

**I**

*Major Transport Projects Facilitation Act 2009*

**East West Link (Eastern Section) Project**

**Assessment Committee Report**

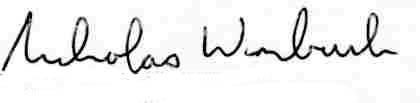
**Volume 1 - Report**

30 May 2014

*Major Transport Projects Facilitation Act 2009*

Assessment Committee Report pursuant to Section 73 of the Act

East West Link (Eastern Section) Project

Kathryn Mitchell, Chair Nick Wimbush, Deputy Chair

J:\Planning & Land\Planning Panels\PPV FINANCE & ADMIN\ADMINISTRATION\ELECTRONIC SIGNATURES\Current Panel Members\Lyn Denison's signature.jpg 

Lyn Denison, Member Des Grogan, Member

Jim Holdsworth, Member William O’Neil, Member

Contents

Page

Executive Summary and Recommendations i

Part A: Background 1

1 Introduction 3

1.1 The Assessment Committee 3

1.2 Terms of Reference and Role of the Committee 3

1.3 Approach to this Report 5

1.4 Matters not Considered in Detail 6

2 The Project 9

2.2 Project Area Precincts 10

2.3 The Reference Project and Proposed Project Boundary 17

2.4 Delivery Model 18

3 Legislative and Policy Context 19

3.1 Legislation and Applicable Law Approvals 19

3.2 Policy 24

3.3 The Eddington Report 27

3.4 Planning for Major Roads 32

4 Exhibition of CIS and Submissions 34

4.1 Exhibition 34

4.2 Summary of Issues Raised 34

5 Public Hearing Process 37

5.1 Information Briefing 37

5.2 Site Inspections 37

5.3 Preliminary Hearing 38

5.4 Assessment Committee Public Hearings 41

5.5 Scope of the Committee’s Assessment 50

Part B: Assessment 65

6 Traffic and Transport 67

6.1 Introduction 67

6.2 Traffic Performance 69

6.3 Precinct 1: Hoddle Street - Eastern Portal 76

6.4 Precinct 2: Alexandra Parade 92

6.5 Precinct 3: Royal Park (Western Portal) 94

6.6 Precinct 4: CityLink 112

6.7 Precinct 5: Port Connection 113

6.8 Precinct 6: Footscray Road 116

6.9 Other Traffic/Transport Related Issues 117

6.10 Applicable Approvals 118

7 Land Use and Infrastructure 120

7.1 Introduction 120

7.2 Impacts on Housing 122

7.3 Impacts on Recreation Facilities and Open Space 146

7.4 Impact on Community Facilities 160

7.5 Impacts on Infrastructure/Utilities 167

8 Visual Impacts, Urban Design and Landscape 173

8.1 Introduction 173

8.2 Visual Impact Issues 175

8.3 Urban Design Framework Assessment 195

9 Noise and Vibration 204

9.1 Introduction 204

9.2 Policy Settings 206

9.3 Consideration of Noise Impacts 210

9.4 Traffic Noise 212

9.5 Construction Noise 222

9.6 Tunnel Ventilation Noise 226

9.7 Vibration Impacts 229

10 Air Emissions and Air Quality 239

10.1 Introduction 239

10.2 General Issues 244

10.3 Tunnel Emission Issues 246

10.4 In Tunnel Air Quality Issues 254

10.5 Surface Roads and Near Road Air Quality 257

10.6 Part B 259

10.7 Greenhouse Gas 261

10.8 Public Health 264

10.9 Applicable Approvals 269

11 Cultural Heritage 270

11.1 Introduction 270

11.2 Sites of Historical Cultural Significance 272

11.3 Applicable Approvals 277

12 Surface and Ground Water 278

12.1 Introduction 278

12.2 Impacts on Surface Water 280

12.3 Impacts on Groundwater 285

12.4 Applicable Approvals 289

13 Native Vegetation and Biodiversity 290

13.1 Introduction 290

13.2 Impacts on Native Vegetation 293

13.3 Impacts on Fauna Species and Associated Habitats 307

13.4 Applicable Approvals 318

14 Solid Waste and Contamination 319

14.1 Introduction 319

14.2 Contamination Issues 320

14.3 Solid Waste Issues 327

15 Social and Business Impacts 332

15.1 Introduction 332

15.2 Social Impacts 335

15.3 Business Impacts 341

Part C: Implementation 355

16 Environmental Management Framework 357

16.1 Overall Environmental Management Framework 357

16.2 Key Issues 358

16.3 Evidence and Submissions 358

16.4 Discussion and Conclusions 360

16.5 Findings 362

17 Performance Requirements 363

17.1 Introduction 363

17.2 Key Issues 363

17.3 Submissions and Evidence 363

17.4 Discussion 365

17.5 Findings 367

18 Planning Control 368

18.1 Planning Scheme Amendment GC2 368

18.2 Key Issues 371

18.3 Submissions and Evidence 371

18.4 Discussion 376

18.5 Applicable Approvals 380

Part D: Conclusions and Recommendations 381

19 Conclusions and Recommendations 383

19.1 Response to Terms of Reference 383

19.2 Applicable Law Criteria 387

19.3 Recommendations 389

List of Tables

Page

[Table 1: Parties to the Assessment Committee Hearing 41](#_Toc389214919)

[Table 2: Comparison of Metropolitan Vehicle and Public Transport Trips 2031 with and without EWL 70](#_Toc389214920)

[Table 3: Summary of Key Congestion Locations 71](#_Toc389214921)

[Table 4: Existing Travel Time Survey (AM Peak Period) 73](#_Toc389214922)

[Table 5: Existing and Forecast Daily Traffic Volumes 78](#_Toc389214923)

[Table 6: Traffic Volumes Based upon Population Scenarios 80](#_Toc389214924)

[Table 7: Existing and 2031 Forecast Traffic Volumes – with and without EWL 90](#_Toc389214925)

[Table 8: Forecast 2031 Traffic Volumes with and without EWL 90](#_Toc389214926)

[Table 9: Traffic Volumes Based on Population Scenarios 91](#_Toc389214927)

[Table 10: Traffic Volumes Based on Population Scenario for Footscray Road 116](#_Toc389214928)

[Table 11: Response to Urban Design Principles 200](#_Toc389214929)

[Table 12: Response to the Public Hearing Matters in the Terms of Reference 384](#_Toc389214930)

List of Figures

Page

[Figure 1: East West Link Eastern Section Reference Project – Main Components 9](#_Toc389214904)

[Figure 2: Project Boundary and Precincts 1 to 6 10](#_Toc389214905)

[Figure 3: Precinct 1 11](#_Toc389214906)

[Figure 4: Precinct 2 12](#_Toc389214907)

[Figure 5: Precinct 3 13](#_Toc389214908)

[Figure 6: Precinct 4 15](#_Toc389214909)

[Figure 7: Precinct 5 16](#_Toc389214910)

[Figure 8: Precinct 6 17](#_Toc389214911)

[Figure 9: Potential Location of Corridors 29](#_Toc389214912)

[Figure 10: VicRoads Congestion Locations for Existing Conditions 70](#_Toc389214913)

[Figure 11: 2031 Forecast Daily Volumes - Westbound 74](#_Toc389214914)

[Figure 12: 2031 Forecast Daily Volumes - Eastbound 75](#_Toc389214915)

[Figure 13: Sheet 13 from CIS Mapbook 77](#_Toc389214916)

[Figure 14: Sheet 7 from CIS Mapbook 94](#_Toc389214917)

[Figure 15: Sheet 6 from CIS Mapbook 95](#_Toc389214918)

Abbreviations and Acronyms

|  |  |
| --- | --- |
| AADT | Annual Average Daily Traffic Volume |
| AAQ NEPM | Ambient Air Quality NEPM |
| AAWDT | Annual Average Week day Traffic Volume |
| ACH | Aboriginal Cultural Heritage |
| AILA | Australian Institute of Landscape Architects |
| AQM | Air Quality Management |
| ASC NEPM | Assessment Site Contamination NEPM |
| AWDT | Average Weekly Daily Traffic |
| BAGs | Biodiversity Assessment Guidelines |
| BIA | Business Impact Assessment |
| CBD | Central Business District |
| CCG | Combined Community Groups |
| CEMP | Construction Environment Management Plan |
| CHMP | Cultural Heritage Management Plan |
| CIS | Comprehensive Impact Statement |
| CLC | Community Liaison Committee |
| CO | Carbon Monoxide |
| Committee | Assessment Committee appointed to consider the CIS under Terms of Reference issued by the Minister for Planning |
| CoM | City of Melbourne |
| CSL | Commonwealth Serum Laboratories |
| DART | Doncaster Area Rapid Transit |
| DDI | Diverging Diamond Interchange |
| DDO | Design and Development Overlay |
| DEPI | Department of Environment and Primary Industry |
| dB | Decibel – measurement of noise |
| dBA | Expression of the relative loudness of sound in air as perceived by the human ear |
| DBH | Diameter at Breast Height |
| DNRE | Department of Natural Resources and Environment |
| DSE | Department of Sustainability and Environment |
| DSEWPaC | Department of Sustainability Environment Water Populations and Communities |
| DTPLI | Department of Transport, Planning and Local Infrastructure |
| ECG | Essendon Community Garden |
| ESCAPE | European Study of Cohorts for Air Pollution Effects |
| Eddington Report | The report entitled *“Investing in Transport – East West Link Needs Assessment*” A Study prepared by Sir Rod Eddington, March 2008 |
| EES | Environment Effects Statement |
| EMF | Environmental Management Framework |
| EMP | Environmental Management Plan |
| EMS | Environmental Management System |
| EPA | Environment Protection Authority |
| EP Act | *Environment Protection Act* 1970 |
| EPBC Act | *Environment Protection and Biodiversity Conservation Act* 1999 |
| EVC(s) | Ecological Vegetation Class(es) |
| EWL | East West Link |
| EWLNA | East West Link Needs Assessment |
| FBTT | Fishermans Bend 220 kV Transmission Tower |
| FFG Act | *Flora and Fauna Guarantee Act* 1988 |
| Full East West Link | The 18 kilometre length of road extending from the Eastern Freeway at Hoddle Street to the Western Ring Road at Sunshine West |
| ha | hectares |
| Hha | Habitat hectares |
| HCV | Heavy Commercial Vehicles |
| Hearing | Public Hearing conducted by the Assessment Committee |
| HO | Heritage Overlay |
| IMP | Impact Management Plan |
| IMPA | Inner Melbourne Planning Alliance |
| IARC | International Agency for Research into Cancer |
| km | kilometre or kilometres |
| kph | kilometre(s) per hour |
| kV  LA10 | kilovolt  Noise level exceeded for 10% of a specified time period |
| LAeq | Equal to the average noise over a specified period |
| LCVs | Light Commercial Vehicles |
| LMA | Linking Melbourne Authority |
| LOT | Large Old Tree |
| LPPF | Local Planning Policy Framework |
| m | metre or metres |
| Mapbook | The mapbook which forms part of the CIS |
| MOT | Medium Old Tree |
| MoU | Memorandum of Understanding between the LMA and City of Melbourne |
| MPCCC | Moonee Ponds Creek Coordination Committee |
| MSS | Municipal Strategic Statement |
| MTPF Act | *Major Transport Projects Facilitation Act* 2009 |
| MVCC | Moonee Valley City Council |
| NEPC | National Environment Protection Council |
| NEPM | National Environment Protection Measure |
| NO2 | Nitrogen Dioxide |
| OHS | Occupational Health and Safety |
| P&E Act | *Planning and Environment Act* 1987 |
| PAHs | Polycyclic Aromatic Hydrocarbons |
| Part A | The part of the Project that extends from the western end of the Eastern Freeway in Clifton Hill and connects to CityLink in Parkville, and which includes the Ormond Road off ramp |
| Part B | The part of the Project comprising the elevated viaduct along the western side of CityLink from Mount Alexander Road to Footscray Road |
| PB | Parsons Brinkerhoff |
| PEM | Protocol for Environmental Management |
| PIARC | Permanent International Association of Road Congress |
| PIW | Prescribed Industrial Waste |
| PM 2.5 | Particulate matter with an equivalent aerodynamic diameter of 2.5 microns or less |
| PM 10 | Particulate matter with an equivalent aerodynamic diameter of 10 microns or less |
| Proposed Project Boundary | The Proposed Project Boundary delineated as a blue dotted line on each of the detailed road alignment plans contained within the Map Book, being drawings EWL-DES-DR-1100 - EWL-DES-DR-1130 |
| PPP | Public Private Partnership |
| PPV | Planning Panels Victoria |
| PTV | Public Transport Victoria |
| RACV | Royal Auto Club Victoria |
| RATs | Residents Against the Tunnels |
| Reference Project | The Reference Project as described in the CIS |
| RFI | Request for Further Information |
| s | Section (of an Act) |
| s57(4) response | The response of the LMA to the request of the Committee for further information pursuant to Section 57(4) of the MTPF Act |
| Scoping Directions | The scoping direction for the Project published by the Minister for Planning on 27 May 2013 |
| SEPP | State Environment Protection Policy |
| SEPP (AAQ) | State Environment Protection Policy (Ambient Air Quality) |
| SEPP (AQM) | State Environment Protection Policy (Air Quality Management) |
| SEPP N-1 | State Environment Protection Policy (Control of Noise from Industry, Commerce and Trade) |
| SEPP (PMCL) | State Environment Protection Policy (Prevention and Management of Contaminated Land) |
| SEPP (WoV) | State Environment Protection Policy (Waters of Victoria) |
| SIA | Social Impact Assessment |
| SIDRA | Signalised Intersection Design and Research Aid |
| SPPF | State Planning Policy Framework |
| SNRP | Safety Net for Royal Park |
| SRV | Sport and Recreation Victoria |
| Terms of Reference | Terms of Reference issued by the Minister for Planning to the Committee on 21 October 2013 |
| The Project | The East West Link (Eastern Section) declared by the Premier of Victoria pursuant to s10 of the MTPF Act on 20 December 2012 |
| TIA | Traffic Impact Assessment |
| TI Act | *Transport Integration Act* 2010 |
| TBM | Tunnel Boring Machine |
| UDF | Urban Design Framework |
| USEPA | United States Environmental Protection Agency |
| VHT | Vehicle hours travelled |
| VKT | Vehicle kilometres travelled |
| VLC Model | The Zenith Strategic Transport Model developed by Veitch Lister Consulting, used to model traffic impact for the purpose of informing the CIS |
| VOC | volatile organic compounds |
| vpd | Vehicles per day |
| VPP | Victoria Planning Provisions |
| VTNP | VicRoads Traffic Noise Policy |
| WHO | World Health Organisation |
| WMTS | West Melbourne Terminal Station |
| YCAN | Yarra Climate Action Now |

NOTE: The Committee has accessed a number of tables and plans from the LMA in this report. The following disclaimer is provided by the LMA:

“Mapping products © GHD 2013. While Linking Melbourne Authority has taken care to provide accurate mapping products, Linking Melbourne Authority and the data custodians (GHD and DEPI) make no representations or warranties about its accuracy, completeness or suitability for any particular purpose. Linking Melbourne Authority and the data custodians (GHD and DEPI) cannot accept liability of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred as a result of the mapping products being inaccurate, incomplete or unsuitable in any way and for any reason”.

Executive Summary and Recommendations

**EXECUTIVE SUMMARY**

1. On 20 December 2012, the Victorian Premier declared the “*Proposed freeway standard link between the Eastern Freeway and the Tullamarine Freeway generally along the Alexandra Parade corridor, with a further southerly connection to the Port of Melbourne area*” to be a declared project pursuant to the *Major Transport Projects Facilitation Act* 2009. This Project is known as the East West Link (Eastern Section) Project.
2. The Project comprises two parts. Part A of the link extends from the Eastern Freeway near Hoddle Street to CityLink, and Part B extends from CityLink through to the Port of Melbourne, along a parallel viaduct with CityLink. Ultimately it is proposed that Part B will link to the Western Ring Road (this Project is known as WestLink).
3. It is the policy position of the State Government to build the East West Link, which is included in the State policy *Plan Melbourne*, the Government’s new metropolitan strategy, adopted and released on 19 May 2014.
4. The East West Link (Eastern Section) Project Assessment Committee was appointed by the Minister for Planning on 21 October 2013 under the provisions of sections 35 and 235 of the *Major Transport Projects Facilitation Act* 2009 to assess the East West Link (Eastern Section) Comprehensive Impact Statement and to make recommendations to the Minister for Planning in accordance with section 73 of the Act. On the same date, the Minister for Planning signed Terms of Reference for the Committee (Appendix A).
5. The proponent for the East West Link Project is the Linking Melbourne Authority.
6. The catalyst for this Project came from a study by Sir Rod Eddington in 2008 *Investing in Transport – East West Link Needs Assessment.* The Eddington Report reviewed a range of transport options, and provided twenty recommendations, two of which related directly to the Eastern Freeway corridor:

* Planning work should commence on the staged construction of a new 18 kilometre cross city road connection extending from the western suburbs to the Eastern Freeway.
* Public transport to the Doncaster region is best provided by rapid, high quality bus services, additional bus priority measures and a major new bus- rail interchange at Victoria Park.

1. The proposal under review by this Committee is more than a link between the Eastern Freeway and CityLink. It provides for a flyover structure at Hoddle Street, partial access and egress at Elliott Avenue in Royal Park, an off ramp to Ormond Road and widening of parts of both CityLink and the Eastern Freeway. All works are included within a Proposed Project Boundary.
2. The Comprehensive Impact Statement provides the basis for consideration of the impacts of the Project. The Comprehensive Impact Statement contains a Reference Project as one possible option on how the Project can be delivered, but the Reference Project has no formal status. As such, there is no definitive Project before the Committee for evaluation. Rather, what is before the Committee is essentially a freeway reservation in a Proposed Project Boundary, with ancillary features (such as ramps) to support this proposal.
3. The Committee supports linking the Eastern Freeway to CityLink/Tullamarine Freeway, predominantly via a tunnel.
4. There is demonstrated merit in removing through traffic from the Eastern Freeway which uses the Alexandra Parade/Princes Street/Cemetery Road/Macarthur Avenue and Elliott Avenue route to get to CityLink and vice versa. The tunnel should reduce the volume of surface traffic along that route in the short to medium term and provide opportunities for road enhancements and public amenity improvements, as well as improvement to public transport levels of service and pedestrian and cycling links.
5. The Committee accepts there are State and metropolitan economic and community benefits in linking the Eastern Freeway with CityLink, but considers the direct impacts on local communities need to be better resolved.
6. To facilitate the Reference Project, some 105 residential properties and 35 commercial properties are proposed to be acquired within the Proposed Project Boundary. In addition, there are 258 properties affected through below ground strata acquisition. The direct and indirect impacts are broader than this, and adjacent communities will be adversely affected by both the construction and operation of this Project.
7. Much of the Comprehensive Impact Statement and the accompanying Technical Reports dealt with evaluating Part A of the Project, with significantly less evaluation of Part B.
8. In providing its support for linking the Eastern Freeway to CityLink, the Committee makes the following findings about Part A and the Reference Project. The alignment for the link between the Eastern Freeway and the northbound connection to CityLink and the Tullamarine Freeway is supported, subject to the revisions recommended in this report. Some of the key modifications include:
9. The eastern portal and ventilation stacks should be relocated east of Hoddle Street and the Hurstbridge/South Morang Railway Line.
10. The proposed flyover at Hoddle Street should not be constructed as it is shown in the Reference Project, due to the:

* Significant predicted reduction in peak hour and daily traffic volumes travelling north on Hoddle Street turning east onto the Freeway.
* Heritage values of the Bendigo Street area and the Shot Tower.
* Social impacts of acquisition (and on those living nearby).
* Amenity impacts associated with the flyover.

More work needs to be undertaken to determine the appropriate interchange design to cater for this east-bound movement on to the Eastern Freeway from Hoddle Street.

1. Bored tunnel construction should be extended at least as far east as Wellington Street and if necessary, the alignment of the proposed tunnels should be relocated to manage the construction process to avoid the need for the proposed sidetrack. This is due to unacceptable, and on the material presented to the Committee, unnecessary, impacts on existing residents and businesses (not only those to be acquired, but those in close proximity).
2. There should be no interchange at Elliott Avenue in Royal Park, however, there should be further investigation of other options to connect the East West Link to Flemington Road.
3. Contaminated spoil is not to be stored within Royal Park, Manningham Parklands, Ross Straw Field or the former Fitzroy Gasworks site.
4. The location of the western portal should be further investigated. Consideration should be given to an area adjacent to Oak Street north of the Manningham Street intersection.
5. The Committee considers that the impacts of the southbound connection of Part A to CityLink, and its connection to Part B of the Project have not been adequately addressed. The Committee concludes further work should be undertaken to better resolve these connections through the identification of a more appropriate location outside the Proposed Project Boundary. This further work should occur in association with identifying an appropriate Part B alignment.
6. The Committee makes the following findings about Part B and the Reference Project. Part B has not been adequately assessed, and should be set aside until the proposed widening of CityLink and the Tullamarine Freeway, and the proposed WestLink connection is better understood and resolved. This should take into account a number of key issues, including:
7. Resolution and development of Part B with greater integration with the Arden-Macaulay Structure Plan.
8. Key locational impacts such as the Vision Australia premises, SP AusNet site, the Flemington Housing estate (and its playgrounds, gardens and the community centre), and the apartments at 18 Bent Street.
9. The alignment of the Moonee Ponds Creek and the potential to enhance its function as an open space corridor as part of the Arden-Macaulay redevelopment.
10. The reservation of the proposed WestLink alignment.
11. This may require a new or supplementary Comprehensive Impact Statement, but it could be undertaken as part of the WestLink and the CityLink/Tullamarine Freeway upgrade planning processes.
12. All such reviews for the southbound connection of the East West Link to CityLink and Part B should be undertaken in conjunction with the Cities of Melbourne and Moonee Valley, and other relevant agencies, including the EPA, Port of Melbourne Corporation, VicTrack, VicRoads, the Office of Housing and others, as well as landholders and affected community organisations.
13. Subject to these findings, the Committee supports Part A of the East West Link (Eastern Section) Project providing an important road link from the Eastern Freeway to CityLink/Tullamarine Freeway northbound, in accordance with its recommended and modified Applicable Approvals, the Incorporated Document, Performance Requirements and revised Planning Scheme Amendment GC2.
14. While the Committee is critical of aspects of the Comprehensive Impact Statement and the position of the LMA, it recognises that all parties involved in this process, including the LMA and its consultants retained to prepare the background studies, have been working under challenging timeframes to undertake investigations and produce documentation for the Project.
15. The reliance on the Reference Project as the key expression of how the Project might be delivered has created angst and confusion in the community. In essence, the Reference Project, while not a real project, has been considered and assessed as such, and it has failed to deliver an appropriate outcome.
16. The Committee considers that the process of reaching the design that is the Reference Project has not been one that follows a logical path of identifying viable options, evaluating them, engaging the community in the process at an early stage when such input can be incorporated, testing the preferred option against robust criteria, adjusting it and then proposing it with supporting justification.
17. The Committee is concerned that the Reference Project has preceded the Urban Design Framework and the Urban Design Principles, and that it is not an evident response to them. While the Urban Design Principles include many unquantifiable statements, they collectively represent a set of objectives against which any design for the Project should be assessed. The Reference Project fails to meet these objectives on many levels. The Committee does not consider the Reference Project should be used as the template for the final design of the Project. The Urban Design Principles, in particular s1.1, aspire to a level of design excellence that require this Project to be more than an “*acceptable outcome*”. The cost and disruption to the community through which it is to be constructed warrant best practice.
18. Further, the Committee is concerned about the intended reliance on the successful contractor to deliver the Project and to be accountable for managing all aspects of the design, planning, environmental and construction framework.
19. The Committee is required by section 73 of the *Major Transport Projects Facilitation Act* 2009 to make recommendations to the Minister for Planning to grant all, or some of the applicable approvals that it is necessary for the declared Project or part of the declared Project; or refuse to grant all of the applicable approvals that are necessary for the declared Project or a part of the declared Project.
20. Section 69 of the *Major Transport Projects Facilitation Act* 2009 enables the Committee in exceptional circumstances to recommend to the Minister for Planning that the Minister directs the Project Proponent to undertake a supplementary assessment. The Committee has concluded that some elements of Part A require change, and that Part B of the Project is unresolved and should be set aside at this stage. The Committee has considered whether it should make a recommendation pursuant to section 69. It has however, concluded that the circumstances and announcements made subsequent to the close of the Hearing affecting Part B take matters beyond the scope of the criteria set out in section 69(1) that would warrant the recommendation for a supplementary assessment.
21. Section 73(3) of the *Major Transport Project Facilitation Act* 2009 provides that if the Committee were to recommend the grant of all or some of the applicable approvals required, it must specify, inter alia, the conditions applicable to such approval. Accordingly, the Committee recommends that a modified Part A be approved subject to conditions specified in this Report.
22. Whilst the Committee has recommended that Part B be set aside at this stage, in the event that this recommendation is not accepted, the Committee has outlined conditions that should be adopted in taking Part B forward.

**RECOMMENDATIONS**

For the reasons outlined in this report, the Committee makes the following recommendations, grouped as follows:

* Primary Recommendations, numbered 1 to 4.
* Issue-Specific Recommendations, numbered 5 to 36.
* Further recommendations if the Primary Recommendations are not supported and Part B proceeds, numbered 37 to 43.

**Primary Recommendations**

1. Issue the Applicable Approvals for Part A, subject to Primary Recommendations 2 and 3, and Issue-Specific Recommendations 5 to 36 for:
   1. Works Approval for the tunnel ventilation system under the provisions of section 19B of the *Environment Protection Act* 1970.
   2. Planning Scheme Amendment GC2, under the provisions of sections 8, 29 and 35 of the *Planning and Environment Act* 1987.
   3. Permit under section 74 of the *Heritage Act* 1995 to carry out works or activities in relation to five registered heritage places.
   4. Consent under section 129 of the *Heritage Act* 1995 for impact on archaeological relics.
   5. Consent under Clause 1 of schedule 2 of the *Road Management Act* 2004 allowing connection to a freeway.
   6. Licence under section 67 of the *Water Act* 1989 required to construct, alter, operate or decommission works on a waterway, including works to deviate a waterway.

*Note: As the Committee has recommended that Part B of the Project be set aside, a comment from the Secretary of Department of Environment and Primary Industries under section 66 of the Conservation, Forests, and Lands Act 1987 for works across and under the Moonee Ponds Creek is not required, unless Primary Recommendation 4 is not accepted.*

1. Adopt Planning Scheme Amendment GC2 as it relates to approval of Part A, subject to:
   1. Adopting the revised Incorporated Document as shown in Appendix D.
   2. Applying the Performance Requirements to the Project as shown in Appendix E.
   3. Including the Performance Requirements as shown in Appendix E in the Incorporated Document ‘*East West Link Project Incorporated Document September 2013’*.
   4. Applying the Urban Design Principles to the Project as shown in Appendix F.
   5. Including the Urban Design Principles as shown in Appendix F in the Incorporated Document ‘*East West Link Project Incorporated Document September 2013’*.
   6. Deleting the exhibited Design and Development Overlays until the final design is adopted.
2. Part A of the East West Link (Eastern Section) from the Eastern Freeway to CityLink, primarily in tunnel, be subject to the following changes:
   1. Locating the eastern portal and ventilation stacks to the east of Hoddle Street and the Hurstbridge/South Morang Railway Line.
   2. Deleting the proposed flyover as shown in the Reference Project.
   3. Extending the bored tunnel construction at least as far east as Wellington Street.
   4. Removing the proposed temporary sidetrack north of Alexandra Parade.
   5. Deleting the connection between the Project and Elliott Avenue, due to its visual intrusion into this part of Royal Park and its impact on the landscape values of the Park, in favour of other means of achieving the proposed traffic movements.
   6. Minimise the extent of cut and cover construction in Alexandra Parade and Royal Park.
   7. Removing the southbound connections to and from CityLink/Tullamarine Freeway and Part B of the Project identified in the CIS map book as elevated structures over Ross Straw Field [“*Footscray Rd to EWL (Stage One)*” and *“EWL (Stage One) to Footscray Rd”*)].
   8. Further investigating and resolving the location of the western portal and ventilation stacks in an area adjacent to Oak Street north of the Manningham Street intersection.
   9. Implementing the Issue-Specific Recommendations 5 to 36.
3. Set aside Part B and the southbound connection of the Project, and do not issue the relevant Applicable Approvals, until the recently announced works on CityLink and the Tullamarine Freeway, and WestLink are clarified. The Committee recommends the review of a number of aspects of Part B be undertaken as part of a new or revised Comprehensive Impact Statement in conjunction with the planning process for WestLink (and other road improvements). If this recommendation is not supported, the Committee recommends that the alignment and proposed viaduct for Part B needs to be reviewed to consider placing it in-tunnel or aligning it on the east side of the existing CityLink.

**Issue-Specific Recommendations**

**Traffic and Transport**

1. Locate the portals and ventilation stacks east of the Hurstbridge/South Morang rail bridge, (whether or not the road design in the area east of the Reference Project's portals changes), with openings for ramps as required. Investigate the capacity to cover roads which are below natural ground level as far east as the relocated portals as a means of creating useable passive public open space and to improve north-south pedestrian and cycle links in this area.
2. Prohibit road construction at grade beyond the northern road reservation boundary on Alexandra Parade between Smith Street and Gold Street, and delete that area from the Proposed Project Boundary. Sequence the construction process and the management of traffic on Alexandra Parade during construction so that all ground level activity occurs within the Alexandra Parade road reserve, thereby negating the need for the sidetrack and the proposed property acquisition for it.
3. Ensure the tunnel alignment does not require property acquisition to the north of the Alexandra Parade northern road reservation boundary.
4. Construct the connection serving the northbound Hoddle Street movement east onto the Eastern Freeway at a reduced level no higher than the existing pavement level of Hoddle Street. Design to ensure there are no above ground structures (apart from necessary overhead signs, lighting and sound barriers) at the Eastern Freeway/Hoddle Street interchange, and resolve the traffic movement served by the flyover in a less visually intrusive manner that requires no acquisition of residential property.
5. Reduce the carriageway cross section of Alexandra Parade and Princes Street to constrain traffic movement to improve north-south connections and increase 'green time' at signalised intersections for trams, vehicles, bicycles and pedestrians.
6. Revise the ramp connections between the western portal and CityLink North as shown on the Reference Project, and investigate alternative alignments further to the north-east.
7. Review the design of the Ormond Road exit ramp and consider the merits and functionality of the alternative proposed in the evidence of Mr O’Brien.
8. Identify areas for traffic monitoring in selected local streets in the Moreland, Moonee Valley, Yarra, Melbourne, Darebin, Banyule and Boroondara Council areas, now and at two year intervals during construction and up to two years after completion of the Project, and fund reasonable local area traffic management works that need to be implemented to reduce identified adverse traffic impacts attributable to the Project.

Land Use and Infrastructure

1. Facilitate a process that enables the opportunity for voluntary purchase agreements with property owners that have an interface with, or are impacted by the Project that are located outside the Proposed Project Boundary.
2. Negotiate and sign a memorandum of understanding as a condition of approval for sporting facility and relocation works (similar in style and scope to that entered into between the City of Melbourne and the LMA), between the LMA and the City of Moonee Valley, informed by the intervention and mitigation measures outlined in Document 515.

Visual Impacts, Urban Design and Landscape

1. Undertake and implement an urban design study for the Project corridor between Lygon Street and the portals east of the Hurstbridge/South Morang railway line, aimed at enhancing reduced through traffic volumes and providing improved amenity for abutting land uses, pedestrians and bicycle movements, and maximising open space and landscaping within these parameters.
2. Assess and evaluate the final design for the Project against the Urban Design Charter for Victoria and the Urban Design Principles in Appendix F.
3. Appoint an independent design assessor or assessment Panel to ensure that all stages of design, documentation, tendering and construction incorporate the Urban Design Charter for Victoria and the Urban Design Principles.
4. Ensure that following the completion of the Project, there is no net loss of passive or active public open space.
5. Avoid any temporary or permanent construction related activity or laydown areas in the following parts of Royal Park:
   1. Australian Native Garden.
   2. Trin-Warren Tam-boore Wetlands and White’s Skink habitat (north of a line that runs due east-west through the Ross Straw Field Sports Pavilion from the Upfield Railway Line to Oak Street).
   3. Remnant Grassy Woodland Ecological Vegetation Class.

Noise and Vibration

1. Regard the north south corridor at the western end of the Project as a single road transport corridor. Where increased total noise is attributed to the Project, the Concession Holder for the East West Link (Eastern Section) is responsible for meeting traffic noise criteria in the corridor.
2. Apply noise prediction, assessment, monitoring and management for the Project as shown in the revised Performance Requirements in Appendix E, including:
   1. A single day time traffic noise criterion.
   2. A night time traffic noise criterion.
   3. Open space criterion.
   4. Internal noise mitigation where necessary in accordance with the Australian standard.

Air Emissions and Air Quality

1. Undertake a detailed air modelling assessment to guide the final design of the tunnel, tunnel ventilation system and surface roads including elevated viaducts using PM2.5 and PM10 as the key indicators for the assessment.
2. Manage the Project air emissions in accordance with the Performance Requirements in Appendix E, including:
   1. Make provision for retrofitting pollution control equipment in ventilation stacks for PM10 and PM2.5.
   2. Fit air pollution control equipment into the tunnel ventilation systems if the modelling for the final design shows that the particulate levels are greater than 30% of the applicable air quality standards.
   3. Adopt the Carbon Monoxide objectives used for in-tunnel air quality for CityLink and EastLink.
   4. Include a mid-tunnel air intake structure in the final design of the tunnel.
3. Consider design elements for the final design to minimise air pollution levels in sensitive areas to minimise the impact on public health.
4. Issue the Works Approval for the tunnel ventilation system conditional on:
   1. **Conducting further detailed air modelling assessment on the final design which includes moving the ventilation stacks east of Hoddle Street and the Hurstbridge/South Morang railway line and the ventilation stack west of Oak Street.**
   2. **Including a mid-tunnel air intake in the final design.**
   3. **Adopting the Carbon Monoxide in-tunnel air quality standards used in CityLink and EastLink for the Project.**
   4. **Making provision to retrofit pollution control equipment in the ventilation stacks for PM10 and PM2.5.**
   5. **Requiring pollution control equipment if PM10 or PM2.5 levels are greater than 30% of the applicable air quality standard.**
   6. **Undertaking an air monitoring program in Clifton Hill and in the vicinity of the ventilation stacks for a period of 12 months prior to the tunnel opening and 12 months post opening. Repeat the monitoring 5 years post opening of the tunnel.**

**Cultural Heritage**

1. Retain the cultural heritage of the Gold Street Precinct (HO321) and Clifton Hill Western Precinct (HO317) by avoiding property acquisition and demolition in these precincts. If this recommendation is not accepted, extend the Proposed Project Boundary to include all properties on the west side of Bendigo Street and the south side of Hotham Street east of Bendigo Street, and remove these properties from the Heritage Overlay.
2. Prohibit above ground structures (apart from necessary overhead signs, lighting and sound barriers) at the Eastern Freeway/Hoddle Street interchange to preserve the visual integrity of the Shot Tower.
3. Undertake further work to ensure that if there is to be any permanent intervention of East West Link in Royal Park that may impact the cultural heritage of the Park, a comprehensive study be carried out to identify the specific impacts and to determine appropriate ameliorative measures and that the design of the Project is modified to minimise such impacts.

Surface and Groundwater

1. Provide a copy of the final report of Dr Sandy Bennet, (prepared for the Assessment Committee and as attached in Appendix G), to the shortlisted tenderers for their consideration.
2. Issue consent under Section 67 of the *Water Act* 1989 for works on waterways in Merri Creek and Moonee Ponds Creek.

Native Vegetation and Biodiversity

1. Approve Planning Scheme Amendment GC2 to allow removal of native vegetation under sections 8, 29 and 35 of the *Planning and Environment Act* 1987, subject to the adoption of the recommendations of the Committee, including the Performance Requirements.

Solid Waste and Contamination

1. Undertake assessment and management of contaminated materials in accordance with the Performance Requirements in Appendix E, including:
   1. Detailed site investigations prior to the excavation of any potentially contaminated soil.
   2. Environmental monitoring and community engagement plans.
   3. Managing air pollutants where these may be released in accordance with the requirements of the State Environment Protection Policy (Air Quality Management).
   4. Prohibition of the storage of contaminated spoil in sensitive locations.
2. Store clean spoil at the Manningham Parklands/Ross Straw Field or the former Fitzroy Gasworks site, in accordance with the implementation of strict dust management practices, and not within 25 metres of the White’s Skink habitat or Trin Warren Tam-boore wetlands.
3. Adopt Haulage Route 3 (as identified in the Transport Impact Assessment) for the transportation of construction material and solid waste to avoid sensitive uses, residential areas and minimise impacts on local communities.

Social and Business Impacts

1. Negotiate with Urban Camp to resolve a fair and satisfactory relocation and/or temporary closure strategy and associated compensation package.

Environmental Management Framework

1. Amend the Environmental Management Framework to include the following:
   1. Establishment of a Community Liaison Committee with an Independent Chair.
   2. Provide a mechanism for public reporting of compliance against the Environmental Management Framework and Environmental Management Plans (this may be the Independent Auditors report which becomes available on the Linking Melbourne Authorities’ website for instance).
   3. Provide a mechanism for complaints management that is transparent to the public and where follow up action is reported.
   4. Dust, noise, surface water, and groundwater management plans as well as further site-specific data to be collected on groundwater quality, levels and flow to better inform the risk assessment and development of mitigation measures as part of the Environmental Management Plans.

**Recommendations relating to Part B of the Project**

**If the Primary Recommendations of the Committee are not accepted and Part B is approved, the following additional recommendations apply:**

1. Undertake a master planning process in consultation with the relevant stakeholders to identify appropriate locations proximate to residents of the Debney’s Park Estate to relocate the following community facilities:
   1. Flemington Community Centre.
   2. Debney’s Park Playground.
   3. Flemington Community Garden.

Implementation of the master plan and works should be at no cost to the community, stakeholders or to Moonee Valley City Council. Avoid where possible the location of playgrounds which young children frequent, or formal active recreation areas under elevated viaducts.

1. Negotiate a fair and comprehensive relocation and compensation package that reflects the need to relocate the Vision Australia dog breeding and training facility to an alternative fit for purpose site and facility, as well as funding to make good associated impacts on other related and nearby facilities.
2. Undertake a detailed air modelling assessment for Part B of the Project to guide the final design.
3. With regard to the West Melbourne Terminal Station site:
   1. Provide confirmation to SP AusNet that the Project construction zone between the roadway and the West Melbourne Terminal Station site will remain in the ownership of SP AusNet and that the Linking Melbourne Authority will ensure access to allow a temporary transformer to be located on that land for the period of the West Melbourne Terminal Station upgrade works.
   2. Formalise the final Proposed Project Boundary (i.e. no encroachment in a westerly direction into the West Melbourne Terminal Station footprint) to enable the redesign of the West Melbourne Terminal Station redevelopment to continue as soon as possible.
   3. Secure additional land interests for SP AusNet with VicTrack to enable land for construction access and permanent use, as well as to agree new easement corridors for transmission lines entering the site. Such land must be fit for both construction and permanent use (including access and egress where applicable.
   4. Ensure the creation of easements on the acquired land to protect SP AusNet's assets and specifically to create new easements to provide for underground and overground corridors as relevant for electricity and gas supply.
   5. Identify and secure a new site for the relocation of the Fisherman’s Bend Transmission Tower.
   6. Ensure that the design and construction of the Project minimises impacts on SP AusNet's assets and such assets are not adversely affected by dust, vibration, water or soil contaminants.
   7. Ensure the construction works avoid the existing gas and electricity assets, or relocate these assets without interruption to supply.
4. Remove the proposed access ramps to and from Arden Street.
5. Facilitate a process that enables the opportunity for voluntary purchase agreements with property owners that have an interface with, or are impacted by, the elevated road structures and viaducts in Parkville West, Flemington, Travancore, and Kensington outside of the Proposed Project Boundary.
6. Identify and implement, in consultation with the Flemington Neighbourhood Renewal Board and the Office of Housing, noise and air quality mitigation measures for the Flemington Housing Estate residents who face east onto the proposed Link.

Part A: Background

# Introduction

## The Assessment Committee

The Minister for Planning appointed an Assessment Committee (the Committee) on 21 October 2013 to undertake an independent review of the proposed East West Link (Eastern Section) Project (the Project). The Committee was appointed under the provisions of sections 35 and 235 of the *Major Transport Projects Facilitation Act* 2009 (MTPF Act) to assess the East West Link (EWL) Comprehensive Impact Statement (CIS) and to make recommendations to the Minister for Planning in accordance with section 73 of the MTPF Act. On the same date, the Minister for Planning signed Terms of Reference for the Committee (Appendix A) to provide the context for its assessment.

The proponent for the Project is the Linking Melbourne Authority (LMA).

The Committee comprises:

* Ms Kathryn Mitchell, Chair;
* Mr Nick Wimbush, Deputy Chair;
* Mr William O’Neil;
* Dr Lyn Denison;
* Mr Des Grogan; and
* Mr Jim Holdsworth.

Paragraph 8 of Part 2 of the Terms of Reference notes the Committee may seek written or verbal advice from experts or specialists. In this regard, the Committee retained the services of:

* Dr Sandy Bennet (tunnelling, geomechanics and hydrogeology);
* Mr Doug Munro (acoustics and vibration); and
* Ms Mandy Elliott (environmental management framework).

Paragraph 9 of Part 2 of the Terms of Reference note that the Committee may retain its own legal counsel and in this regard, the Committee retained the services of Mr Chris Wren SC.

The Committee was assisted by the office of Planning Panels Victoria and specifically:

* Ms Emma Moysey, Special Projects Manager;
* Ms Jessica Cutting, Senior Project Manager;
* Mr Harry Matheas, Assistant Director;
* Mr Adrian Williams, Business Manager; and
* Mr David Newton, Hearing Room Assistant.

Additionally, the office of Planning Panels Victoria through its whole administration team provided assistance to the Committee throughout the duration of the Project.

## Terms of Reference and Role of the Committee

The MTPF Act Authorised Version No 020 (incorporating amendments as at 25 September 2013) is the guiding Act for this process.

The role of the Committee is set out in the MTPF Act and through its Terms of Reference. Subdivision 2 of Division 5 of Part 3 of the Act sets out the procedures for the establishment of an Assessment Committee (s35), the opportunity to provide Terms of Reference and the publication of Terms of Reference (s36 and s37).

The Terms of Reference note that the Committee was appointed to assess the CIS for the Project and to make recommendations to the Minister for Planning whether or not to grant any applicable approval required for the Project to be developed, and if so recommend appropriate conditions for applicable approvals. In this case, the applicable approvals include:

* Works approval under s19B of the *Environment Protection Act* 1970 (the EP Act);
* Planning Scheme Amendment approval under s8, s29, and s35 of the *Planning and Environment Act* 1987 the (P&E Act);
* Permit under s74 of the *Heritage Act* 1995 to carry out works or activities in relation to a registered place or registered object;
* Consent under s129 of the *Heritage Act* 1995 for impact on archaeological relics;
* Consent under Clause 1 of schedule 2 of the *Road Management Act* 2004 allowing connection to a freeway;
* Licence under s67 of the *Water Act* 1989 required to construct, alter, operate or decommission works on a waterway, including works to deviate a waterway;
* Comments from the Secretary pursuant to s66 of the *Conservation, Forests and Lands Act* 1987 on plan of works across waterways.

Essentially, the role of the Committee is to assess the exhibited CIS, review the submissions made to it, conduct a public hearing and provide a written report to the Minister for Planning that sets out its finding and recommendations.

In conducting a public hearing, the Terms of Reference set out the Public Hearing Matters the Committee is to address as follows:

* Whether the impacts of the project on the traffic performance of roads connecting to the project, and the surrounding road network, as well as on connectivity for public transport, cycling and pedestrians have been appropriately addressed.
* Whether the impacts of the project on land use and infrastructure in its immediate environs, including on housing, recreation and community infrastructure have been appropriately addressed.
* Whether the proposed Urban Design Framework in the CIS will appropriately manage visual impacts of the project on the surrounding area, including public open spaces.
* Whether the noise, vibration, air emission and light spill impacts of the project will be appropriately managed by proposed measures.
* Whether the impacts of the project on cultural heritage places have been appropriately addressed.
* Whether the impacts of the project on surface and groundwater waters have been appropriately addressed.
* Whether the impacts of the project on native vegetation and biodiversity have been appropriately addressed.
* Whether the risk from disturbance and disposal of solid wastes have been appropriately addressed.
* Whether the Environmental Management Framework in the CIS will provide an effective integrated approach to manage the environmental performance of the project.

There was no specific public hearing matter that related to social impact or business impact matters (although these could be considered under impact on land use, including housing, recreation and community infrastructure), however the Committee heard extensive submissions and evidence about these issues, including from the LMA.

The functions of the Committee are prescribed by timeframes as set out in the Act. The public hearings were to take no longer than 30 business days, and the Committee’s report must be submitted to the Minister for Planning within 30 business days of the last day of the hearing.

## Approach to this Report

The Committee has approached its consideration of issues and the preparation of this report in the following way.

Part A provides the **Background**, which includes the introductory matters, a description of the Project, the relevant legislation and policy frameworks, the exhibition process, and the public hearing process.

Part B provides the **Assessment**, which takes each of the public hearing matters from the Terms of Reference, and then assesses these to determine whether they have been appropriately addressed. These matters include traffic and transport; land use and infrastructure; visual impacts and urban design; noise and vibration; air emissions and air quality; cultural heritage; surface and groundwater; native vegetation and biodiversity; solid waste and contamination; social and business impacts.

Part C deals with **Implementation**, with commentary on the Environmental Management Framework (the EMF), Performance Requirements, and the Planning Scheme Amendment GC2.

Part D provides the **Conclusions and Recommendations** of the Committee and includes its summary response to the Terms of Reference, and the Applicable Law Approvals.

The Committee references the evidence of various experts, the submissions made by advocates, and the presentations and submissions of community groups, businesses, sporting organisations and individuals. While some of these are specifically named, it is not possible to include or reference all as part of the Committee’s assessment. This does not mean the submissions were not considered, rather the Committee has focused on the key issues, rather than who said what. Additionally, some submissions were made in confidence and these have been referenced by Submission number only, where applicable.

## Matters not Considered in Detail

For various reasons, there are seven matters that the Committee has not considered in detail, these include:

* Cultural Heritage Management Plan;
* *Environment Protection and Biodiversity Conservation Act* 1999;
* Victoria Heritage Register;
* Business case for the Project;
* Melbourne Zoo;
* Public transport projects; and
* Further announcements post Hearing.

### Cultural Heritage Management Plan

The Committee is not required to consider the *Aboriginal Heritage Act* 2006*,* as while a Cultural Heritage Management Plan (CHMP) is being prepared for the Project, it is separate to this process.

Post the Hearing, the Chair was provided with a copy of a letter from the Chief Executive Officer of the LMA to the Minister for Planning, that advised:

**EAST WEST LINK EASTERN SECTION**

**NOTIFICATION APPROVAL CULTURAL HERITAGE MANAGEMENT PLAN**

**(CHMP 12723)**

I wish to advise that in accordance with section 75(a) of the Major Transport Projects Facilitation Act 2009 that the Cultural Heritage Management Plan for the East West Link Eastern Section has been approved by the Registered Aboriginal Party, the Wurundjeri Tribe Land & Compensation Cultural Heritage Council and the Office of Aboriginal Affairs on the 15 April 2014.

The Committee makes no further comment on this.

### *Environment Protection and Biodiversity Conservation Act* 1999

The Committee does not need to consider Commonwealth approvals under the *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act), as the former Commonwealth Department of Sustainability, Environment, Water, Population and Communities determined on 24 April 2013 that the Project is not a controlled action requiring assessment and approval under the EPBC Act.

Some submissions suggested that there were errors in the referral. The Committee has addressed these briefly but considers if there are errors, then this is a matter for the Commonwealth to address.

### Victorian Heritage Register

The Committee advised at the Preliminary Hearing that it was aware that Royal Park had been nominated for inclusion in the Victorian Heritage Register in late 2103. The Executive Director, Heritage Victoria assessed the nomination and made a recommendation that the Park be included in the Victorian Heritage Register. The recommendation was advertised and the public were provided with 60 days to comment, which the Committee understood to be on or about 21 April 2014.

The recommendation of Royal Park for inclusion on the Victorian Heritage Register is a separate matter to these proceedings and it requires a separate process under the Heritage Act. The Committee advised parties that the nomination did not form part of the public hearings, nor could the Committee take submissions about it.

Since that time, the Committee is aware that some 153 submissions were received by Heritage Victoria about the nomination.

### Business Case for the Project

One of the matters raised by numerous submitters related to the business case for the Project. The Committee was not provided with the business case, and in response to a question to the LMA about this at the hearing, Mr Morris for the LMA advised that he too had not been provided with the business case for the Project.

The Committee was provided with the Executive Summary of the Short Form Business Case (Document 148) that was prepared as information for Infrastructure Australia in June 2013. This document essentially sets out the high level background and drivers for the Project, as well as the high level perceived benefits. It shows a benefit cost ratio of 1.4 at a real discount rate of 7% (the rate used for other projects including the Regional Rail Link, the Melbourne Metropolitan rail project and the West Gate Bridge Strengthening). It notes that “*the core result shows a benefit cost ratio of 1.4 including wider economic benefits for a major project of this nature targeting economic growth*”.

Mr Morris advised that in response to questions raised by the Committee and other submitters that it was important to have some idea of the costs associated with the Project. In this regard, he verbally provided ‘ball park’ ratios, which he thought might be useful. He expressed these as:

* One unit for one kilometre of ‘normal’ road;
* Three to five units for a kilometre of elevated or viaduct road;
* Three to five units for a kilometres of cut and cover; and
* Ten to fifteen units for a kilometre of tunnel.

Mr Morris advised that these comparisons depended upon a range of various and specific circumstances. For example, tunnelling costs are determined by geological and hydrogeological conditions, amongst others. In noting this, Mr Morris reiterated that the *Transport Integration Act* 2010 (TI Act) exhorts “*value for money*”.

In his closing submissions (Document 525), Mr Morris expanded upon his reasoning and reiterated that the Committee need not concern itself with any business case for the Project. He said:

Whereas a cost-benefit analysis may legitimately form part of the former type of assessment, there is nothing in the Act or in any applicable law criteria that requires a “cost-benefit analysis” to be undertaken as part of the assessment of a declared project. Indeed, for reasons discussed further below, it is not a tool that is particularly well suited to the type of qualitative assessment that the Committee is required to undertake.

Mr Morris further advised that “*even in the context of Government decision making, the suitability of using a cost-benefit analysis will depend upon the nature of the assessment being made, and the nature of the project and its impacts*”.

The Committee has not been able to take this any further, nor comment on the adequacy of the benefit cost ratio put forward, as it was not provided with the business case for the Project nor any economic assessment related to this.

Consequently, the Committee is limited in its understanding of the localised and wider economic benefits of the Project. It is for these reasons, that the following assessment and the findings and recommendations of the Committee are not based on economic imperatives.

### Melbourne Zoo

A number of submissions expressed concern about the impact of the Project on the Melbourne Zoo, which is located in Royal Park. Ms Stock in particular was passionate about what she saw as major detrimental impacts on the Zoo. Other submitters expressed similar views. The Committee did not receive a submission from the Zoo or DEPI, or any evidence about any impact of the Project on the animals. Other than commenting on potential vibration and noise effects on the Zoo, the Committee is not able to take this issue any further. It is noted that the Performance Requirements for the Project provide for ongoing consultation with the Zoo (and other stakeholders) and include actions and responsibilities aimed at minimising impacts as well as impact mitigation as necessary.

