compliance with the heritage EPRs discussed above, will avoid or minimise adverse effects on historic cultural heritage values.

24.2.6 Effects on amenity

Evaluation objective: ***Amenity and environmental quality*** – *To minimise adverse noise and other amenity effects on nearby residents and land uses, having regard to relevant limits, targets or standards.*

More efficient links in the southern movement corridor will reduce the reliance on local and low capacity arterial roads as key movement routes (Figure 24.4). This will improve amenity in the middle south-eastern suburbs by reducing the number of vehicles moving through residential areas and queueing on local roads.

Benefits for residents and businesses include less traffic (particularly less heavy vehicles) near residential areas, and safer and less congested arterial roads, improving the attractiveness of the area as a place to live and work.

Visual amenity

The impact assessment identified that five Landscape Character Areas (LCAs) would be low to moderately impacted and three LCAs will be highly impacted by the project. In addition, a total of eight views have been identified to have moderate to high impacts. The medium to high risks primarily relate to the visual intrusion of the project structure on the existing landscape, provision of connectivity, adequate surveillance and vegetation or wetland loss.

A Landscape Concept Plan has been developed which illustrates the proposed landscape design including mitigation for the project.

Figure 24.4 Weekday afternoon traffic moving south on Springvale Road

As the project is currently in the design and planning phase, project specific mitigation measures still have potential to be integrated and further developed to minimise these potential impacts. Project specific measures and opportunities have been identified as illustrated in the Landscape and Urban Design Strategy mapping and in the associated landscape treatments and guiding principles. These measures and correlating guidelines and strategy encourage a high quality urban design and landscape outcome for the sensitive sites, the areas surrounding residents and the community generally.

Mitigation measures for landscape and visual impacts include: design to minimise visual effects e.g. barriers and planting, crime prevention design audits, integration of additional publicly accessible community infrastructure and amenity, provide pedestrian and cycle over or underpasses at regular intervals to enhance connections, and minimise removal of existing vegetation (EPRs LV1, LV2, LV3, LV5 and LV6).

Construction impacts can be mitigated through the CEMP (EPR EM1). The installation of hoardings in appropriate locations during construction would minimise visual impacts upon sensitive sites and residential areas.

EPR LV7 requires a landscape management strategy which must be developed to ensure healthy growth of planted vegetation and weed management during operation of the road (i.e. to ensure the success of the landscape proposals).

Noise and vibration

The assessment found potential noise and vibration risks of construction and operation phase impacts to residential areas in proximity to the project. Construction noise and vibration targets were developed in accordance with EPA publications 480 *Best Practice Environment Management Environmental Guidelines for Major Construction Sites* and 1254 *Noise Control Guidelines* as well as VicRoads, Australian and international standards. Construction works would generally occur during standard construction work hours as outlined in VicRoads specifications, which are:

- Monday to Friday: between 7am or sunrise (whichever is the later) and 6pm or sunset (whichever is the earlier)
- Saturday: typically, 8am to 2pm.

A Construction Noise and Vibration Management Plan (CNVMP) would be required for the project to address construction noise and vibration impacts to the satisfaction of relevant authorities (EPR NV2). The CNVMP would include requirements for substituting high noise or vibration construction plant or processes with a lower noise or vibration option, and would make provision for impact assessments, along with ad hoc, targeted and routine noise and vibration monitoring to inform management and mitigation.

The noise impact assessment for road operations predicted noise levels at sensitive receptors for the future design year of 2031. Project Objective Noise levels (PONLs) for the project and existing Mornington Peninsula Freeway, from Springvale Road to Thames Promenade, have been established in accordance with the VicRoads *Traffic Noise Reduction Policy* (TNRP) and Road Design Note 06-01 (RDN 06-01). Modelling results for the impact assessment indicated that PONLs can be achieved at all identified receptors through the design and implementation of noise barriers along the alignment. The project would be required to comply with the PONLs as included in EPR NV1.

Following construction, traffic noise would be monitored to verify conformance with the external traffic noise performance requirements (as set out in EPR NV1). Remedial action would be required as soon as practicable if the PONLs are not met (EPR NV3).

Through implementation of the EPRs the project would minimise effects on noise and the social amenity of the area, having regard to the relevant EPA and VicRoads limits, targets and standards.

Air quality

The main air quality impacts assessed were:

- dust emissions from earthworks during construction (vegetation clearing, filling and excavating)
- landfill odour assessment
- vehicle emissions during operations
- greenhouse gas assessment.

Air emissions were modelled to predict the potential impacts on the local environment and sensitive receptors.

Dust from construction activities is predicted to be greatest during roadway and embankment formation and laying of the pavement base. Dust is expected to remain within 60m of the project boundary (on normal days) and 100m during dry days with strong winds. Recommended standard management measures would be implemented to limit the extent of dust and likelihood of adverse effects on sensitive receptors as outlined in EPR EMF2 and AQ2. This would manage the construction dust to a level of minor impact.