### Public Transport Projects

Numerous submissions commented that the Project should not be contemplated or built due to the need to build infrastructure such as the Doncaster heavy or light rail connection, Metropolitan Rail and the like. It is not the role of the Committee to consider these projects, it does not discuss the range of potential projects, it is outside of its Terms of Reference and it makes no findings or recommendations on these.

### Further Announcements post Hearing

There have been a number of significant announcements made by Government since the Hearing concluded that have a direct impact on the Project, especially in relation to Part B and the capacity to achieve a southerly connection to CityLink within Part A. Most of these are as a result of both State and Federal Budget commitments, as well as ongoing commitments by the State Government for road improvements. These include:

* A commitment to widen CityLink and the Tullamarine Freeway, which as the Committee understands, was briefly referred to as ‘Project Zebra’ during the course of the Hearings.
* A commitment to build Stage Two of the East West Link that is from the Western Ring Road to the Port of Melbourne. This project is known as WestLink.

# The Project

The Project is comprised of two main parts, referred to in the CIS as Parts A and B, “with Part A able to be built independently of Part B”. To illustrate how the Project may be developed, it is supported by a Reference Project. Parts A and B and the main elements of the Project associated with each, are illustrated in Figure 1 and described further.

Figure : East West Link Eastern Section Reference Project – Main Components

NOTE

To reduce the electronic size of this document, Figure 1 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: CIS Summary Report

### Part A – Linking the Eastern Freeway to CityLink

This section is proposed to extend from the western end of the Eastern Freeway in Clifton Hill to join with CityLink in Parkville. The main elements of the Project include:

* Twin tunnels approximately 4.4 kilometres in length between the Eastern Freeway and CityLink;
* An interchange at Elliott Avenue, with easterly oriented ramps allowing access to/from Elliott Avenue;
* Additional traffic lanes along the Eastern Freeway between Hoddle Street and Yarra Bend Road;
* A reconfigured interchange at Hoddle Street to the Eastern Freeway;
* A freeway to freeway interchange with elevated structures connecting the tunnel portals in Manningham Parklands to CityLink in both northerly and southerly directions;
* Additional traffic lanes on the Tullamarine Freeway section of CityLink; and
* An off ramp to Ormond Road and associated upgrades to the intersection of Flemington Road and Elliott Avenue.

### Part B – Linking CityLink to the Port

This section is proposed to extend southbound from Part A to the Port precinct. The main elements of Part B include:

* A three kilometre viaduct parallel to CityLink (located on the western side) from Mount Alexander Road to Footscray Road;
* A viaduct generally along the Footscray Road alignment; and
* An interchange at Appleton Dock and Footscray Road and provision for entry/exit ramps at Arden Street from the viaduct.

## Project Area Precincts

Parts A and B were divided into six precincts. Part A includes Precincts 1 to 4, whilst Part B includes Precincts 5 and 6. The location of each Precinct is depicted in Figure 4.1 of the CIS and is shown as Figure 2.

Figure : Project Boundary and Precincts 1 to 6

NOTE

To reduce the electronic size of this document, Figure 2 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: CIS Summary Report

### Precinct 1: Hoddle Street (Eastern Portal)

The eastern end of the Project is contained in Precinct 1. The Precinct commences on the Eastern Freeway at Yarra Bend Road (approximate chainage 2760) which is identified as the “*limit of works”* and proceed west to Smith Street (approximate chainage 5000). In addition to the alignment of the Project Part A works, the Precinct includes approximately 550 metres of Alexandra Parade which will remain as a surface road between the eastern tunnel portal and Smith Street. Precinct 1 is shown as Figure 3.

Figure : Precinct 1

NOTE

To reduce the electronic size of this document, Figure 3 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: CIS Summary Report

The following infrastructure elements are depicted in the Reference Design:

* Additional traffic lanes along the Eastern Freeway Reservation from Hoddle Street to Yarra Bend Road including a new bridge span over the Merri Creek;
* Relocation of the existing Groom Street/Trenerry Crescent pedestrian bridge;
* Reconfiguration of the Hoddle Street and Alexandra Parade interchange incorporating a new north to east connection from Hoddle Street to the Eastern Freeway shown as an elevated flyover. The structure passes over Alexandra Parade, Hoddle Street and the South Morang/Hurstbridge railway line. At this point it is six metres above the railway line. It then connects with the eastbound lane of the Eastern Freeway prior to Merri Creek;
* Provision of the eastern tunnel portal (at approximate chainage 4480);
* Connection of the Eastern Freeway with the Project tunnels via an open cut trench from Hoddle Street to the eastern portal, then via cut-and-cover construction to approximate chainage 4800, 100 metres west of Wellington Street; and
* Bored tunnel construction from chainage 4800 to Smith Street.

A tunnel ventilation structure near the eastern portal will need to be provided.

The most significant issues associated with this Precinct include the design, scale and siting of the interchange at Hoddle Street and Alexandra Parade, the location of the eastern portal proximate to sensitive uses, and the scale of impact associated with the proposed demolition of houses and businesses to enable the construction of a temporary sidetrack. Based on the Reference Project, there are 35 residential and 18 commercial properties proposed to be acquired in Precinct 1 to accommodate these elements. On completion of the works, the properties required for the sidetrack are identified as an urban renewal opportunity.

### Precinct 2: Alexandra Parade (Tunnel)

Precinct 2 includes the majority of the tunnelled section of the Project. It excludes the eastern and western tunnel portals. Precinct 2 is shown on Figure 4.

Figure : Precinct 2

NOTE

To reduce the electronic size of this document, Figure 4 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: CIS Summary Report

The tunnels are proposed to be twin tunnels bored approximately 20 to 30 metres underground. The Precinct commences at Smith Street (approximate chainage 5000). The plans indicate that the westbound bored tunnel is located north of the westbound carriageway of Alexandra Parade. The eastbound tunnel is located partially under and north of the eastbound carriageway of Alexandra Parade. They continue under private properties on the northern side of Princes Street, the Melbourne General Cemetery, Princes Park and Royal Parade. The Precinct ends at approximate Chainage 7400. The CIS indicated that if a mid-tunnel air intake structure is required, it is likely to be located within this Precinct. Its location will be subject to detailed design.

### Precinct 3: Royal Park (Western Portal)

Precinct 3 commences at The Avenue in Parkville (approximate chainage 7400) and continues in tunnel under Royal Park to chainage 8800, the western portal. Beyond the portal the ramp connections are shown as open cut and cover elevated structures. The Reference Project depicts an interchange at Elliott Avenue with the ramps to be constructed by mix of both cut-and-cover and open cut trenching. In this location a realignment of the Tram Route 55 is proposed. Precinct 3 is shown on Figure 5.

Figure : Precinct 3

NOTE

To reduce the electronic size of this document, Figure 5 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: CIS Summary Report

The Reference Project entertains adoption of cut and cover construction from 200 metres east of Elliott Avenue (approximate chainage 8000) through to the western tunnel portal located immediately to the west of the Upfield railway line (approximate chainage 28800).

The road alignment then proceeds via elevated ramps over Manningham Parklands/Ross Straw Field both to the north and south in order to provide links to CityLink and a future connection with Part B of the Project through to the Port of Melbourne.

The northbound connection from the western portal is shown to run parallel to CityLink along Moonee Ponds Creek. An off ramp is proposed at Ormond Road which is the northern extent of Precinct 3.

By way of summary, the main proposed infrastructure elements within this Precinct include:

* Elliott Avenue interchange;
* Construction under the Upfield Railway line;
* New bridges to separate Upfield Railway Line from the tunnel construction;
* Western Tunnel portal and associated ventilation structure;
* Realignment of Tram Route 55 through Royal Park;
* Five elevated ramps across Manningham Parklands/Ross Straw Field connecting to CityLink north, City Link south, and the future Part B viaducts;
* An off ramp to Ormond Road; and
* Upgrades to the intersection of Flemington Road and Elliott Avenue.

Fifty five residential properties located within the Proposed Project Boundary of Precinct 3 are proposed to be acquired. The Government has purchased the Evo Apartment complex which abuts the Proposed Project Boundary. This complex comprises six stories with 175 apartments.

### Precinct 4: CityLink

Precinct 4 extends to the north along the CityLink alignment from Ormond Road at chainage 10300 to the Moreland Road entry and exit ramps at approximately chainage 12400. South of Dean Street the proposed alignment extends outside the CityLink reserve and requires acquisition of three residential properties. The alignment also affects Ormond Park, Holbrook Reserve, and Moonee Valley Racecourse. Precinct 4 is shown on Figure 6.

Figure : Precinct 4

NOTE

To reduce the electronic size of this document, Figure 6 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: CIS Summary Report

### Precinct 5: Port Connection

Precinct 5 extends from the twin parallel elevated viaducts over Racecourse Road at approximately chainage 29640, to Footscray Road at chainage 32200. This route generally follows the alignment of CityLink on its western side. Provision for future on and off ramps to Arden Street is identified. The alignment crosses the eastern boundary of the recently upgraded Vision Australia Guide Dog facility, the West Melbourne Terminal Station, the major railway corridor leading to the north and west of the city and Dynon Road. Precinct 5 is shown on Figure 7.

Figure : Precinct 5

NOTE

To reduce the electronic size of this document, Figure 7 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: CIS Summary Report

Thirteen residential properties on Bent Street and 12 commercial properties on Stubbs and Barrett Streets are stated as requiring acquisition within Precinct 5. In addition, the proposed alignment impact upon numerous apartments and houses adjacent to the proposed viaducts, beyond the Proposed Project Boundary. As such, these properties are not eligible for acquisition.

### Precinct 6: Footscray Road

The CIS notes that permanent acquisition would not be required in Precinct 6. Precinct 6 is shown on Figure 8. Precinct 6 includes Footscray Road between Docklands Road and Appleton Dock Road and the former Wholesale Fruit and Vegetable Market.

Figure : Precinct 6

NOTE

To reduce the electronic size of this document, Figure 1 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: CIS Summary Report

## The Reference Project and Proposed Project Boundary

For the purposes of assessing impacts within the CIS, a Reference Project was defined. It included the proposed infrastructure alignment within a Proposed Project Boundary, identified key elements of the design and described the likely construction method, included a set of road design principles, an Urban Design Framework, noise minimisation and other standards, appropriate construction methods, and provided a framework for environmental risk and impact assessments.

The CIS stated that the Reference Project was developed by a “consortium of contractors and consultants including those with specialist tunnelling expertise”, and was then independently reviewed by experts in major infrastructure projects. It noted that the consortium considered the concepts presented in the Eddington Report (2008) (i.e. three broad corridors referred to as the northern, southern and central corridors respectively). The preferred final scheme selected was the central corridor, and was thereafter referred to as the Reference Project.

It was stated in the CIS that the Reference Project was subject to change, and the Project could be configured differently, particularly by firms tendering to construct and/or operate the Project.

Specific areas/approaches whereby variations to the Reference Project are possible include:

* Alternative locations/design for project structures;
* Change to the road alignment within the Proposed Project Boundary; and
* Alternative tunnelling construction techniques within Royal Park.

In the CIS, ‘Proposed Project Boundary’ is defined as that “area proposed to be gazetted as the ‘project area’ under the MTPF Act following consideration of the CIS. The Proposed Project Boundary would thus define the area in which the project components are proposed to be contained, and include areas that would be used for permanent structures and temporary construction areas”. The Proposed Project Boundary and the six precincts are shown in Figure 4.1 of the CIS.

However, within the Mapbook, an area said to be a Proposed Project Boundary is depicted by a blue dotted line within which the Reference Project is contained and constrained (see discussion at Chapter 5.5.1(ii)).

Within the Proposed Project Boundary, there are areas proposed for both permanent and temporary occupation. Temporary occupation of parts of Royal Park is proposed to construct the western portal, CityLink and Elliott Avenue interchanges and to accommodate construction site activities. The Proposed Project Boundary extends to the north of the Trin Warren Tam-boore Wetlands, reflecting the area that could be required potentially for construction activities. As defined, these lay down and construction zones within Royal Park could total 23.27ha, and will not be accessible to the public during the Project’s construction phase.

## Delivery Model

The CIS stated that the Project would be delivered in accordance with Performance Requirements developed through the assessment process, and that these Performance Requirements would set the standards that the Project should achieve in relation to the design, construction and operation phases. The stated aim of using such a delivery model was to enable sufficient flexibility to encourage innovation within the private sector.

In order to deliver the Project, “a contractor would be appointed under the Public Private Partnership availability model to finance, design, construct and operate the project. Linking Melbourne Authority would manage the contractor on behalf of the Victorian Government. The contractor would be required to comply with the performance requirements and Environmental Management Framework and any other approval conditions issued by the Minister for Planning”.

It is understood that three consortia have been short-listed for the Project, with bids due (and as the Committee understands, since received) on 28 April 2014, and that the preferred tenderer is likely to be announced in September 2014.

The construction period for the Project has been identified as five years for Part A, and three years for Part B, with construction proposed to commence in the latter half of 2014. The first year of either construction program would involve property acquisition, service relocation, and other pre-construction activities.

Although the CIS assessed the extent of cut and cover construction technique through Royal Park as a potential variation, it is mandated that “a conforming bid will include a full tunnel construction with no ground disturbance between Smith Street and approximately 200 metres east of Elliott Avenue”.

# Legislative and Policy Context

## Legislation and Applicable Law Approvals

The policy principles and objectives that underpin the development of the Victorian transport system are found within the *Transport Integration Act* 2010 (the TI Act). The legislation directing the framework for the assessment and approval of the Project is the MTPF Act.

The applicable approvals sought are:

* Works approval under s19B of the *Environment Protection Act* 1970 (the EP Act);
* Planning Scheme Amendment approval under s8, s29, and s35 of the *Planning and Environment Act* 1987 the (P&E Act);
* Permit under s74 of the *Heritage Act* 1995 to carry out works or activities in relation to a registered place or registered object;
* Consent under s129 of the *Heritage Act* 1995 for impact on archaeological relics;
* Consent under Clause 1 of schedule 2 of the *Road Management Act* 2004 allowing connection to a freeway;
* Licence under s67 of the *Water Act* 1989 required to construct, alter, operate or decommission works on a waterway, including works to deviate a waterway; and
* Comments from the Secretary pursuant to s66 of the *Conservation, Forests and Lands Act* 1987 on plan of works across waterways.

### *Transport Integration Act* 2010

The TI Act provides the framework to ensure that all components of the transport system are considered together and that transport and land use planning are fully integrated (ss11, 12, 15 TI Act).

The TI Act provides that:

* All decisions should be based on a triple bottom line (social, economic and environmental) assessment, taking account of externalities and value for money, with a long-term outlook on the wider transport and land use system (s16 and s17);
* The transport system should provide for the effective integration of transport and land use and facilitate access to social and economic opportunities (s11);
* The principle of transparency means members of the public should have access to reliable information to foster a good understanding of transport issues and the process by which decisions about the transport system are made (s21); and
* A transport body (as described in s27A(1)) must develop a strategy and implementation plan (s27A(2)), and the strategy and implementation plan must specify the processes and procedures that the transport body will put in place to enable it to have regard to the transport system objectives (Division 2 s7-13) and decision making principles (Division 3 s15-21). The decision making principles include integrated decision making, equity, the perspective of the transport user, and the precautionary principle.

With regard to the principle of triple bottom line, the Committee is not in a position to undertake an economic assessment of the Project, and could not inform itself through a triple bottom line assessment. Further discussion of the relationship between the MTPF Act and the TI Act is found in Chapter 5.5.3 of this report.

### *Major Transport Projects Facilitation Act* 2009

The Premier of Victoria declared the “*proposed freeway-standard link between the Eastern Freeway and the Tullamarine Freeway generally along the Alexandra Parade corridor, with a further southerly connection to the Port of Melbourne area*” as a declared Project under s10 of the MTPF Act in December 2012.

The Project has been declared to be a road transport-related project for the purposes of the TI Act and a designated road project for the purposes of the *Road Management Act* 2004.

The MTPF Act enables a ‘declared project’ to be assessed and approved under one of two processes:

* Impact Management Plan (IMP) process, which according to DTPLI, applies to transport projects where the land is wholly owned by a public authority or reserved for a public purpose and certain approvals are either not required or have been granted; or
* A Comprehensive Impact Statement (CIS) process.

Because the East West Link requires approval under a number of Acts within Schedule 1 of the MTPF Act (referred to as the ‘applicable laws’), a CIS process is required as opposed to a more streamlined IMP process. An approval decision is made by the Minister for Planning under the MTPF Act and is the approval decision for the applicable laws.

### *Planning and Environment Act* 1987

The *Planning and Environment Act* 1987 (P&E Act) establishes the objectives for planning in Victoria and provides for the Victorian Planning Provisions (VPP) which set the policy framework.

The Project requires a Planning Scheme Amendment under the P&E Act. The LMA exhibited Amendment GC2 to the Melbourne, Moonee Valley, Moreland and Yarra Planning Schemes with the CIS. Amendment GC2 is one of the more substantial applicable approvals that is required for the Project. Preparation, approval and adoption of a planning scheme amendment is required under s8, s29 and s35 of the P&E Act.

#### The Applicable Approval

Amendment GC2 seeks to introduce, amongst other things, an Incorporated Document into the Melbourne, Moonee Valley, Moreland and Yarra City Council Planning Schemes that will allow the use and development of the land for the purposes of the Project (as defined by the Premier as the ‘declared project’) without the need to obtain planning permission and without the need to otherwise comply with the provisions of the relevant planning schemes.

Whereas the other applicable approvals relate to discrete components of the Project, Amendment GC2 relates to the Project in its entirety. Amendment GC2 relates Part A and Part B of the Project.

Amendment GC2 introduces a site specific planning control contained in an Incorporated Document that would apply to land in the Proposed Project Boundary as finalised through the CIS process (and incorporating any changes to the Proposed Project Boundary that may be required by the Minister for Planning’s decision on whether to grant some or all of the applicable approvals).

The Incorporated Document would authorise use and development of the land within the finalised boundary for the purposes of the Project and its associated activities.

To ensure that the development of land above the tunnel is not adversely affected by the tunnel's construction or operation, and that such development does not adversely affect construction or operation of the tunnel, the planning scheme amendment (as exhibited) introduces new schedules to the Design and Development Overlay to land above the tunnel in the municipalities of Melbourne and Yarra. This would require a planning permit to be obtained for buildings and works that are 15 metres or more below ground level, and notice of the application to be given to the Roads Corporation as a referral authority. It is noted that the LMA’s final submission advocates for the removal of the Design and Development Overlay provisions from the Amendment material. This matter is discussed in Chapter 18.3.

Under the MTPF Act, it is the Minister for Planning who will determine whether to adopt or abandon the Amendment. The Minister for Planning would be the Responsible Authority for administering and enforcing the planning scheme provisions applicable to the use and development of land for the Project.

### *Heritage Act* 1995

The *Heritage Act* 1995 regulates the protection and conservation of places and objects of cultural heritage significance listed on the Heritage Register maintained under the Act and archaeological sites and relics, including those listed on the Heritage Inventory.

#### The Applicable Approvals

The CIS lists registered heritage places situated within Precinct 2 of the alignment in Table 3-3 of the CIS that will require a permit for ‘works and activities’ under s74 of the *Heritage Act* 1995. No other precincts within the alignment contain heritage places or objects that are included in the Heritage Register and accordingly no further permission is required, or can be granted, under the relevant provisions of the Heritage Act.

These registered heritage places are H1788, H1606, H2198, H1545 and HO394, all located within Precinct 2 - Alexandra Parade Precinct (Tunnel).

Pursuant to s73(1) of the *Heritage Ac*t, the Committee must consider the manner in which the application relates to the statutory duties of public authorities (of which the LMA is an example).

Consent under s129 is required for Heritage Inventory Places H7922-0142, H7822-0209, H7822-2311 for Part A of the Project, and required for Heritage Inventory Place H7822-0312 located within Part B of the Project.

### *Environment Protection Act* 1970

The *Environment Protection Act* 1970 (EP Act) regulates certain activities that have the potential to impact on the environment. The main areas with regard to protecting the environment and human health under the EP Act are air quality, noise, energy and greenhouse gas emissions, surface waters, groundwater, contaminated soils and waste.

There are a number of State Environment Protection Policies (SEPPs) that are relevant to the assessment of the Project. SEPPs are subordinate legislation made under the provisions of the EP Act to provide more detailed requirements and guidance for the application of the EP Act to Victoria.

SEPPs of relevance to the Project are:

* SEPP (Ambient Air Quality) 1999 (as amended in 2001) sets air quality objectives and goals for the whole of Victoria. The SEPP adopts the requirements of the [National Environment Protection (Ambient Air Quality) Measure](http://www.comlaw.gov.au/Series/F2007B01142) (AAQ NEPM). This NEPM sets standards, goals, monitoring and reporting protocols for six common pollutants: carbon monoxide (CO); nitrogen dioxide (NO2); photochemical oxidants (as ozone); sulfur dioxide (SO2); lead; and particles as PM10. The NEPM was varied in 2003 to include advisory reporting standards for PM2.5.  The SEPP includes a separate objective for visibility reducing particles, which is not included in the NEPM. SEPP (Air Quality Management) 2001 requires generators of greenhouse gas emissions to manage the emissions in the same way that other emissions are managed, in particular requiring best practice to be applied. The policy refers to the development of protocols for environmental management relating to greenhouse gas emissions, which are to be applied in Works Approvals, licensing and other development approvals.
* Protocol for Environmental Management – Greenhouse Gas Emissions and Energy Efficiency in Industry (the ‘Greenhouse PEM’) requires that, where operation of the proposed works will exceed defined thresholds, the proponent must identify and install best practice energy efficient plant and equipment.
* SEPP (Waters of Victoria) (SEPP (WoV)) 2004 is the overarching policy which deals with the standards required to protect beneficial uses. The schedule within it specifically dealing with the Yarra catchment (Schedule F7) is the one that needs to be adhered to. Clause 57 within the SEPP (WoV) requires road managers to manage stormwater runoff. The focus of the surface water assessment has been on the two ends of the tunnel – Merri Creek/Yarra River at the eastern end, and Moonee Ponds Creek at the western end.
* SEPP (Prevention and Management of Contamination of Land) 2013 has been developed based on the National Environment Protection (Assessment of Site Contamination) Measure. It is applicable to the onsite management of contaminated land and soils.
* The Environment Protection (Industrial Waste Resource) Regulations 2009 provide the requirement for the off-site management of wastes, including soils. These regulations are specific to wastes and soils that have high contaminant concentrations, which are referred to as Prescribed Industrial Waste (PIW).
* The Environment Protection (Scheduled Premises and Exemptions) Regulations 2007 provide the requirements for when a Works Approval and licence is required. These may apply if on-site treatment or if a facility for the on-site retention of contaminated soil is required.
* The Industrial Waste Management Policy (Waste Acid Sulfate Soils) 1999 is specific for the management of soil, sediment or disturbed rock containing metal sulphides.
* The SEPP N-1 policy applies to the noise generated by the plant and equipment under the control of the project operator, which effectively comprises the tunnel ventilation system.
* Environment Protection (Vehicle Emissions) Regulations 2003 applies to operational aspects of the Project.

#### The Applicable Approval

A Works Approval under s19B of the EP Act is required for a road tunnel ventilation system as specified in the *Environment Protection (Scheduled Premises and Exemptions) Regulations* 2007.

The Works Approval is only applicable to Part A of the Project. This is because the road tunnel ventilation system is the only component of the Project that constitutes a ‘scheduled premises’ for the purposes of the EP Act and the *Environment Protection (Scheduled Premises and Exemptions) Regulations* 2007.

Under s20 the EP Act, an environmental discharge licence is required prior to operation of the approved road tunnel ventilation systems to permit emissions to air. The licence would contain relevant conditions based on the Project's environmental risk, including discharge limits. Licensing usually follows the completion of works that have been subject to a Works Approval. Licensing of the tunnel ventilation system is not part of this MTPF Act process and not a matter for the Committee to consider; the licence will need to be obtained by the successful contractor prior to the commencement of the operation of the tunnel.

Wastewater discharges to surface waters may require a Works Approval and Licence depending on the volume and duration of any discharge. Such discharges are not included in the CIS or the Applicable Approvals sought. If they become necessary in detailed project design a separate Works Approval and Licence will need to be applied for as necessary.

Under the MTPF Act, it is the Minister for Planning who may issue a Works Approval. Under the CIS process, the EPA will provide its advice to the Minister for Planning on whether a Works Approval should be issued for the tunnel ventilation system and, if so, whether it should be subject to conditions. The EPA advice must be provided within 30 business days of the Public Hearing, concurrent with the timing of the Committee's report.

### *Road Management Act* 2004

The *Road Management Act* 2004 establishes a framework for the management of the road network in Victoria that facilitates the coordination of the various uses of road reserves for roads, infrastructure and similar purposes. The Act provides for the role, functions and powers of road authorities, depending on the type of road concerned.

#### The Applicable Approval

Consent by the Minister for Roads under Clause 1 of Schedule 2 of the *Road Management Act* 2004 is required and this applicable approval relates only to the point at which Part A of the Project will connect to the Eastern Freeway and the points at which Parts A and B of the Project will connect to CityLink. A key consideration in determining whether consent should be granted is the “*principal object of road management”* which is *“to ensure that a network of roads is provided primarily for the movement of persons and goods as part of an integrated transport system and that road reserves are available for other appropriate uses”.*

### *Conservation, Forests and Lands Act* 1987

The *Conservation, Forests and Lands Act* 1987 has a primary purpose to provide a framework for public land management, including measures to be taken for the protection of land, waters and wildlife.

#### The Applicable Approval

A comment is to be provided from the Secretary of DEPI on the plan of works across a waterway under s66 of the *Conservation, Forests, and Lands Act* 1987. This is required for works across and under the Moonee Ponds Creek for Part B of the Project.

### *Water Act* 1989

The *Water Act* 1989 governs water entitlements and establishes the mechanisms for managing Victoria's water resources, including works within waterways.

#### The Applicable Approval

The Licenses to construct, alter, operate or decommission works on a waterway under the *Water Act* 1989 (Vic) will be required for the project.

The works proposed are in respect of the Merri Creek and the Moonee Ponds Creek, and will require approval pursuant to Part 5 of the *Water Act* 1989. Licences are required for Part A and Part B of the Project.

### Other Relevant Legislation

The LMA advised that all other statutory approvals required for the Project would be obtained by the contractor under the relevant applicable legislation. These approvals would include an environmental discharge license under the EP Act associated with the operation of the tunnel ventilation system, consent to carry out certain works on a road under the *Road Management Act* 2004 and potentially permits and consents under the *Flora and Fauna Guarantee Act* 1988 and *Wildlife Act* 1975 for the removal of native flora and fauna, particularly for removal of flora or fauna on Crown land.

## Policy

### State Policy

#### State Planning Policy Framework

The State Planning Policy Framework (SPPF) is contained in Clauses 10 to 19 of the Victoria Planning Provisions (VPP). The SPPF, which is a broad expression of government planning polices, currently makes no reference to the East West Link project.

The Committee is aware that the SPPF is being reviewed by an Advisory Committee. Among that Advisory Committee’s published Terms of Reference is a requirement to provide written advice to the Minister for Planning on the role, structure and format of a revised SPPF that integrates and aligns State planning policy with recently announced or approved policy, including key strategic directions of *Plan Melbourne*.

In March 2014, the Advisory Committee released a draft document titled *Integration version* of the Planning Policy Framework for review and for public comment, closing on the 23 May 2014. That version of the revised SPPF was based on the draft of *Plan Melbourne* as released in October 2013. It is understood that consistent with the approach to not list projects, the *Integration version* made passing references to the East West Link.

Clause 3 of the *Integration version* provides The Planning Vision and under Planning for Cities - City structure and productivity, Strategy 1.3 says:

Facilitate the growth and development of Melbourne as identified in the Metropolitan Melbourne Framework.

Map 8 refers to the Melbourne Metropolitan Framework and it references ‘Potential Road’ in the general vicinity of the proposed route, but does not specify it as East West Link.

Cause 12 of the *Integration version* relates to Economic Development, and location of employment, it is noted that:

An integrated economic triangle will connect the Hastings-Dandenong corridor with the Hume corridor to the north and the Wyndham-Geelong corridor to the south-west. This Integrated Economic Triangle will encompass the following elements:

* …
* the East West Link and the North East Link

Clause 12 relates to transport. Although the East West Link project is not referenced under the Transport System at Clause 12.01 or under the road network at Clause 12.06, it is referred to at Clause 12.07 Freight and Logistics where the long-term freight network vision plan names a new road link as East West Link.

#### Plan Melbourne

*Plan Melbourne* provides the key policy expression for the Project. It was launched by the Premier and the Minister for Planning as adopted Government policy on 19 May 2014.

A *More Connected Melbourne* highlights the need to provide an integrated transport system connecting people to jobs and services, and goods to market. In discussing city shaping transport projects, *Plan Melbourne* says:

The most significant road project is the East West Link, which will fix a major gap in our freeway network and provide significant improvements in cross-city traffic movements and freight flows.

Direction 3.1 is to transform the transport system to support a more-productive Central City, and Initiative 3.1.1 is to build the East West Link as an integrated transport and land use project. In this regard, *Plan Melbourne* notes:

Demands for road travel from east to west across our metropolis is expected to grow by 38 per cent between now and 2031, to 440,000 trips per day. The freight task in Melbourne is also growing quickly … we currently have no alternative to the M1 for direct cross-city road connections, with particular implications for freight vehicles due to their heavy reliance on the freeway network.

The East West Link will be an 18-kilometre freeway connecting the Eastern Freeway to the M80 Ring Road to the west of the Maribyrnong River … the East West Link will provide a number of major benefits to our city. By providing a cross-city route, this link will reduce the number of vehicles on central arterial roads and local streets.

The East West Link – Eastern Section will link the Eastern Freeway at Hoddle Street via a tunnel to CityLink at Parkville. This part of the project will reduce the daily queues where the Eastern Freeway abruptly ends at Hoddle Street. Recent studies have shown that most of this traffic is trying to get across town, not into the CBD. It will also improve access via CityLink to the M1, the Port of Melbourne, Melbourne Airport and the Western Ring Road/Hume Freeway.

In providing the implementation and timing for the Project, *Plan Melbourne* notes that commencement of the construction for East West Link Stage 1 will occur in the short term. It further notes that the completion of the full East West Link freeway project connecting the Eastern Freeway to the M80 Ring Road will occur in the medium term.

Initiative 3.1.2 notes the move towards a Metro-style system, starting with *Melbourne Rail Link*, and says:

The Melbourne Rail Link will be the centrepiece of a metro-style system that will significantly expand the metropolitan passenger rail network and increase services to Melbourne’s growth area in the north, west and south-east …

The Melbourne Rail Link includes the Airport Rail Link, a frequent and reliable rail service running between Melbourne Airport, the CBD and Melbourne’s south-east, and providing the benefit of directly linking Melbourne Airport to Sunshine and Southern Cross station ...

By increasing capacity, the Melbourne Rail Link will allow for a future rail extension to Rowville and the addition of the South East Rail Link, which will provide the additional rail freight capacity to service a future Port of Hastings and unlock capacity for enhanced regional passenger services for Gippsland.

Planning for the Melbourne Rail Link is to commence in the short term, with construction to occur in the medium term.

Map 20 of *Plan Melbourne* shows the alignments for the East West Link and the Melbourne Rail Link.

### Local Policy

Relevant local policies include:

**City of Melbourne**

* Parks Policy 1997
* Royal Park Master Plan 1998
* Cities of Melbourne, Port Phillip, Stonnington and Yarra: Inner Melbourne Action Plan 2005
* Towards a Better ‘Public Melbourne’ Draft Urban Design Strategy 2006
* Royal Park Stormwater Wetland and Reuse Scheme 2009
* Open Space Strategy 2012
* Urban Forest Strategy 2012
* Arden-Macaulay Structure Plan 2012

**City of Yarra**

* Yarra River Policies and Planning 2004
* Yarra Industrial and Business Land Strategy Review 2004
* Cities of Melbourne, Port Phillip, Stonnington and Yarra: Inner Melbourne Action Plan 2005
* Smith Street Structure Plan 2008
* Smith Street Activity Centre Structure Plan – Transport and Parking Framework 2008
* North Fitzroy Gasworks Precinct Urban Design Framework 2008
* Yarra Urban Design Strategy 2011, North Fitzroy Gasworks Precinct Urban Design Framework 2008
* Johnston Street Local Area Plan – Draft 2011
* Yarra Urban Design Strategy 2011
* Yarra Business and Industrial Land Strategy 2012
* Housing Strategy 2010–2013

**Moonee Valley City Council**

* Debney’s Park Master Plan 2009
* Open Space Strategy 2009
* Travancore Park Feasibility and Options Study 2012

Policies such as the Royal Park Master Plan 1998 and the Arden-Macaulay Structure Plan 2012 were the subject of much discussion at the Hearing, and are discussed in further detail in Part B of this Report – Assessment.

## The Eddington Report

### Background

In 2006 the Victorian Government retained Sir Rod Eddington to “*conduct an investigation into the best transport solutions for connecting Melbourne’s eastern and western suburbs*”. This request culminated in a report dated March 2008 entitled *Investing in transport – East West Link Needs Assessment*, generally known as the Eddington report.

The Eddington report noted that there is clear evidence that Melbourne needed a better east-west connection to address core congestion within the transport network, meet rapidly increasing travel demand, support a growing population (noting the growth predicted in the west) and “*to keep pace with the changes taking place in the city’s economic and urban structure*”.

The report included 20 recommendations, the fourth of which stated; *“planning work should commence on the staged construction of a new 18km cross city road connection extending from the western suburbs to the Eastern Freeway*”. This route was divided into two major sections, being the inner west to the Port (now commonly referred to as the Western section) and west Melbourne to the Eastern Freeway (that which is the subject of this hearing - Parts A and B), with alternatives or sub-sections within each component.

The Eddington report concluded “*the most urgent need is an alternative to the West Gate Bridge – a tunnel under or a bridge over the Maribyrnong River, connecting to a northern bypass of the city*” (the ‘western section’).

The State Government has determined that the cross-city road connection as defined in the CIS is the priority rather than the second crossing of the Maribyrnong River.

On page 204 of the Eddington report, it defined the cross city road tunnel:

This would pass under Royal Park, providing an east-west link from the Western suburbs, the Port of Melbourne and the Tullamarine Freeway to the Eastern Freeway. The tunnel has the potential to remove a significant amount of surface traffic from crossing Royal Park, consistent with the park’s master plan.

However, the closure of Elliott Avenue was not considered by the Eddington Report. Further on page 218:

West Melbourne to Flemington/Parkville - This section would require a mix of cut-and-cover and bored tunnel construction in order to traverse the fully developed inner city areas of Kensington and North Melbourne. From the port interchange, the route follows a north-east alignment adjacent to Kensington Rd, with J.J. Holland Park required as a staging point for deep tunneling (to be fully restored at the end of construction).

Tunnels in this section would be two or three lanes in each direction.

Flemington/Parkville to Eastern Freeway - The alignment for this connection would follow a route under Royal Park, Cemetery Road, Princes Street and Alexandra Parade. At the western end, the tunnels would diverge to provide long, two-lane connections to CityLink for north-bound traffic.

And with regard to access to the City:

The Study Team notes that while there is clearly a desire for city access by traffic leaving the Eastern Freeway, there are sound operational, functional and strategic reasons for this section to act as a northern city bypass, and city access ramps have not been included. The Team did not identify any significant demand for a southerly connection to CityLink.

……..

… the Study Team has not provided city access ramps on the Eastern Freeway to CityLink section. Given existing congestion on north-south roads such as Nicholson Street and Smith Street, it would be difficult to provide city access without adding to current congestion problems and possibly causing queuing in the tunnels.

The western section of the route was termed ‘WestLink’ and in October 2010, the LMA released a Community Update, indicating the *“longer tunnel gets the green light*”, describing the preferred route for the WestLink project. Stage 1 of the Project commenced at Paramount Street, north of Somerville Road and terminated at Dock Link Road.

In 2012 the State Government announced that it would proceed with the Eastern Section of the Project, comprising two parts. Three broad corridors were identified and assessed: a northern, central and southern. This is shown in Figure 9.

Figure : Potential Location of Corridors

NOTE

To reduce the electronic size of this document, Figure 9 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: CIS Summary Report

The CIS noted (Chapter 4, p4) that these options were further refined as part of the development of the business case for the Project. The central corridor was recommended for further investigation and formed the basis of the Reference Project.

Options were considered for Part B and it was concluded that a viaduct on the west side of CityLink was the “*best performing option*”.

### Submissions

The LMA maintained throughout the course of the Hearings that the Project is consistent with the recommendations of the Eddington report. It further submitted that although the Eddington report suggested there be no city access ramps, the Elliott Avenue interchange cannot be fairly regarded as a ‘city access ramp’. Rather, the LMA said the Elliott Avenue interchange provides a surface connection to traffic headed to destinations to the inner west, and the interchange “*facilitates access to the Parkville precinct, something that is wholly consistent with the findings of the Eddington Report”*. With regard to the access ramps off Hoddle Street, the LMA pointed to the section of the Eddington report that stated *“… there would probably be a need to be widening of the Eastern Freeway to allow the lane configuration necessary for traffic to enter the tunnel or exit to Hoddle Street and Alexandra Parade would be a necessary element of the work*” and “*westerly ramps would be included near Hoddle Street and Queens Parade to facilitate local access”.*

The City of Yarra disagreed with the LMA’s analysis of the Eddington report and it suggested that “*the Project as presently designed is actually at odds with its [Eddington’s] recommendations*”. One of the inconsistencies raised by Yarra is that the Project includes inner city access between Hoddle Street and CityLink, which the LMA say is vital and which Yarra say is against the recommendations of the Eddington report.

Further, Yarra argued that the Eddington report stated that the most urgent transport need was for an additional alternative river crossing to take pressure off the West Gate Bridge. Other submitters noted this key Eddington report recommendation, with particular points raised including:

* Eddington supported a wide range of interventions aimed at improving east-west travel in Melbourne, of which East-West Link was one;
* Eddington rejected a tunnel along the lines proposed by the LMA, in the sense that it did not support a tunnel using the northern alignment under Royal Park, nor the inclusion of exit and entry points between Clifton Hill and City Link, whereas the LMA is proposing entry and exit portals at Elliott Avenue, Parkville.
* Eddington’s own supporting documents cast doubt on whether the benefits of East West Link would outweigh the prohibitive costs.

Other submitters questioned the traffic modelling contained within the CIS and pointed to the traffic modelling undertaken for the Eddington report that suggested only 12 per cent of Eastern Freeway traffic was destined for CityLink and the northwest, with the remainder destined for the CBD or the Hoddle Street/Punt Road corridor to the south-east.

The Planning Institute of Australia (PIA) (Submission 702) submitted that its qualified support for the 2008 Eddington recommendations do not extend to this current Project proposal because “*PIA does not believe that the current proposal addresses either the context or the detail of the Eddington recommendations”*.

### Discussion

The Committee notes that the Eddington report emphasised the need for a better east-west road connection across Melbourne for the reasons outlined above. The CIS provides a number of reasons why the Government is proceeding with the Eastern section of the Project first, rather than the Western (or second Maribyrnong River crossing). These reasons include connecting Melbourne’s freeway network and ‘gateways’, providing a completely new cross-city link, and alleviating congestion at the end of the Eastern Freeway. The CIS suggested that if the Western section were to be built first, it would become another freeway standard road that comes to an end in the inner city, potentially generating further congestion.

The Eddington report indicative study area includes the area of the options assessed as part of the CIS. The Eddington study area was quite broad and extended from the Western Ring Road at Deer Park Bypass to east of Hoddle Street at the Eastern Freeway. The description provided by the Eddington report of the cross city road connection as part of the study area options generally accords with the Reference Project, except that no city access ramps were provided for in the Eddington options. Designs such as flyovers and viaducts were not detailed in the Eddington report.

The Committee notes that the LMA put forward that the Elliott Avenue and Hoddle Street interchanges are not strictly city access ramps.

For Part B of the Project, the LMA recognised in its submission that it does not follow the precise, preliminary alignment suggested in the Eddington report. The LMA provided the following reasons for this:

1. *First, there are significant geo-technical issues associated with constructing a tunnel in the broad area identified in the Eddington Report;*
2. *Second, even if a tunnel were possible, it would be likely to be prohibitively expensive; and*
3. *Third, there have been significant changes in the strategic context of Melbourne that have emerged in the 6 years since the Eddington Report, changes that include:*
   1. *The proposed redevelopment of Fisherman’s Bend;*
   2. *The proposed redevelopment of the Arden-Macaulay precinct;*
   3. *The increasing population and job growth in the Melbourne CBD, Docklands and Southbank; and*
   4. *The increased freight activity at the Port of Melbourne, (p37-38 Main Submission).*

### Conclusion

The Committee accepts that the Eddington Report provides a sound basis for the need for an east-west cross city road. However the Committee considers the CIS overstates the level of support in the Eddington report for the construction of the east-west city crossing (from CityLink to the Eastern Freeway) as the priority project. The Committee notes that the preferred designs (e.g. interchanges and other components of the Reference Project) proposed by the LMA in the CIS for both Part A and Part B of the Project are not necessarily consistent with the recommendations for a ‘city bypass’.

The Committee further notes that many of the recommendations of the Eddington report were related to increasing the efficiency of public transport and the use of public transport as an alternative mode of travel, in particular to the CBD.

Notwithstanding, the Committee accepts that the Eddington Report provides the catalyst for this Project.

## Planning for Major Roads

Until the mid 1970s, VicRoads (and its predecessor the Country Roads Board) placed ‘notice of fixed alignments’ on potential road alignments. A review of such ‘fixed alignments’ in the 1990s was undertaken in which many were changed to road reserves with the application of a Public Acquisition Overlay (PAO).

Road and freeway planning requires road reservations to be put in place, mostly by placing a PAO over the land proposed for the road or freeway. Some of the road reserves or PAO’s previously identified in the 1970s were for roads that may never eventuate.

One of the key early road planning studies undertaken was the 1969 Melbourne Transportation Plan, which was a road and rail transport plan for Melbourne that recommended 510 kilometres of freeway for metropolitan Melbourne, as well as extensive railways including the underground city loop (opened gradually between 1981 and 1985) and the Doncaster rail line (yet to be constructed).

In inner Melbourne, opportunities were limited to implement the plans of the 1969 study due to areas already being developed. However, in greenfield areas the plan was able to identify optimum routes and reserve the land well in advance of development. Though the proposed network was refined in 1973 by removing some of the more controversial inner city alignments, it set the basis for the current freeway network (for example, CityLink with its construction completed in 1999 and then since upgraded, EastLink where construction was completed in 2008 and the Peninsula Link where construction was completed in 2013).

Other examples of major roads where there has been a long planning time frame include:

* Western Ring Road - The Western Ring Road project was proposed as part of the 1969 Melbourne Transportation Plan and has been documented in almost every edition of the Melway Street Directory since that time. Construction of the Western Ring Road began in 1989 with work on the Broadmeadows section. It was completed with the final link between the Calder and Tullamarine Freeways in the mid 1990s, and has now since been widened.
* Geelong Bypass – One of the first plans for a ring road of Geelong dates back to 1969, when a report was released by the Geelong Regional Commission. The alignment was first finalised in 1979 and appeared as a proposed freeway in the Melway Street Directory for a number of years. The project was subject to a planning and Environment Effect Statement process, and construction was completed for the first stage in 2009. It has been extended in stages and now has a link to Torquay.
* Shepparton Bypass - The planning study to determine the alignment for the future Goulburn Valley Highway bypass of Shepparton commenced in 1995. The study involved the development of options for the construction of a dual carriageway of approximately 36km in length. The alignment was adopted in December 2001. The boundaries for the bypass have now been finalised and were incorporated into the local Planning Scheme in late 2006. Construction has not yet commenced.

In more recent years, the approach to reserving land for a road project generally commences when either:

* A Precinct Structure Plan or land use planning exercise is put forward by a Council which involves new or duplicated arterial roads, VicRoads will assist the planning authority; or
* Funding has been allocated to a project.

While it is clear that the Eddington Report provides the most recent basis for the East West Link, the detailed planning for the Eastern Section has been much more recent. Mr Wren tabled extracts from recent Melways (Document 105) that has the alignment for the WestLink section included. The alignment extends from the Western Ring Road at Sunshine West to West Footscray where it appears to then be in tunnel, and emerges near Dynon Road adjacent to the Melbourne Fruit and Vegetable Market. There is no similar notation for this Project.

The Committee acknowledges that the LMA has a sound track record in managing complex road projects on behalf of the Government and the wider community. It was responsible for delivering the $2.5 billion EastLink project, which the Committee notes was opened five months early. The Authority delivered the $759 million [Peninsula Link](http://www.linkingmelbourne.vic.gov.au/pages/peninsula-link.asp) project, which opened in early 2013. Both these projects have been acclaimed for their high quality functional and design elements.

A key challenge and difference with this current Project is that it proposes a new road that passes through (and under) an established and densely populated inner city area, and through parks adjacent to these areas. The detailed planning for such a road must therefore be undertaken with sensitivity, care and with a high level of community engagement.

Document 106 tabled by Mr Morris is the October 2010 copy of ‘WestLink News’, and while the Committee recognises there were community updates for this East West Link Project, the time frame for these was significantly truncated.

Mr Keys for the City of Melbourne was the only witness who provided a strategic overview of road planning in Melbourne. His evidence was useful as it put the evolution of the Project in a context that showed that planning for an east-west link across the northern suburbs of Melbourne has been mooted in one form or another since 1954. He advised that the 1954 Metropolitan Planning Scheme discussed improved east west connections and the 1969 Transport Plan further refined a possible connection. The 2003 Northern Central Corridor Study found a link could not be justified, but the Eddington Report in 2008 found there was a case for a connection.

# Exhibition of CIS and Submissions

## Exhibition

The CIS was exhibited for a period of 30 business days from 31 October to 12 December 2013, during which submissions could be received. In accordance with s54(2) of the MTPF Act, an Assessment Committee may receive and review a submission that is made after the end of the public exhibition period, and some submissions were received several weeks after the closing date.

There were 1477 ‘properly made’ submissions provided to the Committee. A breakdown of the submissions received is given below:

* Nine were received from Local Councils;
* Nine were received from Government departments/agencies/operators;
* Six were received from Members of Parliament;
* 90 were received from community, sporting and business groups;
* 1363 were received from individuals.

A total of 69 submitters requested that their submission be considered as confidential, of which 30 such requests were granted. Of these submissions, 22 were published in a redacted form (s53(2) of the MTPF Act), six were withheld from publication, and two were published in an edited form. A full copy of all such submissions was provided to the LMA (s55 of the MTPF Act).

Another 262 submissions deemed ‘not properly made’ were also received (Note – these submissions were in the form of an identical proforma submission). These submissions were reviewed by the Committee, (s54(2) of the MTPF Act), as it is at the discretion of the Committee whether submissions that are ‘not properly made’ are considered. These submissions were however not placed on the web page but were provided to the LMA.

The submissions were received from across Victoria, including Yarrawonga, Mallacoota, Inverloch, and Hamilton (Document 15: Sheet 1, Figure 1). However the majority of submissions were received from metropolitan Melbourne, with the largest clusters located at the:

* Eastern end of the project in the City of Yarra, in suburbs including Abbotsford, Victoria Park, Clifton Hill, and Collingwood (Figure 3, Sheet 16, Document 15). This area was defined in the Project description as Precinct 1; and
* Western end of the project in the Melbourne and Moonee Valley Council areas, in suburbs including Moonee Ponds, Travancore, Parkville, Flemington, and Kensington (Document 15: Figure 3, Sheets 5, 9 and 13). This area was defined in the Project description as Precincts 3, 4 and 5.

## Summary of Issues Raised

There were 18 broad ‘issue’ categories identified in the submissions received by the Committee, these included traffic, visual/urban design, planning, the LMA, biodiversity, social, air quality, European cultural heritage, noise, Greenhouse gas emissions, business, vibration, the overall environmental management framework, legal matters, surface water, contamination, groundwater, and Aboriginal cultural heritage.

Around one fifth of submissions made comments related to traffic and transport issues, whilst around 15% of submissions included comments regarding visual and urban design, the LMA, and planning. Around one in ten submissions made comments related to biodiversity matters, whilst social, air quality, European cultural heritage, and noise were mentioned in around one in twenty submissions.

In relation to traffic and transport issues, many submitters made comments regarding the veracity and reliability of the modelling and traffic volume data, the potential impacts of the Project on traffic congestion and vehicular flow, as well as local connectivity for bicycles and pedestrians.

Regarding visual and urban design issues, many submitters were concerned about amenity impacts of the Project on residential areas, and public open space, including parklands, and pedestrian walkways and connectivity. Likely overshadowing, noise and amenity impacts from the interchanges and elevated roadways/viaducts associated with the Project was of significant concern.

In relation to planning issues, submitters were concerned about the potential dislocation of community facilities and users of public open space/sporting facilities, and the Project’s potential impact on strategic planning and city-shaping in the City of Melbourne.

Submitters wrote about the removal of native vegetation, particularly in Royal Park, as well as the impacts on flora and fauna in the Moonee Ponds and Merri Creeks. In relation to the environmental management of the Project, submitters expressed concern regarding the procedures for reporting, auditing and registering of complaints, as well as the adequacy and enforceability of the Performance Requirements. The most significant issue raised in relation to greenhouse issues was the potential increase in emissions.

Concerns raised in relation to air quality issues related to human health, particularly the potential increase in emissions from vehicles, and from the ventilation structures. A number of submissions raised concerns regarding contamination, included the transport and disposal of contaminated soil, management of stockpiles during construction, and the potential of contaminated materials from the Fitzroy Gasworks site.

The majority of concerns about European Cultural Heritage were related to the heritage values associated with Royal Park, the Shot Tower in Collingwood, the Urban Camp in Parkville, and the potential impact to Heritage listed properties.

Many submitters were concerned about the potential for increased noise levels caused by changed traffic conditions, particularly around the new interchanges and elevated roadways/viaducts. Noise levels during the construction period, as well as the visual and amenity impact from the noise barriers were raised.

Potential impacts to businesses were raised in submissions, and these related to both positive and negative regional economic impacts, as well as dislocation of occupants of existing commercial and industrial properties, and the potential impacts on employment.

Concerns were raised about potential water quality, drainage and flooding issues, particularly associated with the Trin Warren Tam-boore Wetlands and the Merri and Moonee Ponds Creeks. In relation to groundwater, there were submissions about the maintenance of groundwater levels and quality, the potential for contamination, and tunnel inflow management.

Some submissions expressed concern about legal issues, particularly in relation to the Assessment Committee process, and the potential for bias and impropriety, as well as the applicability of the Applicable Law criteria.

Although not part of the Terms of Reference for the Committee, many submitters asked questions about the management of Aboriginal cultural heritage issues, including areas of high sensitivity including waterways and Royal Park, as well as the adequacy of the Cultural Heritage Management Plan to protect such values.

More detail is provided on the content and nature of submissions within each of the Assessment Chapters of this Report (Refer Part B).

# Public Hearing Process

The public hearing process conducted by the Committee was guided by the provisions of the MTPF Act and the Committee’s Terms of Reference.

## Information Briefing

Once appointed, and in accordance with Part 2(1) of its Terms of Reference, the Committee held an information briefing on Wednesday 27 November 2013 with invited representatives of the LMA, Melbourne, Yarra, Moonee Valley and Moreland City Councils; and the Department of Environment and Primary Industries (DEPI); Department of Transport, Planning and Local Infrastructure (DTPLI); Department of Health; Environment Protection Authority (EPA); Heritage Victoria; Melbourne Water; and VicRoads). The purpose of the briefing was for the Committee to be provided with an overview of the Project and the environmental approvals framework.

## Site Inspections

The Committee undertook a detailed inspection of the Project Area on Wednesday 18 December 2013. This was requested by the Committee, and it was coordinated by the LMA. Representatives of the Melbourne, Yarra, Moonee Valley and Moreland Councils, and various Government departments and agencies were in attendance. Sites and areas inspected included (but were not limited to):

* Alexandra Parade East;
* Trenerry Crescent – Merri/Yarra River interface;
* Pedestrian ramp, Maugie Street;
* Clifton Hill Primary School (external area);
* Potentially directly impacted local streets in Collingwood and Clifton Hill (eg Bendigo Street);
* Elliott Avenue;
* Manningham Parklands/Ross Straw Field;
* Manningham Street;
* Fenton Crescent/Hockey Lane;
* Holbrook Reserve/Moonee Ponds Creek;
* Brisbane Reserve/Ormond Park/Debney’s Park Estate;
* Arden Street; and
* Melbourne Markets/freight terminal.

At the Preliminary and Public Hearings, the Committee sought suggestions from submitters of other areas and sites to inspect.

The Committee undertook further inspections on Thursday 8 May 2014 of the following places and areas; and met with representatives of submitters where access was required:

* Vision Australia, Barrett Street North Melbourne;
* SP AusNet site in West Melbourne; and
* Apartment at 120 Racecourse Road, Flemington.

Further, the Committee reviewed other sites and areas, including:

* Extensive areas of Royal Park and surrounds;
* Trin Warren Tam-boore wetlands;
* Manningham Street and Oak Streets and surrounds;
* Parkville West;
* Moonee Ponds Creek area in North Melbourne;
* Bent Street apartments;
* Debney’s Park Estate and community gardens; and
* Various streets in Collingwood, including Bendigo, Forest, Wellington, Gold, and Noone Streets.

The Committee inspected various other places and sites before, during and after the Hearing as necessary.

## Preliminary Hearing

The Committee held a Preliminary Hearing in relation to the Project on Tuesday 14 January 2014. The Preliminary Hearing enabled the Committee to:

* Explain its roles and responsibilities;
* Explain the public Hearing protocols;
* Discuss the exhibition and submission process;
* Discuss the information briefing and site inspections;
* Provide information on the hearing dates, times and venue;
* Discuss how it would deal with evidence and cross examination;
* Explain the difference between advocates, experts and submitters;
* Respond to procedural inquiries; and
* Answer general questions from the floor about the process.

The Committee made a number of directions about the requirement for further information from the LMA, the tabling of evidence and the production of conclave reports. These are briefly discussed below.

### Section 57(4) Report

At the Preliminary Hearing, the Committee made a Direction that the LMA respond to a number of points of clarification and requests for information under s57(4) of the MTPF Act and Clause 2(4) of the Project Terms of Reference. While the Committee tabled this report at the Preliminary Hearing, it had provided the report to the LMA on 13 January 2014 so that it had the opportunity to review the request and to respond to it at the Preliminary Hearing.

Those Directions contained requests for clarification and further information. The information sought was generally divided into:

* Copies of material to be provided (for example reports and plans); and
* Matters where clarification was sought.

The Committee directed that under Clause 2(4) of the Terms of Reference, the LMA was to provide this information within 20 business days of the request; that being by Tuesday 11 February 2014. This Direction was adhered to. The Committee made it clear in its request that:

This information is sought for clarification and without prejudice to the Assessment Committee’s final recommendations. Readers should not assume that the issues in this request for information are the only issues of interest to the Assessment Committee or that the Assessment Committee has particular concerns about these issues. The Committee reserves the right to seek further information as necessary throughout the Public Hearing process.

The specific matters in which the Committee sought further information on related to:

* The Committee’s Terms of Reference and assessment of scope;
* The Reference Project:
* Consideration of alternatives
* Impact on transport projects and policy
* Project definition
* Traffic and transport:
* Background reports
* Traffic predictions (project, eastern and western ends)
* Planning and design:
* Design opportunities
* Tunnel protection
* Landscape and visual:
* Urban design
* Project conceptualisation
* Overshadowing
* Light spill
* Air quality:
* Tunnel ventilation
* Clifton Hill Primary School and Alexandra Parade
* Ormond Road exit
* Elevated receptors
* Road gradient effects
* Emission factors
* In-tunnel and background air quality
* Noise and vibration:
* Vibration and regenerated noise
* Other project experience
* Noise modelling
* Construction noise
* Operational noise
* Groundwater and contamination:
* Groundwater and contamination reports
* Groundwater characterisation
* Risk issues
* Soil contaminants
* Performance requirements
* Social and business:
* Actions to minimise social impacts
* Acquisition and property condition assessment
* Traffic and social impacts
* Environmental Management Framework:
* Risk assessment process
* Performance requirements and suggested conditions
* Outline Environment Management Plans
* Emergency management

Whilst the s57(4) response was of assistance to the Committee, the Committee needed to request further information during the course of the Hearings. The Committee discusses this further as part of Part B: Assessment, in Chapters 6 to 15. A total of 529 Documents were handed up during the course of the Hearings, and the complete Hearing Document List is provided in Appendix C.

Given that submissions were being processed several weeks after the closing date, and the very short time frame between the close of submissions and the Preliminary Hearing, the Committee was required to act promptly on the opportunity to review and request further information. The timeframes were further compromised by the Christmas and New Year period. This made the provision, receipt and understanding of information a difficult task for all parties, not only the Committee.

### Evidence Reports

The Committee made directions about the tabling of expert evidence reports, and these were generally complied with.

After the Preliminary Hearing and from its further review of the CIS, the Committee directed that the LMA provide evidence on road design matters as it had not included that area of expertise in its list of witnesses.

The Committee notes that the majority of the LMA’s expert witnesses were actively engaged in the development of the CIS, and accordingly their witness statements could not be considered as offering an unencumbered, independent review of the Project and its key elements. For a complex Project such as this, the process would have been enhanced by having critical evidence that was peer reviewed.

### Conclave Reports

The Committee directed that following the submission of expert evidence, if there was more than one expert report in the relevant areas of expertise, those experts must meet to prepare statements of agreed facts and issues that remain in dispute. The statement must be signed by all participants, and the meetings should be held in the week of 24 February 2014. These meetings were coordinated and led by the LMA (or in some cases GHD), and there was no client or legal representation present. The Committee directed that the conclave meeting and subsequent reports should canvass the following issues:

* Understanding of methodology and assumptions in the assessments undertaken to date;
* Appropriateness of methodology for the task;
* The results obtained; and
* Interpretation of results.

The LMA coordinated the reports of such meetings, and most reports were tabled on Day 1 of the Hearing. Conclave reports were provided in the following areas of expertise:

* Traffic/transport/road design;
* Acoustics;
* Vibration;
* Groundwater;
* Land contamination;
* Air quality;
* Heritage;
* Flora and fauna; and
* Social impacts.

The Committee appreciates the manner in which this work was undertaken and it commends this process for future matters.

The Committee made a similar direction about the Performance Requirements, whereby it directed that parties who made submissions about these meet before the Hearing to provide a consolidated list of agreed requirements.

## Assessment Committee Public Hearings

The Committee held a public Hearing for 30 business days from Monday 3 March to Tuesday 15 April 2014 at the Mercure Melbourne Treasury Gardens Hotel on Spring Street (noting the Committee did not sit on Friday 4 April). Apart from one ‘in camera’ session for an individual submitter on Day 25, all hearing sessions were open to the public at all times.

In summary, the Committee heard from the LMA (15 witnesses), five Councils (22 witnesses and/or evidence statements), the EPA, six Members of the Victorian Parliament, one Member of Federal Parliament, 70 community, business or sporting organisations, and 170 individuals.

Those who appeared before the Committee are shown in Table 1.

Table : Parties to the Assessment Committee Hearing

| Submitter | Represented by |
| --- | --- |
| Linking Melbourne Authority | Stuart Morris QC, with Nick Tweedie SC and Barnaby Chessell of Counsel, instructed by Sallyanne Everett and Sophie Marjanac of Clayton Utz, who called the following expert witnesses:  Michael Veitch of Veitch Lister, (Traffic Modelling);  Stephen Pelosi of Movendo, (Traffic)  Tom Brock of GHD (Road Design)  Allan Wyatt of ERM (Visual Impacts/Urban Design)  Heather Nesbitt of GHD (Social Planning)  Marianne Stoettrup of Matters More Consulting (Business Impacts)  Gavin Hay of GHD (Surface Water)  Peter Lovell of Lovell Chen (Heritage)  John Patrick of John Patrick Pty Ltd (Cultural Landscape)  Brett Lane of Brett Lane and Associates Pty Ltd (Flora, Fauna, Aquatic Ecology)  John Heilig of Heilig and Partners Pty Ltd (Vibration)  Peter Fearnside of Marshall Day (Acoustics)  Dr Peter Nadebaum of GHD (Contamination)  Tim Anderson of GHD (Groundwater)  Barry Cook of GHD (Air Quality) |
| Minister for Planning and Department of Transport,  Planning and Local Infrastructure | Chris Townshend SC and Marita Foley, instructed by David Honey, General Counsel |
| Melbourne City Council | Ian Pitt SC of Best Hooper, direct brief, who called the following expert witnesses:  Eric Keys of Eric Keys and Associates Pty Ltd (Strategic Traffic Modelling)  Jim Higgs of TTM Consulting Vic Pty Ltd (Road Design)  Tim Beresford of Norman Disney and Young (Acoustics)  Catherin Bull of University of Melbourne (Open Space)  Mardie Townsend of Deakin University (Open Space)  Graham Porteous of Council (Recreation)  Rob McGauran of McGauran Giannini Soon Pty Ltd (Urban Design)  Rob Moore of Council (Urban Design)  Ian Shears of Council (Water, Vegetation and Biodiversity)  Christina Dyson of Council (Cultural Heritage)  John Henshall of Essential Economics Pty Ltd (Economics and Urban Development) |
| Moonee Valley City Council | Louise Hicks of Counsel, direct brief, who called the following expert witnesses:  Andrew O’Brien of O’Brien Traffic (Traffic)  Robin Brown of Renzo Tonin and Associates (Acoustics)  Bonnie Rosen of Symplan (Social Impacts)  John Henshall of Essential Economics Pty Ltd (Economics) |
| Yarra City Council | Adrian Finanzio SC and Rupert Watters of Counsel, instructed by Greg Tobin of Harwood Andrews, who called the following expert witnesses:  Peter Thompson of Pitt and Sherry (Traffic)  Michelle Zeibots of the Institute for Sustainable Futures (Induced Traffic)  Rob McGauran of McGauran Giannini Soon Pty Ltd (Urban Design)  Bryce Raworth of Bryce Raworth Pty Ltd (Heritage)  Neville Goddard of Watson Moss Growcott Acoustics (Acoustics)  Evidence tabled but not called:  Beverley Kliger of Beverley Kliger and Associates (Social Planning)  John Webb of LaTrobe University (Groundwater) |
| Darebin City Council | Nathan Moresi, Coordinator Transport Management  Steve Hamilton, Director Assets and Business Services |
| Moreland City Council | Craig Griffiths, Senior Transport Planner  Olivia Wright, Manager Strategic Transport Projects  Leigh Dowler, Transport Coordinator |
| SP AusNet | Michelle Quigley SC, instructed by Alexandra Smith, Corporate Counsel SP AusNet, and Emily Sykes, Herbert Smith Freehills |
| Environment Protection Authority | Joanne Lardner of Counsel, with Katy McGuiness (Project Manager, Major Projects Unit) and Tony Robinson, who called the following expert witness:  Paul Torre of EPA (Air Quality)  Submissions were made from the following EPA staff:  John Marsiglio, Lead Assessor Industry (Works Approval, Noise, and Energy and Greenhouse Gas)  Leon Metzeling (Surface Water)  Julia Caluzzi (Groundwater)  Laura-lee Innes (Contaminated Land and Waste) |
| Members of Parliament | Richard Wynne MP, Member for Richmond  Brian Tee, MLC, Member for Eastern Metropolitan Region  Justin Madden, MP, Member for Essendon  Jennifer Kanis, MP, Member for Melbourne  Jane Garrett MP, Member for Brunswick  Colleen Hartland, MLC, Member for Western Metropolitan Region |
| Combined Community Groups | Tom Pikusa of Counsel |
| Collective for Child Health | Greta Gillies |
| Australian Institute of Landscape Architects | Ronald Jones  Bruce Echberg |
| Residents about Integrated Development @ 3051 | Peter Hogg, Chair |
| Owners Corporation, Lennon Street, Parkville | Robert George |
| Inner Melbourne Planning Alliance | Darragh O’Brien, President |
| Various parties | Ben Hardwick of Slater and Gordon |
| Planning Institute of Australia (Victoria) | Liz Johnstone, Executive Officer  William Chandler, Planning Consultant |
| Schotts Home Emporium | Jason Sumner of Apex Town Planning |
| Provans Timber and Hardware | Tim Radisich of Associated Town Planning Consultants  Greg Heverin, General Manager |
| Mercantile Cricket Association | Alec Kahn, Match Secretary |
| Parkville Gardens Residents Association | Tony Rogers, Secretary |
| National Trust of Victoria | Paul Roser, Senior Manager, Advocacy and Conservation |
| Fitzroy Residents Association | Thomas Keel, President |
| Yarra Campaign for Action on Transport | Andrew Herington |
| The 3068 Neighbourhood Group | Chris Goodman, President |
| Yarra Climate Action Now | Kerry Echberg, Convenor |
| Cardijan Community Australia | David Moloney, Secretary |
| RACV | Brian Negus, General Manager, Public Policy |
| ALG, AiG, IPA, MBAV, PCA, RACV, VACC, VECCI, VTA, UDIA | Brian Negus, General Manager, Public Policy, RACV |
| Grandparents Victoria Inc | Anne McLeish, Director |
| Brunswick Zebras Football Club  Essendon Royals Soccer Club | Carlo Carli, President  Christos Stathis, Member |
| Flemington Neighbourhood Renewal Board | Shadia Mohamed Aly  Ahmed Dini |
| Bicycle Network | Jason den Hollander, Facilities Development Manager |
| Carlton Residents Association | Ian Bird, Convenor Traffic and Transport Reference Group |
| Vision Australia | Kevin Murfitt, Chair  Leigh Garwood, General Manager |
| Victoria Transport Research and Action Group | Mike Reece, Member  Glenyys Romanes, Member |
| Moonee Valley Sporting Club | Frank Heyes, President |
| Royal Park Sport | Rick Boykett, President |
| Melbourne University Rugby Football Club | Rick Boykett, Member, Victorian Rugby Union Board |
| University of Melbourne Baseball Club | Vibeke Pederson, President  Rob McClelland, Life Member and Player |
| Flemington Association, and Kelly Wright | Les Potts, President |
| Boroondara Bicycle Users Group | Peter Campbell, Spokesperson  Peter Carter |
| Clifton Hill Primary School | Geoffrey Warren, Principal  Nicholas Reece, President, School Council  Melanie White, Member, School Council |
| Kororoit Institute | Tony Smith, Secretary |
| Moonee Ponds Creek Coordination Committee | Tony Smith, President |
| Friends of Royal Park, Parkville | Kaye Oddie, Secretary  Gordon Ley, Convenor |
| Australian Garden History Society | John Dwyer |
| The Parkville Association | Robert Krelle, President |
| Safety Net for Royal Park, and Carli Ellinghaus | Anthony Peyton  Sonia Sarangi and Michael Smith of Atelier Red and Black |
| Metropolitan Transport Forum | Tom Melican, Chair |
| Yarra Environmental Sustainable Network | Jo Southwell, Manager of Access and Diversity, and Co-Coordinator |
| Yarra Bicycle Users Group | Steven Barnett and Chris Star, Co-Coordinators |
| Friends of Banyule | Dennis O’Connell, President |
| Public Transport Users Association, with Ian Mack and Nicholas Bishop | Tony Morton, President |
| Public Transport not Traffic | Cait Jones, Campaign Manager |
| Flemington Road/Curran Street Residents | Michael Francis, Spokesperson |
| Play Australia | Barbara Champion, Executive Director |
| Essendon Community Garden | Derek Mortimer, Honorary Legal Adviser |
| Youlden Parkville Cricket Club | Paul Sinclair, President |
| Royal Park Reds Cricket Club | Ben Zika, Vice President |
| Pro-forma Submission No 1 | Adam Bandt, Federal Member of Parliament for Melbourne and Deputy Leader Greens, and Rebecca Temple |
| Pro-forma Submission No 2 | Jill Koppel, Andrew Herington, Michael Naismith |
| Protectors of Public Land Victoria and Royal Park Protection Group, with Cathy Drummond, Gabrielle Pretto and Jane Leitinger | Tom Pikusa of Counsel, instructed by Beaumont Lawyers |
| Kensington Association Inc., with Wendy Taylor, Rilke Muir, Paul Kippen and Justine Kippin | Mark Woodland, Spokesperson, with Rilke Muir, President |
| Friends of Moonee Ponds Creek | Kay Oddie, Secretary |
| Moreland Citizens Against East West Link Tunnel | Michael Petit, Spokesperson |
| Residents Against the Tunnel | David Hanna  Ruth Clemens  Cheryl Apperley  Peter Harding  James Milner  Ande Bunbury  Harriet Mantell |
| Cultivating Community | Michael Gourlay, Chief Executive Officer |
| Collingwood Historical Society, with Karen Cummings, Anne Holmes and Janet Taylor | Janet Taylor and Anne Holmes |
| Urban Camp | Jennifer Kanis MP  Patrick O’Sullivan, Executive Director  Jacqueline Whitby, Chair |
| Individual Submitters | Chris Lester  Rose Iser  Jogendra Sinha  Andrew Saunders  Russell Smith  Nancy O’Toole and Crina Virgona, represented by Andrew Herington  Alexander Swain  Clare Walter, assisted by Rupert Watters of Counsel who called the following expert witness:  Louis Irving (Respiratory Medicine)  Anthony Peyton  Lucinda Peterson and Christopher Peck, assisted by Ian Pitt SC, who called the following expert witness:  Craig Czarny (Urban Design)  Pauline Galvin, represented by Gordon Ley  Wayne May  Ross Nolan  Suresh Wakhlu  Graeme Loughlin  Jennifer Bowen  Michael Mossonidis  Jack Anderson-McDonald  Tony Bonanno  Fiona Saint  John Michael Saint, represented by Andrew Herington  Gordon Ley  Peter Geary  Dennis Green  Zoe and Benjamin Barclay  Julia Cusack  Pauline Galvin  Damien O’Keefe  Michael and Olivia Smith  Jan Thomas  Gerald Noonan  Daniel Beuchat  Allison Lamb  Brent Lamb  Lisa Ingram  Andrew McDougall  Andrea Leigh Tappe  Helen Masters  John Gibson  John Stone  Penelope Somers  Michele Summerton  David and Millicent Boag  Nicholas and Susan White  Lina Maroun  Ian Wallis  Graeme Stewart  David Chachs  Jillian Blythe  Tina Choong  Anne Isaac  Carlo Ursida  David Ettershank  Michael Ingram  Christine Di Muccio ad James Milne  Nigel Jones and Kentia Boyle  Renee Wood  Brent and Harley Gorman  John Widmer  Enid Hookey  Maritza and Francisca Araneda  Jennifer Bowen  Alister Huth  Alexeena Murphy  Frances Xie  Helene McNamara  James Cusack  Meg Colasante  Christopher Dalli  Petra Stock  Christopher Fox  Peter Campbell  Mary Healy  Kristen Bell  William Unkles  Susan Pepper  Joseph Edmonds  Roy Burrows  Janet Rice  Neil Barker  Andrew Kelly  Michael Thong  Nicholas Williams  Paul Hobson  William Fooks  Stephen Alomes  Bernard and Amina Flinn  David Hanna  Keith Fitzgerald  Tony Benson  Ande Bunbury  Christopher Boutsinis  Simon Moodie  Omni Ioannou  Mara Silvestro  Tom, Paul and Noela Steinfort  Beatka Provis  Christopher Dalli  Mark Metelman  Anne Richards  Tony Marjoram  Lulzim Allpici  Branca Merkal  Bernadette O’Connor  Jane Treleaven and Michael Main  Richard and Annette Oppenheim  Roslyn Nataprawira  Rosamund Krivanek  Lorrian A O’Reilly  Stewart Denmead  Elizabeth Frances Gherardin  Dario and Chris Rizio  Josephine Croci  Nigel Lewis  James Turnbull, represented by Jenelle Cramer of Gadens Lawyers  Robin Vowels  Michael and Tania Fletcher  Abdikashur Qalinle  Gary Dickinson  Terry Croft  Heather Reva Sharp  Kenneth Duxbury  Lindis Masterman  Alison Clarke  Malcolm Brown  Margaret Rolfe  Rosemary Elliot, represented by Andrew Herington  Andrew Herington  Sue Casey and Peter van Leeuwen  Michael Mazur  Rohan Dwyer  Margaret Fried  Julie Rudner  Dan Musil  Tom England |

The Committee expresses its appreciation for the way in which all parties and submitters presented to it, and for the generally excellent quality of the submissions made. The material provided to the Committee has greatly enhanced the Committee’s understanding and knowledge of the key issues before it. Further, the input of all parties ensured an excellent public Hearing process, where all were able to listen and present in an open and frank manner.

The Committee has approached its review and assessment on an issues based framework. That is, it has grouped the key issues in accordance with the ‘hearing matters’ specified in its Terms of Reference, and as part of its assessment, has highlighted some of the matters raised by submitters as relevant. Not all submitters have and can be individually named, or have particular issues ascribed to them. However, it will be clear that the Committee has considered the relevant hearing matters and the properly made submissions as part of its analysis, findings and recommendations as appropriate.

As explained at the Preliminary Hearing and again during the course of the Hearings, there were significant time constraints placed on all parties, due to the requirements of the MTPF Act to complete the public Hearing process within a 30 day timeframe. This meant that time limits needed to be applied on all presenters, and while this did constrain some presentations, it ensured that all witnesses and submitters needed to be focussed and succinct in their presentations. This generally worked well, because it ensured that witnesses and submitters went to key points. In particular, some of the community organisations joined together to present in a cohesive way, and some individual submitters ‘gave’ their allocated time to community groups. This was appreciated by the Committee as it allowed comprehensive submissions to be made by various groups.

However, it meant that some evidence was not able to be presented and some witnesses were not called. Further, cross examination was curtailed as a result and the Committee and other parties were frustrated that key evidence was not able to be adequately explored; both by it and by opposing parties. Given the limitations placed on the parties (for example, the LMA sought 13 days in which to present its case and it was allocated seven days, and the City of Melbourne sought six days and it was allocated three days), decisions by each party had to be made on who they should rely on for the giving of evidence and how it presented its primary submissions. There were some small gaps in the Hearing where some parties were able to catch up and provide further submissions, but this was rare.

## Scope of the Committee’s Assessment

There were legal submissions about the following matters:

* The role, the function and the powers of the Committee;
* The Reference Project; and
* The relationship between the MTPF Act and the TI Act.

The Committee deals with each of these in turn.

### Role, Function and Power of the Committee

During the course of the Hearing, submissions were made concerning the role, function and power of the Committee and any constraints imposed by its Terms of Reference.

The Committee is a creature of the MTPF Act. It is established under Subdivision 2 of Division 5 of Part 3 of the MTPF Act for the purpose of assessing any relevant CIS. In establishing a Committee, the Minister for Planning must give it Terms of Reference under which it is to make the assessment.[[1]](#footnote-1) Section 36 provides a non-exhaustive list of matters that may be included in the Terms of Reference including a direction to confine the matters under consideration at a public hearing.[[2]](#footnote-2)

Subdivision 9 of Division 5 of Part 3 deals with the Committee’s recommendations. Section 73(1) requires that a Committee must recommend to the Minister for Planning as to whether the Minister should make an approval decision that grants all or some of the applicable approvals, or refuse to grant all of the applicable approvals. Sub-section (2) provides that the Committee must not make a recommendation that is inconsistent with the Committee’s Terms of Reference. Sub-section (3) provides that if the Committee recommends a grant of approval, it must specify the conditions and relevant applicable law under which the conditions are imposed, as well as the body to administer compliance.

Section 73(4) requires the Assessment Committee to have regard to:

(a) the project proposal;

(b) the comprehensive impact statement; and

(c) all properly made submissions; and

(d) any issues raised in, as the case requires –

(i) meetings and correspondence referred to in section 56; and

(ii) a preliminary hearing; and

(iii) a formal public hearing; and

(e) the comments of the persons the committee was directed by the Planning Minister to consult with under this Division; and

(f) any consultation with or advice received from an applicable law decision maker under this Division; and

(g) subject to this section, every applicable law relevant to the declared project, including the applicable law criteria under that law.

Sub-section (5) provides that the Committee may have regard to any other matter the Committee considers relevant. Part 8 of the Act deals with the establishment of the Committee and hearings conducted by it. In this case, the Committee has been provided with its Terms of Reference dated 21 October, 2013. In response to question 1 of the s57(4) request, the LMA discussed the Committee’s powers, functions and discretions under the MTPF Act in terms of any constraints imposed by the Terms of Reference.[[3]](#footnote-3)

#### The Main Area of Dispute

The LMA observed:

The Committee cannot, however, assess an alignment for the Project (either above or below ground) if that alignment cannot be implemented within the Proposed Project Boundary.

Furthermore, the Committee is precluded from making any recommendations to the Planning Minister that will require the Project to be aligned outside the Proposed Project Boundary as part of its ultimate assessment committee recommendation, as to do so would be inconsistent with the terms of reference.[[4]](#footnote-4)

Thus the LMA submitted that the Committee’s consideration of the CIS and its ability to make recommendations that potentially involve alignments falling outside the *Proposed Project Boundary* are circumscribed by the Terms of Reference.

LMA addressed a number of other constraints that it said flow from the proper interpretation of the MTPF Act, and the Terms of Reference. In particular, it suggested that the Committee’s ability to have regard to *“any other matter the Committee considers relevant”* under s73(5) and s236(2) does not expand the scope of the Committee’s powers or functions to look beyond the matters contained in the Terms of Reference.

Further it said:

The Committee is required, in making its recommendations to the Planning Minister in respect of whether he should make an approval decision that grants any, some, or all of the applicable approvals that are necessary for the Project, to confine its assessment to a project that may be implemented (in the sense of aligned) on land that is within the Proposed Project Boundary. It is entitled to assess alternative alignments for the Project that may be implemented within the Proposed Project Boundary but not beyond. [[5]](#footnote-5)

As to the discussion about what constitutes the *Proposed Project Boundary,* the LMA relied on its interpretation of the same in its answers to questions 2 – 4 in the s57(4) response.[[6]](#footnote-6)

The constraint or limit that the LMA submitted the Committee is bound by was contested by a number of parties, in particular, the City of Melbourne, City of Yarra and Mr Herington.

The opening submission for the City of Melbourne addressed this issue (Document 10), in particular in section 1 *“Framework for Assessment”* which included the following:

1.1.11 It follows that the Committee is given the task of assessing the appropriateness of impacts that might flow from any design that provides a freeway standard road linking the Eastern Freeway at Hoddle Street with CityLink at Flemington and with a connection to the Port of Melbourne that meets whatever are ultimately the Performance Requirements and any conditions of any approval decision.

The opening submission on behalf of the Yarra City Council (Document 12) did not agree with the LMA’s interpretation of either the MTPF Act or the Terms of Reference (paragraph 33). It suggested that the Committee is perfectly entitled, indeed obliged, to:

(a) consider the whole of the “project” such as it is; and

(b) form judgments as to whether it is satisfied on the evidence that the project, taken as a whole, including the impacts of the project, are in the net community benefit.

Yarra suggested that:

40. Nothing in a direction made under s.36(1)(b) can have the effect of robbing the Committee of the choice which it is empowered to exercise by s.73(1) of the Act. Any interpretation of the provisions which lead to such conclusion would be inconsistent with the purpose and objects of the Act.

41. If the LMA is right, it would be possible for terms of reference to be issued to a committee which expressly compelled it to proceed upon the basis that approval will be granted, and to direct the Committee to make no recommendations whatsoever.

…

44. The terms of reference clearly confine the public hearing to certain specified matters, namely whether the variously identified impacts have been “appropriately addressed”.

Mr Herington (Document 35) challenged the LMA’s *“assertions”* that the powers of the Committee are limited by the Terms of Reference. In particular, he addressed the Minister’s response in his paragraphs 4 – 6, and noted:

The planning officers of the department are approaching the “Proposed Project Boundary” as being consistent with the references to “Precinct Boundary” and “Proposed Project Boundary” throughout the CIS Mapbook.

As to the interpretation of the words *“Proposed Project Boundary”* Mr Herington took issue with the LMA submission. He further took issue with the constraint urged by the LMA on the Committee’s consideration of other matters under s73(5) and s236(2).

In its closing submission (Document 525), the LMA addressed the Committee’s Terms of Reference in section B1 and sought to clarify what it said are misunderstandings relevant to its position. It said in paragraph 7:

The LMA accordingly also maintains its position that the Committee cannot assess an alignment for the Project – as opposed to elements that are not properly regarded as part of the alignment – that falls outside the Proposed Project Boundary.

#### The Proposed Project Boundary

To say that there is confusion surrounding the words *Proposed Project Boundary* as contained in paragraph 1(3)(b) of the Terms of Reference is an understatement. The full text of that sub-section of the Committee’s task is:-

The Assessment Committee is directed to:

…

(b) consider the alignment, design and performance requirements for the project that may be implemented within the Proposed Project Boundary identified in Figure 1 (dated 2 October, 2013) of the Mapbook in the CIS.

It appears that all parties accepted the date is a typographical error and should refer to 3 October, 2013. Figure 1 in the Mapbook bearing that date does not have a *Proposed Project Boundary* that can be identified as such, apart from the coloured lines in the legend depicting various elements of the road structures proposed to be built. This is in contrast to the Key Plan following Figure 7 that contains a dotted blue line identified in the legend as *Proposed Project Boundary*. That dotted blue line then appears in Sheets 1 – 27.

It is interesting to consider the Minister’s submission in response to the s.57(4) request, noting that the response is made not in the capacity of the Minister for Planning pursuant to the MTPF Act, but rather pursuant to the *Planning and Environment Act* 1987. In that sense, the Minister is wearing a different hat and therefore does not seek to direct the Committee as to the interpretation to be placed upon the Terms of Reference. However, it would appear that the DTPLI officers adopted the narrower interpretation urged by LMA. This places the Committee in a difficult position. If it adopts a broader interpretation of the task as urged by City of Melbourne for instance, and makes recommendations based on that interpretation to the Minister for Planning, it is conceivable that the Minister might say the Committee has misinterpreted its Terms of Reference and therefore made recommendations that are inconsistent with the terms (cf. s.73(2)) of the Act).

It seems that if the LMA proposition was to have any credence, Task 1(3)(b) would have used the term *“Proposed Project Boundary”* and would have referred to a different figure or sheet number or numbers in the Mapbook. The term *“project”* is defined in the preamble to the Terms of Reference as being the East-West Link (Eastern Section) Project. This accords with the Premier’s announcement of December 2012 of the declared project. In addition, as pointed out on behalf of the City of Melbourne (Document 103, paragraph 1.1.6), the Figure 1 of 3 October, 2013 *“directly reflects the CIS at Figure 4.1, Chapter 4, page 2 (page 3), which is a definition of the route of the Reference Project in an imprecise way”*. Figure 4.1 is described as *“Proposed Project Boundary and precincts”*. The legend defines precincts which perhaps, by implication, seek to define the Proposed Project Boundary, although no legend notation to that effect is included.

The term *“Proposed Project Boundary”* is not a defined term in the Act although *“project area”*, *“project land”* and *“project proposal”* are.

Adopting the ordinary English definition of “*propose*” and the term project in the sense of being a “*declared project*” which was “*the proposed freeway – standard link between the Eastern Freeway and Tullamarine Freeway generally along the Alexandra Parade corridor, with a further southerly connection to the Port of Melbourne area*”, the legal opinion provided to the Committee is that a broader interpretation of task 1(3)(b) should be adopted whereby the Committee is assessing the “*alignment, design and performance requirements for the project that may be implemented … between the Eastern Freeway and Tullamarine Freeway generally along the Alexandra Parade corridor with a further southerly connection to the Port of Melbourne area*”.

#### Powers and Functions of the Committee

The closing submission on behalf of the LMA (Document 525) observed:

5. So that there is no confusion, the LMA wishes to make clear that it takes no issue with the following propositions concerning the operation of the terms of reference:

(a) first, that the Minister has not sought to exclude consideration of the economic benefits of the project as part of the Committee’s ultimate recommendation to the Minister;

(b) second, the Minister has not sought to preclude consideration by the Committee of the matters set out in s.73 of the Act;

(c) third, the Minister has not sought to preclude consideration by the Committee of any of the applicable law criteria; and

(d) fourth, that the specified public hearing matters are not expressed to confine the Committee’s ultimate evaluation of all of the applicable law criteria for the purpose of making an Assessment Committee recommendation.

6. The LMA maintains its position, however, that Division 5 of Part 3 of the Act, properly construed, does require that the Committee:-

(a) must conduct its assessment of the CIS in accordance with the directions contained within the terms of reference;

(b) must, in doing so, have regard to those matters identified in s.73(4) of the Act; and

(c) must not make an Assessment Committee recommendation that is inconsistent with the terms of reference.

7. The LMA accordingly also maintains its position that the Committee cannot assess an alignment for the Project – as opposed to elements that are not properly regarded as part of the alignment – that falls outside of the Proposed Project Boundary.[[7]](#footnote-7)

The conclusion reached as to *“Proposed Project Boundary”* is not consistent with paragraph 7 above to the extent that the alignment as shown in Figure 1 can be understood to be generally in accordance with the declared project. On the other hand, a recommendation for an alignment along Bell Street (as suggested by some submitters) would clearly be inconsistent with the Premier’s declaration.

There does not appear to be a great difference of opinion between the parties that the Committee has, in effect, two separate components to its consideration. The first are the public hearing matters while the second are the applicable law criteria. Submitters can only address the first due to the definition of *“properly made submissions”* and the limitations imposed by the Terms of Reference. In addition, the Committee must also consider the above criteria. In terms of s73(5) and s245(1D), the Committee is required to constrain its enquiry to the matters relevant to the above criteria or public hearing matters, and not go beyond them. Within that limitation, however, it has a wide discretion to pursue matters if it is not satisfied the CIS or evidence has addressed them.

Having regard to the concessions referred to in the above paragraphs 5 and 6 of the LMA’s closing submission, the area of dispute between the parties appears to revolve around the confusion relating to what constitutes the Proposed Project Boundary and whether the CIS has appropriately addressed the public hearing matters. This is ultimately a matter for the Committee to resolve having regard to the view it takes on the adequacy of the Performance Requirements and the Incorporated Document proposed for Planning Scheme Amendment GC2. To that extent, this is a similar task to that performed by a Panel dealing with an Amendment or an Inquiry or Advisory Committee considering an Environment Effects Statement.

### Reference Project

In its opening submission, Yarra City Council addressed the issue of what project the Committee is considering in paragraphs 13 – 18 as follows:

13. Further and alternatively, the Council contends that “the project” which is the subject of the CIS, the current exhibition and the forthcoming public hearings, is not a relevant project for the purposes of the Act, but instead a hypothetical possible project which is unlikely to be constructed in the form presented in the CIS.

14. As a consequence, the impacts (positive and negative) ostensibly identified by the CIS are not the actual impacts that the project, if constructed, will have.

15. In many respects, the proposal is insufficiently precise to make any, or any proper, assessment of the impacts (positive or negative) of the project.

16. Where some level of detail is provided, there is insufficient certainty that the project either can be delivered as proposed, or indeed will ultimately be delivered as proposed, such that the assessment of impacts is rendered entirely academic in all probabilities.

17. In any event, there is insufficient certainty concerning the nature of what is actually proposed to be constructed to justify the grant of approval sought under the applicable laws, including but not limited to, the Planning and Environment Act 1987.

18. Alternatively, even if it can be said the project is amendable to consideration under the Act, the nature of the Reference Project and the CIS renders impossible the proper consideration of the project as a whole within the context of the relevant applicable laws as required by the Act.

Further the City of Yarra (Document 206) observed:-

4. The use of the Reference Project approach by the LMA is, at best, inappropriate and, at worse, unlawful:

(a) on any view, the use of the Reference Project is inappropriate:

(i) the purpose of putting forward the Reference Project is said to be to enable members of the public to participate effectively in the CIS process;

(ii) self-evidently, the best way to enable the public to participate in the CIS process would be to provide it with accurate and clear information about what is actually proposed to be developed. The Reference Project does not do that. Indeed, it does quite the opposite. Both the CIS and the LMA in answer to the Committee’s section 57(4) request, have generated confusion where accuracy and clarity was sought; and

(iii) as has been demonstrated throughout the hearing, the use of the Reference Project has done little, if anything, to enhance understanding of the Project. For example, we still have no clear idea of whether the Eastern and Western sections will be developed at the same time – the basic fact upon which many of the alleged benefits of the Project depend.

(b) it is likely that the use of the Reference Project is unlawful:-

*[7 Grounds are relied upon to support this proposition]”.[[8]](#footnote-8)*

The City of Melbourne in its opening submission (Document 10) observed:

1.1.10 In this context it is submitted that the Reference Project is in many respects a “straw man” because it does not define what the actual project will be within the broad ambit of the “declared project” contained in the declarations of 19 December, 2012 and accordingly the proposition in the CIS that the Reference Project provides the basis for assessing the expected impacts and risks of the project (CIS page 6) is in issue.

1.1.11 It follows that the Committee is given the task of assessing the appropriateness of impacts that might flow from any design that provides a freeway standard road linking the Eastern Freeway at Hoddle Street with CityLink at Flemington with a connection to the Port of Melbourne but meets whatever are ultimately the Performance Requirements and any conditions of any approval decision.

The LMA’s closing submission addressed the legitimacy of the Reference Project in its section B2. Footnote 7 detailed 16 submitters who contended that the Reference Project as a tool of assessment *“may be”* unlawful.[[9]](#footnote-9) In this regard, the LMA submitted

10. This is clearly not a matter that can be properly agitated before the Committee.

11. It is noted, however, that nothing in the terms of the Act precludes a “transport project” being defined in terms that would allow for a variety of physical manifestations. A “transport project” must be a project for the development of “transport infrastructure” or “transport infrastructure together with non-transport infrastructure”.

12. The declaration in question identifies the transport project to be a “proposed freeway – standard link between the Eastern Freeway … Port Melbourne area.”

13. Having regard to the definitions set out above, this can clearly be regarded as comprising “transport infrastructure”, and the Project should consequently clearly be regarded as being a “transport project”.

14. More importantly, however, it is not correct to assert (as has the City of Yarra and others) that the impacts of a transport project that is defined in this way cannot be properly assessed by the Committee, or that this assessment cannot be made using a reference design.

15. A reference design, properly understood, is a tool that assists the Committee to assess the range and extent of likely impacts of the declared transport project.

16. The decision-making framework that is proposed to be established by the performance requirements, the applicable approvals, and any other conditions imposed by the Planning Minister, will ensure that the impacts of the ultimate proposal can be appropriately managed (regardless of the final detailed design of the Project).

17. Section 30 of the Act requires the Minister to prepare directions for the preparation of a CIS that “specify the kinds of impacts and other matters that must be considered and addressed in a comprehensive impact statement”.

18. Significantly, the Scoping Directions that were prepared for the Project in accordance with a section specifically contemplate the use of “a reference concept design”.

19. The role of the CIS is, therefore, to engage in the process of considering and addressing the impacts and other aspects of the Project in accordance with those directions.

…

22. A consideration of impacts may result in a conclusion by the Committee that the full extent of impacts is either uncertain or unable to be conclusively determined, until such time as the Project is completed and in use.

23. In view of this, it is submitted that the obligation imposed by the Act to address impacts neither suggests, nor demands, that the nature and/or extent of each impact be conclusively and finally determined in the assessment process. Rather, impacts (or possible impacts) can be properly addressed by providing a management framework that allows for the monitoring and management of impacts as they occur.

On the basis of its legal advice, the question of whether or not the use of a Reference Project as a basis for proceeding with the consideration of the CIS is valid or invalid is not a matter that should be considered by the Committee. The Committee is directed by its Terms of Reference. As such it is required to assess the CIS and make recommendations based upon that assessment. Whether the CIS complies with the requirements of the Act or indeed the scoping directions, is not before the Committee. As mentioned by Mr Morris at the Hearing, if a submitter wished to challenge that they could do so, but not in this forum.

Accordingly, the Committee accepts the opinions of the LMA and the City of Melbourne that the task of the Committee is to deal with what is before it in the CIS. The fact that the LMA has elected to proceed with a Reference Project as a means by which it can identify Performance Requirements that it says deals with any likely impacts of the declared project, is a matter for it. The task of the Committee is to assess whether those Performance Requirements and the management and structure surrounding them is appropriate having regard to the public hearing matters and the applicable law criteria.

It follows that if the Committee concludes that the CIS does not appropriately address such matters, it can recommend refusal or part-refusal, or approval subject to conditions which may see the Performance Requirements amended to address relevant concerns.

The election by the LMA to proceed in the manner it has is open to it, and whether it adequately or appropriately addresses the various matters is a fact finding exercise about which opinions legitimately differ. It is clearly a matter for the Committee to reach conclusions upon which it can make its recommendations.

On a more general level, and regardless of any legal issues, there is no doubt that the use of a ‘Reference Project’ approach has caused considerable difficulty and angst for the Committee, other parties and the community.

As the Reference Project is a concept and not a ‘real’ project, it has made it difficult to fully assess the impacts of the Project, as they may occur or not, depending on whether the final Project is quite similar or very different to the Reference Project. In practical terms this has caused the following issues:

* Lack of certainty on key technical issues such as tunnelling approach leading to difficulty in fully assessing potential impacts;
* Lack of certainty on other issues such as social and economic effects;
* The generation of significant community concern and stress about Reference Project elements that may not be in the final Project.

The approach has also led to difficulties for expert witnesses from the LMA and other parties who have tried to provide an expert opinion based on a Reference Project whose impacts, as far as they can be assessed given the uncertain design, may be significantly different to the final Project.

The Committee considers that in a high intensity urban environment such as that to be encountered by the Project, a more transparent, measured and structured approach to options identification and discussion with the community would have resulted in a superior process and Project outcome.

### MTPF Act and TI Act

Section 3 of the TI Act provides a series of definitions including *“interface bodies”* which mean in the P&E Act, a planning authority and the MTPF Act, an Assessment Committee established under s35 of that Act. *“Interface legislation”* means, inter alia, the MTPF Act and the P&E Act.

Likewise, s3A of the MTPF Act identifies it as interface legislation within the meaning of the TI Act.

*“Transport Body”* includes the LMA.

*“Transport Infrastructure Project”* means any project declared to be a Transport Infrastructure Project by an order made under s49.

The relevance of interface bodies and interface legislation becomes apparent when considering Division 5 Part 2 of the TI Act. Section 23 states that it is the intention of Parliament that the TI Act is to be administered and interpreted having regard to the following:

1. the vision statement;
2. the transport system objectives;

(c) the decision making principles;

(d) the statement of policy principles.

Section 24 requires a transport body e.g., the LMA to have regard to the above. Importantly, s25 requires that an interface body, for example, the Committee must have regard to the transport system objectives when exercising powers and performing functions under any interface legislation which are likely to have a significant impact on the transport system. In addition, an interface body must have regard to the decision making principles which are likely to have a significant impact on the transport system.

Section 26 provides that for the purposes of s24 and s25, an interface body may determine the weight to be given to each transport system objective whilst s27 enables the interface body to determine the weight to be given each decision making principle.

Hence the transport system objectives and decision making principles are relevant to any decision made by the Committee in its capacity as an interface body.

The transport system objectives are set out in Division 2 of Part 2 and, in particular, sections 7 – 13. Section 8 deals with social and economic inclusion and provides:

The transport system should provide a means by which persons can access social and economic opportunities.

Section 9 deals with the economic prosperity and provides:

The transport system should facilitate economic prosperity by

(a) enabling efficient and effective access …

(b) increasing efficiency through reducing costs and improving timeliness …

Section 10 deals with environmental sustainability and provides:

The transport system should actively contribute to the environmental sustainability by:

(a) protecting, conserving and improving the natural environment;

(b) avoiding, minimising and off setting harm to the local and global environment, including through transport-related emissions and pollutants and the loss of biodiversity;

(c) promoting forms of transport and the use of forms of energy and transport technologies which have the least impact on the natural environment …

Section 11 deals with integration of transport and land use and provides:

(1) The transport system should provide for the effective integration of transport and land use and facilitate access to social and economic opportunities.

…

(3) Without limiting the generality of subsection (1), the transport system and land use should be aligned, complimentary and supportive and ensure that –

(a) transport decisions are made having regard to the current and future impact on land use;

(b) land use decisions are made having regard to the current and future development and operation of the transport system;

(c) transport infrastructure and services are provided in a timely manner to support changing land use and to associated transport demand.

(4) Without limiting the generality of subsection (1), the transport system should improve the amenity of communities and minimise impacts of the transport system on adjacent land uses.

Section 12 deals with efficiency, co-ordination and reliability and includes, inter alia:

(1) The transport system should facilitate network wide efficient co-ordinated and reliable movements of persons and goods at all times.

(2)(b) maximise the efficient use of resources including infrastructure, land, services and energy;

(c) facilitate integrated and seamless travel within and between different modes of transport.

Section 13 deals with safety and health and wellbeing and includes, inter alia:

(1) The transport system should … support health and wellbeing.

(2)(b) Avoid and minimise the risk of harm to persons arising from the transport system;

(c) Promote forms of transport and the use of forms of energy which have the greatest benefit for, and the least negative impact on, health and wellbeing.

Division 3 of Part 2 deals with the decision making principles. Section 15 deals with integrated decision making which is to achieve Government policy objectives through co-ordination between all levels of the Government and Government agencies. Section 16 deals with triple bottom-line assessment which means an assessment of all economic, social and environmental costs and benefits taking into account externalities and value of money. Section 17 deals with principles of equity, s18 deals with the transport system user perspective, s19 requires the application of the precautionary principle, s20 requires stakeholder engagement and community participation while s21 requires transparency.

Mr Morris on behalf of the LMA submitted to the Committee (Document 100) as follows:

8. The obligation to have regard to the transport system objectives and decision making principles is an obligation cast on the LMA and the Assessment Committee. It is not an obligation cast on any individual member or officer of the LMA or any individual member of the Assessment Committee; nor is it an obligation cast on any consultant employed by the LMA. It is quite proper for the Committee or the LMA to engage a person to consider an aspect of the EWL (eastern section) in isolation.

9. The obligation of the LMA and the Assessment Committee is to have regard to the transport system objectives and decision making principles. This means these objectives and principles must be considered; it does not mean the objectives and principles, or any particular objective or principle, must be applied.[[10]](#footnote-10)

10. Indeed, it is clear from section 26 of the TIA that both the LMA and the AC may determine “the weight” to give to each decision making principle.

11. The transport system objectives extend to social and economic inclusion, economic prosperity and environmental sustainability. Moreover, there is an intention that the transport system provide for the effective integration of transport and land use and facilitate access to social and economic opportunities. Moreover, these objectives extend to efficiency and co-ordination; as well as reliability, safety and health and wellbeing.

12. The nature of the transport system objectives is such that, in some instances, there will be a tension between different objectives. When this occurs, each of the objectives must be considered, but a judgment can be made as to which objective ought to be accorded priority.

13. The decision making principles include principles relating to: integrated decision making; and assessment of all the economic, social and environmental costs and benefits taking into account externalities and value for money; the principle of equity; considering the transport user’s perspective; the precautionary principle (as defined); stakeholder engagement and community participation; and transparency.

14. The nature of the decision making principles is such that, in some instances, there will be a tension between different principles. When this occurs, each of the various principles must be considered, but a judgment can be made as to which principles ought to be accorded priority.

15. What this means is that it is inappropriate and irrelevant to grasp upon one transport system objective or one decision making principle (or one part of such an objective or principle) and to “require” that that objective or principle be satisfied.

It can be seen from the above that there is an interrelationship between the MTPF Act and the TI Act to the extent that the Committee must have regard to the objectives and principles of the TI Act as part of its overall assessment of the CIS. The exercise required of the Committee is not dissimilar to the usual balancing exercise undertaken by any decision maker in planning matters, where a number a competing objectives and policies need to be weighed and balanced having regard of the overall objective. The overall objective of the TI Act is perhaps contained in section 6 which is the vision statement that provides:

The Parliament recognises the aspirations of Victorians for integrated and sustainable transport system that contributes to an inclusive, prosperous and environmentally responsible state.

An obvious conflict in this particular assessment process is the visual, social and emission (noise and air) impacts of the proposal, versus the cost of providing a transport project that would appear to clearly provide a much needed connection between the Eastern Freeway and CityLink, amongst other benefits.

If follows that it is ultimately up to this Committee the weight it places on the objectives and principles of the TI Act in seeking to reconcile the need for a transport project at what one would assume to be a reasonable cost, against the likely impacts the Project is likely to cause.

Part B: Assessment

# Traffic and Transport

## Introduction

### Terms of Reference and Applicable Approvals

In addition to its overarching tasks of assessing the CIS and evaluating all applicable law criteria for applicable law approvals, Part 7(a) of the Committee’s Terms of Reference includes the following *Public Hearing Matters* relating to traffic performance, the road network and connectivity:

Whether the impacts of the project on the traffic performance of roads connecting to the project, and the surrounding road network, as well as on connectivity for public transport, cycling and pedestrians, have been appropriately addressed.

The applicable approvals relevant to traffic and transport are contained in the *Road Management Act* 2004. Schedule 2-1 of the Act requires the written consent of VicRoads to connect the project road to an existing freeway and Schedule 7-16 requires VicRoads’ consent to work on a road.

The requirements of the *Transport Integration Act* 2010 were considered in the CIS assessment.

### Conclusion of the CIS

In relation to traffic and transport, the CIS concluded that from a citywide perspective, the Project would address Melbourne’s poor east west connectivity by making it easier and faster to travel across the city:

The additional capacity provided for east-west movements would reduce Melbourne’s increasing reliance on the M1 corridor and relieve pressure on existing east-west arterial routes. It would also reduce traffic ‘rat running’ through Melbourne’s inner north. Access to the Port of Melbourne and Melbourne Airport would be improved, with flow-on benefits for business productivity and efficient movement of freight.

The main traffic benefits offered by the Project as stated in the CIS include:

* A substantial improvement in travel times for east-west trips and improved travel time reliability;
* Reduced levels of congestion across the metropolitan and regional road networks and at specific locations in the local study area;
* Decreased traffic along Alexandra Parade;
* Less traffic on local streets;
* An alternative east-west route for freight;
* Improved road safety; and
* Potential improvements to on-road public transport services.

A number of operational impacts and capacity upgrades are identified to the existing road network. The overall traffic and transport conclusion of the CIS is that the East West Link – Eastern Section is not forecast to have any major adverse impacts on the existing transport network and that provided the performance requirements are followed, traffic impacts associated with the Project’s construction and operation would be mitigated sufficiently.

### Objectives and Performance Requirements

The CIS evaluation objective (set by the Scoping Directions) for Traffic and Transport is:

Transport connectivity – to improve road based transport connectivity between the east of Melbourne and the Port of Melbourne and the wider metropolitan region and the State, while maintaining the connectivity of existing local transport routes.