The operational impacts on air quality are predicted to be negligible and within relevant design criteria for carbon monoxide and particulate matter (PM_{10} and $PM_{2.5}$). Predicted levels of nitrogen dioxide beyond 20m from the roadway will be below the 1 hour design criterion with the application of standard controls including design in accordance with EPR AQ1.

Greenhouse gas emissions modelling results indicated that once operational, up to 13 kilo-tonnes of greenhouse gas emissions would be saved annually as a result of the project. This positive impact is attributed to the increase in average speed of traffic on the road network and reduced congestion which will improve the efficiency of fuel consumption of road users. During construction, greenhouse gas emissions would be minor at less than half the annual reporting threshold for a facility under the National Greenhouse and Energy Reporting scheme.

All greenhouse gas emissions were assessed as a low risk and do not require additional mitigation. However, the project will still be required to monitor and manage its sustainability performance. These requirements are contained in EPR GGP1 including the production of a Sustainability Management Plan under the CEMP. This includes actions relating to monitoring and reporting on construction phase greenhouse gas emissions and benchmarking for predicted operational emissions against appropriate Infrastructure Sustainability (IS) rating tool credits. EPR GGP2 includes the review of material and equipment selection for the project at design and construction phases in consideration of greenhouse gas emissions, improvements in greenhouse gas emissions using the IS rating tool and commits the project to a minimum of 20 percent construction energy being purchased from an accredited GreenPower provider.

24.2.7 Effects on community

Evaluation objective: ***Social, land use and infrastructure*** – *To minimise potential adverse social and land use effects, including impacts on existing infrastructure and open space.*

Social

The social impact assessment found that the most significant impacts of the project on local communities would occur during the construction phase and are therefore temporary in nature. Identified impacts can be summarised into two categories:

- dislocation of social facilities and services and open space
- disruption or changes to local access routes and connections.

The assessment found that the community of Waterways would be particularly susceptible to impacts, as it has limited access points to the arterial road network, all of which would be directly impacted by construction. While Dingley Village is generally self-sufficient, the assessment found that many secondary school students travel east-west from Dingley Village and are reliant on bus routes servicing Lower Dandenong Road and Centre Dandenong Road, which may be potentially disrupted during construction.

These impacts would be minimised through project design, mitigation measures and the application of EPRs, notably, the development and implementation of a Community and Stakeholder Engagement Plan (EPR S1) and a Traffic Management Plan (EPR T2) containing measures to minimise disruption (to the extent practicable) to affected local land uses, traffic, on-road public transport, pedestrian and bicycle movements and existing public facilities during all stages of construction. The plans will comply with relevant standards.

Social impacts during the operational phase, in contrast, are anticipated to be positive with the project providing improved access and connectivity through reduced traffic volumes, reduced heavy vehicles on local roads and improved pedestrian and cycling routes.

The improved access and connectivity through the area would support urban growth in the region by providing better access to existing and future employment and activity centres. Residents of the south east would benefit from improved access to educational institutions, health and community facilities, and local shops. Better connectivity will enable future improvements to existing bus services and provision of new services, providing residents with increased accessibility to alternative transport options.

Improved connectivity and facilities for cycle and pedestrian networks will provide the community with alternative transport options and more active-lifestyle opportunities. New road configurations and intersection design features, including barriers separation, will improve safety for both vehicle drivers, cyclists and pedestrians. More than eight kilometres of shared use path will be provided to form part of the Principle Bicycle Network. Elevated road structures and new crossing facilities are proposed to maintain the permeability across the freeway, improve pedestrian and cyclist safety and provide access to existing and future shared use path connections.

Land use

Strategically, the project would contribute to the direction and strategies of Plan Melbourne by delivering improved transport in one of greater Melbourne's fastest growing areas. At a local level, the reservation for the project between the Dingley Bypass and Thames Promenade is detailed in the Kingston Planning Scheme and the Greater Dandenong Planning Scheme, as such it has avoided redevelopment and remains largely greenfield.

Land within the project areas is predominantly under the control and management of VicRoads. This reflects the long-held expectation that the project will at some stage be constructed. However, four parcels of land lie outside the existing public acquisition overlay (PAO) and will therefore need to be acquired.

The acquisition of these parcels and the application of the PAO is required as part of the amendment process, which is to occur following the Minister's Assessment of this EES.

Economic

The economic assessment identified that the project study area has observed strong population growth in past years, with this trend expected to continue. Forecast population growth in the study area would place pressure on the main transport network and highlights the need for the project.