There are four corresponding Traffic and Transport Performance Objectives in the CIS:

* Improve road based transport connectivity between the east of Melbourne and the Port of Melbourne and the wider metropolitan region and the State, while maintaining the connectivity of existing local transport routes;
* Minimise disruption to motor vehicle traffic, parking, bicycle and pedestrian movements during construction;
* To minimise disruption to public transport and rail freight during construction; and
* To minimise potential for accidents by managing road safety for all new road linkages.

An extensive list of Performance Requirements is specified in Chapter 7 of the CIS (Table 7-7) to meet these Performance Objectives. The CIS stated that it “*would be up to the contractor(s) to determine the best approach to meeting the performance requirements, subject to legislative and other requirements*”.

### Issues

The Committee heard traffic and transport evidence from the following experts:

* Mr Michael Veitch of Veitch Lister Consulting for the LMA on traffic modelling;
* Mr Stephen Pelosi of Movendo for the LMA on traffic;
* Mr Jim Higgs of TTM Consulting for the City of Melbourne on traffic/road design;
* Mr Eric Keys of Eric Keys and Associates for the City of Melbourne on strategic traffic modelling;
* Mr Peter Thompson of Pitt and Sherry for Yarra City Council on traffic;
* Dr Michelle Zeibots of the Institute of Sustainable Futures for Yarra City Council on induced traffic;
* Mr Andrew O’Brien of O’Brien Traffic for the Moonee Valley City Council on traffic/road design; and
* Mr Tom Brock of GHD for the LMA on road design.

At the request of the Committee, all experts met to discuss the relevant issues and determine points of agreement and dispute. At the conclusion of the conclave and further discussions an ‘*Agreed Statement*’ (Document 30), was provided to the Committee.

At the meeting attended by Messrs Brock, Veitch, Pelosi, O’Brien, Higgs, Thompson, Keys and Dr Zeibots a total of 19 issues were discussed.

One of the issues raised concerned cost/benefit analysis (and by reference the detailed business case). This matter is outside the Committee’s Terms of Reference and therefore is not discussed.

The following topics were discussed and generally **agreed** by the experts at the conclave.

* Whether the forecast traffic volumes support the need for Part B:
* It was agreed that the CIS proposes that the East West Link – Eastern section can be built with or without Part B. If Part B is not built, access (possibly congested) to the Port would need to occur via CityLink.
* The performance of CityLink under various options is somewhat dependent on future upgrades both north and south of the section of interest. Further information about these future projects would assist to inform the CIS. This matter was put forward by Mr Keys.
* Traffic performance indicators presented in the CIS show the upgraded 4-lane section of CityLink (the viaduct between the proposed Eastern Section junction and Footscray Road) operating well within its capacity.
* Alignment decisions re Western Section of East West Link with respect to Part B:
* It would be helpful to understand the previous deliberations on the Western Link as part of the formal planning investigation that took place.
* There is a scarcity of data in the CIS, to help understand why the current scheme (including Part B) has been put forward.

The following topics were discussed and generally **not agreed** by the experts at the conclave.

* That an option assessment that considered the whole East West Link alignment (both Eastern and Western sections) could potentially identify a significantly superior outcome that didn’t require the Part B section (Eric Keys).

Based on its consideration of the evidence, and the written and verbal submissions relevant to its Terms of Reference relating to traffic and transport, the Committee has grouped its assessment under the following headings:

* Traffic Performance;
* Precinct 1: Hoddle Street (Eastern Portal);
* Precinct 2: Alexandra Parade;
* Precinct 3: Royal Park (Western Portal);
* Precinct 4: CityLink;
* Precinct 5: Port Connection;
* Precinct 6: Footscray Road; and
* Other Traffic/Transport related issues.

## Traffic Performance

### Introduction

LMA retained the services of VLC to undertake a strategic modelling exercise to determine the impacts of the Project upon the wider transport network. The Zenith travel model, one of a family of models developed by VLC, “*which simulates travel demand during an* *average weekday in each forecast year*”, (Average Weekday Daily Traffic - AWDT) was used and includes travel by all modes of transport. This model identifies changes in travel demand based upon land use and population scenarios through to 2031 for a scenario “*that assumed EWL would not be built,* *and a scenario where EWL is built in conformance with the Reference Scenario”.* These forecasts were reported in Chapter 7 and Appendix E of the CIS. In addition the forecast volumes were used by GHD as a basis for the microsimulation component of its work.

The output from the model determined that significant growth would occur in vehicle trips and public transport trips between 2011/13 and 2031 with and without the Project. However, only minor variations in trip making were determined in 2031 with and without the Project. This is shown in Table 2.

Table 2: Comparison of Metropolitan Vehicle and Public Transport Trips 2031 with and without EWL

|  |  |  |
| --- | --- | --- |
|  | Measurement | Percentage Change |
| Total vehicle trips | + 6000 vpd | + 0.04% |
| Vehicle hours travelled | - 4300 hrs | - 0.11% |
| Average speed | 53 kmh | 0% |
| Total public transport trips | - 700 trips | - 0.03% |

Source: GHD TIA

### Existing Traffic Conditions

LMA retained GHD to assess the potential impacts and benefits of the Project to inform the CIS. A report titled” *East West Link – Eastern Section, Traffic Impact Assessment, October* *2013*” was prepared by GHD.

Section 9.1.1 of the GHD report outlines the key congestion locations. These locations were obtained from the VicRoads website. Figure 10, which is a reproduction of GHD Figure 11, shows traffic conditions between 8.30 and 9.00 am, in August 2013, which is said to be “*an average weekday*”.

Figure : VicRoads Congestion Locations for Existing Conditions

NOTE

To reduce the electronic size of this document, Figure 10 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: VicRoads 2013, <http://traffic.vicroads.vic.gov.au>

The key congestion locations are summarised as follows:

Table : Summary of Key Congestion Locations

| **Road** | **Comments/reasons for congestions** |
| --- | --- |
| **Alexandra Parade** | Significant congestion occurs on approach to the intersection with Wellington Street. This is the first intersection following the Eastern Freeway.  Significant congestion also occurs on approach to the intersection with Brunswick Street as large volumes of traffic access Alexandra Parade from Queens Parade. |
| **Brunswick Street** | Congestion occurs from the high volumes of left-turning vehicles from Alexandra Parade combined with the south-bound traffic already travelling along Brunswick Street. |
| **CityLink (Western Link)** | CityLink (Western Link) is a primary arterial route providing access into the city. Traffic volumes along the link are high during the peak periods, particularly for the south-bound carriageway in the AM peak.  The congestion along CityLink is also partly due to ramp interactions (vehicles merging with high volumes along the main line) and extended queuing from the M1 corridor (CityLink Southern Link / West Gate Bridge / Monash Freeway). |
| **Chandler Highway** | Significant congestion occurs along Chandler Highway near the bridge over the Yarra River. The road narrows to one lane in each direction at this bridge and then signals provide priority to Heidelberg Road. |
| **Eastern Freeway** | Significant volumes exit the freeway onto Hoddle Street creating congestion on the freeway as the intersection with Hoddle Street limits the volumes entering Hoddle Street. |
| **Elliott Avenue** | Elliott Avenue forms part of the east-west route connecting the Eastern Freeway with the western suburbs. The road link has two lanes in each direction.  Congestion along Elliott Avenue is primarily due to the restricted capacity along the road link and the limited allocated ‘green time’ at the intersection with Flemington Road due to priority of the trams and requirements of other roads at this intersection. |
| **Flemington Road** | Significant volumes exiting the freeway and competing with east-west traffic travelling along Elliott Avenue / Racecourse Road cause congestion. |
| **Hoddle Street (north of Alexandra Parade)** | Significant congestion occurs on approach to the Alexandra Parade which is likely to be due to signal delays for vehicles exiting the Eastern Freeway and travelling south along Hoddle Street.  There are also significant delays north of Ramsden Street as large volumes of traffic enter the road from High Street and Heidelberg Road merging at this location. |
| **Hoddle Street (south of Alexandra Parade)** | Hoddle Street is widely considered to have significant congestion south of the Eastern Freeway. Observations of operations along Hoddle Street indicate there are a number of large intersecting roads requiring significant traffic signal ‘green time’ which creates delays for traffic travelling along Hoddle Street. This is particularly the case for the approaches to the intersections with Johnston Street and Victoria Street. Victoria Street has Tram Route 109 which is a premier tram route requiring significant priority to reduce delays and allow for 10 minute frequency services in the peak periods. Johnston Street requires priority for the multiple bus routes travelling along the road. The conflicting priority is balanced between the key arterial roads at each intersection although it also causes delays for traffic along Hoddle Street due to the large volumes travelling along the road. |
| **Johnston Street** | Congestion occurring along Johnston Street is primarily due to completing time for signals due to the north south orientated trams. |
| **Macarthur Road** | Macarthur Road also forms part of the east-west route connecting the Eastern Freeway with the western suburbs. The road link narrows to one lane in each direction.  Congestion along Macarthur Road is due to the constrained capacity of the road and the volume of traffic travelling along the link. |
| **Nicholson Street** | Congestion occurs from the high volumes of left-turning vehicles from Alexandra Parade, combined with the south-bound traffic already travelling along Brunswick Street. |
| **Ormond Road** | Congestion along Ormond Road is primarily due to the capacity constraints at either end of the road. CityLink ramps at the eastern end attract trips to/from the area and the on-street parking and trams along Mount Alexander Road constrain the operation of the intersection between Ormond Road and Mount Alexander Road. |
| **Smith Street** | Moderate congestion occurs from the high volumes of left turning vehicles from Alexandra Parade combined with the south-bound traffic already travelling along Smith Street. |
| **Wellington Street** | Moderate congestion occurs between Alexandra Parade and Mater Street. This is likely to be due to vehicles utilising the road as an alternative to Hoddle Street to access Victoria Parade. |

Source: CIS Summary Report

### Travel Time

The September 2013 VLC report prepared for LMA had as its focus “*the validation of the* *base year (2011) Zenith model*.” The report includes comparisons between observed conditions and model outputs in terms of a number of parameters including travel times. “*This is to demonstrate the validity of the model in* *replicating observed travel behaviours”.*

Section 5.2.5 of the report stated: “*The Eastern Freeway/Alexandra Parade/Elliott Avenue corridor is a key travel time route amongst the 201 travel time routes used in validation”.* The report further states: “*However, the modelled average travel times are underestimated for* *the peak direction of each peak period*. *The model does not accurately reflect the levels of* *congestion in the peak directions due to delays caused by queues propagated from* *upstream intersections”*. While it is acknowledged that this is a limitation with strategic models, VLC’s efforts to overcome this problem have met with “*little success”.*

At the hearing Mr Veitch acknowledged that the Zenith model did not take into consideration intersection delays when modelling travel time.

The GHD report indicated that a “*key benefit of East West Link is expected to be the travel time savings for east-west traffic movements*”. Travel time surveys were undertaken during the ‘am’ peak period along the approximate project alignment between Footscray Road and the Chandler Highway interchange on the Eastern Freeway. Table 4 summarizes the results of these investigations.

Table : Existing Travel Time Survey (AM Peak Period)

|  |  |  |  |
| --- | --- | --- | --- |
| **Starting location** | **End location** | **Travel time range** | **Average travel time** |
| Chandler Highway (Eastern Freeway) | CityLink | 20 to 46 minutes | 32 minutes |
| Racecourse Road | Footscray Road | 3 to 6 minutes | 4 minutes |
| **Total west-bound travel time from western end of the Eastern Freeway to Footscray Road** | | **23 to 52 minutes** | **36 minutes** |
| Footscray Road | Racecourse Road | 2 to 4 minutes | 3 minutes |
| CityLink | Chandler Highway (Eastern Freeway) | 14 to 18 minutes | 15 minutes |
| **Total east-bound travel time from Footscray Road to western end of the Eastern Freeway** | | **16 to 22 minutes** | **minutes** |

Source: GHD TIA

### Forecast Traffic Volumes

The VLC Zenith model was used to derive 2031 forecast traffic volumes on a number of routes and part routes, within the road network. The LMA highlighted “*that volume should only be considered as an indicative volume*” and it “*cautions against using those model outputs as definitive volumes*. *This reflects the uncertainties associated with the use of any strategic traffic model for periods of around 18 years from the present day and the need to recognise the possibility of variance for modelled outputs on individual links within the modelled network*”. However, as the Committee has no other forecast traffic volume data to rely upon it must use the strategic model outputs. The Committee appreciates that the best use of the Zenith model is for comparative purposes, say between alternative routes or options. The only comparator is “*do nothing*” or build the Project, which is the focus of the Committee’s deliberations, rather than comparing the benefits/disbenefits of two separate options.

Forecast 2031 traffic volumes have been provided for sections of the Project, Part B, interchange ramps, arterials and local roads. These volumes and their impact will be further discussed under each individual Precinct of the Project. The following diagram/figure summarises the daily volumes forecast along the Project corridor, interchange ramps connections to Part B and CityLink.

Figure : 2031 Forecast Daily Volumes - Westbound

NOTE

To reduce the electronic size of this document, Figure 11 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: Assessment Committee

Figure : 2031 Forecast Daily Volumes - Eastbound

NOTE

To reduce the electronic size of this document, Figure 12 hhas been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: Assessment Committee

Reference to Figure 11 shows that 50,100 vpd (51%) of daily west bound traffic on the Eastern Freeway at Yarra Bend Road enters the tunnel. Forty-nine percent of Eastern Freeway traffic exits onto Hoddle Street and Alexandra Parade. It is not possible to determine the proportion of this traffic destined for the CBD or its environs. Almost equal volumes enter the tunnel at Hoddle Street as exit at Elliott Avenue and therefore the westbound volumes at both portals are similar. At the western portal the majority of westbound vehicles are destined to CityLink/Tullamarine Freeway. However, ignoring movements into and out of the tunnel at Hoddle Street and Elliott Avenue respectively, this volume only represents 38% of the total westbound traffic on the Eastern Freeway at Yarra Bend Road. Sixty eight percent of eastbound vehicles entering the western portal travel south on the Tullamarine Freeway/CityLink. This volume represents 28% of the total volume of east bound traffic on the Eastern Freeway at Yarra Bend Road. Eastbound traffic in the tunnel between Elliott Avenue and Hoddle Street (55,800 vpd) represents 57% of the total eastbound volume on the Eastern Freeway at Yarra Bend Road. The 35,800 vpd eastbound on Alexandra Parade west of Hoddle Street represents 36% of eastbound Eastern Freeway traffic.

### Findings on Traffic Performance

By 2031 with the Project constructed, there will be marginal changes to total vehicle trips, vehicle hours travelled, traffic speed and public transport trips compared with not having the Project constructed.

The Project will clearly reduce travel time on the route between Hoddle Street and CityLink/Tullamarine Freeway. However, traffic volume increases on the approach routes and CityLink/Tullamarine Freeway, combined with the Zenith model neglecting intersection delays, show the benefits will not be as significant as the LMA document suggests.

Approximately half of the west bound traffic on the Freeway west of Hoddle Street does not use the tunnel. Similarly, 41% of the eastbound traffic on the Eastern Freeway east of Hoddle Street entered the tunnel at the western portal.

The Project will remove in excess of 100,000 vpd from the local and arterial road network.

## Precinct 1: Hoddle Street - Eastern Portal

### Introduction

This Precinct is shown on Figure 2 of the Mapbook extending from the Eastern Freeway at Yarra Bend Road to the west side of Smith Street. The Precinct extends approximately 250 metres north of Alexandra Parade on Hoddle Street, 350 metres south of the freeway off ramp on Hoddle Street and includes the Bendigo Street road reservation and the properties on the east side of Bendigo Street. The northern boundary of the Precinct varies between Smith Street and just east of Gold Street to include houses to be acquired for the proposed ‘sidetrack’.

Figure : Sheet 13 from CIS Mapbook

NOTE

To reduce the electronic size of this document, Figure 13 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: CIS Mapbook

To the east of Hoddle Street, the northern boundary of the Precinct generally follows the title boundaries of Alexandra Parade East until it intersects the Merri Creek.

### Key Issues

The key issues in this Precinct relate to the:

* Interface with the Eastern Freeway east of Yarra Bend Road;
* Impact upon the Chandler Highway and other approach routes;
* Hoddle Street on ramp/flyover;
* Location of the tunnel portal or portals and related vent stack;
* Impact upon properties in Bendigo Street and Alexandra Parade East;
* Future of the Doncaster Rail Reservation;
* Proposed sidetrack;
* DART bus service; and
* Impact of construction upon pedestrians and cyclists.

### Submissions and Evidence

#### Traffic

Table 5 shows the traffic volume data provided by LMA which indicated the following:

Table 5: Existing and Forecast Daily Traffic Volumes

|  |  |  |
| --- | --- | --- |
| Location | Daily Traffic Volumes | |
|  | Existing 2011/13 | Forecast 2031 |
| Eastern Freeway at Yarra Bend Road | 135,000 | 190,000 |
| Eastern Freeway off ramp to Hoddle Street | 30,000 | 14,700 |
| Eastern Freeway on ramp from Hoddle Street | 32,000 (U-turn) | 17,600 (Flyover) |
| Alexandra Parade, east of Wellington Street | 69,000 | 72,300 |
| Tunnel west of Hoddle Street | Nil | 111,900 or 116,600 |
| Hoddle Street north of freeway off ramp | 40,000 | 42,000 |
| Hoddle Street north of Johnston Street | 86,500 | 76,000 |

Source: GHD TIA

Forecast 2031 peak hour volumes for the Hoddle Street ramps with the Eastern Freeway, provided by LMA, showed that the ‘am’ off ramp volume would decrease by 27% and the ‘pm’ on ramp (flyover) volume would be 50% less than the current volume.

The Committee found that the traffic volume evidence presented by LMA and its experts was confusing. A number of attempts were made to explain current and future traffic volumes on Alexandra Parade and the Hoddle Street freeway ramps. Major problems related to the data source and the way the information was presented. For example, Table 22 in the GHD Traffic Impact Assessment (TIA) report showed a 2011, 2-way approximate volume on Alexandra Parade, between Gold Street and Brunswick Street of 80,000 vehicles per day (vpd). This section of Alexandra Parade is approximately 950 metres long and has four signalised intersections. Further information in Documents 44 and 59 provided by the LMA showed traffic volume data at three locations along this 950 metre length of road. At two of these locations, the data was obtained from VicRoads arterial traffic volume spread sheet February 2013 and was expressed as an Annual Average Daily Traffic Volume (AADT) and at one location VicRoads SCATS data 2011, expressed as an Annual Average Week Day Traffic Volume (AAWDT). Further information in Document 94 provided by the LMA indicated that the volume shown in the CIS “*was a typical week day taken from a SCATS count*”, not an AADT.

VicRoads does not have a permanent counting station along Alexandra Parade, and the volumes provided were estimates based upon sample surveys factored to take into account seasonal variations in traffic volumes. The quality of the data derived in this manner can vary depending upon the sample size. It is recognised that SCATS data can be unreliable.

Document 94 included SCATS data recorded on Alexandra Parade at the Smith Street and Wellington Street intersections over a one week period from Monday 20 May to Sunday 26 May 2013. Westbound traffic was recorded at the Smith Street approach to the intersection and eastbound traffic at the Wellington Street approach to the intersection. Weekday traffic volumes ranged from 67,141 vehicles to 76,008 vehicles, with an average two way five day volume of 71,665 vehicles. On Saturday 25 May 2013, 72,201 vehicles were recorded and the seven day average volume was 70,520 vehicles. The difference between the five day and seven day averages was only two percent. However, there was a 13 percent difference in daily volumes between Monday, the lowest count and Friday the highest count. LMA noted that the May 2013 volumes “*have not been seasonally adjusted and therefore could* *be higher/lower than the actual AADT for Alexandra Parade*”. In Document 59, the 2012 AADT for Alexandra Parade, between Smith Street and Wellington Street, was shown as 62,000 vehicles. This significant variation from the May 2013 volumes highlights the potential confusion in quoting traffic volumes without adequate justification of the validity of the source.

In Appendix A to Document 354, the LMA provided further information in relation to existing and forecast traffic volumes on Alexandra Parade, and said: “*all numbers reported in the CIS and strategic modelling outputs are AAWDT not AADT. AAWDT will always be higher than AADT in inner urban areas, as weekend volumes are typically lower than weekdays*”.

Further, the traffic volumes shown in the various LMA documents “*must be considered having regard to the disclaimers provided by VicRoads, and the estimation process undertaken by VicRoads to develop them*”.

LMA acknowledge that between 2002 and 2011, traffic volumes on Alexandra Parade have decreased. However, they then referred to Figure 2 of Appendix A which shows “*change in traffic volumes along Alexandra Parade*” at four separate locations. The plot shows 2012 volumes, which in most cases the volumes are greater than the 2011 volumes. LMA concluded that traffic volumes on Alexandra Parade will “*continue to increase above current volumes*”. Table 23 in the GHD TIA indicated that without the Project, daily traffic volumes on Alexandra Parade will increase by 0 to 10 per cent by 2031.

In Table 23 of the GHD TIA, 2031 daily traffic volumes are shown “*with East West Link –* *Eastern Section*” as a per cent volume change with and without the Project. Alexandra Parade, between Gold Street and Brunswick Street is shown having an estimated 80,000 vpd in 2011 and a 20 to 30 per cent reduction in 2031. Document 59, tendered by the LMA shows an AAWDT of 80,000 vehicles on Alexandra Parade between Brunswick Street and George Street. The Committee must therefore assume that this is where the 20 to 30 per cent reduction in daily traffic volume will occur, resulting in a forecast 2013 daily traffic volume in the range of 61,600 to 70,400 vpd.

Document 234 shows forecast 2031 traffic volumes at the Hoddle Street interchange and on Alexandra Parade east of Wellington Street. The daily volume shown for Alexandra Parade is 72,300 vehicles. By comparison, Document 59 shows an AADT 2012 volume of 69,000 vehicles at the same location.

Section 9.3.4 of the GHD report stated that the 20 to 30 per cent forecast reduction in daily traffic on Alexandra Parade post the Project would enable priority to be redistributed from east-west vehicles. A number of key north-south oriented public transport and cycling routes would receive increased priority and less delay “*should the signal timing be reallocated*”. The LMA noted that the key benefits for this include:

* Improvements to north-south public transport movements;
* Improved priority for north south traffic movements;
* Reduced congestion along Alexandra Parade; and
* Increased green time for north south pedestrians crossing Alexandra Parade.

Chapter 10 of the GHD TIA report relates to ‘Sensitivity Testing’. It stated that *“strategic transport modelling is a tool to forecast the impacts due to n*etwork *changes. The model is based on a range of assumptions and inputs and therefore the results may change if assumptions and/or inputs are altered*”.

Population changes were said to be one of the factors that could have an impact upon the output from the model. To assess the impact of a variation in population forecasts from that used in the model, two scenarios were tested. A ‘low growth’ scenario with population levels five per cent lower than the 2031 forecast and a ‘high growth’ with population levels five per cent higher than the 2031 forecast. Table 25 of the GHD TIA report shows Forecast Daily Traffic Volumes with the Project for the base 2031 population as well as the (low) 2026 population and the (high) 2036 population for Alexandra Parade, east of Brunswick Street. The daily volumes forecast are as follows:

Table 6: Traffic Volumes Based upon Population Scenarios

|  |  |  |  |
| --- | --- | --- | --- |
|  | Daily Traffic Volumes | | |
|  | **Base** | **Low** | **High** |
| Population (Year) | 2031 | 2026 | 2036 |
| Alexandra Parade east of Brunswick Street | 76,900 | 76,400 | 79,100 |

Source: GHD TIA

In Appendix A of Document 343, the LMA expresses concern that the Committee in comparing existing and forecast 2031 traffic volumes along Alexandra Parade. It said: “*This is because it does not compare volumes of the same location, or volumes of the same data type”*, that is, AAWDT with AAWDT. The Document then indicates that on a like for like basis there will be a reduction of 3700 vpd or five per cent on Alexandra Parade, east of Wellington St. This is “*between* ***current*** *daily traffic volumes against 2031 volumes with the East West Link”.*

A comparison of existing and forecast peak hour volumes in Document 93, reveals a 30 per cent reduction in “*peak period volumes in the peak direction under 2011 conditions*”.

Table 18 in the GHD TIA outlines existing and forecast travel times with and without the Project. In 2031, it is anticipated that there will be a saving of approximately 20 minutes during the morning peak hour for vehicles travelling from the Eastern Freeway at Chandler Highway to CityLink via the Project. During the same time period the eastbound movement from Footscray Road via CityLink to Chandler Highway is quoted as taking on average 18 minutes at present. In 2031 via the Project, Table 18 suggests this trip will take on average 15 to 20 minutes, which represents an asserted saving of approximately 10 minutes.

In his evidence, Mr Veitch quoted VicRoads daily traffic volume data for a number of locations. This data showed that daily traffic volumes on Alexandra Parade have declined between 2002 and 2012. One explanation for this decline was the upgrade of M1.

The Zenith model forecast “*an AWDT growth rate between 2011 to 2031 in the order of 0.15% per annum”* on Alexandra Parade*, “assuming the East West Link is not constructed*”.

Mr Veitch suggested that “*a better indication as to how east-west traffic demand is increasing in Melbourne can be obtained by examining how traffic demand has been* *growing on VicRoads screenline 1D 902*.” This screenline extends approximately 40 kms north-south from Port Phillip Bay to Epping along the alignment of Epping Road, High Street, Hoddle Street and Punt Road.

Vic Roads AWDT volumes show a 1.3 per cent increase in Compound Annual Growth Rate between 1995 and 2011. The VLC *“Zenith model forecasts a 2011 to 2031 growth rate of 1.3% across the same screenline should East West Link not be built”.*

In response to a submission that the Project would move congestion from the inner east to the inner west, Mr Veitch prepared a diagram in reply. This diagram, shown on p65 of his February 2014 report, became known in the hearing as the “*demons diagram*” due to its colouration. The title given to the diagram “*Change in Total Daily Volumes*” did not necessarily reflect the message it was trying to convey. Increases in daily traffic volumes were shown in red and decreases in blue. East of Yarra Bend Road, the Eastern Freeway was shown as a relatively wide red band, narrowing as it proceeded east. West of Yarra Bend Road the “*band width*” not only changed colour to blue, showing a decrease in daily traffic, it reduced in width, showing less daily traffic. When the Committee indicated that it did not understand this diagram, Mr Tweedie responded that the band width and colour change reflected additional road capacity.

At the request of the Committee, the LMA was asked to extend the plan further east to take in feeder roads leading to the Eastern Freeway. An A1 size plan (Document 144) was tendered by the LMA which showed Eastlink and beyond.

Document 144 clarified that Eastern Freeway traffic would increase as far as Eastlink and that the Princess Street/Earl Street/Asquith Street routes would generate additional traffic. No change was shown for Chandler Highway north of the freeway, and the freeway ramps at Chandler Highway appeared to show reduced traffic volumes. Similarly traffic volume increases were shown on Doncaster Road, Thompsons Road, Manningham Road and Foote Street, yet Bulleen Road showed a reduction in daily traffic volumes.

The Alexandra Parade corridor from Yarra Bend Road to the Macarthur Road/Elliott Avenue intersection was also shown as a blue band.

The LMA tendered Document 196 to further explain the “*demons diagram”.* It noted that the plots “*show the change in traffic as a band width, the greater the change in traffic volumes the greater the thickness of bandwidth. They show the quantity of change, not the percentage as has been provided in the CIS”.*

The document explained how the band width and colour change occurred on the Eastern Freeway between Chandler Highway and Hoddle Street, i.e. where traffic selected one of three routes, the Project, the Hoddle Street off ramp or Alexandra Parade.

Further to the Committee’s s57(4) request, the LMA provided the Committee with longitudinal sections of the proposed tunnels and interchange ramps. In addition typical cross sections and actual cross sections for the Reference Project were provided between Hoddle Street and Gold Street.

LMA retained the services of Mr Pelosi to *“peer review the Traffic Impact Assessment contained in the Comprehensive Impact Assessment (CIS) prepared* *for the East West Link (Eastern Section) Project*”. Mr Pelosi indicated that “*the project provides opportunities to enhance public transport* *performance, improve pedestrian and bicycle amenity/connectivity, achieve vehicle travel* *time savings*”. He stated that “*it also boosts efficiency of freight movements to/from* *the Port of Melbourne*”. When questioned by Mr Wren, Mr Pelosi indicated that he estimated that 6-7% of vehicles using the Project would be trucks.

Mr Pelosi indicated other benefits of the Project included:

* faster and more frequent bus services between Doncaster and the CBD;
* opportunity to increase the green time allocated for north-south routes crossing Alexandra Parade;
* an alternative route to the M1 corridor; and
* a greater number of kilometres travelled for less hours resulting in reduced congestion.

#### The Reference Project Design

At the Preliminary Hearing in January, the Committee enquired whether LMA were providing road design evidence in support of its case. At that stage the LMA did not intend to lead any evidence regarding the veracity of the Reference Project or have anyone available for cross examination. Following a Direction of the Committee, the LMA retained Mr Brock of GHD to prepare a report on issues pertaining to road design.

Although GHD had assisted in the preparation of many aspects of the CIS, Mr Brock advised that he had not been directly involved in this aspect of the Project. (The Committee was later advised that Mr Brock and the civil department of GHD had tendered on the design of the Reference Project for LMA but were unsuccessful.)

In his evidence report, Mr Brock indicated that the proposed Hoddle Street flyover to the Eastern Freeway “*is certainly a viable solution, but other options are possible”.* Mr Brock indicated that a “*loop ramp similar to the existing*” was a possible solution. He added it was “*likely to be able to provide acceptable performance, but very difficult to accommodate with the additional connections of EWL within the land constraints of the site*”.

Mr Brock described a Diverging Diamond Interchange (DDI) as, “*an alternative form of interchange that is not common in the Victorian road network*”. It was his view *“that the use of a DDI at the Hoddle Street intersection is likely to provide a less desirable outcome from a road design perspective than the design for this intersection set out in the Reference Project*”.

Following Mr Brock’s evidence, Mr Morris indicated that LMA had investigated “*hundreds*” of options for the Hoddle Street interchange. Mr Wren on behalf of the Committee requested that Mr Brock prepare a “*Q*” or “*P*” ramp arrangement for the Hoddle Street northbound to eastbound Eastern Freeway movement (similar to the current turning movement).

On Day 18, the LMA tended Document 236, ‘Hoddle Street Alternative Option’. The purpose of the revised design was to reduce the impact of the elevated entry ramp from Hoddle Street onto the Eastern Freeway.

The design presented had an internal radius of 56 metres to allow a 50 kilometre per hour (kph) design speed. The ramp cross section allowed two traffic lanes, a bus lane and provision for the tracking of a 19 metre semi-trailer.

The design criteria selected required relocation of the Reference Design southern carriageway further to the south. This results in the Proposed Project Boundary shifting to the south between the west side of Bendigo Street and the middle of the block between Gold Street and Charlotte Street. Property acquisition was maintained for the majority of the properties on the east side of Bendigo Street. Properties abutting the south side of the Alexandra Parade ‘service road’ and in the north-west quadrant of the Alexandra Parade/Hoddle Street intersection would be acquired. The LMA rejected this option on a number of grounds.

On the same day, the LMA submitted Document 237 relating to the location of the eastern tunnel portal. This document was submitted in response to suggestions “*that the Hoddle* *Street interchange be reconfigured to move the tunnel portal east of Hoddle Street*”.

The LMA response was that, “*in all likelihood, the portal would need to be situated at least* *300 metres east of the railway bridge”.* In summary, this relocation, in the opinion of LMA introduced the following concerns:

* Difficult to facilitate westbound traffic entering tunnel from Hoddle Street and eastbound exiting (need separate ramps and if done significant problems with ramp grades);
* Will reduce distance between Alexandra Parade eastbound, the two connections from Hoddle Street and the East West Link merge causing congestion and road safety concerns;
* May cause interaction with the water table associated with Merri Creek (need to manage the potential inflow of surface water into portals and may require significant Merri Creek works);
* Topography in this location changes therefore tunnel grades would be steep (in excess of 6%) causing capacity issues for trucks;
* It will complicate the decoupling of the Epping Railway Line from the Hurstbridge Railway Line (which is a necessary precondition to the delivery of the Doncaster Railway Line);
* Further east the portal is from Hoddle, the further east median works with widening of Eastern Freeway will need to commence (also maybe impacting on Doncaster Rail Line delivery);
* Undertaking cut and cover works necessary to establish the portals and approach works will require the closure of the western most section of the Eastern Freeway over an extended period of time (up to two years) limiting access to and from eastern suburbs with several impacts on surface road network; and
* Add considerably to cost of the Project both during construction and operation, increase length of tunnel, but it would increase the depth of the tunnel and the extent of the cut and cover works required.

Mr Finanzio for the City of Yarra indicated to the Committee that his client was opposed to the Project. However, if the Project was to proceed, Council would prefer a number of changes to the design shown as the Reference Project. One of the changes is the deletion of the Hoddle Street flyover and in its place construction of a DDI. An example of a DDI, (Document 51) was submitted by Mr Finanzio on behalf of Council.

Many submitters queried the need for the Hoddle Street flyover as it either required demolition of houses (including for some, their own house) or left them with an elevated roadway within 10 metres of their houses. Submissions were made on behalf of Provans Timber and Schotts Emporium located on the north side of the Eastern Freeway, west and east respectively of Hoddle Street. The former being acquired because of the ‘sidetrack’ and to relocate further east along Alexandra Parade, only to have their vehicular access impacted by the road works. Schotts, who have no on-site parking, rely upon on-street parking in the service road on the west side of Hoddle Street. This parking will be eliminated or significantly reduced by the road works shown on the Reference Project.

Mr Goodman made a submission on behalf of the 3068 Group (Document 303). His group opposed any proposal “*that links the Eastern Freeway to the Tullamarine Freeway*”. Their reasons for opposing the Project include “*because it will increase traffic, air pollution and climate change*”. The Group “*is completely opposed to this Reference Project, for its impacts on heritage and the* *residents of Clifton Hill (in particular*)”. The Group suggested modifications to the Reference Project not as “*an endorsement of the proposal to link the freeways, but may help explain* *how poorly designed the reference project* *is*”. The Group believed that the “*Hoddle Street* *Flyover is not part of the Declared Project*”. They included quotes from various Acts and the LMA submission to support their contention that “*the overpass is solving a problem on* *VicRoads wish list. It is out of scope of this project”.*

Mr Goodman stated that the flyover is “*over-designed for modelled traffic*” and he included a number of quotations from the CIS and a September 2008 GHD study entitled “*Hoddle Street* *Preliminary Traffic Advice*”.

The submission included an alternative Hoddle Street interchange prepared on behalf or by the 3068 Group. This design contained components of the Reference Project, a 1999 Vic Roads, “*Interchange Concepts, Released to Northern Central Corridor Study*” and a *“Figure 9* *Interchange Concepts*”, indicative “*Deep Tunnels Concept No 3”,* dated 26/10/1999. This interchange layout retained the current “*Q loop*” for the northbound movement from Hoddle Street onto the Eastern Freeway eastbound. In support of their alternative design, the Group included an aerial photograph of the off ramp from CityLink to Punt Road, highlighting the internal diameter of the loop, adjacent to an aerial of Hoddle Street at the Eastern Freeway. The photos showed that a similar diameter ramp could be accommodated between the entry and exit ramps on the east side of Hoddle Street.

Tables were included in the submission outlining Performance Criteria for both the Reference design and the Group’s alternative option. The 3068 Group’s conclusion: ‘Remove the Flyover’noted:

* The flyover (Hoddle Street loop Bridge) has no strategic justification;
* The benefits are only cost and temporary logistics; and
* The impacts on Collingwood, Clifton Hill and Abbotsford are unacceptable.

Mr Goodman observed that north-south tram priority “*is again being promised in this CIS*”. He said it was first promised in 1978 “*and it still won’t be delivered according to traffic projections*”. Yet he questioned that it is mandated in the performance criteria.

Evaluation Objective 1, CIS ch18.4.1 was quoted in the submission: *“Lower traffic volumes* *on surface roads would contribute to unlocking road space, which would relieve congestion and**provide scope to improve connectivity for some road-based public transport and active* *transport modes such as walking and cycling*”. Further, he said:

A reduction in traffic volumes along Alexandra Parade would improve connectivity in and around this road.

* There is no commitment to improve connectivity in the CIS
* Will future toll road operator allow buses to run along or adjacent to its asset?
* Will the toll road owner demand compensation if Doncaster Rail or Metro is ever Built – inhibiting connectivity?
* Will Alexandra Parade simply be repossessed by motorists and rat runners?
* Plan is to retain all existing lanes for motoring – no bus lane proposed.

The submission referred to the proposed Skybus express lane to the airport and the Eastern Freeway Rail Reservation.

The rhetorical question “*How many lanes are required for Alexandra Parade*?” was asked and a number of benefits by realigning the central median of Alexandra Parade were outlined in the submission. The side track was commented upon as “*No Temporary* *road in Clifton Hill”.* Several unacceptable impacts of the temporary road were outlined and the question was asked about what alternatives have been considered, including:

* Boring instead of cut and cover to Hoddle Street
* Portals near Hoddle Street instead of Gold Street
* Use of wide median in Alexandra Parade and Queens Parade detours.

*The Northern Central City Corridor – Draft Strategy 2003* was quoted, with a recommended demand side management initiative as follows: “*To encourage greater use* *of public transport and non-motorised modes in conjunction with physical proposals*”. The 3068 Group state that “*Demand management is the elephant in the room*”. They asserted that both the Eddington report and LMA are “*silent on this”.*

Mr Herington made a submission on behalf of Yarra Campaign for Action on Transport (Document 314). This submission stated that “*The Reference design for the* *East/West Link prevents the Doncaster Rail line being built in the most direct and lowest cost* *manner”*. It further stated that the “*Eastern Freeway Lands Act 1971 remains in force today*” and therefore “*The rail reservation should be protected and not allowed to be taken for the* *purpose of the East West Link*”. Mr Herington quoted extracts from the *Doncaster Rail* *Study, Engineering and Environmental Investigation, December 2012,* describing the proposed rail alignment between the Victoria Park area and Chandler Highway. He stated that “*The Doncaster Rail Study team made it clear that this option* (i.e. the alignment) *was imposed on them* *to avoid conflict with the design of the East West Link*”.

Slides in Mr Herington’s submission showed the proposed rail alignment and indicated that the alignment passes through an “*important natural and heritage parkland*” which is “*expensive and would never get planning approval*”. Furthermore, the proposed route “*would impact,* *five of the historic sites featured in Mr Lovell’s evidence*”. Mr Herington suggested that “*the existing provision for a rail line in the median should be retained* – *to be built as planned* *before 2031*”. He also stated that “*LMA has tried to make life easy for itself by developing a* *reference design assuming it can take over the rail reservation* “ and “*it has failed to do the* *work needed to design the proposal in a way that doesn’t take over the rail corridor*”.

Mr Herington noted that “*little has been said about buses in the evidence*, *despite the* *obligation under the Transport Integration Act to consider an integrated approach to public transport facilities when considering new road projects*”. He observed and noted the non appearance of PTV, Department of Transport, Metro Trains Melbourne, Yarra Trams or Transdev.

The submission made reference to the proposed bus lane on the Hoddle Street on ramp and a number of public transport recommendations in the Eddington report, particularly the DART service. Mr Herington provided the Committee with Document 318, consisting of two A3 plans, sheets 4 of 4, being a longitudinal section of the eastbound tunnel and sheet 26 from the Mapbook.

An alternative Hoddle Street interchange was superimposed on sheet 26 and a section of the tunnel had been regraded from chainage 4640 to chainage 4100. The aim of the regrading was to extend the cut and cover section to a portal located between Hoddle Street and the Hurstbridge/South Morang railway line. The tunnel regrading allowed the north to east on ramp to be regraded to pass under Hoddle Street. An A4 sheet was also included which stated “*LMA use the wrong relevant comparator”.*

Submitters from Hilton Street, Wellington Street, Gold Street and Noone Street who resided beyond the Proposed Project Boundary requested that their properties be acquired or they be compensated for the inconvenience of a five to eight year construction period. Submitters on behalf of the Clifton Hill Primary School expressed concern regarding children and parents safety, and interruption to access to the school during the construction phase. They raised the issue of the school’s proximity to the tunnel vents.

Many submitters objected to the concept of a road tunnel and instead supported the introduction of a rail link to Doncaster via the freeway reservation. It was asserted that a partial rail tunnel had been constructed from Victoria Park railway station towards the freeway median as part of the Eastern Freeway construction. Many of these submitters expressed concern that widening of the Eastern Freeway “*shut out*” the option of a rail reservation and that the excessive cost of the Project eliminated any chance of rail or other public transport improvements.

Mr Huth presented Document 410 which proposed upgrading and extending the DART system into the CBD and providing new park and ride facilities on Bulleen Road. In addition, he proposed upgrading the existing facility on Doncaster Road, and suggested deletion of the flyover at Hoddle Street. The alternative design involved raising the southbound carriageway of Hoddle Street to allow eastbound vehicles on Hoddle Street to turn right free of conflict with southbound vehicles.

Mr Negus of the RACV made a submission on behalf of the RACV and a number of other parties (Document 306). Mr Negus stated that the “*East-West Link is one of the key transport projects needed for Melbourne and Victoria*” and was part of RACV’s Transport Policy. This Policy included:

* stronger investment and new funding approaches for transport projects; and
* an integrated and balanced transport plan to address congestion and improve productivity and the well-being of the community.

Nine key projects were outlined, including seven rail projects. A number of benefits provided by the Project were outlined, including reduced “*delay for north-south trams and other road users*.”

Mr Negus indicated that 38 per cent of the members surveyed indicated that the East West Link was a priority, compared with 18 per cent for the Metro Rail Capacity Project. Mr Negus quoted a number of traffic related statistics that he had taken from the CIS, including a 20 to 30 per cent reduction in daily traffic on Alexandra Parade by 2031. Other projects required in conjunction with EWL stage 1 included:

* upgrade Tullamarine Freeway/City Link;
* Port Link; and
* delivering total East West project.

In response to a question from the Committee, Mr Negus indicated that the RACV had not done any original research and its opinion of the traffic impact of the Project was based upon the CIS. When it was put to Mr Negus that the Project may have very little or no long term impact upon reducing traffic volumes on Alexandra Parade, he suggested that the capacity of Alexandra Parade could be reduced, by forcing traffic into the tunnels, and increasing green time for north-south traffic movements.

In December 2013, the City of Boroondara made a submission to the Committee outlining its concerns in relation to the Project. In summary Council *“provided conditional support for the EWL as part of its submission to the Eddington Study”*, with a caveat that city exits are required to address queuing issues on the Eastern Freeway and to minimise diverted trips on Chandler Highway, Bulleen Road and other parallel road networks. However, the Council indicated that improvements are required to public transport and expressed concern about increased traffic volumes on roads accessing the Eastern Freeway.

Boroondara acknowledged that the CIS proposed widening of the Eastern Freeway east of Yarra Bend Road which is beyond the Proposed Project Boundary. However, it said *“no details are provided as to how the widening is to be achieved east of Yarra Bend Road and ultimately, through to Tram Road”.*

Council indicated that it would strongly object to property acquisition, loss of parkland and vegetation and loss of the median *“earmarked for the Doncaster Rail”,* as part of the Freeway widening. Council requested that the Freeway widening integrate bicycle path works with the widening. The CIS indicated that traffic volume increases of up to 30% were forecast for some of the routes feeding the Eastern Freeway. Council said *“These projected increases are of concern as these roads are already carrying high levels of traffic”.* Council indicated that it would not support *“the removal of parking, introduction of clearways and widening”* in order to improve the capacity of these approach routes.

Dr and Mrs Oppenheim who have resided in Kew “*immediately south east of Chandler Highway for almost 40 years”* presented Document 456. They have *“unsuccessfully sought evidence in CIS to support some claimed outcomes in CIS”.* They submitted that the TIA:

does not consider impact of current traffic or expected traffic on:

* Chandler Highway traffic
* Surrounding area traffic and public amenity

Further, the Oppenheim’s submitted that Appendix E to the CIS *“fails to make any consideration about increasing travel time on or approaching Chandler Highway (and access roads) before entering or after leaving EWL. The increased travel time will result from the increased congestion on Chandler Highway (and access roads)”.* The Oppenheim’s requested that as part of the Committee’s assessment of the Project, *“adequate traffic management studies be required to be undertaken, published and assessed for the Chandler Highway area and that consideration be given to duplicating the Chandler bridge across the river”.*

### Discussion

#### The Reference Project

The Council, community and resident submissions presented to the Committee were very clear, in that they did not want the Project. The Committee asked numerous submitters that if the Project was to proceed, how could it be improved? The general response was that if it was to proceed, the following design features/components remained unacceptable:

* The Hoddle Street flyover;
* The sidetrack; and
* The portal location.

Evidence presented by the LMA indicated a significant reduction in daily and peak hour traffic volumes using the eastbound on ramp from Hoddle Street to the Eastern Freeway and the westbound off ramp. As the stated aim of the Project is to connect the Eastern Freeway to CityLink, the rationale for a new flyover to carry less traffic which requires property acquisition is unclear. The LMA advised that “*hundreds*” of alternatives were considered for this interchange, but these were not provided to the Committee. The Committee does not consider that the flyover in the Reference Project is a sound and reasonable traffic and design response.

If the design brief was to minimise property acquisition, while still maintaining a better standard of design than the current arrangement, the design would arguably be much different and could consider other alternatives that minimise or prevent property acquisition and the other impacts of the flyover.

In relation to submissions that opposed the demolition of houses and business north of Alexandra Parade to enable the construction of a temporary sidetrack, examination of the tunnel longitudinal sections and cross sections provided by LMA for Precinct 1 has led the Committee to the conclusion that the Reference Project could be modified to eliminate the sidetrack. This may include:

* Minor relocation of the tunnels to the south;
* Extension of the bored tunnel construction further to the east;
* Regrading of the main carriageways and the construction of a trafficable or non-trafficable ‘*lid*’ over the tunnels where the ‘*roof*’ of the tunnels match the adjoining natural surface.

Examination of the longitudinal sections of the tunnel indicates that the design level of the nose of the westbound entry ramp from Hoddle Street is approximately 20 metres below the natural surface. The design level of the tunnel at the eastbound exit nose is approximately 21 metres below the natural surface. Providing a ‘lid’ over the tunnels at the ramp noses may not require any change to the vertical alignment of the ramps or the through carriageways in the tunnels. At chainage 4100, which is approximately where the Hurstbridge/South Morang rail bridge crosses the Eastern Freeway, the Reference Project shows the tunnel level coincident with the current freeway level. The Portal could be moved east of chainage 4100 either by regrading to lower the tunnel level or by constructing a ‘lid’ over the tunnel carriageways.

If the tunnels were to be regraded, the vertical alignment would match with the Eastern Freeway vertical alignment approximately 200 metres west of where the Merri Creek crosses the freeway. Furthermore, the Merri Creek bed is shown approximately 15 metres below the freeway level on the longitudinal section provided by LMA.

The exit nose of the Chandler Highway off ramp from the Eastern Freeway is approximately 2.05 kms from Trenerry Crescent. Clearly, any relocation of the portal would be well west of Trenerry Crescent, and the weaving distance along the freeway is not an issue.

The Committee is not able to comment upon the impact of relocating the portal upon “*the decoupling of the Epping Railway line*”. However, it is difficult to understand how relocating the portal by constructing a lid over the tunnel carriageways could have adverse impacts.

The Committee accepts that extending the tunnels east, either via additional excavation or by constructing a trafficable or non-trafficable lid over the tunnel carriageways will be a more expensive solution. However, this may be offset by a lower cost for the Hoddle Street interchange, but Committee is unable to consider cost issues. If it were, the proposed funding model would certainly require further investigation.

At the end of the day it is not up to the Committee to redesign the Reference Project. As put by LMA, the Reference Project is purely a concept for assessment purposes. However the Committee is concerned that even the Reference Project appears to be based on a limited design brief that would likely produce suboptimal outcomes when viewed across a range of community objectives, not just road design. It may be that the successful contractor for the Project will produce a more acceptable design, but the Committee is not privy to this information.

Given this inherent uncertainty in what the Project actually is, or might be, at the Hoddle Street interchange, the Committee has recommended modifying the Performance Requirements to avoid adverse impacts.

#### Traffic

It is interesting to observe that Mr Veitch did not conclude that traffic volumes along Alexandra Parade were indicating an upward trend.

Data has been presented as an AADT, AAWDT and as actual volumes by direction derived from the SCATS loops. The latter data, May 2013 showed that Saturday was the second busiest day of the week and that weekday volumes varied by 13% between the highest and lowest.

Mr Veitch indicated that the Zenith model “*simulates travel demand during an average weekday in each forecast year*.” It is not clear what “*an average weekday*” is, however, LMA advised that all forecast volumes in the CIS are AAWDT volumes.

It may be assumed that the output from the Zenith model is a daily volume for each link specified by the model. It is therefore difficult to understand how a number of the forecast traffic volumes quoted in the GHD TIA were derived. For example, in Tables 22 and 23, 2031 volumes are shown with and without EWL. These volumes are shown as a range in Table 8.

Table : Existing and 2031 Forecast Traffic Volumes – with and without EWL

|  |  |  |  |
| --- | --- | --- | --- |
| Road | 2011 Volume | % Volume Change 2011-2031 no EWL | % Volume Change 2031 no EWL with EWL |
| Alexandra Parade | 80,000 vpd | 0 to 10% | -20% to -30% |
| Eastern Freeway | 135,000 vpd | 0 to 10% | 40% to 50% |

Source: GHD TIA

Perhaps the volumes shown in the Table were derived by GHD rather than VLC and include a “*factor of safety*.” Many times during the Hearing, the Committee were advised by the LMA that the output from strategic modelling “*should not be considered as providing results with* *absolute accuracy.*” This makes it difficult for the Committee to assess the impact of the Project along the Alexandra Parade corridor, particularly when conflicting information is presented as noted in Tables 8 and 9 (which is a repeat of Table 6).

Table : Forecast 2031 Traffic Volumes with and without EWL

|  |  |  |
| --- | --- | --- |
|  | Daily Traffic Volumes | |
|  | **No EWL** | **With EWL** |
| Alexandra Parade east of Brunswick Street | 80,000 to 88,000 | 61,600 to 70,400 |

Source: GHD TIA

Table : Traffic Volumes Based on Population Scenarios

|  |  |  |  |
| --- | --- | --- | --- |
|  | Daily Traffic Volumes | | |
|  | **Base** | **Low** | **High** |
| Population (Year) | 2031 | 2026 | 2036 |
| Alexandra Parade east of Brunswick Street | 76,900 | 76,400 | 79,100 |

Source: GHD TIA

Furthermore, Document 234 shows a 2031 daily volume on Alexandra Parade east of Wellington Street of 72,300. By comparison, the 2012 AADT volume shown at this location on Document 59 is 69,000. If a 2% factor was applied to this volume to obtain an approximate AAWDT value, it would equate to approximately 70,000 vpd. The 2031 equivalent volume at the same location is therefore higher than the 2012 volume.

In his expert witness statement, Mr Veitch indicated that the Zenith “*model’s forecasts were within 10% of the actual outcome*”, of the Eastlink traffic volumes. He did not indicate whether the forecasts were 10% higher or lower.

The Zenith model forecast a 1.3% per annum growth rate across screenline 902 should the Project not be built. This growth rate, Mr Veitch advised was “*very closely aligned with VicRoads historical counts of east-west movements across Melbourne*,” between 1994/5 and 2011. However the Committee notes that in 1994/5 the northern end of screenline 902 was vacant land or used for farming. Construction of the Western Ring Road, which crosses the screenline and other road improvements, such as the Hume Freeway (Craigieburn Bypass) in the northern metropolitan area has resulted in significant population and employment growth, particularly adjacent to and north of the Ring Road. The 1.3% growth rate across the screenline is an average value. It therefore follows that growth rates will vary along the screenline, with significantly higher growth rates in the recently developed northern section. By comparison traffic growth along the Alexandra Parade corridor is, in the opinion of the Committee, more likely to be negative.

### Findings

The Committee finds that there is no justification for the Hoddle Street flyover shown in the Reference Project based on traffic volumes and other impacts discussed later in this report. There is insufficient justification for the construction of the proposed sidetrack. Further, the Committee considers there is an opportunity to investigate relocation of the tunnel portal or portals east of Hoddle Street, and it has recommended accordingly.

There is limited opportunity to provide additional green time for north-south traffic movement across the Alexandra Parade corridor unless steps are taken to constrain traffic movements on Alexandra Parade.

## Precinct 2: Alexandra Parade

### Introduction

This Precinct, shown on Figure 3 in the Mapbook, extends from the west side of Smith Street to The Avenue, which is the eastern edge of Royal Park. The north and south boundaries of the Precinct are generally parallel, however, east of Brunswick Street the north boundary varies and extends as far north as Queens Parade for the eastern half of the block between George Street and Smith Street. The Reference Project design shows Precinct 2 as bored tunnels.

### Key Issues

The key issue in this Precinct relates to the interaction of Alexandra Parade with the major north-south crossing roads.

### Submissions and Evidence

The LMA frequently highlighted the benefits to be derived for the north-south routes on completion of the Project. GHD in its reports outlined the benefits of decreased traffic along Alexandra Parade. An opportunity would be provided to “increase the signal green time allocated for the north-south routes”. This would “improve travel times for public transport, cars and cyclists using these roads”.

Existing and forecast 2031 traffic volumes have been discussed in detail in Chapter 6.3.3 of this report and will not be repeated.

### Discussion

The amount of ‘green time’ allocated to a particular movement or leg of an intersection is dictated by traffic volumes, public transport demands, pedestrian and bicycle movements. Under current traffic conditions, more green time would be allocated to east-west movement on the Alexandra Parade corridor than the north-south routes.

Although the Committee was advised that Alexandra Parade traffic volumes would be reduced once the Project was open, the evidence provided by the LMA’s consultants appear to contradict this assertion.

Document 59 shows a 2012 AADT volume of 69,000 on Alexandra Parade east of Wellington Street while Document 235 shows a 2031 volume of 72,300 vpd at the same location. If the 2012 volume was converted to an AAWDT, the volume would still be less than 72,300 vpd. Table 22 of the GHD TIA shows 2011 daily volumes for Wellington Street, Smith Street, Brunswick Street, Nicholson Street and Rathdowne Street ranging from 10,000 to 20,000 vpd. Table 23 of the TIA shows post Project changes in volumes of negative 15% to positive 5%. On the basis of these volumes, more green time would be allocated to east-west movements rather than north-south without intervention.

The only other location on Alexandra Parade where a direct volume comparison may be made is between George Street and Brunswick Street. The 2011 volume quoted is 80,000 AAWDT and the 2031 post Project volume derived from Table 23 is 61,600 to 70,400 vpd. However, as previously highlighted, Table 25 of the TIA shows a 2031 forecast ‘base’ volume of 76,900 vpd, rising to 79,100 vpd with a ‘high’ population growth and falling to 76,400 vpd with a ‘low’ population growth.

The Committee is unsure of the origin of the volumes provided. The volume quoted in Document 235 was in response to a request for clarification from the Committee, and is assumed to be an output of the VLC model. The 2012 volume in Document 59 was obtained from VicRoads. The Committee was advised that the Zenith model “simulates travel demand during an average weekday in each forecast year,” and on this basis, a single volume should be quoted, not a range.

It appears as though there will be a reduction in daily traffic volumes on Alexandra Parade east of Brunswick Street post the Project. However, the daily volume may be in the range of 62,000 to 77,000 vpd with traffic on the north-south routes ranging from 15,000 to 20,000 vpd. The Authority responsible for managing the traffic signals system would therefore need to make a decision to allocate more green time to north-south traffic.

An alternative solution would be to reduce the capacity of Alexandra Parade thereby forcing vehicles onto other routes to enable more green time for north-south traffic. This proposition accords with a recommendation in the Eddington report which stated *“the Government review its current policy of ‘downgrading’ roads or reducing capacity of roads as part of major toll road projects. If the opportunity is not taken to improve priority for public transport and to improve community amenity, the reductions in surface traffic when the tunnel opened would be eroded over time by natural growth in traffic”.*

The Reference Project shows that the Proposed Project Boundary is 150 metres wide at the west end, reducing to 100 metres wide east of Lygon Street. Between Lygon Street and Station Street the westbound tunnel is located north of Princess Street. East of Station Street the westbound tunnel is located north of Alexandra Parade and it continues on this alignment to Smith Street.

No explanation was given as to the reason for the variation in width of the Proposed Project Boundary or the horizontal alignment of the tunnels.

### Findings

Additional green time for major north south routes crossing Alexandra Parade can only be achieved by constraining capacity on Alexandra Parade. The Committee recommends that the cross section of Alexandra Parade should be reduced to constrain traffic movement post construction.

## Precinct 3: Royal Park (Western Portal)

### Introduction

This Precinct, shown on Figure 4 in the Mapbook, extends west from The Avenue to CityLink. The Precinct includes Elliott Avenue, section of the tram line, the Upfield railway line, Manningham Parklands/Ross Straw Field, Trin Warren Tam-boore wetlands, part of CityLink and Flemington Road.

Figure : Sheet 7 from CIS Mapbook

NOTE

To reduce the electronic size of this document, Figure 14 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: CIS Mapbook

Figure : Sheet 6 from CIS Mapbook

NOTE

To reduce the electronic size of this document, Figure 15 has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

Source: CIS Mapbook

### Key Issues

The key issues in this precinct relate to the:

* Elliott avenue interchange;
* Location of the western portal;
* Vertical and horizontal alignment of the ramps from the western portal to CityLink to the north;
* Connection to Part B from the western portal, and connection to and from CityLink to the south to the western portal;
* Ormond Road off ramp;
* Increase in traffic volumes on Ormond Road and in Moonee Valley; and
* Upfield rail line and Tram Route 55.

### Submissions and Evidence

The Reference Project shows a single point diamond interchange, with south-east facing ramps, east of the existing Elliott Avenue alignment. The ramp configuration therefore only permits movements between Elliott Avenue and the east. The ramp portals are located approximately 60 metres east of Elliott Avenue.

The design requires re-alignment of approximately 250 metres of tram route 55 through Royal Park. Approximately 150 metres of the westbound carriageway of Elliott Avenue is shown on elevated structure as it passes over the turning movements to and from the ramps.

Table 22 in the GHD TIA indicated that Elliott Avenue carried approximately 40,000 vpd in 2011, between Flemington Road and the Zoo. By 2031 with no Project, it was forecast to carry 5 to 10% more traffic i.e. a maximum of 44,000 vpd. In the same Table, Ormond Road west of CityLink was quoted with an approximately 2011 volume of 20,000 vpd and a 2031 volume of 10 to 15% higher with no Project i.e. a maximum of 23,000 vpd.

Table 23 of the same document indicated that by 2031 with the Project, Elliott Avenue will carry 0 to 10% more traffic i.e. a maximum of 44,000 vpd, Ormond Road was forecast to carry 30 to 40% more traffic i.e. a maximum of 28,000 vpd.

In the s57(4) response, the LMA indicated that in 2031 it was forecast that 10,800 vpd would exit from the tunnel onto Elliott Avenue, 8,500 vpd would turn left towards Flemington Road and 2,300 vpd would turn right towards Royal Parade. Fifteen thousand one hundred vehicles per day would use the Elliott Avenue entry ramp, 12,200 vpd from the west and 2,900 vpd from the east. The majority of vehicles, 20,700 (80%) using the Elliott Avenue ramps pass through the Elliott Avenue/Racecourse Road/Flemington Road intersection. It is not known what percentage of these vehicles would use Elliott Avenue without the Project being available.

In his expert witness report, Mr Brock stated that the Elliott Avenue “*interchange as* *proposed in the Reference Project conforms*, *in the main, to the nominated road design* *standards”*. However, he further stated that the following matters should be considered in the detailed design phase:

* providing a right turn from Flemington Road east into Elliott Avenue; and
* depressing the through carriageways of Elliott Ave to the same level as the ramps at the ramp terminal intersections.

The s57(4) response indicated that 49,900 vpd were forecast to exit the western portal in a westerly direction. Seventy four percent, 36,800 vpd of this total are anticipated to travel north onto CityLink. Seven thousand four hundred vehicles per day (15%) were forecast to travel south onto Part B and 5,700 vpd (11%) were forecast to connect into CityLink to the south.

Twenty seven thousand, seven hundred vehicles were predicted to travel south on CityLink and enter the western portal to travel in an easterly direction. Seven thousand eight hundred vehicles per day were predicted to travel east through the western portal from Part B and 5,200 vpd were forecast to travel from CityLink south into the western portal. Sixty eight percent of eastbound vehicles at the western portal travelled from the north on CityLink, 19% from Part B and 13% from CityLink south.

No information was provided to indicate how many vehicles per day predicted to use the tunnels, in either direction, were existing CityLink or Tullamarine Freeway vehicles.

Traffic volumes entering and exiting the western portal are shown on Figures 11 and 12 in Chapter 6.2.4 of this report.

The western tunnel portals are shown immediately north of the Upfield railway line. Beyond the portals the carriageways diverge north and south through Manningham Parklands/Ross Straw Field as open cut trench and elevated structure. A section of Oak Street beyond the Manningham Street intersection is to be regraded to enable the elevated ramps to pass over the road.

Beyond the western portal the Proposed Project Boundary includes the entire area bounded by the Upfield railway line, Oak Street/Manningham Street and the southern boundary of CSL and Orygen Youth Health.

The Flemington Road exit ramp from CityLink is to be re-aligned to pass over the wetlands and Oak Street, proceeding south across Manningham Parklands/Ross Straw Field to the western portal. A new exit nose from CityLink is proposed approximately 270 metres south of the reconfigured exit ramp nose. This ramp joins with the existing Flemington Road off ramp.

The Project to CityLink north connection passes over Oak Street, the wetlands and the CityLink carriageways, and continues north on the west side of CityLink for approximately one kilometre to Ormond Road and beyond.

Approximately 400 metres of four lane viaduct extending from Racecourse Road to Mount Alexander Road, on the west side of the existing CityLink structure, is included in Precinct 3. The carriageways diverge as they pass over CityLink and proceed on a curvilinear alignment to link into the tunnels at the western portal.

Ramps from and to the west portals also link the tunnels with CityLink south. The northbound to south link occurring near Mount Alexander Road and the northbound exit leaving CityLink approximately 180 metres south of Racecourse Road.

Mr Brock’s witness statement referred to the “*Flemington Interchange*”, which he described as “*a particularly difficult interchange to provide*”. The term “*Flemington Interchange”* has not been used elsewhere, and the Committee assumes it refers to the Part B viaduct connections to the western portal. Mr Brock noted that “*the southerly oriented connections of this interchange* *will:*

* Need to operate under two very different traffic scenarios; and
* Provide an alternative to the M1.

He said “*Until the Western Section (or at least part B of the Eastern Section*) *is in place, the traffic* *volumes using the southerly connections will be relatively low”*. He said that when the Western Section (full EWL) is in place, there will be significant traffic volumes using these connections.

Mr Brock indicated that an alternative to the M1 can only be provided “*when the Western* *Section is in place (or at least part B of the Eastern Section*)”. To operate as a viable alternative to the M1, Mr Brock indicated that the viaducts “*would need to have at least* *three lanes each way*. *To achieve this, the viaduct connections would need to be two* *lanes wide, with shoulders sufficiently wide to be operated as a three lane arrangement in the occasional circumstances under controlled conditions*”.

In reviewing the ‘*Flemington Interchange*’ design shown on the Reference Project, Mr Brock noted eleven issues “*that will require careful consideration as part of the detailed* *design of the interchange*”. While these matters all represent areas that will require careful consideration and resolution, he said “*I am confident that* (they) *can be appropriately resolved* *during the process of design development*”.

The LMA tabled Document 473, which was a response to the Committee’s query concerning the alignment of Part B. The LMA indicated that the *“greatest design and construction challenges in relation to this connection (south) would occur in the sections between Racecourse Road and Flemington Road. The consortium investigation identified a number of options for this connection”.* One option generally followed the alignment of the Upfield railway line, across Flemington Road and Racecourse Road and *“be located immediately east of the CityLink viaduct”.* This option was assessed as not feasible as insufficient width was available to accommodate all movements. Another reason for rejecting this option was *“it would have very significant negative impacts on Royal Park in relation to removing parkland, disruption to sport facilities including community facilities such as Urban Camp and visual amenity as the viaduct would need to start at Elliot Avenue”.*

Another option investigated was keeping the road in tunnel until it passed under Flemington Road and Boundary Road, with a portal on the north side of Sutton Street. This option was rejected by the LMA in favour of the layout shown in the Reference Project.

Analysis of peak hour intersection operating conditions, with 2031 forecast volumes, at the Elliott Avenue/Racecourse Road/Flemington Road intersection revealed that the intersection would be at capacity. This resulted in the introduction of an off ramp from CityLink/the Project onto Ormond Road, which was announced on 30 October 2013. The LMA s57(4) response indicated that the exit ramp would carry 12,100 vpd, with no indication of the proportion of westbound or eastbound traffic.

Figure 18 in the GHD, TIA report purports to show “*the traffic volume change between the 2031 conditions without* *East West Link and the* 2031 conditions with East West Link”. Reference to this Figure shows that the volumes are expressed as a percentage, with the band width increasing as the percentage change increases. Increases in traffic volume are shown in red and decreases in blue.

Elliott Avenue from Flemington Road to Macarthur Road is shown as a red band. Manningham Street and Oak Street are also shown in red. Other streets west of CityLink, outside the Proposed Project Boundary are also shown as red bands of varying width. CityLink from north of Brunswick Road to Footscray Road is shown as a varying width blue band, which infers a reduction in traffic volumes.

The GHD Figure 18 has been reproduced with the same title as Figure 7-20 in Mr Veitch’s evidence report and simplified under issue 11 in Mr Veitch’s power point presentation (Document 37). The simplified diagram was presented by the LMA as discussed earlier in this report, and became known as the “*demons diagram*. Nothing in the title of any of these diagrams refers to road cross section. However, in his explanation Mr Tweedie referred to the fact that in some locations additional lanes had been added. As a result the traffic volumes are reduced.

Mr Pitt on behalf of the City of Melbourne called Mr Higgs of TTM Consulting to present traffic evidence “*within the term of reference of the Review Panel”.* Mr Higgs stated “*most of the Elliott Avenue interchange work proposed in the reference* *design is unnecessary and is way over engineered*”. Mr Higgs provided an alternative design, that he said “*can deliver an adequate traffic capacity, without changing much of the existing* *roadways”.* Mr Higgs stated that “*it was agreed in the* (traffic) *conclave that my* *concept is better than the reference design from a road design perspective*”. Mr Higgs was advised that the City of Melbourne did not like the concept of an Elliott Avenue interchange, either the Reference Project or the TTM alternative design. He was asked to “*see if another* *option might be available*”. The ‘Flemington Road’ option (Document 389) was submitted as an alternative to the Elliott Avenue interchange.

The LMA tendered Document 110, a “*Response to the Possible Intersection at* *Flemington Road*”, and indicated it did not support the alternative TTM design due to issues discussed under the following headings:

* Tunnel portal at Flemington Road;
* Construction;
* Geometry; and
* Traffic and Transport.

Mr Higgs offered an alternative design linking the western end of the tunnels with CityLink (Document 109). This concept involves moving the western portals of the north connecting ramps further to the west in the vicinity of Oak Street and the wetlands. Oak Street will be relocated east and elevated to enable the ramps to pass under the local road. Ross Straw Field will be retained at a higher level and smaller scale. The portal for the west to south connection to CityLink is proposed between the Urban Camp and the Upfield railway line. The portal for the CityLink northbound ramp to the tunnel eastbound is proposed west of the railway line. This concept deletes the Part B connection to the tunnels.

Mr Higgs stated “*I cannot see the necessity or value in the separate Part B section of the* *roadway when the modelled usage is as little as 10-20,000 vehicles per day and there are alternative routes that can be used for travel options provided by Part B”.* Further, he said:

The northerly exit ramp at Ormond Road is a benefit to the project that would allow greater travel convenience for some users of the East West Link. The ramp will reduce some traffic through Parkville and Travancore that would otherwise use the local streets to connect with the precinct around the Ormond Road interchange.

This opinion was not shared by Ms Hicks representing Moonee Valley City Council, its traffic witness, Mr O’Brien, and a number of residents and sporting club representatives from Travancore, Ascot Vale and Moonee Ponds.

Mr Brock referred to the “*proposed northbound entry ramp from EWL to CityLink*” and indirectly to the Ormond Road exit ramp. He indicated that the alignment shown in the Reference Project impacts upon Ormond Park, (Moonee Valley City Council concern) and Holbrook Park, (Moreland Council’s concern). Mr Brock suggested that modification to the Reference Project “*could be further explored in the detailed design phase, to reduce the impact upon the Council assets whilst retaining adequate road design standards”.*

Mr O’Brien indicated in his evidence statement that “*it is important to note the significant differences between the “full” East* *West link proposed by Eddington and the currently proposed project*”. *MVCC has a* *particular concern that by not completing the “full” project, additional traffic will be drawn into the arterial roads and local streets* *of Moonee Valley*”. The current proposal “*does nothing to provide additional capacity*” across the Maribyrnong River screenline.

Mr O’Brien said “*Two of the main east-west crossings of the Maribyrnong River (Maribyrnong Road and Smithfield Road/Princess Highway) would link-in to the proposed ramps at Ormond Road and Elliott Avenue*”. He added that the resultant increase in traffic volumes will “*have a significant impact* *upon local amenity within Moonee Valley*”.

He indicated that the Performance Requirements outlined in the CIS “*are intended to guide what the project must achieve during its construction and operation, regardless of* *any specific design solution*” therefore, “they are about project outcomes rather than *specific design requirements*”. Mr O’Brien further noted that “*the scope of the objectives* *is fundamentally deficient in that there is no objective to minimise the impact of additional traffic on the local network*”. The CIS does not propose any mitigating measures, apart from those that “*maintain local connectivity in the vicinity of the project boundaries*”. Mr O’Brien said:

There are a number of other deficiencies associated with the transport related performance objectives outlined in the CIS, including: The CIS Evaluation Objective category is “Traffic”, but should have a wider scope, for example “Transport” to reflect the impact of the project on all transport modes such as rail, tram, bus walking and cycling; The wording of the CIS Evaluation Objective reflects the focus on road-based connectivity, and does not incorporate an aim to minimise any adverse impacts of the project on transport more broadly. …

The performance requirements could also be altered to reflect such changes as outlined above. It is also considered that they should be related to effects, rather than specifications. For example, the requirement “Maintain and where feasible enhance traffic movements at interchanges”, presumes that enabling additional movements is beneficial, when in fact it may have negative impacts, such as having an adverse impact on travel times, creating congestion, or increasing ‘rat-running' in local streets.

Mr O’Brien outlined eight issues which he claimed were “*substantive deficiencies in the* *CIS”* and associated documents, which limited a proper evaluation of the traffic impacts on Moonee Valley. The O’Brien Traffic report includes Figure 4 ‘*Local Study Area’,* which is an enhanced reproduction of Figure 2 in the GHD, TIA. Mr O’Brien suggested that “*the local* *study area is now deficient, as it was initially defined on the results of the strategic modelling, prior to the inclusion of an off ramp* *to Ormond Road*”. The Ormond Road off ramp will spread the traffic impact further north. Therefore, Mr O’Brien believed “*that it is* *likely that the local traffic impacts on the Moonee Valley Area are underestimated in the analysis”.*

Mr O’Brien agreed with the GHD assessment of existing traffic conditions on a number of key arterials in Moonee Valley. However, the TIA did not include traffic conditions on Racecourse Road and Mount Alexander Road.

Mr O’Brien reproduced Figure 18 from the GHD report as Figure 6 in his report, and pointed out that traffic volume increases will be significant in Moonee Valley. He quoted peak hour volumes from the CIS for the Elliott Avenue off ramp to determine that 1,900 vehicles per hour in total “*exit the link into Moonee Valley*”. This volume equates “*to one third of* *the westbound capacity of the East West Link tunnel section*”. He therefore disagreed with the thesis that the Project is “*for cross-city connections, the proportion of traffic accessing the link* *from Moonee Valley suggests otherwise*”. Mr O’Brien stated:

It is a combination of traffic using the alternative routes, and being attracted to the East West Link accesses at Elliott Avenue and Ormond Road which results in the significant increases in traffic across the Moonee Valley network as a result of the connectivity designed into the link. To mitigate this impact, major design changes to the project should be considered.

In Section 7 of the O’Brien report ‘*Local Impacts*’ are discussed. However, due to limited availability of predicted traffic volumes on the Moonee Valley network within the CIS “*a detailed analysis of the localised impacts on the Moonee Valley network is not feasible until such data is made available”.*

Mr O’Brien noted that “*potential increases in traffic volumes, particularly in the peak* *periods are limited in the area due to a lack of capacity, with most roads in the base case (2031) scenario being close to or exceeding their traffic carrying capacity”.* He observed that:

Should part B not be constructed, the traffic local impacts would be more severe as drivers to many destinations that would be served by the link would be required to exit the freeway system and continue on the arterial road network. If part A is to proceed, part B would also need to be constructed to minimize the traffic impact on Moonee Valley.

Mr O’Brien believed that the Ormond Road off ramp from CityLink will result in “*rat-running* *through the local street network via Pattinson Street*”. This will occur because the Ormond Road/Mount Alexander Road is “*currently saturated*” and there is no ability for the intersection to accommodate the predicted traffic increase.

Mr O’Brien considered that local mitigating works will not adequately address potential traffic problems on the Moonee Valley road network. He urged that “*More strategic level changes are* *required”*, such as constructing the western section of the Project and removing the Ormond Road ramp and possibly the Elliott Avenue ramps. After considering the potential benefits and disbenefits of deleting the ramps Mr O’Brien concluded “*further investigation and traffic* *modelling is needed to ascertain the impact of not providing the Elliott Avenue and Ormond Road ramps”.*

In order to facilitate removal of the Ormond Road exit ramp Mr O’Brien proposed modification of the Elliott Avenue/Flemington Road/Racecourse Road intersection. The suggested modification will facilitate the right turn from Elliott Avenue and provide a separate left turn lane into Flemington Road.

If it is determined that the Ormond Road off ramp is to be retained, Mr O’Brien has suggested an alternative design to that shown on the Reference Project. The Project (Part A) to CityLink, north connection shown on Mapbook Sheet 5 is to be re-aligned to join the northbound carriageway of CityLink approximately 1300 metres south of the Reference Project connection. The Ormond Road off ramp is then re-aligned to provide greater clearance to the Essendon Community Garden. Minimal construction works are required under the Ormond Road bridge. The design modifications suggested by Mr O’Brien reduce the impact upon Holbrook Reserve and Ormond Park.

Mr O’Brien commented on the ramp connections between the western portal and CityLink southbound. In his opinion “*it is not possible to design an east to south ramp split* *between the current exit from the tunnel and the connection to CityLink southbound*”. He believed that there are geometric design and safety issues with the northbound off ramp from CityLink to the Project shown on sheet 22 of the Map book. Mr O’Brien supported the TTM option for the Elliott Avenue interchange, as “*it has far better operational safety* *characteristics*”. He suggested that the TTM east to south ramp “*has enough merit to* *pursue further*”. However, he could not support the TTM proposal for a direct ramp to Flemington Road, as it creates problems at the Racecourse Road intersection.

Mr Craig Griffiths of Moreland City Council made a submission to the Committee on behalf of Council. Council’s primary traffic related concerns may be summarised as follows:

* Traffic modelling and local traffic impacts;
* Impact of the Ormond Road exit ramp; and
* Impacts upon public transport.

Council believed that *“there is a historical tendency to underestimate the traffic projections on non-tolled roads”.* At the same time there is *“a tendency to over estimate the traffic projections for a tollway”.* Based upon their past experience, Council compiled a list of 44 sites where it believed that traffic counts should be recorded to establish *“benchmarks”*. Counts should be undertaken immediately and every two years including the construction period and beyond opening of the Project. Mr Griffiths said:

Council refute the LMA assertion that traffic volumes on Brunswick Road will be reduced concurrent with an exit ramp at Ormond Road.

Council sought guarantees from the LMA that if traffic volume increases occur on local roads, financial and infrastructure approval support for local area traffic management will be forthcoming.

Council traffic volume data indicated a *“massive rise in traffic volumes on local roads, as drivers sought to avoid tolls” post opening of CityLink”.* As a result of the traffic increases in the local road network Council were *“forced to design and implement a raft of local area traffic management measures to discourage through traffic (“rat-running”)”.* Council’s concern relating to *“being burdened by the external cost of having to address increasing local road volumes”* have resulted in it adopting a demand management strategy, this strategy promotes the growth of sustainable transport modes.

Works associated with the Project to CityLink north connection and the Ormond Road exit ramp encroach upon Holbrook Reserve. Council are therefore concerned about the impact upon their recreation facilities.

Construction through Royal Park, particularly a cut and cover method *“is likely to result in a concurrent disruption to the operation of both the Upfield Railway Service and Route 55 Tram”.* Council experienced disruption to the Upfield line during CityLink construction and looked to LMA to develop *“innovative measures to ensure that rail patron inconvenience is minimized”.* Council believed that suspension of the Upfield rail service will result in increased tram passenger boardings, particularly route 19. The frequency and traffic priority for this service *“should be boosted dramatically”.* Council are further concerned about the impact of construction upon the Capital City Cycling Trail, and sought *“the early development of a safe and legible alternative route”* for this facility.

A number of submissions were made from residents of Manningham Street and Parkville Gardens, the former Commonwealth Games Village. The Manningham Street residents are located beyond but generally very close to the Proposed Project Boundary. Their concerns related to the elevated roadways linking the tunnel portals with CityLink and the Part B viaducts. Another major concern for residents of both areas is the potential Manningham Street/Oak Street construction traffic route. They perceive that significant truck traffic volumes will not only restrict access to their neighbourhood but will also create safety problems for motorists and pedestrians.

One submitter described the four potential haulage routes and deduced that there would be one “*light vehicle equivalent”* traffic movement every 5.1 seconds, for 12 hours per day. This resident stated *“I implore that Route 1 be avoided at all costs, and that Route 3 be adopted”.* The same submitter raised the issue of the need for 500 staff car parking spaces in Precinct 3. Mr Smith raised the possibility of spoil from the tunnel construction being transported via rail on the Upfield line.

Ms Cusak of Ascot Vale made a submission on behalf of 89 residents in the area. Ms Cusak said she *“will be directly impacted by the proposed Ormond Road off ramp”.* The off ramp was first announced as part of the design on 30 October, 2013, the day before the CIS was released. She said the community is concerned with the proximity of the elevated ramp to the eastern end of Brisbane and Fenton Streets, as well as increased traffic on Ormond Road and Myrnong Crescent.

Mr Peyton made a submission on behalf of Safety Net for Royal Park (SNRP), (Document 335). SNRP put forward two alternative designs for the western end of the Project with connections to CityLink. This submission indicated that residents approached the LMA with an alternative design concept in May 2013. Subsequent submissions were sent to LMA in June and July 2013.

Option 1 shows the tunnel alignment diverging south-west from the Reference Project alignment from the eastern end of Royal Park. The route exits from Royal Park near the Flemington Road/Dryburgh Street intersection and proceeds west through the northern portion of the North Melbourne Community Centre, as a bored tunnel. In the vicinity of Melrose Street, the alignment bifurcates north to CityLink and south to a new viaduct running approximately parallel to the east side of CityLink between Macaulay Road and Arden Street. South of Arden Street the alignment crosses CityLink and connects into the southern end of the Part B Reference Project alignment. The northern connection to/from CityLink is achieved via elevated structures and roads passing under the CityLink structures.

Option 2 from SNRP proposes relocating the tunnel alignment to the east across the Upfield railway line passing between Ross Straw Field and the Trin Warren Tam-Boore Wetlands. Oak Street adjacent to the wetlands is elevated and relocated to the east allowing the north and south connections to CityLink to pass through the wetlands on the west side of Oak Street.

The SNRP submission suggested a number of reasons why their alternatives were a better solution than the Reference Project. The submission included a plan presented by Mr Ken Mathers of the LMA to the Municipal Works Officers Association in September 2012. This plan showed the “*port connection”* from the Project running parallel to and east of CityLink south of Racecourse Road.

The SNRP submission indicated that the *“CIS did not meet requirements”* as alternative design options were not assessed. Furthermore, SNRP were critical of LMA in that they consider the Terms of Reference were ignored.

Mr Wallis, a North Melbourne resident provided a written submission and appeared at the hearing (Document 395). Mr Wallis who is an engineer with over 30 years experience designing and planning infrastructure was involved with the SNRP group and supported their submission. Mr Wallis supported the proposal to connect the Eastern Freeway to the Western Ring Road. However, he believed *“that a number of major and minor variations to the proposed Reference Design are required to achieve an effective and satisfactory outcome”.*

The CIS noted that the Eastern Freeway is a *“stranded asset”,* however Mr Wallis suggested the proposal put forward by LMA repeats *“the problem by terminating the EWL Stage 1 well before it gets to the west”.* The Reference Project deposits *“tens of thousands of vehicles a day into Royal Park, Flemington Road, the already congested CityLink and surrounding streets”.* He said the unconnected East West Link will add traffic to the Elliott Avenue/Flemington Road/Racecourse Road intersection which is already congested.

Mr Wallis suggested the best way to manage the risk (more congestion) is to *“eliminate the risk by extending the tunnel the relatively short distance under Flemington Road”.* Mr Wallis provided *“A Better Alternative (option 1)*”, which is a northern variation of the SNRP Option 1. His option runs under Royal Park roughly parallel to the west end of Elliott Avenue, crossing under Flemington Road near the Melrose Street intersection. The alignment turns south west at Boundary Road and travels south, parallel to and east of CityLink. This alignment, he argued, enables integration with the Arden-Macaulay Precinct, located in Precinct 5.

Mr Wallis acknowledged that the northern connection is more difficult. His solution for this connection is similar to that proposed in SNRP Option 2. However, the connection is less complicated as there are only two carriageways buried under a regraded Ross Straw Field.

The Kensington Association made a detailed and well thought out submission to the Committee, (Documents 400 and 401). The Association opposed the Project on the basis that *“the merits of the current East West Link are unclear”* and *“the negative impacts to both the environment and Community are manifest”.* However, in the event the Project proceeds, the Association advised it would be prepared to negotiate to try and mitigate the negative impacts.

The Association *“submit that the case to construct a new road link to the Port (i.e. Part B of the proposal) has not been made”.* Construction of this road *“would have very substantial impacts on inner Melbourne and on the Kensington community in particular”.* The Association offered the following alternatives *“because the current proposal is so patently flawed, and many ‘less worse’ alternatives exist”.* Through Mr Woodland, it said:

If the Committee is convinced that the Eastern section (ie Part A of the East-West Link (Eastern Section) should proceed, then we support the City of Melbourne’s submission that this road should be connected to the Port via the existing CityLink, not via the elevated roadway proposed as Part B. This is all that is needed to cater for the 2031 traffic volumes between the Port and the eastern suburbs;

If the Committee considers that a separate roadway is warranted to link to the broader western metropolitan region, then this roadway should be a tunnel, and it’s design and alignment should separately considered as part of the future planning for the Western Section of the East West Link, and be separately assessed via a future EES process. According to the LMA figures, that link might carry 60,000 vehicles per day, and no proposal has been put before this Committee for the Western Link. The Western Link (of which catering for future demand for 60,000 vehicles clearly is part) is outside the scope of what this Committee is being asked to determine;

If the Committee considers that an elevated roadway is warranted to link to the Port as part of the current project, then this road should be located on the eastern side of City Link, so as to minimise impacts on the creek, existing residents and businesses;

If the Committee cannot consider this alternative because it falls outside the designated project area, and if it is of the view that an elevated roadway should proceed, then the Moonee Ponds Creek should be realigned to allow for the road to abut City Link, which will in turn create a wider, higher amenity open space and waterway edge to Kensington than would be the case if the road was built on top of it.

We offer the above “fall back” ideas with great reluctance, but because the current proposal is so flawed, and there are a number of “less worse” alternatives to it, we feel compelled to address the Committee in relation to them.

The “less worse” alternatives are not ones that the Association embraces, but rather are seen as means of mitigating the impact of the proposal should the government see fit to charge ahead with this project.

This Association stated that the forecast traffic volumes for Part B:

… are usually accommodated on 2 lane collector roads, not freeways. Given these modelling results, there is no traffic or other problem solved by Part B.

Part B has been opportunistically bolted on to the Eastern link project. It is not needed to link the eastern suburbs to the Port, it is not the optimal solution to link to the western leg of the EWL.

The LMA s57(4) response acknowledged that Part B is only required to cater for the ultimate western link, it was included to: *“secure the corridor ... at the earliest possible opportunity and provide certainty for land use changes as proposed in the Arden Macaulay precinct”.*

The CIS stated that:

The project would have the potential to reduce through traffic and assist in restoring the original role of the local road network in the area, increasing residential amenity and contributing to the overall urban renewal of the area. In the case of Kensington, the data doesn’t corroborate this statement.

The LMA analysis demonstrated that:

* The East-West Link will not improve future traffic conditions in Kensington;
* Roads like Macaulay Road will still be at saturation during peak times over the period to 2031, with or without the Link;
* The LMA’s own assessment (the GHD assessment) shows that a number of streets in Kensington will be worse off with the E-W Link than without it;
* The GHD assessment shows that there will be growing pressure for drivers to ‘rat run’ in local streets to avoid the congestion on roads such as Macaulay Road. The modelling shows that this ‘rat running’ will be ‘significantly worse’ (ie 30%+) with the E-W Link than without it.

The Association argued that:

The Committee should also exercise caution in relying on the results of the GHD assessment. Their modelling suggests that Elizabeth/Chelmsford/Eastwood Streets will be subject to increased traffic volumes during the AM peak.

The existing traffic controls in these streets are designed to prevent this rat-running from occurring. For instance south bound traffic is prohibited from entering these streets during morning peak-hour by right hand turn bans on Macaulay Road. The top of Elizabeth and Chelmsford Streets are one way, thus northward afternoon peak-hour flow are also blocked. So it is not possible for traffic to flow through these streets in the way that the GHD assessment suggests.

The GHD assessment of traffic impacts in this location is superficial and incorrect. These issues would have been readily picked up by looking at a Melway map and Google, or visiting the area. The GHD modelling results for these streets is wrong, unless it is intended to remove existing traffic control treatments in these streets.

In conclusion, the Association opposes the East-West Link proposal in its entirety.

…

A range of legitimate alternative solutions have not been properly considered, and instead everything has been dumped on the lap of this Committee to sort out, in ridiculous timeframes and under significant legal and other constraints.

As recently as yesterday, the LMA advised the Association that the alternative alignment canvassed in our submission has merit in principle but it would require detailed consideration. LMA is not in the position to be undertaking such detailed assessments at the moment as the hearings are currently underway.

Documents 430 and 431 (Residents Against the Tunnels (RATs)) indicated that safety was a major issue; being vehicle safety in relation to the proposed merge on the eastbound tunnel beyond Elliott Avenue and pedestrian safety. A number of Performance Requirements were suggested in the submissions. The submission was critical of the CIS for not defining “routes for necessary and significant waste materials and equipment cartage, local traffic diversions and parking”. As a result, the “boundary of the project impact remains unknown”. The traffic modelling was criticised for not attempting “to differentiate and quantify the types of vehicles this road is planned to induce as a freight logistics solution”.

### Discussion

The Cities of Melbourne and Moonee Valley are opposed to the Elliott Avenue interchange. The former for its impact upon Royal Park, and the latter because it believes that the interchange will direct traffic into its Municipality.

A significant number of groups and individual submitters are opposed to the Elliott Avenue interchange because of its impact upon Royal Park. An interchange in Royal Park appears contrary to the findings of the 2008 Eddington Report which supported an 18 km long *“cross City road connection extending from the western suburbs to the Eastern Freeway”.*

Chapter 9.3 of the Eddington report under “*Further Recommendations*” stated “*the Study Team has not provided city access ramps on the Eastern Freeway to CityLink section. It would be difficult to provide city access without adding to current congestion problems and possibly causing queuing in the tunnels*”. It further stated that public transport should be the priority for daily work and study trips to the city.

The forecast 2031 traffic volumes using the Elliott Avenue interchange are heavily biased towards Flemington Road, 80% compared, with 20% to the east.

The interchange design shown on the Reference Project appears to have no consideration for *“minimising”* the impact upon Royal Park. An alternative design prepared by TTM Consulting reduces the impact upon Royal Park, however, this design was rejected by the City of Melbourne.

A further option, eliminating the Elliott Avenue interchange by directing the tunnels south-west to Flemington Road was prepared by TTM. This concept, which resulted in minimal long term impact upon Royal Park by locating the portals adjacent to Flemington Road was supported by Professor Catherin Bull. This option was rejected by LMA on 13 grounds (Document 110).

Mr O’Brien, for Moonee Valley opposed the TTM Flemington Road intersection option due to the adverse impact upon the Elliott Avenue/Racecourse Road/Flemington Road intersection. This rejection was in spite of TTM providing SIDRA analysis for the intersection showing that it would operate at an acceptable level during peak periods.

Prior to receiving the TTM Flemington Road option, Mr O’Brien indicated that *“further investigation and traffic modelling is needed to ascertain the impact of not providing the Elliott Avenue and Ormond Road ramps”.*

A significant proportion of the Moonee Valley area is located between Moonee Ponds Creek and the Maribyrnong River. Between Bell Street in the north and Ormond Road in the south, there are very few continuous east-west roads crossing Moonee Ponds Creek. The Committee therefore considers that a significant proportion of Moonee Valley residents destined for Doncaster, Ringwood or further east or south-east, would travel along the Mount Alexander Road corridor to Ormond Road or Elliott Avenue, rather than cross the creek further north. The additional traffic forecast for the Mount Alexander Road corridor may be Moonee Valley residents diverted from the east-west streets. A connection to the Project from Flemington Road or Elliott Avenue may therefore not be detrimental to the City of Moonee Valley.

The horizontal alignment of the tunnels north-west of the State Netball and Hockey Centre and the lack of clarity about the construction technique concerned many submitters. The Reference Project design has significant adverse impacts upon sporting groups, residents and users of the north-west section of Royal Park and the wetlands. It also adversely impacts upon the City of Melbourne’s irrigation water collection system.

If Mr O’Brien’s comments regarding the vertical alignment of the north-west bound link between the tunnel portal and CityLink are correct, the Reference Project should not be constructed as shown for that particular movement. It is clear to the Committee is that the potential to *‘disconnect’* the northern and southern links to CityLink, at a different location than shown in the Reference Project, warrants further investigation.

This concept was raised by Mr Herington (Document 372) and is implicit in the options suggested by Mr Wallis. Furthermore, the southern section of the Y (as described by Mr Herington) will trespass beyond the Proposed Project Boundary east of Elliott Avenue. The ability of the Committee to consider such alternatives is considered in Chapter 5.

The re-aligned northern alignment moves the tunnel away from the Urban Camp and passes between Ross Straw Field and the wetlands. The tunnel portals may be located east of Oak Street on the basis of Ross Straw Field being raised or the tunnels bored. The significant benefit of this option is that no residential property acquisition is required in addition to the amenity benefits. Cost savings will be achieved by avoiding property acquisition.

Clearly, more work is required to develop the viability of this concept from a road design and cost aspect. However, in the opinion of the Committee, a more important issue to be addressed is the ability of CityLink (north) to cater for the forecast traffic volumes.

Other parties may be aware of capacity constraints on CityLink/Tullamarine Freeway. Project Zebra was mentioned at the Hearing by Mr Brock and redacted at the request of LMA. Since the Hearing concluded, there have been significant announcements outlining the proposed widening of CityLink/Tullamarine Freeway.

The Committee has no information regarding how the proposed widening is to be achieved and what, if any, property acquisition will be required. Any widening of CityLink/Tullamarine Freeway between Delhi Reserve and Ormond Road ie in Precinct 3, combined with the concept shown in the Reference Project, may have a significant impact upon residential properties, public open space, the Essendon Community Gardens and Moonee Ponds Creek. However, as no information was put before the Committee, no comment can be offered.

The southern connection from CityLink/Part B to the western portal is more complex, even before the introduction of additional roadworks suggested post Hearing. However, there appears to be more options available than those considered by LMA. Options proposed by SNRP, Mr Wallis, TTM and Mr Herington appear to have a lesser impact upon Parkville West and the recreation reserves. The TTM Flemington Road option may have the potential to be continued west as a bored tunnel and connect into an elevated structure on the east side of CityLink.

Based upon the findings of the Eddington report the design may be simplified. In Chapter 9.3 of the Eddington report it statesthe “study *team did not identify any significant demand for a southerly connection to CityLink.”* The forecast 2031 daily traffic volume of 5700 vehicles supports that finding.

The Committee agrees with the submitters that commented upon the *“over design”* of Part B and Mr Brock who indicated that the Part B cross section would be inadequate when the full Project was constructed. The Committee does not agree with Mr O’Brien’s statementthat *“should Part B not be constructed, the traffic local impacts would be more severe”,* particularly with regard to the impact upon Moonee Valley. Nor does it agree with Mr Brock’s statement that *“part B of the Eastern Section”* can provide an alternative to M1.

Since the Committee hearing concluded, there have been a number of statements issued by the State Government in relation to works on CityLink, and in particular the CityLink connection to the West Gate Freeway. This connection was mentioned a number of times during the Hearing as being a major contributor to congestion on the Bolte Bridge, even though CityLink appeared to have spare capacity.

Document 473 presented by the LMA relates to the alignment of Part B, stating *“the consortium investigation identified a number of options for this* *connection*”. One option was an elevated roadway, assumed to be departing from the Reference Project north of Elliott Avenue, turning west to follow the Upfield railway Iine, passing over Flemington Road and Racecourse Road. This option was rejected “*as the viaduct structure could not be* *constructed in the narrow space between the rail line …. and the existing multi story* *buildings on Racecourse Road*”. Another reason for rejection was that it would “*result in a greater impact on Royal Park as the viaduct to the south would need to commence from Elliott Avenue”.*

The Committee is unclear on this response. If the alignment was to *“generally follow the alignment of the Upfield railway line”* the Committee cannot understand why there would need to be a viaduct commencing at Elliott Avenue.

A further option assessed by LMA would *“keep the road in tunnel until it had passed under Flemington Road and Boundary Road with a portal on the north side of Sutton Street”.* This option was also rejected as it would *“require two pairs of two lane tunnels”* and *“the* *merging of these tunnels would be in the eastern section of Royal Park close to The Avenue”.* The Committee does not understand this response as it does not see a need for the tunnels to diverge/merge east of Elliott Avenue and certainly nowhere near The Avenue. If the LMA had their option confused with that of Mr Wallis’, the tunnel diverge/merge would be closer to Elliott Avenue than The Avenue.

The LMA stated *“the road (Part B) must be on the western side of CityLink to facilitate the ultimate connection to the East West Link – Western Section”.* A further reason given why the Part B connection could not be on the east side of CityLink was *“disruption to sport facilities including community facilities such as Urban Camp and visual amenity as the viaduct would need to start at Elliot Avenue”.* This comment appears contradictory. On the alignment shown in the Reference Project, the Urban Camp appears to be 400 metres north of Elliott Avenue and it is a further 250 metres from the Urban Camp to the west boundary of Royal Park. The Committee cannot understand the nexus between the Urban Camp, Elliott Avenue and a viaduct. Furthermore, the Committee is surprised that the LMA would consider an option requiring a viaduct in Royal Park when the CIS highlights the benefits of a tunnel compared to a surface road or a viaduct. In referring to the document presented by Mr Mathers in 2012, the Committee finds it difficult to understand why the 2012 option would not still be valid.

The location of the Ormond Road exit ramp is dictated in part by the design of the Project and CityLink North Connection, as shown on Sheet 6, in the Mapbook. However, as Mr O’Brien has shown, other options are available which would reduce the impact of the ramp on the Essendon Community Garden and Brisbane Street. The other benefit to be derived from modifying the ramp design as per the O’Brien proposal is the reduced impact upon Council Reserves.

The Committee acknowledges that an exit ramp will increase traffic volumes on Ormond Road and most likely Brunswick Road. However, the Committee anticipates that a number of these vehicles will be destined for Moonee Valley and Moreland. If the Ormond Road exit ramp was deleted, some of these vehicles would use Mt. Alexander Road or other roads in Moonee Valley or the Moreland Road exit from CityLink.

The Committee acknowledges the concern of the City of Moreland in relation to increased traffic in the Municipality and the impact upon their Reserve.

The safety issues raised by the RATs should be addressed by a Road Safety Audit of the Project. This approach, in addition to incorporating the Performance Requirements suggested by the RATs, should reduce some concerns.

Although the Project has been suggested as an alternative route to the M1 and to “provide an efficient, high capacity connection to major freight destinations”, little evidence has been provided regarding freight traffic.

As discussed in Precinct 1, the Committee is not in a position to, and it is not its role, to attempt to redesign the Reference Project through its assessment. However, as for Precinct 1, the Committee considers there are a number of high impact design features in the Reference Project in Precinct 3 that are not supported by a thorough assessment against community objectives and there is little demonstration that the LMA has sought to reduce impacts to an acceptable level.

### Findings

The Committee finds that the Elliott Avenue interchange as shown in the Reference Project is unacceptable and it recommends that it be reviewed. If a city connection is required, then alternative interchange designs, including the proposed alignment adjacent to Flemington Road by TTM Consulting, should be examined.

The location of the western portal shown in the Reference Project is unacceptable, as is the horizontal and vertical alignment of the ramps from the western portal to CityLink. The Committee recommends further alternatives be investigated.

The Committee believes that insufficient published research has been undertaken into the impact of the forecast 2031 volumes on the Project on the Tullamarine Freeway/CityLink. The northbound ramp from the western portal to CityLink/Tullamarine Freeway should be redesigned to reduce the impact on the west side of CityLink. The options available for the abovementioned design change is unclear due to the recent announcements by the State Government and Transurban regarding the upgrade of CityLink.

The Ormond Road off ramp provides an acceptable traffic function, but the design shown on the Reference Project is unacceptable. The Committee recommends that it be reviewed as part of the final design process.

Based upon the limited traffic demand forecast for Part B, the high demand once the *“full”* Project is constructed and the uncertainty surrounding other works proposed on CityLink, the Committee believes that construction of Part B should be set aside at this stage. It considers a revised Part B can be picked up when planning for the proposed WestLink project commences.

The Committee further believes that the southern CityLink to the Project ramps are not warranted at this time, due to the limited traffic demand and the uncertainty regarding future works on CityLink.

The Committee considers that the alternative ramp connections within Manningham Parklands/Ross Straw Field should be bored or the Parklands raised to ensure that minimal length of elevated structure is constructed.

The Committee recommends that areas for traffic monitoring in selected local streets in the Moreland, Moonee Valley, Yarra, Melbourne, Darebin, Banyule and Boroondara Council areas should be identified, now and at two year intervals during construction and up to two years after completion of the Project, and funding for reasonable local area traffic management works that need to be implemented to reduce identified adverse traffic impacts directly attributable to the Project, should be provided.

## Precinct 4: CityLink

### Introduction

This Precinct, shown on Figure 5 in the Mapbook, basically follows the alignment of CityLink from Ormond Road to Moreland Road.

### Key Issues

The key issues in this precinct relate to the:

* Ormond Road off ramp;
* The additional CityLink carriageway extending from Ormond Road to Wilsons Street; and
* The impact upon Ormond Park and Holbrook Reserve;

### Submissions and Evidence

Mr O’Brien on behalf of Moonee Valley City Council prepared an alternative design for the Project to CityLink north connection. The redesign of this ramp resulted in modifications to the Ormond Road on and off ramps, the objective of the redesign being to reduce “land take” on Ormond Park and as a consequence Holbrook Reserve.

Mr O’Brien criticised the Reference Design, as in his opinion, it is undesirable “*from a traffic management and congestion management point of view*”. The design merges with the “existing northbound Ormond Road on-ramp to CityLink with the Project prior to them joining CityLink”.

Moreland City Council submitted that the additional northbound carriageways on the west side of CityLink will have an adverse impact upon Holbrook Reserve. The removal of trees, relocation of services including lighting and irrigation will have significant costs. The loss of active and passive recreational space is another concern.

### Discussion

All of the issues of concern in this Precinct are generated by the alignment of the Project with the CityLink North connection. This ramp connection exits the tunnel portal in Precinct 3, and therefore any modification to the northern alignment cannot be considered in isolation. The entire horizontal and vertical alignment of this ramp connection must be considered from the western portal.

A further complication beyond the Terms of Reference of the Project is the recent announcement regarding the widening of CityLink. Examination of the Proposed Project Boundary shown in the Mapbook reveals that any widening will extend beyond the Proposed Project Boundary in certain locations.

### Findings

Based upon the evidence provided, a viable alternative design may be available which has a lesser impact upon the existing Ormond Road on ramp and therefore Holbrook Reserve. The Committee recommends that further design options be considered including an examination of the merits and functionality of the alternative design proposed in the evidence of Mr O’Brien.

## Precinct 5: Port Connection

### Introduction

This Precinct, shown on Figure 6 in the Mapbook, commences at Racecourse Road, on the west side and generally runs parallel to CityLink as far as Dynon Road. Beyond Dynon Road, the alignment diverges west connecting into Footscray Road approximately 380m west of CityLink, opposite Appleton Dock Road. The alignment shown in this Precinct is essentially Part B of the Project.

### Key Issues

The key issues in this Precinct relate to the:

* The geometry and need for the Project to CityLink south ramp; and
* The location of the Part B viaducts.

### Submissions and Evidence

The Reference Project described the alignment as twin two lane viaducts. Traffic volume data provided by the LMA in the s57(4) response indicated forecast 2031 volumes of 15,200 vpd. The CIS Summary Report indicated that with the Full East West Link, the viaducts are anticipated to carry 60,000 vpd.

Document 473 submitted by the LMA indicated that it had investigated an alignment on the east side of CityLink. This location was considered unfeasible because:

There is insufficient space between the rail line, CityLink and existing multi story buildings on Racecourse Road;

It would have very significant negative impacts in Royal Park in relation to removing parkland, disruption to sport facilities including community facilities such as the Urban Camp, and visual amenity as the viaduct would need to start at Elliott Avenue;

Weaving distances between the entry ramp at Racecourse Road and the Dynon Road exit would restrict the connection to CityLink; and

The Part B connection needs to be located on the western side of CityLink in the port area, so it can connect to the western section of East West Link.

Mr Pitt on behalf of the City of Melbourne submitted that the Reference Project Part B does not appropriately address or mitigate its impacts in that:

* It assumes a particular route for a link to the Western Ring Road which has not been determined, justified or demonstrated to be the optimum or appropriate;
* If an additional viaduct(s) were to be considered it should only be as part of a consideration of a link to the Western Ring Road;
* Because there is no commitment to build it or to determine whether it is to be built by a reasonable specified date, it would create planning blight thereby frustrating in large part the aspirations for urban renewal at Arden-Macaulay;
* Ramps into Arden-Macaulay are the antithesis of the transport mode shift contemplated by the adopted Arden/Macaulay Structure Plan (Section 4.3 and Strategy 3) as the area shifts from traditional industry to service industries and higher density residential development identified as important in Plan Melbourne (pages 73 and 76), would benefit only those seeking to travel between Eastern Freeway and Arden-Macaulay and would add to the blighting impact of additional viaducts; and
* If constructed, Part B of the Reference Project would not appropriately address or manage the impacts on Moonee Ponds Creek and its environs for public use or adjacent lands identified for residential redevelopment by way of visual bulk, overshadowing, noise and intrusions into the watercourse.