The economic benefits of the project will be far reaching and it will act as a catalyst for growth in the south-eastern suburbs. Improving east-west and north-south connectivity and addressing the capacity constraints in the corridor will improve accessibility between National Employment and Innovation Clusters, industrial areas and residential areas in the south-east, which are among the most important employment generators in Melbourne. Large numbers of commuters will therefore be attracted to the project areas and surrounds, from all over Melbourne, especially from the City of Kingston.

Figure 24.5 Mural at the entrance to Woodlands Industrial Estate from Lower Dandenong Road

A faster, less congested and more reliable road network would alleviate the existing transport issues that can slow the development of employment areas and limit residential growth and house prices. It would also reduce barriers to investment in key employment areas and reduce travel-related business costs for the freight industry making it a more attractive location for future businesses. The project also has the potential to provide greater exposure of passing trade to local businesses adjacent to the project, increasing local economic activity.

Notwithstanding these greater economic benefits, there will be some localised impacts on businesses in relation to land acquisition or disruption from construction and/or operation of the project.

The economic assessment identified that enterprises with the most potential to be impacted by the project are in the Green Wedge Zone 2 Precinct, Garden Boulevard Industrial Precinct and Woodlands Drive Industrial Precinct. No significant impacts were identified for enterprises at the Governors Road Industrial Node or Chelsea Heights Node, whilst impairment of access was the most common potential impact identified for other businesses.

Potential impacts include land acquisition and amenity impacts, both of which may impact on the viability of business operations which will be managed through the development and implementation of a Business Disruption Plan (EPR E1 and E2) and early and consistent engagement with relevant stakeholders.

Potential economic risks can be mitigated chiefly through:

- compensation agreed with landowners in accordance with the requirements of the *Land Acquisition and Compensation Act 1986*
- early and consistent engagement with relevant stakeholders
- the preparation of access plans with individual businesses.

EPR E3 also relates to business and community disruption from potential impacts to utility assets, and provides the requirement to minimise disruption to existing utility assets and where possible for the design to avoid existing utility routes to minimise the need for relocation which would entail further construction works.

24.3 ENVIRONMENTAL MANAGEMENT FRAMEWORK

The EES Scoping Requirements state that the EES will need to outline a transparent environmental management framework (EMF) with clear accountabilities for managing and monitoring environmental effects and hazards associated with construction and operation phases of the project to achieve acceptable environmental outcomes.

The EMF for the project is included as Chapter 23 and includes the EPRs for the project.

The EMF outlines clear accountabilities for the delivery of the EPRs and compliance with all relevant environmental laws, approvals, approval conditions and environmental management plans and procedures to ensure that the environmental effects of the project and any hazards associated with its construction and operation are effectively managed.

The EMF also specifies the processes to be followed in the preparation, review, approval and implementation of environmental management plans and procedures, including the CEMP and more detailed environmental management plans (EPR EM1). The EMF also provides for the regular review and updating of environmental management plans and procedures as well as independent monitoring, auditing and reporting of compliance.

Development of the EMF has been guided by the EES Scoping Requirements, relevant legislation, policy and guidelines, and has been informed by the specialist environmental impact assessment studies completed for the EES.

Implementation of the EMF and EPRs would be effective in controlling adverse effects associated with development and operation of the project. Implementation of the EMF and EPRs in the manner proposed would also support beneficial environmental outcomes to be achieved by the project. The EMF is clear, transparent, robust and comprehensive with sound governance and accountability arrangements.

24.4 NEXT STEPS

It is expected that the EES will be on public exhibition for 30 days, during which time the public can view the EES and make written submissions. Following public exhibition of the EES and associated draft Planning Scheme Amendment documentation, it is expected that an independent Inquiry Panel will be appointed by the Minister for Planning to report on the environmental effects of the project.

Following receipt of the inquiry report, the Minister for Planning would assess the environmental effects of the project having regard to all relevant considerations, including the report of the independent Inquiry and all associated submissions and evidence, the EES and the supporting technical reports, public submissions and the MRPA's response to the public submissions. Following the Minister for Planning's assessment, the Commonwealth Minister for the Environment and Energy will decide whether to approve the project under the EPBC Act, based on the Victorian Minister's assessment of the environmental effects of the project.

Following assessment and determination of the EES by relevant State and Commonwealth departments, it is expected that the Minister for Planning will exercise his powers under the *Planning and Environment Act 1987* to amend the Kingston Planning Scheme and to amend the Greater Dandenong Planning Scheme to introduce the Incorporated Document for the project by applying the Specific Controls Overlay and to apply the Public Acquisition Overlay to the extent required to facilitate the acquisition of land for the purposes of the project. The Minister for Planning's assessment of the EES will provide advice on the appropriateness of the EMF and associated EPRs.

Upon publishing notice of Planning Scheme Amendments in the Victorian Government Gazette, MRPA would then be able to commence the land acquisition and compensation process.