Mr O’Brien for Moonee Valley (Document 175) indicated that the exit ramp from CityLink to the Project northbound had safety problems due to a “hidden nose only 200m along the existing off ramp” and the new “ramp pavement was visible for only 75m”.

Mr Brock indicated in his evidence statement that “the separation between the Racecourse Road exit from CityLink and the EWL exit from the Racecourse Road exit ramp is only in the order of 200m. This spacing is close and effective signage will need close consideration”.

SP AusNet, the owner and operator of the West Melbourne Terminal Station, which supplies a significant amount of Melbourne’s electricity supply, made a submission. Their site which is located west of CityLink and south of Arden Street, is bounded by roads, a railway track and the Moonee Ponds Creek. The Part B viaduct passes over the eastern portion of their site. SP AusNet planned to undertake upgrading works on this site, however, this has been deferred due to the uncertainty over the Project. It therefore sought resolution of the proposed road alignment.

The Kensington Association (Documents 400 and 401) highlighted that the LMA reports indicated that traffic volumes in the Macaulay Road area would increase as a result of the Project. It suggested that the location of the viaducts shown in the Reference Project was the “worst possible location” due to the impact upon Moonee Ponds Creek and the adjoining properties to the west. The Association put forward an alternative alignment which immediately abuts CityLink. This option requires realignment of Moonee Ponds Creek allowing “a wider, higher amenity open space and waterway edge to Kensington than would be the case if the road was built on top of it”. This they said, was the “option of last resort”.

The Association’s preferred ‘less worse’ solution is to “construct the road on the east side of CityLink,” where there is considerable vacant and under utilised land. The Association stated that Part B will “significantly impact on the realisation of the Arden – Macaulay Urban Renewal Project”.

Mr Peyton of the Safety Net for Royal Park (SNRP) made a submission supporting an eastern alignment of Part B that could be integrated with the Arden-Macaulay Structure Plan.

The Friends of Moonee Ponds Creek made a submission highlighting the adverse impact of the viaducts on the Creek.

A number of residents of 18 Bent Street, Kensington, which is located on the corner of Hardiman Street, made submissions to the Committee. The residents indicated that the LMA were not aware that their building was a recent residential conversion and extension of a former industrial site. As a result, they received very late notification that the Part B viaducts would be located “within 15m of the eastern facade of their building”, some 8m above the level of Bent Street.

### Discussion

The primary concern with respect to this Precinct is road geometry, and the location of the viaducts on the west side of CityLink.

It appears to the Committee that the LMA have not fairly responded to or considered alternative designs put to it by residents and/or resident associations. The majority of LMA responses put to the Committee are based upon proving that an alternative solution will be unacceptable, rather than objectively assessing the option and determining ways to make it more acceptable.

The alignment of Part B in Precinct 5 is dictated by the alignment shown in Precinct 3. If a more open approach was taken to developing the Reference Project, the LMA may not have considered a viaduct structure that “could not be constructed in the narrow space between the rail line (Flemington Bridge Station), CityLink and existing multi storey buildings on Racecourse Road” (Document 473). Clearly, this option could not be viable or acceptable on a number of grounds even if the structure could fit in the area suggested. Similarly, suggesting that a tunnel option passing under Flemington Road and Boundary Road required “the merging of these tunnels … in the eastern section of Royal Park, close to the Avenue” is difficult to understand. It is approximately 700 metres along the alignment of the Reference Project from The Avenue to where tram route 55 crosses the alignment. Any tunnel merge or diverge would therefore be at least 700 metres west of The Avenue.

Since completion of the Hearing a number of announcements have been made regarding modifications to CityLink, Bolte Bridge and connections to West Gate Freeway. All of these works will have a significant impact upon the Part B component of the Project.

### Findings

The Committee is not convinced that the LMA has adequately researched design alternatives for Part B, including consideration on the east side of CityLink or further in-tunnel options. In addition on traffic grounds Part B is not justified in the short to medium term.

Notwithstanding, there is an opportunity to review the Part B component of the Project in the context of the recent announcements relating to the proposed widening of CityLink/Tullamarine Freeway, and the WestLink proposal, *Plan Melbourne* and the need to revise the Arden-Macaulay Structure Plan.

## Precinct 6: Footscray Road

### Introduction

This Precinct, shown on Figure 7 in the Mapbook, includes Footscray Road between Dock Link Road and Appleton Dock Road, and the adjacent former Wholesale Fruit and Vegetable Market.

### Key Issues

* No issues were ventilated for this Precinct.

### Submissions and Evidence

Sheets 23 and 24 in the Mapbook show the Reference Project road alignment.

Table 22 of the GHD, TIA shows Footscray Road crossing the Maribyrnong River i.e. west of the Precinct, carrying 40,000 vpd in 2011. By 2031 without the Project, Footscray Road is forecast to carry 35 to 45% more traffic i.e. a maximum of 58,000 vpd. By 2031, with the Project, Footscray Road at the River, is anticipated to carry a maximum of 63,800 vpd i.e. 0 to 10% more than without the Project, (Table 22, GHD TIA).

Table 25 of the GHD, TIA report which outlines forecast traffic volumes based upon population sensitivity shows the following:

Table : Traffic Volumes Based on Population Scenario for Footscray Road

|  |  |  |  |
| --- | --- | --- | --- |
|  | Daily Traffic Volumes | | |
|  | **Base 2031** | **Low 2026** | **High 2036** |
| Footscray Road – west of Appleton Dock Road | 42,800 | 35,700 | 53,500 |

Source: GHD TIA

### Discussion

The Reference Project shows an elevated structure along the alignment of Footscray Road, basically in the central median. What is not clear is the future status of the current Footscray Road pavement.

### Findings

No information was provided regarding forecast traffic volumes on Part B in Precinct 6. The traffic volumes quoted in GHD Tables 22 and 25 are located approximately 1.9kms apart on Footscray Road.

Based upon the limited information provided, the Committee is unable to draw any conclusions in relation to this Precinct, and its findings are similar to those relating to review of the Project in the context of the recent announcements about the upgrade of CityLink and the Tullamarine Freeway, and the commencement of the planning process for WestLink.

## Other Traffic/Transport Related Issues

### Introduction

A number of submitters, organisations and Councils expressed concern regarding the impact of the Project on public transport, cycling and pedestrian movements. A major issue was the construction phase of the Project.

### Submissions and Evidence

Submissions were made on behalf of a number of cycling groups to alert the Committee to the needs of cyclists and offer options for upgraded cycling facilities, during and post construction.

A number of submissions stressed the need for upgraded public transport services rather than construction of the Project. Pedestrian safety during construction and on completion of the Project was raised as an issue by many submitters. Many local submitters were concerned about reduced opportunities for safe and efficient walkability in the vicinity of the Hoddle Street and Eastern Freeway interchange.

Construction routes and car parking for construction workers have already been mentioned in earlier sections of this report. In response to these matters, the LMA suggested that this would be covered by the Performance Requirements and be the responsibility of the contractor.

The LMA tendered Document 493 to clarify that the *“East West Link is co-ordinated with the Doncaster Rail project, so that neither project precludes the other”.* The Document stated *“The proposed rail line would cross from the median of the Eastern Freeway to the southern side of the freeway in a cut and cover tunnel. The eastern portal for the tunnel would be east of Yarra Bend Road and the western portal would be on the west side of Yarra Bend Road, crossing under the westbound carriageway of the freeway approximately between chainages 2500 and 3000”.*

Document 314 presented by Mr Herington on behalf of Yarra Campaign for Action on Transport, contained a quote from the Doncaster Rail Study, (December 2012) which indicated that from the west the rail route would “ *rise up into the central median* (of the freeway) *near Yarra Bend Road”.*

### Discussion

The option of providing a light or heavy rail connection from the Alexandra Parade corridor to Doncaster, rather than the Project, is beyond the Terms of Reference of the Committee. However, the Committee considers that the LMA must retain the option of providing a feasible rail alignment along the Eastern Freeway corridor.

The Eastern Freeway median, west of the Yarra Bend Road, shown in the Reference Project appears to be approximately 5m in width. Clearly, the rail alignment will not be able to “rise up into the central median” at this location. The rail reservation, unless elevated, will therefore need to be located south of the freeway, west of Yarra Bend Road. The combination of railway grades and minimum horizontal curvature will result in the railway tracks “rising up” into the median hundreds of metres east of the Yarra Bend Road. Furthermore, if a cut and cover construction method was to occur the westbound carriageway of the freeway would be closed for an “extended period of time”.

### Findings

The completed Project should incorporate safe, efficient cycling and pedestrian facilities. Clearly, apart from pedestrian escape routes,these facilities will be excluded from thetunnels. Pedestrian access in the area of the Hoddle Street and Eastern Freeway interchange is essential, and the final design should enhance safe and efficient pedestrian access opportunities.

The LMA should ensure that the final design for the Project incorporates a north east bicycle corridor along the Eastern Freeway and an extension along Alexandra Parade.

In the opinion of the Committee, the final design work should confirm that the opportunity for a Doncaster Rail service is maintained.

## Applicable Approvals

Consent is required under Clause 1 of Schedule 2 of the *Road Management Act* 2004 which states that “*No road, private road or access point is to be connected to a freeway without the written consent of VicRoads*”. Schedule 1 of the MTPF Act lists this consent as an applicable approval that the Minister for Planning is empowered to grant.

The LMA through Mr Mathers wrote to VicRoads on 20 September 2013 seeking its support for the Project to be connected to the Eastern Freeway and CityLink (Western Link) for the following:

On 27 September 2013, Mr Gary Liddle, Chief Executive of VicRoads wrote to the LMA and noted its support to the Minister for Planning to grant consent for the following connections:

* Direct connection of the eastbound and westbound carriageways of East West Link with the eastbound and westbound carriageways respectively of the Eastern Freeway in Collingwood:
* Exit ramps from the southbound and northbound carriageways of CityLink in Parkville connecting to the eastbound carriageway of East West Link; and
* Entry ramps from the westbound carriageway of the East West Link connecting to the southbound and northbound carriageway of CityLink in Parkville.

The Committee concludes that in relation to Part A, consent should be provided for the following new connections of the East West Link with the Eastern Freeway and CityLink:

* Direct connection of the eastbound carriageway of the East West Link with the eastbound carriageway of the Eastern Freeway.
* Direct connection of the westbound carriageway of the Eastern Freeway with the westbound carriageway of East West Link.
* Exit ramp from the southbound carriageway of CityLink/Tullamarine Freeway connecting to the eastbound carriageway of East West Link.
* Entry ramp to the northbound carriageway of CityLink/Tullamarine Freeway providing connection from the westbound carriageway of East West Link.

The Committee has recommended that Part B of the Project be set aside, however if that recommendation is not accepted, the relevant Applicable Approvals as confirmed by VicRoads should be granted.

# Land Use and Infrastructure

## Introduction

### Terms of Reference and Applicable Approvals

In addition to its overarching tasks of assessing the CIS and evaluating all applicable law criteria for applicable law approvals, Part 7(b) of the Committee’s Terms of Referenceincludes the following ‘*Public Hearing Matter’* relating to land use and infrastructure:

Whether the impacts of the project on land use and infrastructure in its immediate environs, including on housing, recreation and community facilities, have been appropriately addressed.

The relevant applicable approval informed by the Land Use and Infrastructure assessment contained in Chapter 8 of the CIS is proposed Planning Scheme Amendment GC2 pursuant to the provisions of the *Planning and Environment Act* 1987. The proposed amendment seeks to remove permit triggers, apply overlay controls across sections of the Proposed Project Boundary and otherwise permit the Project’s development in accordance with a project specific incorporated document to be introduced into the Melbourne, Moonee Valley, Moreland and Yarra Planning Schemes.

### Conclusion of the CIS

Chapter 8 of the CIS concluded that the specialist assessment undertaken identified a number of positive land use impacts from the project, especially in relation to its potential contribution to urban renewal within part of inner Melbourne.

The assessment concluded that the adoption of good design principles and practices, including the adoption of an Urban Design Framework, would reduce the potential for adverse impacts from permanent and elevated structures.

A number of significant temporary and permanent impacts were highlighted in the conclusion, including:

* 1.36ha of Royal Park required for permanent infrastructure (0.8% of the Park’s total area);
* Sporting activities currently based at Ross Straw Field would need to be relocated;
* The acquisition of residential and commercial properties;
* Temporary occupation and permanent partial acquisition of public open space (including Debney’s Park, Ormond Park and Holbrook Reserve); and
* Impacts on neighbourhood character and conditions from new elevated structures.

### Objectives and Performance Requirements

The CIS evaluation objective (set by the Scoping Directions) for “*Land use, dwellings and infrastructure*” is:

To minimise adverse impacts and to achieve appropriate integration with adjoining land uses, including minimal displacement of existing land use activities, dwellings and infrastructure.

There is one accompanying “*land use and utility asset*” Performance Objective:

* Minimise impacts on existing land use and utility impacts.

Four land use and utility asset Performance Requirements are specified in Chapter 8 of the CIS (Table 8-4) to meet this Performance Objective. The CIS stated that “*would be up to the contractor to determine the best approach to meeting the performance requirements, subject to legislative and other requirements*”.

### Land Use and Infrastructure Issues

The Committee heard land use and infrastructure evidence from the following experts:

* Ms Heather Nesbitt of GHD for the LMA on social impacts;
* Ms Marianne Stoettrup of Matters More Consulting for the LMA on business impacts;
* Ms Bonnie Rosen of Symplan for Moonee Valley City Council, on social impacts;
* Mr John Henshall of Essential Economics for City of Melbourne and Moonee Valley City Council on economic and business impacts;
* Associate Professor Mardie Townsend of Deakin University for the City of Melbourne;
* Mr Graham Porteous of the City of Melbourne for the City of Melbourne;
* Mr Rob McGauran of McGauran Giannini Soon for Moonee Valley City Council and Yarra City Council on urban design;
* Mr Craig Czarny of Hansen Partnership for Ms Peterson and Mr Peck on urban design.

Other evidence that was referred to in consideration of land use and infrastructure issues included:

* Mr Jim Higgs of TTM Consulting for the City of Melbourne on traffic/road design;
* Mr Tom Brock of GHD for the LMA on road design;
* Mr Peter Fearnside of Marshall Day for the LMA on acoustics;
* Mr Robin Brown of Renzo Tonin for Moonee Valley City Council on noise impacts.

The evidence of Ms Beverley Kliger of Beverley Kliger and Assoc. for Yarra City Council on social impacts was tabled but she was not called.

Neither the LMA nor any other party to the proceedings called town planning evidence.

At the request of the Committee, all experts met to discuss the relevant issues and determine points of agreement and dispute. At the conclusion of the conclave and further discussions an ‘*Agreed Statement*’ (Document 7), was provided to the Committee.

At the meeting attended by Ms Nesbitt, Ms Kliger, Ms Rosen, Assoc. Professor Townsend and Mr Porteous, the following topics were discussed and generally **agreed** by the experts at the conclave.

* The Project will result in a net reduction of public open space;
* Heat island effect will be addressed by Performance Requirements and the UDF;
* The SIA should be updated to identify any community facilities within or adjacent to the Proposed Project Boundary and that the Performance Requirements will address the impacts on these additional community facilities, including access during construction, consistent with those identified in the SIA;
* The community was not adequately consulted about the Ormond Road off ramp;
* Maintaining the operation of the Flemington Community Centre, both during construction and operation, is very important to addressing social equity for the Project; and
* Community health and wellbeing should be considered in the SIA.

The following topics were discussed and generally **not agreed** by the experts at the conclave.

* Impact of the Project on future recreational land needs within the City of Melbourne;
* Adequacy of mitigation measures for home owners and tenants whose properties would be acquired;
* Perceived community safety underneath elevated roadways;
* Whether the loss of indigenous remnant vegetation in Royal Park is a Social Impact Issue or a matter for other experts;
* Consideration and rating of social impact of environmental health issues in Precinct 1;
* Consideration of urban renewal issues;
* Adequacy of the proposed mitigation measures in response to the Project’s impact on the Flemington Housing Estate and whether they address social equity issues;
* Adequacy of the proposed consultation framework and Performance Requirement C1;
* Whether it is appropriate to consider cumulative and indirect impacts;
* Whether refinement of Performance Requirements should occur prior to Project assessment; and
* Environmental, social and economic factors should be considered in assessing community health and wellbeing.

Based on its consideration of the evidence, and the written and verbal submissions relevant to its Terms of Reference relating to land use and infrastructure, the Committee has grouped its assessment under the following headings:

* Impacts on Housing;
* Impacts on Recreation Facilities;
* Impacts on Community Facilities; and
* Impacts on Infrastructure/Utilities.

## Impacts on Housing

### Introduction

The CIS indicated that implementation of the Reference Project would require the acquisition of 105 residential properties as well as tunnel strata acquisitions affecting 195 houses. All of these identified residential acquisitions for properties that are either fully or partly contained within the Proposed Project Boundary. The following overview provides a summary of proposed residential property acquisitions on a precinct basis.

#### Precinct 1: Hoddle Street (Eastern Portal)

The exhibited Reference Design of the Hoddle Street flyover connection with the Eastern Freeway requires acquisition of 17 residential properties. The properties to be acquired for the flyover include three in Hotham Street and 14 on Bendigo Street. A temporary road deviation is proposed by the Reference Design in Precinct 1 to assist tunnel construction activities. Acquisition and demolition of 18 residential properties (as well as 18 commercial properties) on the northern side of Alexandra Parade between Smith Street and Copper Lane is identified as being necessary for this temporary access route. The total combined site area of the proposed road deviation works is 1.8ha. The CIS notes that the site would be made available for redevelopment post-construction.

#### Precinct 2: Alexandra Parade (Tunnel)

No surface level construction works or residential property acquisitions are proposed in this Precinct “*other than a possible air intake structure towards the western end*”. The CIS stated “*the main direct impact within this precinct would be associated with the former Fitzroy Gasworks site, which would be used for a temporary lay down area ….The site could be made available for redevelopment post-construction, potentially having a highly positive impact on the area over the longer term”.*

#### Precinct 3: Royal Park (Western Portal)

The Proposed Project Boundary which accommodates the exhibited Reference Design of the western portal and viaducts connecting with CityLink within Precinct 3 contains 55 residential properties (four houses and 51 flats/units). The properties have frontage to Manningham Street in Parkville West. As the properties are within the Proposed Project Boundary they are identified for acquisition. In addition, the CIS states that the Victorian Government has entered into a voluntary purchase agreement for the purchasers and developer of the Evo apartment complex (seven stories with 175 apartments) as “*a portion of the vacant common property of this complex would be required for the project*”.

#### Precinct 4: CityLink

Within Precinct 4 (CityLink) two houses and one townhouse (located on a block currently being developed into three townhouses) in Pattison Street, Moonee Ponds, would need to be acquired. In addition to the housing acquisitions, a small section of Debney’s Park and the Essendon Community Gardens are proposed to be acquired. Sections of Debney’s Park and Travancore Park are proposed to be occupied during construction.

#### Precinct 5: Port Connection

Within Precinct 5 (Port Connection) the acquisition of 13 residential properties (and 12 commercial properties) would be required to accommodate project structures and construction laydown/depot areas. The areas required include three small groups of land off Stubbs Street and Bent Street (generally off the western bank of Moonee Ponds Creek).

The Committee notes that there are no residential properties to be acquired in Precinct 6 and that there are no residential impacts. Accordingly this assessment of housing impacts does not further consider Precinct 6.

Having highlighted the location of the 105 residential properties that are proposed to be compulsorily acquired, the Committee notes that there were limited submissions from the residents or the owners of these properties. The majority of opposing submissions concerning housing impacts were from residents and property owners that are just outside the Proposed Project Boundary, either directly abutting it or in close proximity to it. All such submissions opposed the Project and the majority were critical of the CIS and the Reference Project’s consideration of the impacts that the Project will have on the various residential communities that will have a direct or nearby interface with the Project. A common concern raised by these submitters was that the CIS *Land Use Planning Impact Assessment* at Technical Appendix F was inadequate in identification and consideration of the enduring issues that will be faced by residents located outside the Proposed Project Boundary. These submitters variously opposed the Project outright, sought design modifications to minimise impacts on their amenity, and/or sought to be acquired either by inclusion within the Proposed Project Boundary or by voluntary agreement. The concerns in relation to housing impacts varied on a Precinct basis.

The Committee’s assessment in relation to housing impacts focuses on whether the impact of the Project on residential communities “*has been appropriately addressed*” (Public Hearing Matter 7(b) – Committee’s Terms of Reference), and whether impacts on housing have been “*minimised*” (CIS Land Use Evaluation Objective and Performance Objective). This assessment considers both the proposed residential property acquisitions and whether impacts on remaining residential communities – both during construction and on-going operation of the new roadway - have been appropriately considered and resolved.

### Key Issues

The key issues include:

* Whether the extent of residential property acquisition is justified;
* Whether the impacts on residential properties that will be outside the Proposed Project Boundary have been appropriately considered, addressed and minimised; and
* Whether the Land Use and Infrastructure Performance Requirements are adequate.

### Evidence and Submissions

There were a number of overarching submissions made relating to the Project’s likely impact on housing and abutting residential communities. The LMA’s opening submission (Document 23) repeated the CIS’s Chapter 8 conclusion that the Project is expected to “*generate a number of positive land use impacts, especially in relation to its potential contribution to urban renewal*”. The submission acknowledged there will be some negative impacts on land uses and infrastructure in the immediate environs of the Project, however the commentary in the CIS lacked specificity in relation to impacts in particular locations. The assessment was broad. Key observations in the CIS included:

It is difficult to avoid direct impacts when seeking to provide linear infrastructure. However, this Project will reduce direct property impacts – at very substantial cost – by placing the major portion of the link in a tunnel.

Nevertheless there will still be a significant number of lots that will need to be acquired, or occupied for construction purposes, for the Project. These are set out in Chapter 8 of the CIS. The Land Acquisition and Compensation Act 1987 will apply to these acquisitions and occupations. This Act is designed to ensure that fair compensation is paid for any acquisition, or occupation, of an interest in land.

The LMA submitted that it is difficult to avoid construction impacts and thatroad works always involve some disruption to traffic, including cyclists and pedestrians. Further it submitted the Project seeks to address construction impacts by:

… provision of a temporary road, and by other means.

During construction substantial areas of land will be needed for laydown areas and the like. This will affect users of Royal Park and sporting clubs. The LMA has sought to address the concerns of sporting clubs by entering into a memorandum of understanding with the City of Melbourne to provide assistance to improve other facilities so as to manage this impact.

LMA’s opening submission did not identify or comment on the impacts of construction on any specific residential community remaining at the interface with the Project, other than noting that the *“CIS sets out various performance requirements to manage construction impacts, such as the movement of heavy vehicles and dust”.*

In relation to visual impacts on residential communities, the LMA submission stated that the specialist assessment undertaken for the CIS found that:

… adopting good design principles and practices (including the adoption of an Urban Design Framework), and giving appropriate consideration to the character of local areas within the Proposed Project Boundary, would reduce the potential for adverse impacts from permanent and elevated structures.

The closing submission on behalf of the LMA (Document 525) stated that one of the main social impacts that will arise stems from the compulsory acquisition of properties:

The LMA acknowledges that these types of impacts are an unfortunate (albeit necessary) component of the delivery of the Project. They are, however, impacts that arise in the case of any large linear infrastructure project of this type (including, for instance, Regional Rail Link and EastLink).

That said, it should equally be acknowledged that this Project will minimise direct property impacts – at very substantial cost – by placing the major portion of the link in a tunnel.

There will, however, still be a significant number of lots that will need to be acquired or occupied for construction purposes. These are set out in Chapter 8 of the CIS. The Land Acquisition and Compensation Act 1986 (Vic) will apply to these acquisitions and occupations. This Act is designed to ensure that fair compensation is paid for any acquisition, or occupation, of an interest in land.

It has been suggested that the ability of affected land owners to relocate within or around the same area is an important component of any analysis of the social impacts of compulsory acquisition. It is pertinent to note in this regard that both of the areas situated at either end of the tunnel, being those areas that are most directly affected by property acquisition, are relatively densely populated. There is accordingly no reason to suggest that there are not reasonable prospects that affected land owners will be able to relocate in relatively close proximity to their existing residences if they indeed choose to do so.

An overview of precinct specific evidence and submissions relating to impacts on housing and residential communities is provided below.

#### Precinct 1: Hoddle Street (Eastern Portal)

Mr Brock gave road design evidence for the LMA and provided presentation slides (Document 42). These contained a number of slides relating to the Hoddle Street Interchange and he acknowledged that property acquisition on the west side of Hoddle Street and north side of Hotham Street are “*Shortcomings of the Reference Project Option*”. Other identified shortcomings of the flyover identified by Mr Brock included urban design and some road geometry issues. Mr Brock identified a number of other Interchange Optionsincluding:

* Conventional signalised diamond interchange;
* Single point urban diamond interchange;
* Direct grade separation of right turn (as per Reference Project);
* Loop ramp grade separated of right turn (as per existing);
* Diverging Diamond Interchange.

While the above options were identified by Mr Brock, the only one where an assessment was undertaken by him was on the Diverging Diamond Interchange (DDI), an option he concluded should not be implemented. No assessment of impact on housing was provided in this assessment. Under cross examination, Mr Brock accepted that a DDI would result in fewer property acquisitions.

The accompanying presentation tendered in the acoustics evidence of Mr Fearnside for the LMA (Document 76) noted that in relation to traffic noise assessment in Precinct 1, that the “*noise levels near the Eastern Freeway could increase as traffic volumes are predicted to increase by up to 50*%”. In relation to mitigation measures, Mr Fearnside indicated that “*indicative noise mitigation measures include noise barriers up to 4.5m high with barriers 1.5m high on the flyover*”.

In providing heritage evidence Mr Lovell (Document 70) stated that he disagreed with Mr Raworth’s concerns that impacts on retained sections of streetscapes will result in demolitions in Bendigo Street, and their marginalisation on the single sides and the ability of the wider precinct to exhibit intact streetscapes. Mr Lovell considered that heritage streetscapes are not necessarily two sided as exhibited by numerous precincts throughout Melbourne. On this issue, he concluded that “*the west side of Bendigo Street is not a particularly intact streetscape on nor is the east side. While the concern is reasonable it has been considered an in my view the change does not give rise to concern regarding marginalisation”.*

Mr McGauran (Document 128) questioned whether “*the inclusion of an elevated roadway and demolition of buildings within a heritage overlay is an outcome that could be said to make a contribution to positive, memorable experiences and enhanced amenity for users of adjoining public spaces and for land uses abutting the Proposed Project Boundary?”* He concluded that the flyover should be abandoned and replaced with an at-grade solution, and that Hoddle Street, Bendigo Street and Alexander Parade should be retained and their definition improved.

Ms Nesbitt’s response to other social planning evidence (Document 97) highlighted that she disagreed with other witnesses and submissions that considered that the social impact ratings regarding environmental health impacts in Precinct 1 are too low. She concluded that “*Table 2 Impact Assessment Rating Criteria in the Social Impact Assessment provides a sound methodology for weighting potential impact consistently within all precincts across the project. The identified mitigation measures provided for environmental health impacts such as noise, visual amenity, air quality and vibration is based on the advice provided by other technical experts and weighted accordingly”.*

The social impact evidence of Ms Kliger was critical of the SIA’s lack of consideration of direct impacts of the Project’s design on local communities, neighbourhoods and suburbs in its “*Impact Assessment Rating Criteria*”. She highlighted and was critical that the CIS contains no commitment to the development or investigation of the proposed urban renewal opportunities and accordingly categorised them as speculative. Of particular concern to Ms Kliger was the potential for significant sites may become an unsafe and a social hazard unless commitments and planning is undertaken. The evidence statement contends that a site remediation plan should be prepared and funded.

Various submissions highlighted that construction impacts on home and residential amenity were unacceptable and were one of many overarching reasons that the Project should not proceed in its exhibited form. Others argued that the Project's construction impacts would be wide-ranging and significant; there would be irrevocable loss of homes, as well as businesses and loss of residential amenity, parkland and trees, waterway habitats, playgrounds and sports fields. Submitters were concerned that homes, habitats and playgrounds will be acquired, not just for the Project, but to accommodate the construction machinery, trucks and materials.

The opening submission from the City of Yarra stated “*a massive flyover at Hoddle Street at the proposed Eastern Portal*” was one of the significant negative impacts produced by the Reference Project, which it said, will have significant adverse visual impacts on nearby resident communities. It stated that the Project includes “*an unprecedented programme of property acquisition involving numerous properties across the city as currently identified, and potentially more if the project changes*”, including those in Hotham and Bendigo Streets. Impacts on residents associated with noise, both during construction and then ongoing, were cited by the City of Yarra as being particularly significant in this location due primarily to the elevated flyover.

In response to its concerns on the impact of the flyover, the City of Yarra advised the Committee that prior to the Hearing (as well as during the Hearing), it advised the LMA that further consideration should be given to alternative designs “*which could minimise the extent of acquisition, and the visual impact of the flyover*”. Yarra submitted that the LMA treated these suggestions “*with contempt*”. The City of Yarra was particularly critical of the LMA for not calling a witness from one of the design team who had been with the Project from the start to explain and validate the flyover design. It expressed dismay that the LMA instead called a road design witness from GHD “*an expert witness whose bid to do the actual design work for the project the LMA had rejected!”.*

The presentation by Mr Goodman on behalf of 3068 Group (Document 303) reiterated that the Group is opposed to the Reference Project for its impacts on the residents of Clifton Hill (in particular) and on heritage values. They oppose the interchange flyover on many grounds but particularly due to its perceived poor pedestrian linkages and its resultant severance impacts.

Mr Herington (Submission 384) argued the impact of the height and location of the flyover could be significantly reduced with a better at grade separated design. He elaborated on this in his submission on behalf of Ms Virgona and Ms O’Toole (Submission 49 and Document 297). In relation to the land use impacts of the flyover, Mr Herington concluded that the LMA has relied on ‘straw man’ arguments and that the bottom line is:

If the LMA were told East West Link could not be built unless there was a low impact intersection at Hoddle Street, they would quickly come up with solutions.

The virulence of their arguments against any alternatives demonstrates that they have not approached this task with an open mind.

One of the owners of two properties in Noone Street, Clifton Hill addressed the Committee and explained that the announcement of the Project has significantly devalued the properties and as a result he has incurred substantial stress and financial hardship. Valuation documents were submitted in confidence. The submitter suggested that the LMA or the Government should provide “*fair compensation*” for the devaluation of the properties, rental losses, and costs incurred in getting independent valuations.

Mr and Mrs Geary (Submission 203) reside in Noone Street. Their submission highlighted that the Project will have a significant detrimental impact on their property due to “*the poor and compromised design*” that results in the realignment of Alexandra Parade to facilitate construction. The 5 to 7 year impacts will include noise, dust, vibration and pollution. Mr Geary concluded (Document 374) that “*the project fails to achieve the objective of minimising adverse impacts and achieve appropriate integration with adjoining land use activities, dwellings and infrastructure*”. He requested that the Project be redesigned to avoid the need to move Alexandra Parade to their property boundary and, in the “*interests of equity*”, he urged the Committee to recommend that property owners who are adversely affected should be compulsorily acquired by the LMA.

The submission of Mr Hardwick of Slater and Gordon (Submission 536) observed that the Project runs through some of Melbourne’s oldest suburbs and that many of the properties in Clifton Hill, Collingwood, Fitzroy and Parkville are over 100 years old. Mr Hardwick advised (Document 366) that 149 property owners had contacted his company with concerns regarding potential property damage associated with the Project’s construction and operation. The submission recommended that the contractor should be required to meet the reasonable costs incurred by any property owner in obtaining pre-construction and post construction property condition report from a qualified engineer or building surveyor and in the event of any damage, the contractor should be required to remediate the damage to the satisfaction of the independent inspector and/or should be made to compensate the owner.

The expert witness conclave agreed statement for Social Impact (Document 7) addressed the issue of Urban Renewal as one of the issues not agreed. It stated that “*Several experts consider that there is a need to acknowledge that sites may not be developed for urban renewal as proposed, and negative social impacts are possible if these sites remain vacant (eg vandalism, lack of safety). Others consider that this is outside the responsibility of the LMA and is reliant on other agencies to deliver urban renewal outcomes*.” Ms Nesbitt reaffirmed in her response to other expert material (Document 97) that she considered urban renewal opportunity realisation is “*outside the responsibility of the LMA and is reliant on other agencies to manage and deliver urban renewal outcomes.”*

Mr Saunders who is a resident in Clifton Hill (Submission 524 and Document 238) was particularly concerned regarding the unknown future of many sites post construction. Among other issues he urged the Committee, if it were to support the Project, to recommend that that the future of the temporary road and former gasworks site be determined prior to the signing of contracts with the bidder, including the specifying of planning and height controls.

#### Precinct 2: Alexandra Parade (Tunnel)

There were comparatively few submissions from residential property owners along this “*in-tunnel*” section of the Project alignment. Submissions focused on concerns regarding vibration and noise as well as amenity issues.

The submission by Margaret Ng (Submission 9) called for a return of Princes Street (Nicholson Street to The Avenue) to two lanes in both directions, instead of the current three lanes to improve amenity and safety.

The submission (Submission 456) and presentation by Ms Phelan (Document 501) focused on the potential impacts of vibration and regenerated noise and the potential damage to that aged building stock, particularly along Princes Street. Ms Phelan request that in addition to performance requirements that require the contractor to perform condition assessments, they should be required to rectify the structural soundness of buildings to enable the fabric of the building to “*permit increased vibration and regenerated noise*”.

The submission noted that the amenity impacts in Precinct 2 have been overlooked in the CIS. Of particular concern was the lack of description or diagrams of how Princes Street will be traffic calmed or reconstructed. The submission concluded that the existing Heritage Overlay should be removed over all properties so that property owners are given the same exemptions for redevelopment as the Government proposes to afford itself for the Gasworks site (and other sites further east in Precinct 1).

* + - 1. **Precinct 3: Royal Park (Western Portal)**

The expert witness conclave agreed statement for Social Impact (Document 7) stated that all Social Planning experts agreed that “*community health and wellbeing should be considered in the SIA*” for the Project. It addressed a number of issues relevant to the Project’s impact on housing and residential communities. The statement indicated that the social planning experts could not agree regarding “*Cumulative and indirect impacts*”, and it noted:

* Several experts consider that this should be addressed in the SIA, consistent with leading practice, particularly relating to the existing impact of CityLink in Precinct 3 and that this project further adds to this impact.
* It is not agreed whether the assessment of cumulative impacts are with within the Terms of Reference.

Ms Nesbitt’s Social Impact supplementary evidence for the LMA and her supporting presentation slides (Documents 96 and 97) reaffirmed that she considered the recommended additional mitigation measures proposed by the LMA are reasonable to address social equity issues related to the Flemington Housing Estate Residents. She observed that the modified performance requirement and modified/new mitigation measures “*would adequately respond to these impacts”*. The modifications to the Performance Requirements supported by Ms Nesbitt are as follows:

Performance requirement C1 modified

* Identify Office of Housing and Flemington Estate tenants; potentially affected property owners; and a Community Liaison Group for the Manningham St/West Parkville

Performance requirement T2 modified

* Provide Pedestrian Access Plans, including provision for people with limited mobility, for both the construction and operation of the Project for:
* Hoddle Street Interchange/Eastern Tunnel Portal
* Elliott Avenue Interchange
* Manningham Street/Parkville/Western Tunnel Portal

Ms Rosen’s Social Impact evidence and witness presentation slides (Document 190) for Moonee Valley noted that the community comprising the Flemington Housing Estate has multiple and complex risk factors and vulnerability. The community is highly dependent on public and active transport, and is socially and economically immobile. Ms Rosen stated that the Project will have permanent impacts on the community including visual intrusion, noise and vibration, light spill, reduction in air quality, and visual severance. Her evidence reiterated the view that permanent, cumulative negative direct impacts leads to increases in existing inequities in health and wellbeing including:

* Inability to open windows, insomnia, lack of access to sunlight;
* Stigma and reduction in pride in surroundings due to road, vandalism;
* Potential reduced engagement in physical activity; and
* Loss of confidence in process.

Mr O’Brien’s presentation slides (Document 175) accompanying his traffic evidence concluded that *“the impacts on Debney’s Park are substantial and probably avoidable with better freeway system design*”.

The presentation notes accompanying Mr Higgs’ road design evidence (Document 109) contained an alternative design concept for the western interchange that he considered will reduce the number of houses needed to be acquired. Further, it would reduce the impacts on remaining residents, housing and impacts on Ross Straw Field. His evidence stated that the Project’s inclusion of the Ormond Road off ramp will add convenience for residents and possible businesses in the area that the connection can serve, although he acknowledged that “*there might be some downsides as well”.*

Dr Nadebaum (Document 149) stated that he regarded Ross Straw Field to be “*well suited to function as a location for stockpiling of contaminated soil”* due to its size and “*and relative seclusion, and its proximity to the tunnelling works with are likely to commence from the western portal*”.

The submission of Ms Hicks for Moonee Valley (Document 194) was particularly critical in relation to the CIS and its consideration of land use and infrastructure impacts generally and also specifically in relation to Precinct 3. It stated:

The impacts on land use and infrastructure have not even been adequately identified never mind “addressed”.

Underlying this failure is the notion that the road has to come up somewhere so it might as well be in an area already compromised.

Such a view merely entrenches existing disadvantage and inflicts disproportional harm on those already blighted by CityLink.

The level of analysis of the impact on the Flemington Housing Estate (FHE), Debney’s Park, the Flemington Community Centre (FCC) and linear park including the Sporting clubs in Moonee Valley is woefully inadequate.

The submission reiterated that the key impacts on residents living to the west of CityLink within Precincts 3 and 4 will be associated with additional traffic on local streets as a result of the Ormond Road off ramp and likely rat-running associated with toll avoidance.

The closing submission for Moreland City Council by Mr Griffiths noted that elimination of the Ormond Road off ramp would resolve the bulk of the concerns that Council has with both traffic and recreation.

Many community and individual submissions were lodged opposing the impacts of the Project on residents and residential amenity within Precinct 3. A representative sample of the key issues raised in these submissions is provided below.

Ms Iser (Submission 92) submitted that the Project will not deliver a net community benefit, and the impacts are significant in regard to environmental, economic and social impacts. In relation to land use impacts, Ms Iser submitted (Document 145) the key impacts in the Precinct are associated the following:

* Homes to be acquired;
* Loss of Ross Straw Field for recreational sport;
* Loss of Debney’s Park Playground;
* Severe overshadowing of Flemington Community Centre;
* Viaduct 37m from 120 Racecourse Road (and noise impacts have not been adequately assessed nor resolved); and
* Business losses.

Other submitters noted that the impact of the elevated road on the housing estate at Flemington was significant. One submitter commented that “*In my view the state owes a very high duty of care to public housing tenants who live in a particular place not though choice but because the government places them there.* *The panel must not take lightly their responsibility to consider the impact of the project on public housing tenants*”. Many submissions stated that the playground within the Estate should not be sacrificed for the Project and that such spaces are more than just a physical space. It was urged upon the Committee that the impact of the loss or diminishment of the playground will be significant on the whole community.

The key elements of the submission by the Flemington Neighbourhood Renewal Board (Submission 399) were expressed to the Committee by Board Members Ms Shadia Mohammed Aly and Mr Ahmed Dini (Document 309). The presentation reiterated that there are over 3,500 people living on the estate, with nearly half being born overseas. Ms Aly drew the Committee’s attention to the 26 recommendations from the Board contained at pages 24 and 25 of their original submission. Their primary recommendation is that “*The option for the relocation of the proposed viaduct to the east side of the CityLink and the option for a tunnel passing under Flemington and Boundary Roads are fully independently investigated*”. The presentation and submission stressed that the residents of the estate will be significantly and unacceptably impacted if the Project Reference design is constructed. The submission highlighted that noise and air quality impacts will be unacceptable as will impacts on the playground, Community Centre and Community Gardens. Ms Aly urged the Committee to ensure that noise impacts would be resolved for the people who live in 120 and 126 Racecourse Road. If the Project is to be approved, Ms Aly submitted that “*a full master plan be prepared and implemented for the housing estate and Debney’s Park combined, including the relocation of the playgrounds away from the construction zone and building of a new Community Centre somewhere near the estate, such being fully functional before road works commence*”.

Mr Krelle from the Parkville Association (Submission 317 and Document 332) noted that there are approximately 1,920 dwellings in Parkville housing a population of 6,200 people. The group opposes the Project due to its impacts on the present land use and infrastructure including housing, Royal Park, Ross Straw Field and other recreation and community facilities. The group oppose the UDF and the CIS’s failure to address cultural, heritage, native vegetation and biodiversity impacts.

Mr Potts submitted on behalf of the Flemington Association Inc (Submission 682 and Document 321), and noted that the group represents people from Flemington, Newmarket and Travancore. He highlighted that these residential communities have suffered significant negative impacts due to a range of infrastructure projects, including the construction of CityLink. Mr Potts submitted that Debney’s Park and the Moonee Ponds Creek trail are particularly important to these communities. He submitted that their value is also heightened due to the area having 20% more children under the age of four compared with the State average. The Association considers the Project’s impact on these assets is unacceptable and should be avoided. Mr Potts concluded his presentation noting that the group “*see a danger for the area where there is return to the polarisation of advantage and disadvantage*”.

Mr Peyton stated that one of the benefits of the “*alternative option*” presented by Safety Net for Royal Park (Submission 257 and Document 335) is that 55 homes in Parkville West would be saved. The group submitted that the Project has failed the Terms of Reference obligations. Specifically they considered that the impacts of the Project on land use and infrastructure in its immediate environs, including on housing, recreation and community facilities have not been appropriately addressed. As well, Mr Peyton argued the impacts of the Project on native vegetation and biodiversity have not been appropriately addressed, in part due to alternatives not being adequately investigated and addressed in the CIS. The group submitted that it has put forward a number of alternative considerations to the LMA dating back to May 2013. They consider that there are plenty of alternatives available to the LMA to consider. The submission on behalf of the group included a number of recommendations including requesting the LMA and bid consortia to advance development of 3 or 4 versions of an alternative design (based on the groups Option 1) for the community to review. Following this, they suggested a supplementary CIS be prepared on the most balanced triple bottom line version as a Project rather than a Reference Project.

Mr Rogers on behalf of the Parkville Gardens Residents Association submitted that the impacts on Parkville West would be such that the community would be destroyed for ever with future generations describing the community as “*waste Parkville*”. That group submitted that parkland should not be seen as “*town planners code for excess land waiting development*”. The health, visual, cultural, environmental, noise impacts associated with the portal structure and viaduct links are considered by the group to be unacceptable.

Mr George (Submission 121 and Document 288) raised significant concerns regarding the impact construction will have on the structural integrity of the units at 18 Lennon Street in Parkville. While opposing the Project, Mr George’s key concern was to ensure the inclusion of appropriate and independent inspection reports to be completed at the Project cost, both prior to and post the period in which construction works are to occur. Further, should building conditions deteriorate as a result of the Project construction or operation, Mr George considered appropriate compensation should be payable by the State, with such claims being considered by an independent body.

Ms Peterson (Submission 439 and Document 333) submitted that Parkville West is a highly urbanised and densely settled urban environment. The submission was highly critical of the CIS in that is did not adequately consider or attempt to minimise the impact on residential land use on Manningham Street, the Parkville West community nor the area’s neighbourhood character. Concern was expressed that construction noise impacts are not addressed in relation to Manningham Street and that despite the Social Impact Assessment acknowledging that the impacts on this Precinct will be the most significant, the only mitigation measure proposed beyond the UDF is “*consultation*”. The submission concluded that the combined impacts and lack of remediation render the Project design in this Precinct as unacceptable. The submission requested the Committee to reject the Reference Design and recommend that the UDF be rewritten to require measurable standards. She requested that the Committee recommend that any future Reference Project address the existing site constraints, having regard to the established and sensitive residential uses of Parkville West and the role of the western side of Royal Park as an amenity offset to the existing substantial road infrastructure and respond accordingly. Ms Peterson urged the Committee to recommend that the Safety Net for Royal Park Option 1 be further investigated.

Mr Smith (Submission 541 and Documents 295 and 296) highlighted significant concerns with the noise impacts that will result if the Project is implemented in its current form and with the current performance requirements. Mr Smith’s concerns are further discussed in the Noise and Vibration assessment (Chapter 9).

#### Precinct 4: CityLink

Ms Rosen’s social impact witness presentation slides (Document 190) noted that the residential component for the suburbs of Travancore, Ascot Vale and Moonee Ponds will be impacted by visual intrusion, and vibration, light spill, noise, reduction in air quality, visual severance; property acquisition and displacement. Ms Rosen concluded that these residential communities will suffer “*permanent, direct and cumulative social impacts”* that will “*detract from health and wellbeing*”.

In relation to likely impacts on individual residential properties within Moonee Valley, Mr Henshall concluded (Document 152) that:

* Three residential properties in Moonee Ponds will be directly impacted through acquisition;
* Others will be potentially impacted by noise, dust etc in proximity to the Link;
* Rat-running to access the EWL/other destinations, and also to avoid paying a toll; and
* Such effects not mentioned in CIS.

#### Precinct 5: Port Connection

Mr Henshall’s presentation slides (Document 152) highlighted that the CIS does not adequately address potential negative impacts on land use in immediate environs of Arden-Macaulay. He is of the opinion that the impacts in the CIS are specifically project-related (and falling within the tightly-defined Proposed Project Boundary), and do not have specific regard for externalities (eg, impacts on amenity and property values). He noted that impacts relate to individual properties to be acquired for the project, or used as work areas during construction. Of relevance to the impacts on housing, Mr Henshall highlighted what he considered to be the Project’s local amenity impacts. These include:

* Adverse impacts (noise, dust, light spill, visual) will have adverse impacts on property values and therefore on urban renewal prospects;
* Land reserved for Part B for "longer term" development effectively quarantines the land from development that would otherwise in a timely manner;
* Adverse impact on efforts to rejuvenate Moonee Ponds Creek due to proposed elevated roadway; and
* Wider impacts beyond Proposed Project Boundary are not considered.

Mr Higgs’ presentation notes (Document 109) stated that he does not consider the Arden Street Ramps as necessary given that there are multiple other ways for all relevant vehicle movements to occur.

The opening submission by Mr Pitt on behalf of the City of Melbourne stated that if Part B of the Project was constructed as per the Reference Project, it would not appropriately address or manage the impacts on Moonee Ponds Creek and its environs for public use or adjacent lands identified for residential development by way of visual bulk, overshadowing, noise and intrusions into the waterway.

Mr Pitt tendered and walked the Committee through the ‘*Moonee Ponds Creek Concept Plan*’ which is Incorporated Plan IPO5 in the City of Melbourne Planning Scheme (Document 275), with reference to the section of the Creek identified as ‘*Reach 2: Railyards – from New Footscray Road to Arden Street’* (pages 20 and 21)”. The Plan was prepared by Melbourne Water for the Moonee Ponds Creek Association in 1992. The corresponding planning scheme map extract provided by Mr Pitt (Document 276) identified IPO5 covering land between on the eastern side of Stubbs Street and the western side of Moonee Ponds Creek, for the length of the Creek between Racecourse Road in the North and Macaulay Road in the South. This land area corresponds with Part B alignment from Chainage 29700 to 30400. Mr Pitt advised:

Pursuant to clause 43.03-1 Moonee Ponds Creek between Racecourse Road and Macaulay Road is within Schedule 5 to the Incorporated Plan Overlay [IPO5] which requires that a permit must be generally in accordance with the Moonee Ponds Concept Plan (an incorporated document).

Mr Pitt stated that the viaduct route proposed in Part B of the Project “*couldn’t be said to be in accordance with the Vision or Action Program detailed in the Plan*”. The Plan variously seeks to restore creek habitat creating a natural environment and conserving remnant vegetation, providing an important habitat corridor with a theme of “*bringing the ponds back to Moonee Ponds and reducing the impact of the concrete drain*”. Mr Pitt submitted that the Arden-Macaulay Structure Plan advances these outcomes. Part B of the Project by comparison, he said, will devalue such outcomes and values in the interest of transport infrastructure.

The LMA’s closing submission (Document 525) stated:

While Part B will impact upon Arden Macaulay, it cannot be concluded that the impacts would be of such a magnitude as to compromise its ability to be developed in a manner that generally accords with the objectives contained in the Arden Macaulay Structure Plan.

Further, that Structure Plan is not yet at the stage where it could be regarded as being a ‘seriously entertained planning proposal’. …

The Structure Plan contemplates that relatively dense, residential and mixed use development can be established along the length of the existing CityLink alignment. It proposes this despite recognition of the significant impact of the road noise levels from CityLink, and in the absence of any effective strategy to reduce noise (aside from ‘advocating’ for its reduction). Consequently, in order to achieve its objectives, planning measures will need to be introduced to address existing noise from CityLink. This will be the case regardless of whether the Project, or Part B, is approved.

Mechanisms exist to manage noise from roadways. Design and Development Overlays can ensure that new sensitive land uses protect themselves to an appropriate degree from existing noise. Further, recent developments along the length of CityLink (such as apartments at 18 Bent Street and the ALT Tower development) show that high standards of residential amenity can be achieved in close proximity to unprotected freeways.

While the Moonee Ponds Creek will be impacted, it will not be fatally compromised by Part B. Nor will it be unable to contribute to the amenity of the Arden Macaulay precinct. It is a largely artificial waterway that can be reshaped, modified and improved so as to become a valued space. The impact of the elevated road structure will be significant, but not unacceptable.

The evidence of Mr Wyatt demonstrates how spaces in or around elevated road structures can be made successful as urban spaces. The UDF will ensure that careful consideration is given to the spaces, and to spaces in and around the elevated viaduct.

Finally, it needs to be noted that, contrary to what has been suggested by the City of Melbourne and others, planning for the Arden Macaulay precinct has not proceeded in ignorance of the East West Link. Rather, the Melbourne Planning Scheme acknowledges plans for the East West Link and calls for growth and development in Urban Renewal Areas to be ‘integrated’ with it.

Numerous community and individual submissions were lodged opposing the impacts of the Project on residents and the residential amenity within Precinct 5. A representative sample of the key issues raised in the submissions is provided below.

Submission 552, while noting that there are many opportunities for improvement to the Creek submitted (Document 281) that the Creek is a beautiful place and “*the proposed elevated road will effectively make the creek nothing more than a drain-this will be a significant loss to the people who live near the creek as well as those who walk and cycle along the creek and the birdlife that use and live on the creek*”. Further, it was submitted that the elevated road will have a devastating impact on the businesses and homes in the area and that this impact has not been properly articulated in the CIS which undervalues the amenity of the area.

The presentation by Mr Woodland on behalf of the Kensington Association (Documents 400 and 401) noted that constructing Part B of the road link would have “*very substantial impacts on inner Melbourne and on the Kensington community in particular”*. He commented that the Part B alignment will “*derail the State Government’s own urban renewal aspirations for the Arden-Macaulay area”*. He said that the Government has identified the Arden-Macaulay area as one of Melbourne’s “*urban renewal jewels*” and its vision is to see the suburb rejuvenate with housing, businesses, open space and facilities. Mr Woodland argued that “*dropping another elevated four land freeway right on top of the supposed open space jewel in the Arden Macaulay crown*” is totally contrary to the long held strategic land use vision and ambitions for the area.

The Residents about Integrated Development (RAID 3051) submitted that they have been actively working with the City of Melbourne and other groups in helping develop the Arden-Macaulay Structure Plan (Submission 686 and Document 287). The group considered that as the full range of options and alternatives have not yet been explored, it cannot support the Project until further investigations and a compelling case has been made. It considered the long-term impact of the Project requires further investigation. In particular RAID 3051 contended that possible mitigation of negative impacts on local amenity and environment has yet to be fully explored. It submitted “*the proposed construction over the Moonee Ponds Creek does not comply with the stated Urban Design Principles, and therefore must not proceed*”.

In relation to impact on land use, dwelling and infrastructure, the submission of “*Inner Melbourne Planning Alliance Inc*” (IMPA) (Submission 394) stated that highly affected areas will include the playing fields of Ross Straw Field, the Moonee Ponds Creek Wetlands and the dwellings adjoining the Stage 2 connection to the Port of Melbourne. They said: “*The negative impact on existing land use has not been fully recognised in the CIS, nor have any clear offset measures been proposed or secured*”. Dr O’Brien, President of the Alliance concluded that for a range matters concerning health of residents, environmental impacts, social impacts and urban design flaws “*Precinct 5 and 6 cannot form part of the EWL Project at this time*”. The presentation slides tendered by Dr O’Brien (Document 289) contained a number of before and after images highlighting the resultant impact of the Project on the urban landscape of the Arden-Macaulay Precinct and its non-compliance with the CIS’s urban design principles and aspirations. The Committee found the graphic images compelling.

Similarly compelling graphics were included in the presentation of Mr Ingram (Document 466) including numerous before and after scenarios highlighted in his walking tour of Kensington. The submission concluded that “*the current East West Link location and design, at least for Kensington is the worst possible option*”.

Ms Iser (Submission 92) in her presentation to the Committee (Document 145) expressed the view that the CIS does not seek to avoid impacts or adequately minimise them. She said:

By focusing on minimising rather than avoiding impacts, the CIS has not appropriately addressed the impacts. This is most evident with respect to the impact that cannot be effectively minimised on Royal Park, Debney’s Park and other open space and homes: homes and open space lost to roadway is irreparably removed and unrecoverable through 'minimisation’. Avoidance is the most appropriate means of addressing these impacts.

The submissions and presentation by the Araneda’s sisters (Submissions 420 and 569, and Document 409) noted that Kensington was “*one of the suburbs who stands to lose the most and gain the least”* from the Project. They considered the CIS does not give sufficient weight to the negative impacts of the proposed design, particularly the impacts on the Moonee Ponds Creek and the noise, visual, overshadowing impacts on the Bent Street apartments. They submitted that far too great a reliance has been placed on the Urban Design Framework to offset/mitigate such impacts, many of which have yet to be properly identified and assessed.

The submission of Ms Colasante (Submission 245), also a resident of the Bent Street apartments, expressed similar opposition to the Part B viaduct and its location generally 8 to 10 metres from the apartments in the complex. The submission provided a detailed review of the CIS and chronicled significant impacts for Kensington residents that she argued, design will not be able to mitigate. Ms Colasante concluded that the Project and in particular the Part B viaduct will create an urban wasteland and leave a negative legacy for the community for generations to come

### Discussion

#### Precinct 1: Hoddle Street (Eastern Portal)

As an opening observation, the Committee highlights that a significant portion of the Project alignment post construction will be in tunnel. For those areas in the Precinct where the road is in-tunnel, the Committee accepts that the impacts of the Project on residential properties have been effectively minimised, once the Project is in operation. The road is in-tunnel for only about one third of the Precinct as it emerges from underground just west of Hoddle Street where it extends and rises east to pass under a proposed elevated flyover at Hoddle Street.

The ‘*Impact assessment*’ within ‘*Land Use Planning Impact Assessment*’ at Technical Appendix F (Section 7.4) states that the construction of the ‘*Gateway bridge structure*’ to provide the ultimate connection from Hoddle Street to the Eastern Freeway “*would see the construction of a significant structure that could impact on residential amenity (south-west) of Hoddle Street and Alexandra Parade)”.* Through the opening submission of Mr Morris, the LMA advised the Committee that this flyover structure and other on-off access ramps (as well as other elements of the Project not specified in “*the Project as Declared*”) are “*ancillary aspects*” of/to the Project.

In relation to the flyover, the technical assessment notes that there would be impacts to residential properties moving west from Bendigo Street (including those dwellings on Bendigo Street which would not be acquired) during both construction and operation “*as the bridge would become a highly visible and defining element in the local environment*.” While the Committee accepts these observations, it considers that the consequences and impacts of the gateway bridge on residents have been significantly understated.

Having noted the impact, Technical Appendix F then identifies the following opportunities within the Urban Design Framework which purport to meet “*the objective of minimising adverse impacts*”:

* *Replacement of existing sound walls along the northern end of Bendigo Street;*
* *Construction of new ‘green wall’/sculptural noise walls integrate with any elevated structure;*
* *An elevated shared use path, with sweeping views and optimising connectivity;*
* *Integrated screening on any elevated shared path for safety and to limit overlooking;*
* *A linear park that can create a landscape buffer and visual outlook for residents;*
* *Integrate art and active play.*

In relation to the flyover’s impacts on south side of Alexandra Parade, the Committee does not accept that the proposed design opportunities/elements that purport to minimise impacts sufficiently offset and justify the demolition of 17 houses that are within a Heritage Overlay in the Yarra Planning Scheme. In this regard the Committee considers that the Reference Design of the flyover fails the CIS Land Use Objective and Performance Objective to minimise adverse impacts, including the minimal displacement of existing land use activities, including dwellings. In reaching this conclusion, the Committee supports the road design evidence of Mr Brock that the property acquisition on the west side of Hoddle Street and north side of Hotham Street represents a “*shortcoming of the Reference Project Option”* and that other options exist that would result in fewer property acquisitions.

In relation to the flyover’s impact on south side of Alexandra Parade, the Committee considers the impacts to be unacceptable on remaining residential properties on the west side of Bendigo Street and on the east side of Hoddle Street that will have a direct view line to the ramp as it rises to the north. The Committee does not consider that the proposed design treatments will adequately offset the visual intrusion and screening effects of the noise barriers on these residential properties. Matters concerning noise mitigation measures are further discussed in Chapter 9.4 and matters concerning urban design considerations and heritage value of the properties to be demolished in this location are addressed in Chapters 8.2 and 11.2.

In relation to the flyover’s impact on the north side of Alexandra Parade, the Land Use Planning Impact Assessment Technical Report states:

*Land to the north side of Alexandra Parade (around the north-east corner of the intersection) would be impacted during construction and operation of the bridge structure as it ‘touches ground’ and connects with east-bound lanes of the Eastern Freeway. While noise would likely be an impact during construction and operation the Urban Design Principles and various design measures would assist in mitigating noise during operation. Overshadowing would not be an issue in this location as properties are located on the north side of the structure.*

The report notes that no private property acquisition “*would be required*” on the north side of Alexandra Parade to facilitate the flyover, however “*the scale of the bridge would be a permanent visual impact and would require a considered design response that address the residential interfaces.”* A number of opportunities are identified:

* *Replace existing sound walls on the southern side of Alexander Parade east with an integrated structure of high quality with enduring design elements to improve residential outlook;*
* *Rationalise Alexandra Parade east to utilise the area under the new road infrastructure to maximise opportunities for green space such as linear or pocket parks forming a landscape buffer; and*
* *Use new road infrastructure for an elevated shared user path across the existing freeway, which realises the sweeping views and offers rest spaces.*

The Committee considers the above assessment and mitigation measures to be inadequate. In reaching this finding, it supports the submissions of the City of Yarra that further consideration should be given to alternative designs, which in addition to minimising the extent of property acquisition to the south, should also minimise the visual impact of the flyover to residential properties to the north, south, east and west. In the view of Committee, the CIS assessment and proposed urban design opportunities fail to acknowledge or respond to the significance of the visual impact of the flyover, as well as the adverse noise and air quality impacts associated with the flyover on the residential properties located to the north side of Alexandra Parade. For the above reasons, as it relates to the Hoddle Street flyover, the Committee does not support the CIS’s conclusion that “*the adoption of good design principles and practices, including the adoption of an Urban Design Framework, will reduce the potential for adverse impacts from permanent and elevated structures*”.

In respect to the proposed sidetrack/deviation of Alexandra Parade the Committee has a fundamental concern that 18 residential properties, (as well as 18 commercial properties) many of which have heritage value, will be demolished to provide temporary access for construction. This issue has substantially been addressed in Chapters 6.3 and 8.2 of this report. Suffice to comment here in respect of residential impacts, the Committee does not consider that demolition of 18 houses represents an outcome that sufficiently minimises the impact of construction in this Project location.

The Committee highlights that the Impact assessment within Land Use Planning Impact Assessment at Technical Appendix F states that the acquisition and demolition of the 36 residential and commercial properties on the north side of Alexandra Parade to build the sidetrack will:

*… ultimately result in the opportunity for urban renewal of a sympathetic form that integrates with its setting.*

Demolition of the existing urban fabric in order to facilitate a temporary construction site in the view of the Committee cannot be reasonably argued as being offset by the “*urban renewal opportunity*” created by the demolition. The Committee is concerned that the process for realising the “*urban renewal opportunities*” are not tangible, lacks consideration of community input, and are, significantly, proposed to be left for the consideration of others, at some unspecified time. In this regard the Committee highlights the evidence of Ms Nesbitt which stated that urban renewal opportunity realisation is “*outside the responsibility of the LMA and is reliant on other agencies to manage and deliver urban renewal outcomes”.*

#### Precinct 2: Alexandra Parade (Tunnel)

The Committee accepts that the impacts of the Project on housing within this Precinct have been minimised by the construction of the road alignment in-tunnel. The Committee considers the impacts on housing have on the whole, been appropriately addressed in this Precinct. Having noted this, the Committee considers further thought needs to be given to the urban design outcomes post development within the Precinct, including opportunities to reduce the number of traffic lanes along Princes Street, as well as Alexandra Parade in Precinct 1. These issues are further discussed in Chapter 8.2 of this report. The impacts potentially arising from increased vibration and regenerated noise are addressed in Chapter 9.7.

#### Precinct 3: Royal Park (Western Portal)

The residential impacts within Precinct 3 are arguably amongst the most significant for any community along the Project alignment, both during construction and then ongoing once traffic on the new road link commences. A total of 55 residential properties (four houses and 51 flats/units) are within the Proposed Project Boundary and will be demolished. This represents just over half of all residential properties to be acquired. As noted in the introduction to this Chapter, not many submissions were lodged by the owners of the properties to be acquired. The magnitude of property acquisition, on its own in this location, is however of serious concern to the Committee. It is not an outcome that can be considered to be responsive to the CIS evaluation or performance objective for Land Use and Infrastructure which seeks to minimise impacts on dwellings.

The Committee is concerned about the construction impacts of the Project within Precinct 3, and in particular on the Parkville West residents. The evidence across multiple disciplines is that the impacts will be significant for the whole of the construction period. The disruption period associated with construction was described by some as *“a generation*”, and by others as a period extending for “*a child’s lifetime*”. All agreed the disruption would be at least five years. Ross Straw Field is identified as the launch site for the tunnelling machine and is anticipated to be a major construction site for the duration of Project’s build. Section 11.4 of the Traffic Impact Assessment of CIS, Technical Appendix E, with reference to Precinct 3, states that this area:

… would have the greatest impact. The majority of spoil from the tunnel would be transported away from this precinct and a significant portion of the tunnel construction material would be transported in via this precinct. As a result, high traffic volumes associate with construction would be occurring on the existing road network surround the precinct.

The main site would be established at Precinct 3, and as a consequence, staff parking would need to be provided either on site or off site with appropriate transport provisions for works to arrive safely at the site. Due to the size of the project it is estimated that the car park would be in the order of 500 car spaces …

The construction activities would result in surplus of soil that may need to be treated if it is found to be contaminated prior to transportation outside the construction area for disposal or re-use purposes. Soil that is contaminated may need to be treated on site or transported to a licensed treatment facility...

The haulage of contaminated soil through minor roads to the designated temporary stockpiling/treatment location may increase risk of exposure of sensitive receptors such as residents in the event of a road accident occurring where the contaminated materials are spilled.

The CIS identifies four potential local haulage routes through the Precinct to connect with the arterial network and CityLink. It states the route “*would be determined by the contractor and would be required to be approved by the relevant road authority*”. The four identified routes include:

* Haulage Route 1: Travelling north from Precinct 3, along Oak Street, Park Street, Brunswick Road to CityLink.
* Haulage Route 2: Travelling south-west from the precinct, along Oak Street, Manningham Street, Church Street, and Flemington Road to CityLink.
* Haulage Route 3: Constructing the north-facing ramps connecting Precinct 3 directly with CityLink.
* Haulage Route 4: Construction of a new track through Royal Park and connecting to Brens Drive and Elliott Avenue.

The impacts on the local road network will be significant for the life of construction with more than 1,000 truck movements per day projected on some of the above haulage routes.

The Committee does not accept the evidence of Ms Nesbitt that the amended Performance Requirements C1 and T2 are adequate to offset social impacts of the Project, nor does it accept that these appropriately address social equity issues as they relate to the Flemington Housing Estate Residents. The Committee favours the competing evidence of Ms Rosen that residents in the Flemington Housing Estate have multiple and complex risk factors and vulnerability. She said that the Project’s proposed placement of the Part B viaduct adjacent to the Estate’s window sill and doorstep will have permanent impacts on the community including visual intrusion, noise and vibration, light spill, reduction in air quality, and visual severance. The Committee agrees with her evidence that permanent, cumulative negative direct impacts on these residents is a relevant consideration and that the increases in existing inequities in health and wellbeing include:

* Inability to open windows, insomnia, lack of access to sunlight;
* Stigma and reduction in pride in surroundings due to road, vandalism;
* Potential reduced engagement in physical activity; and
* Loss of confidence in process.

The key elements of the portal design that the Committee considers are flawed in relation to the impacts on dwellings and residential communities as the Reference Design is drafted, are the two main elevated structures identified as ‘*Footscray Rd to EWL (Stage One)*’ and ‘*EWL (Stage One) to Footscray Road*’ that head south. These two links are responsible for the demolition of the 55 dwellings on Manningham Street and the corresponding severance and disturbance to this Parkville West community (including houses and flats along Manningham Street, Lennon Street, Oak Street including the Elderly Chinese Home and newer houses within the former Commonwealth Games Village complex). Other than for the portion of the Project’s (Stage One) ramp to Footscray Road that deviates to provide a southerly ramp link to CityLink, this proposed overhead infrastructure heading south extends to the west of the current CityLink alignment. This has the potential to cause additional interface conflicts with substantial established residential communities including the Flemington Housing Estate at 120 and 126 Racecourse Road which comprise 920 apartments with approximately 3,500 residents, apartments on the east side of Mount Alexander Road and to the west of CityLink, and the Bent Street apartments and residential properties in Kensington.

All of these residential communities are identified as being outside the Proposed Project Boundary. While the CIS acknowledges that the new elevated structures would have permanent visual impacts on the area’s character and amenity, the Committee agrees with the many submissions that stated the impacts on these communities have been subject of cursory assessment and consideration. The Committee does not accept that the application of the UDF will have the capacity of “*mitigating these visual impacts*”. The Committee considers that the impacts need to be avoided through adoption of a different design outcome. In this regard, it accepts the evidence of both Mr Higgs and Mr O’Brien, the submissions by Ms Aly of the Flemington Neighbourhood Renewal Board, and Mr Peyton for Safety Net for Royal Park and the many other community groups and individuals that alternatives design could be undertaken that would reduce residential impacts. These should be further investigated and a solution found that does not impact on existing residential communities.

In relation to the residential impacts arising from the construction of the Ormond Road off -ramp, the Committee acknowledges submissions lodged by residents within suburbs such as Moonee Valley, Brunswick West, and Ascot Vale that they are concerned with likely increases in traffic, and corresponding negative impacts on residential amenity, arising from new traffic on the local network. In this regard, the Committee agrees with the evidence of Mr Henshall that a range of properties may be negatively impacted by additional noise and rat-running. However, the Committee agrees with the LMA and the majority of road design and modelling experts that appeared at the Hearing who found that the inclusion of the Ormond Road off ramp will add convenience for residents and possible businesses in the area. The merits or otherwise of the Ormond Road off ramp have been discussed already in some depth in Chapters 6.5 and 6.6. The Committee found that the ramp is justified from a traffic aspect, although the Reference Project should be modified to reduce impacts. Nothing in relation to the likely impacts on housing within this Precinct justifies altering this position.

On balance having considered the evidence and submissions before it, in response to the Committee’s Terms of Reference 7(b), the Committee considers that the impacts of the Project on housing within Precinct 3 have not been appropriately addressed. In this regard the Committee agrees with the submission of Ms Hicks*.*

While these communities are located outside the narrowly defined Proposed Project Boundary, it is the view of the Committee that these local communities will experience significant reduced amenity and adverse impacts, both during construction and ongoing operation of the southerly elevated road structures. The resultant negative impacts of these southerly links on the residential communities of Parkville West, Travancore South, Flemington Public Housing Estate and Kensington residents are of such a scale that in the view of the Committee, they should not form part of the approved Project and that further work needs to be done.

The Committee does not share the same level of concern regarding the two northerly links – identified as ‘*CityLink North Connection to EWL (Stage One)’*and ‘*EWL (Stage One) to City North Connection*’. Both of these northerly links do not require residential property acquisition and the Committee considers that flexibility exists within the Proposed Project Boundary to orientate these links to further reduce permanent impacts on Ross Straw Field.

#### Precinct 4: CityLink

The Committee has discussed the potential residential impacts on people living west of the CityLink alignment that may be impacted by the construction of the Ormond Road off ramp in its assessment of Precinct 3. In essence the Committee considers that the impacts on housing will not be significant, assuming the alignment stays within the Proposed Project Boundary.

#### Precinct 5: Port Connection

In addition to the 13 residential properties (and 12 commercial properties) that are earmarked for demolition in the Precinct in order to accommodate “*project structures and construction laydown/depot areas*”, the major immediate and enduring impacts on housing within Precinct 5 relate to the significant noise, visual intrusion, overshadowing, air quality, light spill and safety impacts that will result for existing residents in Kensington whose properties will abut the Part B viaduct connection to the Port. The most significant property impacts in this category are on the 53 apartment owners at 18 Bent Street.

In relation to these properties, the CIS states that the recently finished apartment complex at 18 Bent Street “*would not be acquired, but its close proximity to the project viaduct would result in adverse amenity impacts, particularly for those apartments facing the viaduct”.* Based on the submissions and evidence presented to it, and the lack of identification or any mention of the Bent Street apartments in the October 2013 background Land Use Planning Impact Technical Report, the Committee accepts submissions that the early planning of the alignment through Precinct 5 was undertaken in absence of awareness that the apartments existed. This is unfortunate as the impacts of the viaduct on the apartments will not only be significant, they are compounding and enduring. In reaching this finding the Committee accepts the adverse evidence of Mr Henshall and the many objecting submissions from community groups and individual submitters.

As noted in the evidence and submission summary, the proposed Part B alignment traverses through the Arden-Macaulay Structure Plan Area, an area acknowledged by the LMA being planned as “*a dense, mixed-use inner city suburb*”. The Committee accepts the evidence of Mr Henshall and the submissions of Mr Pitt over those advanced by the LMA in regard to the likely long terms impacts of the Part B viaduct on the planned residential and mixed use redevelopment ambitions for the Arden-Macaulay Structure Plan Area. Additionally, the impacts on the continued restoration of the Moonee Ponds Creek as reflected in the Incorporated Document that is IPO5 in the City of Melbourne Planning Scheme may be compromised. The Committee is concerned that the construction of the Arden Street Ramps may further compromise the existing and future mixed use residential amenity of the area.

### Findings

#### Precinct 1: Hoddle Street – (Eastern Portal)

In respect to the impacts on residential land use and dwellings within Precinct 1, the Committee finds that post construction, the in-tunnel roadway responds well to the CIS evaluation and performance requirement objectives which seek to minimise impacts on residential properties. However, the Committee does not consider the ancillary aspects of the Project within this Precinct, these being the Hoddle Street flyover and the temporary sidetrack, adequately address the objective of minimising residential impacts. The Committee finds that both these ancillary elements fail the CIS evaluation and performance objective for Land Use and Infrastructure as they pose unacceptable impacts on dwellings and residential amenity.

Based on the submissions and evidence presented during the Hearing, the Committee considers that alternative design options should be explored that would be more responsive to the Land Use objective. The Committee notes that any redesign of the road in this Precinct that achieves more of it being covered/in-tunnel, particularly by relocating the portal to the east of Hoddle Street, and adoption of construction techniques and scheduling to negate the need for a temporary road deviation or sidetrack, would represent significant improvements that would better achieve consistency with the CIS objective to minimise residential impacts. The Committee considers that Project Approval should be conditional on the ancillary project elements in Precinct 1 being re-designed.

Should these outcomes ultimately not be supported, and a flyover and sidetrack similar to those reflected by the Reference Project are determined to be acceptable design outcomes, the Committee recommends further property acquisitions should be offered to residential property owners that have an interface with these ancillary elements of the Project.

#### Precinct 2: Alexandra Parade (Tunnel)

In respect of Precinct 2, the Committee accepts that the impacts of the Project on dwellings within this Precinct have been minimised by the construction of the road alignment in-tunnel. Issues concerning urban design outcomes post construction, and ongoing vibration and regenerated noise issues are addressed elsewhere in this report.

#### Precinct 3: Royal Park

In respect to the impacts on residential land use and dwellings within Precinct 3, the Committee finds that the two main elevated structures identified as ‘*Footscray Rd to EWL (Stage One)*’ and ‘*EWL (Stage One) to Footscray Road*’ that head south are unresponsive to the CIS objective Land Use and Infrastructure objective of minimising impacts on dwellings. The Committee concludes that the impacts of these two elevated structures are unacceptable and that alternative options should be explored. The Committee recommends their exclusion from the Project.

Should this outcome ultimately not be supported, and elevated viaducts heading south similar to those reflected by the Reference Design are determined to be acceptable design outcomes in this Precinct, the Committee recommends further property acquisitions should be offered to property owners that have an interface with, or are significantly impacted by, with these ancillary elements of the Project. Equitable mitigation actions for Flemington Housing Estate residents should be identified and implemented in consultation with the Flemington Neighbourhood Renewal Board and the Department of Housing (eg, apply double glazing to easterly facing windows and installation of air-conditioners). Further recommendations regarding the Flemington Community Centre and Flemington Community Gardens are provided in Chapter 7.4 of this Report.

In relation to the housing impacts arising from the construction of the Ormond Road off ramp, the Committee considers that while that the off ramp will generate additional through traffic on the local road network, it does not consider that the impacts on housing and residential amenity will be such that warrant its removal from the project.

#### Precinct 4: CityLink

The Committee does not consider that the Project will pose unacceptable housing impacts within Precinct 4.

#### Precinct 5: Port Connection

In relation to the Committee’s Terms of Reference in respect of Public Hearing Matter 7(b), the Committee does not accept that the impacts on housing in Precinct 5 have been appropriately addressed, nor is it satisfied that the impacts on either existing or planned residential development in the Precinct been minimised. The Committee recommends that the Part B viaducts and ancillary off ramps should be excluded from this Stage of the Project.

If this outcome is ultimately not supported by Government, residents abutting the alignment within the Precinct, including apartment owners at 18 Bent Street should be afforded the opportunity to have their properties acquired.

## Impacts on Recreation Facilities and Open Space

### Introduction

The CIS identifies sporting and recreational facilities as community resources and has included them in its overarching assessment together with parks, schools and education institutions, health centres and hospitals, community centres, community gardens, museums, and libraries. It acknowledges that sporting and recreation facilities, as well as other community assets, can serve either a regional or local catchment, or in some cases a mixture of the two.

Table 8-1 within Chapter 8 of the CIS is titled ‘*Existing land uses within or adjacent to the Proposed Project Boundary*’, and contains the following description of ‘*Sport and Recreation*’ facilities:

A variety of sporting facilities and recreational opportunities are available within and adjacent to the project area, including parkland and walking and cycling trails. Sporting facilities are generally located towards the western end of the project area (precincts 2 and 3). These facilities provide a valued recreation resource to both the local and wider population.

Royal Park is a major recreational land use in its own right, comprising 170 hectares of open space, sporting facilities, walking paths and native gardens.

The significant Sport/Recreation assets or values identified in Table 8-1 include:

Royal Park, Ross Straw Field, Princes Park, Edinburgh Gardens, Fitzroy Pool, Debney’s Park, Merri Creek and Moonee Ponds Creek trails, State Netball and Hockey Centre, Royal Park Golf Course, North Melbourne Cricket Ground, Moonee Valley Racecourse, Travancore Park, Delhi Reserve, Holbrook Reserve, Ormond Park.

The ‘*Impact Assessment*’ documented at Chapter 8.2.1 of the CIS notes that during construction, temporary access will be required across a small section of Moonee Valley Racecourse and that temporary occupation of sections of parkland and open space will be required including “*sections of Travancore Park, Debney’s Park, Holbrook Reserve, Ormond Park and Moonee Ponds Creek Linear Reserve*”.

In relation to works at the Western Portal in Precinct 3, the assessment indicates that there will be significant temporary disturbance to the western end of Royal Park, resulting in “*areas of the park not being accessible for recreational use (including shared walking/bicycle paths) as well as acquisition of public land at Ross Straw Field and disruption to sporting clubs*”. Once construction is completed, the ongoing operational impacts identified include “*partial acquisition of a small strip of Debney’s Park and partial acquisition of small sections of Ormond Park, Holbrook Reserve and council-owned and Crown land south of Ormond Road”.*

The Committee’s assessment in relation to recreation facilities focuses on whether the impact of the Project on active playing fields and local parks “*has been appropriately addressed*” (Public Hearing Matter 7(b) – Committee’s Terms of Reference), and whether impacts on local parks and sporting facilities have been “*minimised*” (CIS Land Use Evaluation Objective and Performance Objective). This assessment considers construction impacts and permanent impacts and the adequacy of proposed measures to make good adverse impacts attributable to the Project.

Impacts on community facilities (including the Flemington Community Centre, and the Flemington and Essendon Community Gardens) are addressed in Chapter 7.4 and cultural heritage, visual, and passive open space impacts on Royal Park are addressed in Chapter 8 of this report.

### Key Issues

The assessment focuses on physical impacts as well as utilisation impacts for key local parks and active recreational facilities, and active and passive open space affected by the Project which include:

* Impacts on City of Melbourne facilities including playing fields in Ross Straw Field and Royal Park, as well as the Manningham Street Playground;
* Impacts on City of Moonee Valley facilities including the playing fields in Debney’s Park, Fenton Street Reserve (Essendon Hockey Fields), and Ormond Park as well as impacts on the local parks within the Moonee Ponds Creek Linear Park (Delhi Reserve, Travancore Park, Brisbane Reserve, and Fenton Reserve); and
* Impacts on Moreland City Council facilities including playing fields at Holbrook Reserve.

### Evidence and Submissions

#### Linking Melbourne Authority

The Social Impact evidence of Ms Nesbitt for the LMA (Document 96) is that she does not support submissions that concluded that the impacts of the Project on sportsgrounds, sporting activities, open space and community space/facilities in Royal Park will impact negatively on community health and wellbeing. Her reasoning was that:

* Community health and wellbeing is more reliant on Social Determinants of Health;
* The capacity of sportsgrounds can be increased which is more efficient and sustainable than additional land acquisition; and
* The $15 million package of works to increase playing field capacity at Royal Park will make good the negative impacts of the Project.

Ms Nesbitt recommended modifications to Performance Requirements and inclusion of new mitigation measures “*to ensure that the desired social outcomes for the project are delivered*”. Those that relate to active or passive open space include:

* Consultation with relevant sporting facilities, community facilities including the Flemington Community Centre and councils to explore potential relocation/design improvements of equal or improved access and quality. Where possible, relocation/redesign is to be undertaken prior to closure of the facility for public use;
* Relocate the Debney’s Park playgrounds to another site within Debney’s Park undertaken in consultation with the Office of Housing, City of Moonee Valley and Flemington estate residents; and
* Establish a Community Grant program to operate during the construction of the project to fund community support activities and small capital works targeting community, supporting and recreation facilities in the local region as defined in the Social Impact Assessment.

In relation to the LMA’s acceptance of the above measures, Ms Nesbitt noted that “*This modified mitigation measure is consistent with the LMA’s response to the Assessment Committee Request for Information Item No 81 which is supported”*. The Committee notes however that while the s57(4) response includes these actions, they specifically respond to the needs of the Flemington Housing Estate residents, as opposed to having Project wide application. Question 81 from the Committee was specific to identification of impacts and mitigation measures on residents of Debney’s Park. The lead sentence in the LMA’s s57(4) response where these additional performance measures are listed stated:

Potential mitigation measures that could be put in place to address social impacts on residents living within the Estate include … (Committee emphasis)

Accordingly, in relation to the proposed “*consultation with relevant sporting facilities”* the recommended additional measure, as noted in the s57(4) response, relates to the facilities at Debney’s Park fields, not throughout the entire project area.

In relation to the Community Grant measure, the LMA submitted in closing that “*it is not appropriate to include establishment of a community grant program in the PR’s as the administration of any such program would be the State and not the private contractor*”.

Having noted the above, the Committee highlights that the final version of the LMA’s Performance Requirements does include requirements to relocate both the Debney’s Park Playground and the Manningham Street Play Ground, (Refer Land Use and utility assets PR code LU4).

The LMA provided a supplementary response by Ms Nesbitt to other tendered social impact expert reports (Document 97). In this response Ms Nesbitt stated that addressing the future recreational needs of the City of Melbourne was outside the scope of the Project. She stated that the LMA and Council’s agreement to a $15m works program to upgrade existing playing fields in Royal Park is an appropriate response to accommodate existing users through increased field capacity. The statement noted that “*opportunities also exist through the community use of both private and school sportsgrounds to minimise land acquisition and provide a more sustainable approach to sports ground provision. This approach is consistent with sustainable leading practice used by land managers across Australia to address future recreational needs*”.

The LMA provided additional information during the Hearing relating to the reinstatement of sporting facilities affected by the Project (Document 203). It noted that the construction of the Project will impact directly on Royal Park (Manningham Parklands/Ross Straw Field, Old Hockey Fields south of the State Netball and Hockey Centre), and “*may have a much less invasive impact on facilities at Ormond Park and Holbrook Reserve*”. The document noted that reinstatement of facilities will be addressed through:

* Works being undertaken by the Cities of Melbourne, Hume and Moonee Valley in advance of East West Link works to accommodate displaced sporting clubs; and
* Works to be undertaken in the Cities of Melbourne, Moonee Valley and Moreland by the EWL project company as part of their reinstatement or Accommodation.

Stated ‘Initial works’ will total approximately $15m, and are made up as follows:

* City of Melbourne (CoM). A Memorandum of Understanding (MoU) between CoM and LMA was finalised in December 2013 regarding works to be undertaken in Royal Park and Princes Park. The agreed estimate for these works was $13.1m although a contingency of up to $lm has been provided. No drawdown of this contingency can be made without the prior agreement of the State and it may be that a scope modification would be employed first. At this stage, the CoM is about to award the first contract relating to works in Princes Park. The breakdown and estimate of costs associated with the CoM works is provided as Appendix D in the MoU.
* City of Hume. Agreement has been reached with the City of Hume on the construction of a new oval at Greenvale Reserve to accommodate the junior Greenvale Cricket teams that currently play at JJ Holland Park. This will allow Mercantile Cricket Club, which currently plays at Ross Straw Field, to play at JJ Holland pending a longer term relocation back to Royal Park. The agreement with Hume has been confirmed by way of an exchange of correspondence between LMA and Hume where an amount of $840,000 will be contributed to the oval costs.
* City of Moonee Valley. Sports and Recreation Victoria (SRV) has negotiated with Moonee Valley the temporary relocation of Melbourne University Baseball Club, that currently uses Ross Straw Field, to the Moonee Valley facility at Boeing Reserve Strathmore. SRV has confirmed a payment of $250,000 (plus an additional annual operating fee) and this will be transferred via an existing agreement between SRV and Moonee Valley. This arrangement is in lieu of the temporary relocation to the baseball facility at Altona and is the preferred outcome by the affected parties.

In addition, discussions have been held at officer level with Moonee Valley about possible effects on Ormond Park during the EWL construction period. Whilst there is no impact on the playing surfaces, there may be a requirement for co-ordination of access to the pavilion for a short period during construction. It is also likely that there would be some permanent loss of existing car parking east of the soccer pitch. The EWL contractor will need to work with Moonee Valley to mitigate any such impacts.

In addition to the above works, the LMA advised that it “*has sought from the bidding parties by way of a Pre-Agreed Modification, pricing for the construction of sporting fields as part of the reinstatement of areas disturbed at the Old Hockey Fields*.” These works (within Royal Park to the South of the State Hockey Centre) are to provide:

* Two purpose build and designed baseball diamonds;
* Two full sized soccer pitches;
* Two synthetic cricket wickets;
* Three half sized soccer/touch fields; and
* Together with appropriate irrigation, lighting and change rooms.

These additional works (Appendix 3 of the MoU) would not occur until after the Project construction works in this area has been completed. The LMA advised that they are part of the arrangements to achieve the permanent relocation of sporting clubs displaced by the Project.

Appendix B of the MoU titled Land, shows the location of the proposed works which extend to the south and west of the State Hockey and Netball Centre, and to the south of Urban Camp. In addition to the marked sports fields, the plan indicates seven light towers, and a pavilion. The construction of the sports fields and accompanying works will require vegetation clearance. Mr Morris confirmed on behalf of the LMA that the works listed in Appendix C of the MoU (Document 204) are to be funded separately and in addition to the $15m reinstatement works.

The closing submission for the LMA discussed and challenged the evidence and submissions presented by the City of Melbourne, sporting groups and individual submitters in respect to impacts of the City’s active playing fields and local parks. These matters are addressed by the Committee later in this chapter.

#### Impacts on City of Melbourne Facilities

The presentation slides of Mr Porteous for the City of Melbourne (Document 127) noted that the City has a number of adopted strategies and Master Plans for its active and passive open spaces. He submitted that based on anticipated population growth projections, and projections of sport participation rates at 2031, the City will require an additional 10 AFL grounds, 12 Cricket grounds, and 12 Soccer fields. Mr Porteous advised that Ross Straw Field is currently utilised formally by nine clubs including baseball, cricket, soccer and touch. The old grass hockey field/lawn is utilised by seven clubs including soccer, touch and AFL. He advised that the MoU will “*effectively accelerate development of Council approved Park Master Plans for facilities within Royal Park and at Princes Park*. On top of this contribution, he noted that the Old Grass Hockey fields will be upgraded post construction with an extensive range of facilities at the cost of the project contractor. Mr Porteous acknowledged that these initiatives will address medium term capacity issues. In relation to negative impacts of the Project, Mr Porteous advised that the loss of Ross Straw Field “*reduces the long term opportunity to build capacity which was the Master Plans original intent*”.

The presentation slides of Associate Professor Townsend for the City of Melbourne (Document 120) noted the recreational value of parks, and highlighted their importance in child development, in alleviating stress, and preventing obesity, diabetes, and cardio-vascular disease. She concluded that the loss of Manningham Street Reserve Playground, and reduction in active sports field areas will have detrimental impacts on direct neighbouring populations as well as broader metropolitan wide impacts during both construction and operation.

Mr Pitt submitted that the $15m worth of open space enhancement works specified in the MoU and the works to be provided by the contractor, do not detract from Melbourne City Council’s primary position that the construction and operational impacts of the Project are unacceptable on Royal Park and Ross Straw Field, and should be avoided.

#### Impacts on City of Moonee Valley Facilities

Ms Rosen’s Social Impact presentation slides (Document 190) noted that the Debney’s Park Precinct (including the $2.6m Debney’s Park Playground and the Sports Oval) will suffer severance, displacement, visual intrusion, air pollution, groundwater pollution, compromised real and perceived safety, overshadowing, loss of vegetation, and storage of construction materials. She concluded that these direct, cumulative permanent and temporary social impacts compromise health and safety in a number of ways, are unacceptable and not adequately addressed.

In relation the Moonee Ponds Creek Linear Park, (Delhi Reserve, Travancore Park, Brisbane Reserve, and Fenton Reserve), Ms Rosen’s evidence was that it will variously suffer physical and visual severance, noise, visual intrusion, air pollution, groundwater pollution, compromised real and perceived safety, overshadowing, loss of vegetation, and property acquisition. Ms Rosen highlighted that direct, cumulative permanent and temporary social impacts compromise health and safety by:

* Detracting from both the quality and quantity of public open space, affecting capacity to provide opportunities for engagement in social and physical activities; and
* Reducing capacity to function as an integrated regional open space resource.

In relation to the Moonee Valley Sports Club and the Essendon Hockey Club, Ms Rosen highlighted that the facilities will suffer severance, displacement, visual severance, visual intrusion, light spill, noise, air pollution, groundwater pollution, compromised real and perceived safety, overshadowing, loss of vegetation, property acquisition and property damage. These impacts concerned her as she considered they will result in:

* Increasing pressure on existing space;
* Detracting from both the quality and quantity of public open space, affecting capacity to provide opportunities for engagement in social and physical activities and operate sustainably (financially and environmentally); and
* Reducing capacity to function as an integrated regional open space resource.

In relation to likely impacts on sport and recreation areas within Moonee Valley, Mr Henshall (Document 152) concluded:

* Areas likely to be impacted: Ormond Park, Debney’s Park, Debney’s Park Community Centre, Debney’s Park Playground, Delhi Reserve, Travancore Park, Moonee Valley Racecourse, Essendon Community Garden, Essendon Hockey Centre;
* Recognised in CIS as "significant assets or values", but they lose access to land and facilities during construction, and may have no or limited access post-construction;
* Impacts: noise and air pollution, visual intrusion, land loss, access loss. Direct financial costs in some cases;
* 'Knock-on' effect with loss of access to playing fields/facilities at Royal Park. Places pressure on other inner/near city playing areas and facilities;
* Moonee Ponds Creek Trail- potential disruption will need to be addressed by LMA; and
* These impacts not adequately recognised in CIS. Evidently a need for more consultation, based on my review of submissions.

The submission of Ms Hicks (Document 194) was particularly scathing in relation to the CIS and its consideration of land use and infrastructure impacts. She stated:

It was agreed at the social conclave that a list of community facilities be drawn up. This is an excellent starting point but that this starting point is agreed at this stage of the process is indicative of the insubstantial level of analysis that has been undertaken to date.

The submission noted that unlike the City of Melbourne, Moonee Valley has no MoU with the LMA and further, unlike the “*two other Councils*”, which Ms Hicks understood to be Darebin and Moreland, Moonee Valley has not received $1.9m in compensation payments.

As a result of the lack of a MoU, Ms Hicks advanced through the Hearing that new performance measures and or conditions are required to achieve the mitigation measures necessary to make good the impacts on open space and sporting clubs as a result of the Project (as proposed by Appendix A of Council’s original written Submission, 712). Ms Hicks was particularly critical that the LMA had not progressed discussions with Moonee Valley in order to resolve its concerns via a MoU. Ms Hicks submitted:

Where significant impacts are not avoided and cannot be mitigated by application of the UDF/UDP, other methods to address impacts must be found. As for City of Melbourne so also for Moonee Valley, replacing areas of land lost to open space or significantly compromised will be hard to replace.

The suggestions Council makes at Appendix A are some ways to “manage” the impact. The necessary connection with the project is made out in the table Design Interventions for Moonee Ponds Creek Budget and Justification and Moonee Valley response to LMA’s response in its material of 11 February.

Much of the response calls for a consideration at the detailed design stage but this provides no certainty to Moonee Valley and robs it of the chance to secure an appropriate package of mitigation for its residents and visitors.

Ms Hicks reiterated in closing that Moonee Valley City Council was not in such a fortunate position as the City of Melbourne, *“It is inequitable to treat different Council’s differently. Council is happy to sit down with the LMA and work though issues, costs. The offer has been made previously and remains open*”.

A detailed list of design interventions noted in the extract above, those sought by Moonee Valley for Moonee Ponds Creek are listed in Document 172. These include Evans Street Access Path, Evans-Hope Pedestrian Bridge, Bent Street Reserve, Wilson Street Underpass, Moonee Valley Racecourse, Dean Street Underpass, Ormond Road, Travancore Park, Mount Alexander Road Underpass, Mount Alexander Road and Flemington Street Bridge.

Ms Hicks noted that other than the Evans Street Access Path, all of the items listed will be impacted if the Reference Project is realised. With respect to the Evans Street Access Path, Ms Hicks acknowledged that the works would represent a good offset, and should be considered, even though access could be provided further north.

With regard to the Flemington Street Bridge, Ms Hicks tendered a “*conceptual view*” (Document 195) which her Council sought to ensure that its realisation is not compromised by the Project. It was submitted that the plan provides for highly important/significant pedestrian and bike links to the Debney’s Park Playground, as well as links to various bike trails leading north, south and east and west.

In addition to the above design interventions, Document 172 contains a table of the “*Open Space Master Plan Requirements”* that Moonee Valley City Council sought to have advanced via the LMA to ameliorate impacts of the Project on Moonee Valley’s open space network. It specified that Master Plans need to be implemented and delivered though consultation and agreement with the community and Moonee Valley for the following:

* Debney’s Park Playground Master Plan;
* Travancore Park Design;
* Ormond Park Master Plan; and
* Moonee Ponds Creek.

During Ms Hicks closing submission, she expressed disappointment that the LMA had resisted accepting but few of the suggested remedial actions. In support of this view, Ms Hicks submitted a consolidated table of all requested changes and Council’s response to the LMA’s response.

The closing submission for the LMA noted the evidence and submissions presented by the City of Moonee Valley in respect to impacts of the Project on public open space. These matters are addressed by the Committee later in this chapter.

#### Impacts on Moreland City Council Facilities

Mr Griffiths for Moreland City Council submitted that the loss of the 2.88 ha of Holbrook Reserve jeopardises Council’s ability to provide adequate recreational opportunities in a location convenient to a growing population. Removal of the Ormond Road off ramp from the Project is requested, with such an outcome enabling critical elements of Holbrook Reserve to be preserved.

#### Representative Community and Resident Submissions

Many sporting clubs and associations as well as many individual submissions stated that they oppose the Project due the impacts on local parks and sporting fields as well as on their organisations, participants and spectators. The Committee highlights that 1,077 submission numbers are listed in the attachment to Ms Nesbitt’s evidence statement as raising the following issue:

Loss of and impact on existing and proposed open space, sporting and community facilities (other than Royal Park) is unacceptable and will impact on community health and wellbeing.

A representative sample of submissions that canvas issues identified is provided below.

The Mercantile Cricket Association which heavily utilises Ross Straw Field noted their strong opposition to the Project (Submission 73). The presentation by Mr Alec Kahn to the Hearing (Document 294) noted that short and long term options contained in the MoU between the LMA and City of Melbourne is a “*beggar-thy-neighbour*” approach where the impacts of the Project are resolved for one group, but then shifted to others. Examples cited include the upgrades to Flemington Road, Holland Park and Poplar ovals, which he said will negatively impact access currently enjoyed by various groups including W. Leadbeaters, YPPC Juniors, Flemington Colts and Royal Park Reds. The Association was critical of the lack of understanding regarding access requirements and timing, citing examples where proposed solutions are ill conceived, late and unworkable. The submission concluded that if the Project was to proceed, the Association requested:

* That the Association is able to maintain access to Ross Straw Field until its new home at Flemington Road is ready for use;
* The Project supply two extra fields by October 2016 to redeem the 5-7 year loss of access to the Old Grass Hockey Fields and permanent loss of Ross Straw Field No. 3 Oval; and
* The Project build two new fields on the City of Melbourne ‘mound’ proposal.

The Brunswick Zebra’s Football (Soccer) Club (Submission 1291 and Document 307) and the Essendon Royals Soccer Club (Submission 430 and Document 308) addressed the Committee. Both reiterated their opposition to the Project due to the impacts on Ryder, Ransford and Macalister grounds in Royal Park, on Holbrook Reserve in Brunswick and Ormond Park. The presentations on behalf of both clubs demonstrated significant potential impacts. The *Zebras* sought modification to the Performance Requirements which would specify actions to relocate the Club from Holbrook Reserve, including compensation to be used to upgrade the pavilion at Balfe Park, Brunswick and the installation of a synthetic pitch. The clubs considered further assessment should be completed to determine options to purchase properties that could be incorporated into an expanded Royal Park. The *Royals* submitted further assessments should be undertaken, with involvement from Council and the Club, and suitable relocation options are identified and realised if the Project proceeds.

Moonee Valley Sporting Club Inc (Submission 572), an umbrella body for the organised sporting and recreation users of Ormond Park submitted that a raft of issues facing the users of the park have not been addressed in the CIS. The Club expressed concern that the CIS stated that temporary occupation of sections of parkland will be required for construction. Permanent impacts include loss of land, loss of parking and water storage. Detail is lacking regarding the ability to use the Park during construction for cricket and football, the extent of impacts on the Park’s redevelopment plans, loss of income from gate takings due to loss of home games, and reinstatement of suitable access arrangements and parking.

Mr Rick Boykett presented on behalf of the Melbourne University Rugby Union Football Club (Submission 561 and Document 316). The Club is a founding member of Royal Park Sport, the umbrella group representing active recreation users of Royal Park and Princes Park. They are concerned about the impact of the Project on the loss of access to suitable competition-grade fields, change rooms and social facilities. Meaningful compensation was sought to offset loss of income. Mr Boykett asked that Royal Park Sport be included on any steering group established to liaise with the LMA and the contractor. Re-establishment works were also specified.

The Royal Park Sport submission (1079) and presentation (Document 315), also by Mr Boykett outlined the cascading impacts for over 20 clubs from the loss of sports fields during construction if implementation is not handled carefully. Forward planning and action in advance of construction was sought. Securing water supply from the tanks under Ross Straw Field was considered critical as was effective communication with all clubs and user groups.

The presentation by Mr Smith (Document 325) for the Kororoit Institute (Submission 313) stated that the impact on sporting grounds and user groups will be significant and the ‘knock on’ effects on some user groups (eg Royal Park Reds) is “*offensive*”.

The submissions by Mr Pederson on behalf of the University of Melbourne Baseball Club Inc (Document 319), Mr Sinclair on behalf of the Youlden Parkville Cricket Club (Submission 54 and Document 351) and the submission by Mr Zika on behalf of the Royal Park Reds (Document 354) all raised significant logistical and scheduling issues as well as concerns regarding the impacts on their members and financial viability.

Mr Lester (Submission 321 and Document 121) expressed concern regarding the significant short and long term impacts the Project will have on recreational areas, particularly adjacent to the Moonee Ponds Creek.

### Discussion

#### Impacts within the City of Melbourne

With regard to the impact of the Project on sporting facilities within the City of Melbourne, the closing submission of the LMA contained significant commentary on the evidence led by the City of Melbourne in relation to the loss of sporting fields within Ross Straw Field. Mr Morris submitted that while the LMA acknowledges that demand for sporting facilities will increase in the City as a result of population growth over time, it does not accept Mr Porteous’ projections that the City will require an additional 10 AFL grounds, 12 Cricket grounds, and 12 Soccer fields by 2031. The LMA does not accept these projections for a number of reasons, including that they were based on provision rates in green-field growth areas and that they fail to appropriately acknowledge presence of facilities on the fringe, but outside of the City of Melbourne. The Committee accepts LMA’s position on this and acknowledges the concession made by Mr Porteous under cross examination that upgrading of grass ovals to synthetic surfaces (as proposed for Crawford Oval and the Old Grass Hockey Fields with funding arising from the MoU between Council and the LMA) will increase capacity of those fields that are upgraded.

The Committee further accepts LMA’s submission that a net increase in capacity of the City of Melbourne sporting fields will result as a consequence of the Project due to works funded by the MoU (even taking into account the loss of two fields at Ross Straw Field). In noting this, the Committee accepts the City of Melbourne’s submission that the works will occur at some time, however, the Committee considers that MoU’s contribution of $14.1m from the State Government (via the LMA) and the significant package of contractor works on the Old Grass Hockey Fields have made possible the realisation of the additional facilities at this time. As acknowledged by Mr Porteous, “*no funds had been allocated by the Council to undertake these works*”. It agrees with Mr Morris that:

There is accordingly no basis upon which the Committee could conclude that, but for the Project, these works be undertaken in either the short or medium term.

An additional positive consequence of the MoU works was highlighted by Mr Morris, that being that the funds that would have been allocated by Council to undertake the $14.1m upgrade of facilities which are now being provided by the State can be now reallocated to other projects. The Committee accepts this as a logical argument, and on face value, represents a relevant and positive outcome of the Project, albeit at a loss of parkland that would have otherwise remained.

In relation to the sum of works proposed contained in the MoU Mr Morris concluded:

The Committee should conclude that the impacts of the Project on active recreation within the City of Melbourne will at the very least be wholly offset. Indeed, it is apparent that the works contemplated under the MoU will in fact significantly improve the provision of sporting facilities within the municipality.

The Committee accepts this submission. Having noted this, the Committee acknowledges that the loss of the playing fields at Ross Straw field will reduce the net long term capacity within the City and represents an undesirable outcome. The Committee prefers this outcome to be avoided.

In respect of submissions from sporting clubs, players and associations within the City that are concerned about impacts on scheduling and flow on impacts for other groups, users and spectators as a result of the loss of Ross Straw Field ovals and construction issues, the Committee considers that these issues are critically important for the LMA and the City of Melbourne to understand and militate. The Committee notes the MoU contains, at Appendix A, Part 2, an “*Indicative Strategy*” to address the relocation of sporting users of Royal Park. It is somewhat understandable, but unfortunate, that due to the timing of the commercial negotiations between the LMA and City that this information was not contained in CIS. Had the indicative strategy been in the public arena, some or many concerns expressed by user groups may have been allayed. The Committee notes that the majority of submitters to the hearing were unaware of the MoU, let alone the detail of proposed remedial works.

Of particular interest to the Committee was the list of obligations for the City of Melbourne that are specified in Section 5 of the MoU, which stated the obligations in relation to the Relocation Works as follows:

* to develop a construction program for each affected sporting facility to ensure that all required land is delivered on time;
* to provide, generally consistent with the Indicative Relocation Strategy included as Appendix A Part 2, on-going advice and to manage all existing sporting clubs (and sporting club members) about arrangements for, and timing of, the utilisation of alternative sporting facilities; and
* to manage and maintain interaction with all other relevant stakeholders regarding the CoM Relocation Works.

The City of Melbourne has agreed to the above and accordingly has accepted responsibility for ensuring an effective relocation and management strategy is developed and implemented.

The Committee acknowledges that the LMA have agreed to relocate the Manningham Street playground within walking distance for local residents at the start of the Project, in consultation with City of Melbourne.

#### Impacts within the City of Moonee Valley

As described in the overview of evidence and submissions, Ms Hicks led extensive evidence on the likely impacts of the Project on the Flemington Housing Estate generally, as well as on the corresponding sports fields and playground at Debney’s Park and on other active and passive open spaces within the municipality. (Note: Impacts on the Flemington Community Centre and Community Garden are addressed and discussed in Chapter 7.4 of this report.)

The Committee accepts the evidence and submissions made, which were consistent in their conclusion that the Project poses an unacceptable impact on the Debney’s Park Playground. The Social Impact evidence of Ms Nesbitt for the LMA conceded that the playground’s relocation is warranted. The Committee agrees that this should occur, and acknowledges the LMA’s Final Version of Performance Requirements which specifies this outcome (Refer LU4):

Relocate the Debney’s Park playground in accordance with a master plan developed in consultation with relevant stakeholders, prior to the commencement of major construction works in the area. The relocated playground is to be of the same or higher standard as the existing playground and relevant stakeholders include the Office of Housing, City of Moonee Valley and Flemington Neighbourhood Renewal Board or other representative of the estate tenants.

While accepting the Performance Requirement that agrees to the relocation of the playground, and the requirement that it be in accordance with a master plan prepared in consultation with stakeholders, both the City of Moonee Valley and the Flemington Neighbourhood Renewal Board consider that the LMA’s commitment to be shy of what is required. Both consider that the master plan should respond to and make good the relocation of the existing tennis courts, the retention of the Debney’s Park Oval as a viable venue for football, soccer and cricket, as well identify the best location for the relocation of the Flemington Community Centre and Community Garden. These concepts and others are reflected in the Draft “*Flemington and Travencore Opportunities Map*” (Document 517) and “*Revisioning Flemington and Travencore – Post East West Link”* plans tendered by Ms Hicks in closing.

The LMA in closing reiterated it does not accept the evidence of Ms Rosen in relation to the impacts of the Project on other facilities in the Estate, however:

That said, it recognises that the master planning process should properly take into account the impact of the Project and the relocation of the playground on other key facilities within the Estate, including the community centre.

The LMA closing submission gave the following commitment:

… whilst it is not yet possible to identify the specific impacts of the Project on the municipality’s linear open space network, the LMA will engage in ongoing consultation with the City of Moonee Valley to ensure that any impacts from the Project on these assets are properly identified in advance, and that appropriate mitigation measures are developed and implemented as part of (or in conjunction with) the Project.

Based on the evidence and submissions before it, the Committee does not accept that the above undertakings by the LMA adequately address the magnitude of impact on Moonee Valley’s active recreation infrastructure and local park network. In reaching this position, the Committee supports the submissions advanced by Ms Hicks that new performance measures, an/or conditions are required to achieve the mitigation measures necessary to make good the impacts on open space and sporting clubs as a result of the Project. The Committee accepts that the submissions and evidence put by the City of Moonee Valley has demonstrated that there are tangible and clear links that tie the need for the advancement of “*Open Space Master Plans*” and “*Design Interventions for Moonee Ponds Creek*”, as specified in Document 172, to the EWL Project alignment.

On the last day of the Hearing, Ms Hicks submitted a 32 page table (Document 515) that contains the City of Moonee Valley’s response to the LMA’s response to the Council’s proposed open space design interventions and mitigation requirements. It is comprehensive and consistent with the submissions and evidence led by Council. The contents of the table clearly highlight that the LMA remains reluctant to respond to the identified remediation measures sought by Moonee Valley. The Committee considers the majority of proposed interventions are worthy of implementation and are justified.

The Committee considers that the most effective means to ensure that the scope of works are adequately addressed, without cost to Council or other affected stakeholders, is for the LMA and Moonee Valley to negotiate an agreed Memorandum of Understanding similar to that struck between the LMA and the City of Melbourne. The Committee considers that the requirement for a MoU should become a Condition of Approval using Document 515 as the basis of a scope of works. Changes to Performance Requirements are also supported.

#### Impacts on Moreland City Council Facilities

Neither the opening nor closing submission on behalf of the LMA specifically addressed the impacts of the Project on Holbrook Reserve. As discussed in Chapter 6.6, the Committee has determined that the Ormond Road off ramp serves an important traffic role. The Committee is concerned to ensure that any impact on Holbrook Reserve is offset and made good by the LMA/contractor. The Committee notes that Items 7 – 15 of the suite of Performance Requirements recommended by Moreland City Council in Section H of its closing submission (Document 520), specify desired outcomes and measures required to ensure the function of the Reserve is maintained.

### Findings

With respect to whether the impact of the Project on active playing fields and local parks “*has been appropriately addressed*”, and whether impacts on local parks and sporting facilities have been “*minimised*”, the Committee finds that the CIS, and the LMA’s response, has been inconsistent along the Project alignment. The Committee considers that the LMA has adopted an inconsistent approach in dealing with the various Councils’ concerns.

Within the City of Melbourne, on balance, the Committee finds that the proposed mitigation measures provided for by the MoU between the LMA and the City of Melbourne will effectively produce a net increase in facilities available to the City’s residents. There will be impacts (some of which are significant) in the short and medium term, for the duration of construction that will need to be managed. The key long term undesirable impact associated with the project within the City of Melbourne relates to the loss of the active playing fields within Ross Straw Field. An alternative design outcome that could facilitate restoration of some or the entire Field for active sport would be a significant social and recreational benefit. It is important to note that in reaching this finding, this specific assessment has not had regard to whether the agreed scope of additional recreation works within Royal Park that are subject of the MoU between the Council and the LMA are consistent with the Master Plan for Royal Park.

Within both the City of Moonee Valley and Moreland City Council however, the Committee does not accept that the Project has adequately assessed or minimised the impacts on sporting fields and the local open space network. That is not to say that an acceptable outcome within Moonee Ponds and Moreland cannot be achieved in respect of making good the impacts of the Project on their recreational assets.

The Committee considers a range of remediation works within the City of Moonee Valley are required for the Project to be acceptable in relation to its impacts on open space in the municipality. The Committee has determined that there is sound justification for a range of works to be funded by the LMA/the contractor to make good an extensive range of impacts on Council’s active sports ovals to ensure that they remain fit-for-purpose. The Committee accepts the submission of Ms Hicks that the drafting of an MoU similar to that entered into with the City of Melbourne would be the most transparent and effective means of addressing outstanding matters. The Committee recommends accordingly. The scope of works should be generally consistent with Council’s proposed intervention measures contained in Document 515.

In respect of Holbrook Reserve, the Committee considers that the retention of the Reserve’s capacity as an active playing venue supporting a range of competition sports should not be compromised by the Project. In the view of the Committee, safe road and pedestrian access, and car parking proximate to the club rooms must be maintained. The Committee does not share the view of the Moreland City Council that such access has to be “*from City of Moreland*”. The design constraints may be such that this outcome is not feasible. The Committee considers that retaining the function and capacity of the ground is more important than mandating that the existing access route under CityLink be maintained. An alternative and better option may be providing new access arrangements via a bridge over Moonee Ponds Creek. The Committee has recommended Performance Requirements in Appendix E to reflect this finding.

On a final note, the Committee reiterates that it supports the revised position of the LMA to commit to the relocation of both the Debney’s Park and the Manningham Street playgrounds.

## Impact on Community Facilities

### Introduction

The CIS identifies community resources as including parks, sporting and recreational facilities, schools and education institutions, health centres and hospitals, community centres, community gardens, museums, and libraries. It acknowledges that community resources can serve either a regional or local catchment, or in some cases a mixture of the two.

The ‘*Social Impact Assessment*’ included as ‘*Technical Appendix P’* to the CIS includes Appendix D which lists a range of community resources and attractors on a Precinct basis. While a number of submitters considered the list to be somewhat narrow in scope, on the whole, submitters were generally satisfied that community facilities utilised by the community had been reasonably identified. Each Precinct is analysed in the SIA and includes a *community resources and attractors* table.

The Committee’s assessment focuses on whether the impact of the Project on community facilities “*has been appropriately addressed*” (Public Hearing Matter 7(b) – Committee’s Terms of Reference), and whether impacts have been “*minimised*” (CIS Land Use Evaluation Objective and Performance Objective).

### Key Issues

Noting that the previous section of this report dealt with matters concerning local parks, and active sporting and recreational facilities (and Chapter 8 includes assessment of impacts on open space and Royal Park), the key issues in relation to impact on Community Facilities included in this assessment are:

* Impacts on the Flemington Community Centre;
* Impacts on the Flemington Community Garden; and
* Impacts on Essendon Community Garden.

### Evidence and Submissions

#### Flemington Community Centre

The expert witness conclave agreed statement for Social Impact (Document 7) stated that all witnesses agreed that:

Maintaining the operation of the Flemington Community Centre, both during construction and operation, is very important to addressing social equity for the project.

The Statement addressed the issue of “*Social equity for Flemington Housing Estate residents*”. Agreement was not reached between the experts on the adequacy of LMA’s proposed late additional inclusion of mitigation measures relating to the Flemington Community Centre, relocation of the Debney’s Park Playground, establishment of a community grants program and specific identification of the Office of Housing and Flemington Housing Estate residents in the community and business involvement plan. Ms Nesbitt considered them to be “*reasonable to address social equity issues of Flemington Housing Estate residents*”.

Others considered that they “*have the potential to address social equity issues related to the SIA*”, this being contingent on the principle that no costs are incurred to Council and that the community and business involvement plan is approved by those particularly impacted (or their advocates).

Ms Rosen noted in her presentation slides (Document 190) that the Flemington Community Centre will suffer noise, visual intrusion, air pollution, displacement, compromised real and perceived safety, overshadowing, and light spill. The direct, cumulative permanent and temporary social impacts which compromise health and safety of concern to Ms Rosen in the context of the Flemington Community Centre included:

* Potentially reducing capacity to secure continuity in delivery of services which leads to disengagement in activities that foster and enhance health and wellbeing and support material conditions.

The submission of Ms Hicks highlighted that the social capital and community value of the Flemington Community Centre facility and its contribution to wellbeing and health is recognized in the SIA. Ms Hicks reiterated that it is a key multi-purpose facility with a significant informal role and noted that Ms Nesbitt acknowledged that “*any disruption interrupts the engagement of vulnerable members of the community*”. Further Ms Hicks stated:

Many at the Flemington Public Housing regard it as a “second home”.

Ms Nesbitt’s analysis of its place in the community consisted of a desk top assessment and one unsuccessful visit – she did not attempt to revisit when she attended once and it was closed. She was not given and did not seek overshadowing diagrams. She relied on information from LMA re noise and dust impacts on the Flemington Community Centre.

It has a range of recreational, social and learning programs, health and training facilities. 76,000 access the centre each year.

But here, all that is proposed is that the community will be told how the project is going. It will be for LMA and the State architect that will make the call on whether or not the UDF has been addressed. There is no indication that the community will have any role.

Mitigation measures – she accepted all but relocation of FCC as PRs but fairly acknowledged that additional performance requirements might be added to ensure that negative social impacts are addressed.

Public information session was enough for her but she accepts it would be done without any analysis of impacts arising from Ormond Road off ramps. This has not been done and will not be done.

Ms Rosen’s evidence ought be preferred. She has conducted a detailed analysis of the benefits and the disbenefits of the proposal, using up to date methodologies and data.

As previously discussed in Chapter 7.2, the submission by the Flemington Neighbourhood Renewal Board (Submission 399 and Document 309) highlighted that noise and air quality impacts will be unacceptable for residents as well as impacts on the Debney’s Park Playground, Community Centre and Community Gardens. Ms Aly submitted that “*a full master plan be prepared and implemented for the housing estate and Debney’s Park combined, including the relocation of the playgrounds away from the construction zone and building of a new Community Centre somewhere near the estate, such being fully functional before road works commence*”.

Many individual submissions from residents both within and outside the Estate highlighted the significance of the Community Centre as well as commenting on a raft of concerns regarding the LMA proposed retention of it in its current location, both during construction and operation of the Project.

#### Flemington Community Gardens

Ms Rosen noted in her presentation slides (Document 190) that the Flemington Community Gardens will suffer visual severance, visual intrusion, air pollution, groundwater pollution, overshadowing, noise, and property acquisition. The direct, cumulative permanent and temporary social impacts which compromise health and safety of concern to Ms Rosen in the context of the Flemington Community Gardens included:

* Reducing capacity to address food insecurity due to potential impact on quality of produce; and
* Reducing amenity and potential social and physical benefits derived from engaging in activities associated with community gardens.

The presentation by Mr Gourlay of “*Cultivating Community*” (Submission 339 and Document 434) explained the history of the Flemington Community Garden and the various important roles it has in the Community. The submission expressed concern that the construction of the viaduct would mean the community garden would need to be closed for a number of years during construction, and potentially permanently. This outcome would have significant impact on the 124 families that are members of the community garden (all of whom are residents of the Estate). The submission advocated for consideration of other alternatives for the construction of the road to avoid the need for the garden to close or relocate.

#### Essendon Community Garden

The Essendon Community Garden (Submission 516) expressed serious concerns about the impact of the Project due to the proposed siting and construction of the Ormond Road off ramp. Mr Mortimer on behalf of the Group submitted that the major threats of the Project included shadow and sun block-out, access to the gardens and parking during construction and ongoing, land acquisition impacts, possible psychological effects and future consultation. Section E of the submission addressed possible mitigation actions, and stated:

The ECG Management Committee is obviously motivated to maintain the garden's viability and to continue to provide a vital community amenity with its limited resources. To this end ECG has developed possible solutions that would return the value of the loss of the 0.010 hectares and the shadow/sun warmth loss.

These solutions are:

* Move and reinstate the pavilion its barbeque and seating area into the 'shadow zone';
* Move and reinstate the storage shed and garage into the 'shadow zone' to provide secure storage of gardening tools, implements, plant and equipment and pavilion furniture; and
* Move and reinstate the two 5,000 litre tanks into the 'shadow zone' as collectors of water from the pavilion and the storage shed.

The moving and reinstatement of the rainwater storage tanks would require that they be refilled as well as providing the ability to allow plot holders to use the water in a sustainable manner and reduce dependency on town water for plant moisture.

A sustainable approach would be to provide a number of smaller tanks along the Northern fence of the ECG and through a solar panel array on the pavilion provide electricity for a flow pump to pump from the large storage tanks up to the smaller fence line tanks allowing plot holders to gravity water their plots. The excess electricity generated through the solar panel array would then be sold into the grid.

The area where the pavilion, tanks and storage shed were located would then be formed into typical garden plots of the existing average size, staging this so that the plot holders who will lose their plots because of shadow and warmth loss will not be disadvantaged unduly.

### Discussion

#### Flemington Community Centre and Flemington Community Garden

Section 16.6 of the CIS states:

Activities at Flemington Community Centre in Debney’s Park would be disrupted during construction. The centre, which includes a children’s play area and a garden, may need to relocate temporarily, but full operations could be resumed post-construction. Linking Melbourne Authority would work closely with Moonee Valley Council and centre users to minimise any impacts.

In response to the submissions and evidence, the LMA revised its view and in its closing submission stated:

The LMA recognises that the Project is likely to impact upon these community facilities (with reference to “the Debney’s Park Estate and the community facilities situated in, or in close proximity to, the Estate”) and is prepared to commit to a master planning process in consultation with the Council to ensure that the playground is rebuilt to the same or higher standard prior to the commencement of major construction in the area.

This commitment however did not extend to the relocation of the Community Centre nor the Community Garden. LMA’s closing submission stated in this regard:

The LMA does not accept Ms Rosen’s evidence that the community centre could not continue to operate from its current building on the basis that the “environment” within which it is situated “will be changed significantly” by the Project. That said, it recognises that the master planning process should properly take into account the impact of the Project and the relocation of the playground on other key facilities within the Estate, including the community centre.

The Committee disagrees with the LMA position and accepts that the evidence presented during the hearing was that both the Community Centre will suffer significant noise, visual intrusion, air pollution, displacement, compromised real and perceived safety, overshadowing, and light spill both during construction and then on an on-going basis. The community garden and its users will suffer similar impacts including visual severance, visual intrusion, air pollution, groundwater pollution, overshadowing, noise, as well as property acquisition.

The Committee considers that the Project impacts on the Flemington Community Centre and Community Garden are of such as scale that the facilities become not fit-for-purpose, and accordingly their permanent relocation should occur should Project Approval be granted by Government for the southerly viaducts comprising Part B of the Project. The Committee highlights that the LMA’s closing submission (page 141) stated that imposition of such a condition by the Minister is tenable:

It is open to the Planning Minister to impose additional conditions on the Project which must be complied with by the LMA, and which fall outside the performance requirements and applicable approvals to be complied with by the successful contractor.

Some of the types of conditions that could potentially be imposed by the Planning Minister on the LMA as a condition of his approval decision include:

* …;
* the possible replacement of the Flemington Community Centre, subject to final design of the Project.

#### Essendon Community Garden

The LMA’s response to the Essendon Community Gardens submission stated:

* Only part of the Community Garden within the project area will be utilised for the purposes of the project and access will not be required through the garden. The majority of impacts will be construction related and may result from overshadowing;
* The Urban Design Framework will guide the implementation of impacts at the garden, also see LMA’s response to question 43 of the s57(4) RFI in relation to overshadowing; and
* The evidence of Heather Nesbitt in her expert witness report in relation to impacts at the garden.

The Committee’s review of the LMA’s response to question 43 in the s57(4) response revealed no specific reference to the Essendon Community Garden. It did state however:

In locations that are impacted by above ground structures, detailed design treatments and urban design measures could be considered (including use of materials) as a means of limiting, to the extent practicable, the impact of overshadowing on the public realm. This will be addressed as part of the implementation of the UDF and performance requirements.

The evidence statement of Ms Nesbitt did not mention the Essendon Community Garden specifically, nor did it comment on specific or general impacts of the Project on community infrastructure. Appendix C to the evidence statement is titled “*Comment on submissions*”. Under the heading “*Other Statutory Authorities*”, Moonee Valley is listed. One issue attributed to Council is “*Impact on community facilities particularly Flemington Community Centre and Flemington and Essendon Community Gardens needs to be addressed”*. However, under the table heading “Comment”, no mention of the Essendon Community Garden is made. Neither does it rate a comment in the “*Recommended new or modified performance requirement column”.*

Also within Appendix C, Submission 516 (Essendon Community Garden) is identified as one of the 1,077 submissions that were categorised as raising the following issue:

Loss of and impact on existing and proposed open space, sporting and community facilities (other than Royal Park) is unacceptable and will impact on community health and wellbeing.

In the comment column, the Essendon Community Garden is identified as a Community facility that has been identified in submissions. The following is stated:

Community gardens may be relocated to other nearby parks given that this type of use has comparatively limited infrastructure and capital costs involved.

While not mentioning the Essendon Community Garden specifically, the following “*Recommended New or Modified Performance Requirement*” recommendations proposed are relevant:

**Modified Mitigation Measure**

Consultation with relevant sporting facilities, community facilities including the Flemington Community Centre and councils to explore potential relocation/design improvements of equal or improved access and quality. This would ensure sporting community and recreational needs are addressed during both construction and operation of the project. Where possible, relocation/redesign is to be undertaken prior to closure of the facility for public use.

**New Mitigation Measure**

Establish a Community Grant program to operate during construction of the project to fund community support activities and small capital works targeting community, sporting and recreational facilities in the local region as defined in the Social Impact Assessment.

The Committee notes that despite being recommended for inclusion by Ms Nesbitt, neither of the above proposed measures have been adopted for inclusion by the LMA in its 15 April 2014 final version of Performance Requirements.

The Committee considers the sum of the LMA’s consideration of the Essendon Community Garden submission has been inadequate and unresponsive. It appears that little effort has been made to understand the specific issues relating to the Garden, let alone to reach agreement on how impacts can best be mitigated. The Committee considers the requested actions by the Essendon Community Garden to be reasonable and affordable and certainly more desirable than relocating the established community garden “*to a nearby park*” as advanced by Ms Nesbitt. The Committee supports the preparation of a detailed design treatment in consultation with the group and Moonee Valley City Council representatives (the proposed mitigation measures based on those identified in the Essendon Community Gardens submission). Implementation of the agreed treatment should proceed prior to construction commencing and at no cost to the group or to Council. This outcome should be prescribed in the Performance Requirements to ensure adequate resolution of issues are address should the Ormond Road off ramp be constructed.

### Findings

The Committee accepts that the impacts on the majority of community facilities abutting the Proposed Project Boundary (such as schools and education institutions, health centres and hospitals, community centres, community gardens, museums, and libraries) are likely to be able to be adequately addressed by the implementation of Performance Requirements. There are however a number of important exceptions where the impacts of the Project have been determined by the Committee to be unacceptable and not appropriately minimised.

The impacts on the Flemington Community Centre (and the associated Debney’s Park Playground) and on the Flemington Community Garden have been assessed by the Committee as unacceptable. The Committee considers that the Project alignment/boundary is too close to these facilities and that the corresponding noise, visual intrusion, air pollution, displacement, compromised real and perceived safety, overshadowing, and light spill render the facilities not fit-for-purpose. The Committee considers that the construction of any elevated road structure within the Proposed Project Boundary west of CityLink abutting the Flemington Public Housing Estate will pose unacceptable impacts, both during construction as well as operation. Accordingly the Committee does not favour the Project alignment in this location and considers the ideal outcome would be that an alternative design to the proposed Part B viaduct is developed in order to avoid the impacts on the Flemington Housing Estate residents and these corresponding significant community assets (the Flemington Community Centre, Debney’s Parks Playground and the Flemington Community Garden).

If this finding of Committee is not accepted by Government, and Project Approval is granted for a final design that includes a viaduct on the western side of CityLink similar to the Reference Design, the Committee considers and recommends that the negative impacts on the community facilities will be of a magnitude that justifies their re-location/replacement. The Committee considers this would be a reasonable and equitable outcome if the Project is to occur within the Proposed Project Boundary. Accordingly the Committee recommends that if the Part B viaduct is approved within the current Proposed Project Boundary to the west of CityLink, the following should be required as a condition of approval: the permanent replacement/relocation of the Flemington Community Centre, Debney’s Parks Playground and the Flemington Community Garden, at or before commencement of Project construction. This should be determined via a consultative Master Planning process involving at a minimum, representatives of the LMA, the Office of Housing, the Flemington Neighbourhood Renewal Team and Board, the Flemington Community Centre, Flemington Community Garden and the City of Moonee Valley. Importantly, corresponding conditions should be included to ensure that any costs associated with the planning or implementation of the above actions is not borne by the relevant community stakeholders or the City of Moonee Valley.

The Committee finds that the mitigation works recommended by the Essendon Community Gardens to be an acceptable solution that will adequately mitigate likely negative impacts associated with the construction of the Ormond Road off ramp. The Performance Requirements should be amended to require that the works be undertaken prior to construction activity commencing and at the expense of the Project.

The Committee has recommended a number of changes to the Performance Requirements in Appendix E to reflect its findings.

## Impacts on Infrastructure/Utilities

### Introduction

In relation to infrastructure, Chapter 8 of the CIS notes that a number of transport-related land uses are within and adjacent to the project area, those identified being “*freight and logistics operations associated with the Port of Melbourne and the Melbourne Freight Terminal (at the western end of the project), various tram and train routes, and shared use paths and cycleways*”.

The land use assessment for Precinct 5: Port Connection states:

Partial temporary occupation of SP AusNet’s West Melbourne terminal station site would be required. This could mean that electricity assets associated with the substation may need to be relocated (although power supply would be maintained). Careful consideration would need to be given during the project’s detailed design and construction to the operation and possible future upgrade of the site.

Partial temporary occupation of the Melbourne Freight Terminal (owned by VicTrack) would be required.

In relation to the SP AusNet terminal station, the Business Impact Assessment (BIA) at Technical Appendix Q noted that some facilities that are planned as part of the SP AusNet terminal station upgrade may be impacted. To address the potential impact, the BIA proposed “*that the implementation of a business and property owner engagement strategy about the project be developed”* as a Performance Requirement,and that *“when design is finalised, review the requirements and initiate further discussion if land is not required*”.

### Key Issues

The Committee has addressed impacts on train and tram routes and on bicycle paths in Chapter 6. This part of the report focuses on utility impacts and other infrastructure impacts identified in submissions.

The relevant CIS Evaluation Objective and Performance Objectives are listed at Table 8.4 of the CIS under ‘*Land use and utility assets performance requirements’*. The CIS evaluation objective is to “*minimise adverse impacts …* *on infrastructure*”. The performance objective is to “*Minimise impacts on existing land uses and utilities*”.

The relevant Performance Requirements are LU4 and LU5. The pertinent elements of LMA’s proposed final version of these requirements, read:

LU4: Protect, and/or modify utility and public assets to the usual requirements and satisfaction of asset owners.

LU5: Prior to commencement of construction, condition surveys are to be undertaken by independent qualified assessors of existing infrastructure, buildings and structures within 50m of the project activities and any other significant assets that may be affected.

The key utility infrastructure subject of discussion during the Hearing was the Project’s impact on SP AusNet’s pending upgrade to the West Melbourne Terminal Station (WMTS) (Submission 490). Ms Quigley represented SP AusNet at the Hearing (Documents 240 and 241).

The Committee notes that other submissions lodged by infrastructure and utility service providers in response to the exhibition of the CIS included:

* Port of Melbourne Corporation (Submission 382);
* Jemena Electricity Networks (Vic) Ltd (Submission 466);
* Asciano (Submission 426); and
* APA Group (Submission 475).

None of these appeared at the Hearing to elaborate on written submissions. The Committee has considered these submissions and is satisfied that the issues raised are adequately addressed by the LMA’s agreed Performance Requirement LU4 and LU5.

The key outstanding issue for the Committee to assess relates to the written and verbal submissions of SP AusNet.

### Submissions and Evidence

SPI PowerNet Pty Ltd, trading as SP AusNet is Victoria’s largest energy delivery business. The company owns and operates Victoria’s electricity transmission network, along with separate electricity and gas distribution networks.

SP AusNet (Submission 490) noted that the company was likely to be affected by the Project, in particular by the proposed alignment of Part B which in part traverses through its WMTS which is undergoing a $100 million upgrade. Other issues raised included concern over the protection, maintenance and security of energy supply on other SP AusNet assets, being the Brunswick - Richmond 220 kV underground cable, the Fishermans Bend 220 kV Transmission Tower (FBTT) and underground gas assets. The submission noted that it did not oppose the Project, as long as a satisfactory resolution of its significant concerns was reached in a timely manner so as not to interrupt its business and corresponding security of the State’s energy supply needs.

Ms Quigley advised the Committee that “*the Project in its current form does not appropriately avoid or minimise the adverse impacts, in particular, where the Project impacts on critical infrastructure such as SP AusNet assets*”. The tabled submission (Document 240) stated that “*the preference from SP AusNet’s perspective is that there is no Part B of the project (that being the part of the project which so severely impacts on its assets and business obligations)*”. However it accepted that the State Government has stated its commitment to the Project as a whole, and therefore its priority is to ensure that the impacts of the Project on its business are resolved so that the State’s energy supplies are not further compromised.

SP AusNet indicated that it will continue to engage in discussions with the LMA and other stakeholders to seek mutually beneficial solutions in order to ensure that the WMTS is rebuilt by 2019. It requested that “*the following important matters be considered by the Assessment Committee with a view to making recommendations in relation to the following*”:

1. if Part B of the Project is to be approved, designation of the "project area" for Part B, or the application of a Public Acquisition Overlay as soon as possible;
2. confirming that the Project construction zone between the roadway and the WMTS site will remain in the ownership of SP AusNet and that LMA will ensure access to allow a temporary transformer to be located on that land for the period of the WMTS upgrade works;
3. formalising as an urgent matter the final Proposed Project Boundary so that there is no uncertainty in this respect (i.e. no encroachment in a westerly direction into the remaining WMTS footprint). This will enable the redesign of the WMTS redevelopment to continue as soon as possible;
4. securing additional land interests with VicTrack to enable land for construction access and permanent use, as well as to agree new easement corridors for transmission lines entering the site. Such land must obviously be fit for both construction and permanent use (including access and egress where applicable);
5. ensuring the creation of easements on the acquired land to protect SP AusNet's assets and specifically to create new easements to provide for underground and overground corridors as relevant for electricity and gas supply;
6. identifying a location for the relocation of the FBTT;
7. ensuring that the design and construction of the Project minimises impacts on SP AusNet's assets and such assets are not adversely affected by dust, vibration water or soil contaminants;
8. ensuring the construction works avoid the existing gas and electricity assets, or relocate these assets without interruption to supply; and
9. including the Performance Requirements requested by SP AusNet.

SP AusNet’s requested modifications to the Performance Requirements are contained in a Table at Document 241. The Committee notes that the LMA disagrees with each one of the proposed changes, as reflected in the LMA’s final response to proposed changes (Document 525). SP AusNet’s requested changes can be summarised as additions to:

* Transport Performance Requirements T1 and T2;
* Three new and comprehensive Land Use and Utility Performance Requirements;
* One new Community and Business Impact Performance Requirement;
* Four new Noise, Vibration and Light Performance Requirements;
* One new Surface Water Performance Requirement; and
* One new Contamination Performance Requirement.

The LMA’s closing submission noted that over the course of a number of months it had participated in productive and ongoing discussions with both SP AusNet and VicTrack concerning ways to facilitate the expansion of the WMTS in a manner that would not conflict with Part B of the Project. It said

As SP AusNet itself explicitly stated in its written submission to the Committee, an “agreement in principle” has now been reached in respect of a viable solution. This solution, in short, would involve SP AusNet utilising land owned by VicTrack situated immediately adjacent to the southwest corner of the existing terminal station for the purposes of the future expansion. Whilst there are issues that remain to be resolved concerning this proposal it is clearly not the case that the declaration of the alignment of Part B as per the Reference Design would preclude the ability of SP AusNet to upgrade the terminal station or otherwise compromise its ability to operate out of this site.

The submission made by SP AusNet demonstrates well the virtues of identifying an alignment of Part B as part of this process. Indeed, adopting the language of SP AusNet, the early designation of Part B will “provide a degree of certainty” that will allow it to properly plan its activities into the future. That degree of certainty would simply not exist if the Committee deferred the designation of Part B of the Project until a later date.

SP AusNet went on to make a number of submissions concerning amendments and modifications to the performance requirements. The LMA’s response to these suggestions is set out in the document that it has prepared and maintained at the request of the Committee.

As discussed earlier in these submissions, the extent of potential impacts on both SP AusNet and Vision Australia will depend on the ultimate alignment of Part B. Indeed, SP AusNet tabled a document indicating that the impacts would be largely alleviated were the alignment to run immediately adjacent to CityLink.

### Discussion

No party to the Hearing questioned the need to upgrade SP AusNet’s WMTS. SP AusNet’s specified completion date of 2019 and the five year timeline to achieve the upgrade similarly was not challenged.

Despite the submissions by the LMA that work and negotiations are progressing well with representatives of SP AusNet to achieve their long term goals in a timely manner, the submissions by SP AusNet cast doubt in the Committee’s mind with respect to the degree of comfort and satisfaction that SP AusNet have with regard to the negotiations that have taken place with the LMA to date, and the prospects of moving forward to achieve a timely and acceptable outcome.

The Committee accepts SP AusNet’s submission that:

The preference from SP AusNet’s perspective is that there is no Part B of the Project (that being the part of the project which so severely impacts on its assets and business obligations).

In response to questions from the Committee, Ms Quigley confirmed that if Part B was abandoned, SP AusNet “*would be able to proceed with the upgrade project for which approval has been granted*”. The submission noted that planning for the works at the WMTS have been underway for a number of years and approvals have advanced through numerous regulatory hoops including from the Australian Energy Regulator, the Australian Energy Market Operator, Melbourne Water, as well as the securing of a Planning Permit from the City of Melbourne (Permit Number TP-2013-142). The submission noted that the planning permit application alone was subject to 16 specialist studies and subsequent to receiving approval, a project specific Construction Management Plan has been prepared.

Ms Quigley reiterated that advancing the upgrade consistent with the current permit, noting that works were to commence in November 2013, still remains SP AusNet’s strong preference. It was explained during the Hearing that site was originally developed in a planned manner with the understanding an upgrade would occur at some point in time. However, these plans have been totally disrupted as the proposed area of acquisition to facilitate the Project Part B alignment results in the loss of 24% of the site’s useable land. Accordingly substantial design modifications would be required to achieve the upgrade if Part B was approved. Early investigations have indicated that not only will significant infrastructure be required to be relocated off-site, additional land will need to be secured to form an effective earth grid. It is understood that in-principle agreement has been reached (with the assistance of the LMA) with VicTrack to utilise land owned by them for these works. SP AusNet is comforted by progress but is concerned that there is no formal agreement in place.

The Committee inspected the WMTS site following the hearing, where it understood better the redevelopment options and challenges. The Committee found the inspection useful and gained an appreciation of the WMTS upgrade’s relationship with the Project.

SP AusNet advised that while an outcome may eventuate for the required 2019 upgrade (noting that the consequences are significant if it is not achieved), the significant loss of land for Part B will compromise post 2020 capacity augmentations that will be required to meet future estimated growth. The Committee acknowledges this is a less than ideal outcome.

### Findings

On the strength of the submission put on behalf of SP AusNet and the magnitude of issues it raises, the Committee accepts the conclusion advanced by Ms Quigley that “*the Project in its current form does not appropriately avoid or minimise the adverse impacts, in particular, where the Project impacts on critical infrastructure such as the SP AusNet assets*”.

The Committee considers that the short and long term impacts of Part B of the Project alignment as it affects SP AusNet’s WMTS are undesirable and should be avoided. The negative impacts on this important utility, in the Committee’s view, adds further substantive weight to the Committee’s recommendation (Refer Chapter 7.2) that the proposed Part B alignment of the Project needs further review.

Should these findings and recommendation of the Committee not be accepted, the Committee accepts SP AusNet’s submission that a number of outcomes should be mandated, and it has recommended accordingly. It is further recommended that the Project Boundary for Part B not intrude on SP AusNet’s WMTS site, and should be redefined accordingly.

# Visual Impacts, Urban Design and Landscape

## Introduction

### Terms of Reference and Applicable Approvals

In addition to its overarching tasks of assessing the CIS and evaluating all applicable law criteria for applicable law approvals, Part 7(c) of the Committee’s Terms of Reference includes the following ‘*Public Hearing Matter’* relating to visual impacts and the Urban Design Framework:

Whether the proposed Urban Design Framework in the CIS will appropriately manage visual impacts of the project on the surrounding area, including public open space.

While not specifically noted in the CIS, the Committee considers that the relevant applicable approval informed by the landscape and visual assessment contained in Chapter 10 of the CIS is the proposed planning scheme amendment pursuant to the provisions of the *Planning and Environment Act* 1987. The proposed amendment seeks to permit the Project’s development in accordance with a project specific Incorporated Document to be introduced into the Melbourne, Moonee Valley, Moreland and Yarra Planning Schemes. Table 1 within the Incorporated Document lists the Urban Design Principles from the Urban Design Framework that has been informed by the landscape and visual assessment.

The Committee considers that the objectives of the *Transport Integration Act* 2010 are relevant to its assessment of visual impacts and the response provided for through the UDF.

### Conclusion of the CIS

Chapter 10 of the CIS concluded that the Project will affect the urban landscape and visual amenity of a number of residences, business and community resources, public parks and movement corridors. The assessment is that the anticipated impacts will range from being of no significance to being of high significance.

The CIS stated that the Urban Design Framework developed for the Project:

Describes the urban design outcomes that are desired by Linking Melbourne Authority and the Victorian Government. The Urban Design Framework includes a set of urban design principles that will form part of the project performance requirements and project contract. The framework provides examples of urban design possibilities and qualitative benchmarks that demonstrate how the urban design principles could be achieved.

The landscape assessment highlighted that there will be urban character and visual impacts during the construction phase which could extend for a period of up to five years.

Some of the long term impacts of the project include permanent changes to views or urban/neighbourhood character due to new road infrastructure, including:

* Additional bridge structures over Merri Creek and Moonee Ponds Creek
* New Hoddle Street/Alexandra Parade overpass
* Major interchange at Elliott Avenue
* Major interchange and structures within a section of Royal Park, Ross Straw Field and the storage basin of the Trin Warren Tam-boore Wetlands
* Elevated roadway structures at Debney’s Park, Travancore Park, Ormond Park and Holbrook Reserve
* Tunnel ventilation structures at portals (and a potential mid-tunnel structure)
* Elevated structures near the Evo apartments on Manningham Street, the ALT tower, Flemington public housing estate and Flemington Community Centre.

Implementation of performance requirements and urban design principles were stated as being important for reducing the significance of impacts of the Project:

At the completion of construction, some areas would be available for redevelopment and urban renewal. This would provide opportunities for high quality mixed use or medium to high density residential development within close proximity to the CBD. This is discussed in more detail in Chapter 8 and does not form part of the Reference Project.

The landscape assessment concluded that the Project will create a number of urban landscape and visual benefits, such as new and enhanced urban landmarks and gateways.

### Objectives and Performance Requirements

The CIS evaluation objective (set by the Scoping Directions) for Landscape and Visual Impacts is:

To minimise adverse impacts on the visual amenity of the existing built environment and landscape including public open space and to maximise the enhancement of visual amenity where opportunities exist.

There are two corresponding Landscape and Visual Impact Performance Objectives listed in the CIS:

* Minimise impacts on the built environment and landscape, including public open space and maximise opportunities for enhancement of public amenity; and
* To minimise the impact of light emissions.

An extensive list of Performance Requirements are specified in Chapter 10 of the CIS (Table 10-2) to meet these Performance Objectives. The CIS stated that it “*would be up to the contractor(s) to determine the best approach to meeting the performance requirements, subject to legislative and other requirements*”. The CIS noted that other Performance Requirements, such as those relating to heritage and land use impacts, may also contribute to minimising visual and landscape impacts

### Visual Impacts, Urban Design and Landscape Issues

The Committee heard visual impacts, urban design and landscape evidence from the following experts:

* Mr Allan Wyatt of ERM for the LMA on visual impacts and urban design;
* Mr John Patrick of John Patrick Pty Ltd for the LMA on cultural landscape;
* Professor Catherin Bull of the University of Melbourne for the City of Melbourne on open space;
* Assoc Professor Mardie Townsend of Deakin University for the City of Melbourne on open space;
* Mr Rob McGauran of McGauran Giannini Soon for Moonee Valley City Council and Yarra City Council on urban design;
* Mr Robert Moore of the City of Melbourne for the City of Melbourne on urban design; and
* Mr Craig Czarny of Hansen Partnership for Ms Peterson and Mr Peck on urban design.

At the request of the Committee, all experts met to discuss the relevant issues and determine points of agreement and dispute. There was no conclave on visual impacts and urban design.

Based on its consideration of the evidence and written and verbal submissions and evidence relevant to its Terms of Reference relating to visual impacts, urban design and landscape, the Committee has grouped its assessment under the following headings:

* Visual Impact Issues; and
* Urban Design Framework Assessment.

## Visual Impact Issues

### Introduction

The Reference Project describes new road and associated infrastructure along the proposed route. There are five parts of the proposed road that are not in tunnel and hence have some visual impact on the existing urban environment. These are:

* Precinct 1: At and around the Hoddle Street/Eastern Freeway junction;
* Precinct 3: Royal Park at and around the Elliott Avenue junction;
* Precinct 3: Royal Park in the area of the Manningham Parklands;
* Precinct 4: Along CityLink north of the proposed junction with East West Link; and
* Precinct 5: Along CityLink south of the proposed junction with East West Link.

There will be some visual (and other) impacts of the anticipated urban redevelopment of the land proposed to be acquired for the sidetrack on the north side of Alexandra Parade between Wellington Street and Copper Lane.

The Reference Project, particularly as described in the Mapbook, includes elements at each of the above locations that will have visual impacts in terms of both long and short distance views and from both the public realm and from private properties.

Visual impacts can be seen as positive, neutral or negative, depending on the viewer's opinion or the location and appearance of the object in question and whether the object is visually or functionally compatible or discordant with its urban setting.

While this chapter discusses the visual impacts of the Reference Project, it is the case that the Reference Project may not be the one to be built, and there may be smaller or larger variations to the Reference Project in terms of visual impacts.

It is therefore important that the Performance Requirements that describe and manage visual impacts are both broad enough and specific enough to ensure that the built project meets those Requirements, whether they be aimed at ensuring a strong visual impact of a particular element of the project or minimising or reducing the visual impact.

### 8.2.2 Key Issues

The key elements of the proposed road that will have visual impacts are:

* The proposed viaducts and support piers;
* Below-ground works such as ramps to and from the tunnels at Elliott Avenue;
* Tunnel portals and vent stacks; and
* Associated structures such as sound barriers, lighting, signs and signage gantries.

As stated above, these impacts may be perceived as positive or negative, and the way that they are designed and their level of integration into their urban or landscape setting can reduce adverse visual impacts. It is possible for road infrastructure to be a significant enhancement of its environment or as a local or regional landmark or visually-pleasing experience. These sentiments are reflected in the UDF and the Urban Design Principles.

The key issues are:

* The degree to which the Reference Project achieves high levels of positive visual impacts in its various elements;
* The degree to which the UDF, the Urban Landscape and Visual Impact Assessment and the Urban Design Principles can ensure best practice in terms of a visually acceptable and high quality contribution to the urban landscapes through which the road passes; and
* The degree to which the Performance Requirement set out in the CIS will ensure a high quality outcome, or whether they need to be revised to ensure this, for any alternative design.

#### Precinct 1: Hoddle Street/Eastern Freeway Interchange

The key issue relates to the design of the proposed Hoddle Street flyover. This structure carries traffic that is not directly related to the Project but its purpose is to reduce the number of traffic turning movements that occur at-grade by raising northbound traffic on Hoddle Street travelling to the Eastern Freeway onto an elevated road on land acquired on the east side of Bendigo Street, crossing Hoddle Street and the Hurstbridge/South Morang rail line and joining the eastbound lanes of the Eastern Freeway. Specifically, issues relate to the visual presence of the flyover at ground level in the Bendigo Street and Alexandra Parade East areas, the longer distance views to the flyover along Hoddle Street and Alexandra Parade/Eastern Freeway, and the proximity of the supporting tower of the flyover to the historic Shot Tower when viewed from a number of directions.

Other issues relate to the location and size of the ventilation stack, the location of the portals and the excavations to their immediate east, and the uncertain visual impacts of the potential built form in the area of land on the north side of Alexandra Parade to be acquired for the temporary sidetrack.

#### Precinct 3: Royal Park - Elliott Avenue Interchange

The key issue in this area is the visual impact on Royal Park and loss of parkland to accommodate excavation for the proposed portals and the widened Elliott Avenue. A number of mature trees will need to be removed, with consequent impact on vistas within the Park.

The CIS describes the option of bored tunnel or cut-and-cover for the length of the Project between the Upfield rail line and a point 200 metres east of Elliott Avenue. The choice of construction method is up to the Project's contractor, but if the cut-and-cover technique is used, there will be visual issues, not only the significant ones during construction, but impacts due to loss of mature trees in the area of excavation, whose visual contribution to the Park will take time to be restored.

#### Precinct 3: Royal Park - Manningham Parklands/Ross Straw Field

This is the area where the road emerges from the tunnel and crosses the large and open area of the Manningham Parklands as four separate roadways, partly in trench but mostly on viaducts, two of which rise to cross CityLink. The visual impacts are significant; on the parklands, on other parts of the public domain and on the residential properties close to the viaducts. The viaducts will have visual impacts, not just due to their structure, but also due to vehicles moving along them, sound walls, high-mast lighting, overhead sign gantries and, at night, light spill from lighting and traffic. Further, there will be a visual impact of the land under the elevated roads within a parkland environment.

These impacts generated a considerable amount of criticism from Melbourne City Council, local residents and community groups and expert witnesses.

The issues arise from the exposure of the Project in the public realm and its proximity to residences, as well as the apparent lack of consideration by the LMA of less visually intrusive alternatives in an area of high visibility, and in a place that has high landscape values due to the proximity of wetlands, a wooded slope and an avenue of mature trees.

#### Precincts 3 and 4: CityLink North

The key issues regarding this part of the Project are the proximity of the northbound road to residential properties on Travancore and to open space and sporting fields at Ormond Park, Holbrook Reserve and the Essendon Community Garden. This proximity manifests itself in terms of the visual presence of elevated structures, sound walls and lighting, and the loss of open space and reduction in the playing area of sports grounds, and the impacts of noise on residential properties and open space.

This northbound section of the Project is likely to be visible from properties and public open space in the areas near Travancore Park and Delhi Reserve. Further north, at the east end of Brisbane and Fenton Streets where the Essendon Community Garden and Brisbane Reserve are located, the off ramp with be highly visible. It passes over public open space and is above a small section at the north-east corner of the community garden.

The possible provision of sound walls on the ramp would reduce visibility of vehicles on the ramp but would increase the size of the structure. It is shown in the Mapbook to be about 50 metres from the nearest houses.

The physical environment along this part of Moonee Ponds Creek is of a poor standard. The creek is in a concrete channel with broad sides able to accommodate flood flows. The extent of undercroft of CityLink creates a linear space that is unwelcoming and of very poor amenity, despite having a cycle and foot path along it.

The additional construction of the Project between Delhi Court and beyond the north of Dean Street adjacent to CityLink will have varying levels of visual impact and occupy varying amounts of the creek.

In terms of landscape, the Project will occupy areas of planted landscaping along the west side of CityLink, in Ormond Park, Holbrook Reserve and within the Moonee Valley racecourse. In terms of active or passive recreational space, it will occupy parts of Holbrook Reserve and Ormond Park.

#### Precinct 5: CityLink South

The key issues regarding this part of the Project are the proximity of the new viaducts to properties to the west, and the loss of amenity and vistas along the Moonee Ponds Creek corridor.

As for Precinct 4, this proximity manifests itself in terms of the visual presence of elevated structures, sound walls and lighting, and the impacts of noise on residential properties and open space. The viaducts will have visual impacts due to vehicles moving along them, and at night, light spill from lighting and traffic. Further, there will be a visual impact of the land under the elevated roads within the environment of Moonee Ponds Creek which is a local asset earmarked for improvement as proposed in the Arden-Macaulay Structure Plan which is in stark contrast to some parts of the nearby undercroft of CityLink.

### Submissions and Evidence

Many submissions and several expert evidence statements focused on the broad issues of visual impacts, both on the urban areas of the project, the open space areas, and the parts of the project that are in the CityLink corridor.

Many individual submitters based their submissions on the visual impacts of elements of the Reference Project.

#### Precinct 1: Hoddle Street/Eastern Freeway Interchange

The Committee heard many comments about the dislike for the Hoddle Street flyover due to its scale, height, visual intrusiveness and proximity to existing dwellings in the Bendigo Street area and along Alexandra Parade east.

The City of Yarra and the City of Moonee Valley called Mr Rob McGauran to provide urban design evidence, in particular on “*whether the assessment framework adopted by GHD and described in Section 4.7 of the Urban Landscape and Visual Assessment (ULVIA) provides an adequate framework for the assessment of urban design and visual impacts associated with the project*”.

Mr McGauran summarised his position as being in agreement with the impact ratings assigned by the Urban Landscape and Visual Impact Assessment as summarised in Table 13.1 of that document as they apply to Precincts 1 - 3 (being the part of the Project within the City of Melbourne). He considered that it is appropriate to take into account the possibility of future urban renewal activities as a mitigating factor of the impacts of the project.

He considered that the Urban Design Principles, Urban Design Framework and the relevant Performance Requirements provide an adequate framework to ensure an acceptable urban design outcome, “however *any of these design options provided by the various councils affected by the project would in my view provide a better outcome, from an urban design and visual impact perspective than the reference design project*”.

Mr McGauran, in speaking to his evidence-in-chief, stated that the proposed responses of the UDF at the eastern, Royal Park and western interfaces do not demonstrate an adequate response to the urban contexts of each of these parts of the project. He said that the Reference Project has not consistently met any of the objectives of the Victorian Urban Design Charter.

It is notable that in the UDF, under the heading Best Practice Urban Design, it is stated that the Victorian Urban Design Charter provides the basis for the project-specific principles that have been developed and are considered appropriate to guide the urban design response.

Mr McGauran was critical of the proposed 'Eastern Gateway' because it would create a substantial visual and functional barrier between Clifton Hill and Collingwood, would create a 'freeway' environment rather than an opportunity for higher density development with 'coherent' streetscapes such as high-quality tree-lined boulevards and streets.

He showed an example, prepared by himself, of an at-grade intersection with Alexandra Parade redesigned as a linear parkway with the road on the north side and an open space corridor with a bicycle route on the south side, and higher buildings flanking both sides and around the Hoddle Street intersection.

#### Precinct 3: Royal Park, Elliott Avenue Junction and Manningham Parklands

Mr McGauran was critical of the Elliott Avenue interchange and the location of the western portal and the associated viaducts. He considered that, in light of the CIS's aim “*To minimise adverse impacts on the visual amenity of the existing built environment and landscape including public open space and to maximise the enhancement of visual amenity where opportunities exist”* (Executive Summary of Technical Appendix C) the intrusions into Royal Park by the Reference Project demonstrate that the Project, in his words, “*places roads above people*”. He said that to have a longer tunnel would be a positive outcome for Royal Park as a recreational resource which is under increasing pressure due to urban development, and an increasing resident population in the immediate area.

He was critical of the impacts on the disadvantaged community of the Debney’s Park Estate, including in terms of the urban barrier, increased background noise, reduced access to open space and diminished opportunities for canopy trees and recreational areas.

During cross-examination, Mr McGauran was critical of the rationale for the Elliott Avenue interchange being, in part, to service the Parkville educational and health precincts, noting that Melbourne University has a core aim to reduce car travel, and that places like the Zoo and the medical precinct should not be car destinations. He said that the aim should be to make the Project invisible within Royal Park. He compared the Project with other cities where removing or hiding viaducts was occurring rather than building any more. The route was the line of least resistance.

When asked about the dislocation of the western part of Royal Park, Mr McGauran acknowledged that it was cut off from the main part of the Park physically but not ecologically, and that different communities use different parts of the Park. He considered that given the very different environments through which the Project passes, different approaches to urban design guidelines would be better than one generic document.

Mr Pitt, for Melbourne City Council, called Professor Catherin Bull, Emeritus Professor of Landscape Architecture at the University of Melbourne. Professor Bull had been asked to analyse the impact of the Project on the open spaces of Royal Park and Moonee Ponds Creek within the City of Melbourne.

Professor Bull summarised Royal Park as a place of difference from the city; an unstructured place with free pedestrian access and wide vistas; an open, informal and naturalistic place.

She identified the impacts of the Project on Royal Park as causing fragmentation of the form and layout of the Park, leading to a loss of integrity and domination by structures and urban elements which would be contrary to the informality and unstructured character of the Park. She noted that these impacts risked being irreversible and incompatible with the heart of the Park at Elliott Avenue and causing the loss of recreational open space in the area of Ross Straw Field.

Professor Bull made comments about how these impacts could be managed, including minimising the extent of structures, achieving a subservience of the roads to the Park in terms of siting and design and increasing the rigour of the UDF in describing required outcomes for the Park. She indicated support for the alternative road design put forward by Mr Higgs (Document 109) which moved the Elliott Avenue ramps to a point adjacent to Flemington Road, and which proposed alternative road layout options in the area of the Manningham Parklands, and the Australian Institute of Landscape Architects' proposal for the Elliott Avenue area (Document 286) which deleted all above-ground works at this location and was similar to that of Mr Higgs.

Professor Bull considered that any design for works in Royal Park will have positives and negatives, and these must be prioritised and balanced to determine the optimum route and its design. She considered that no options, whether the Reference Project or other alternatives, had been comprehensively assessed and this should be done for factors other than road performance.

In terms of Moonee Ponds Creek, Professor Bull defined this linear connector as a multi-functional place with the potential for landscape character to dominate while achieving urban-scale linear connection functions of water, cycle, pedestrian and green-space. She identified the impacts of the Project as overshadowing and dominating the open space, of leading to loss of functionality and reducing the perception of the space as green and safe. She offered the definition of open space as an area open to the sky, and rain, and with “*sky overhead*”. In this regard, the shadows from the viaduct would be a problem.

She considered that the Reference Project did not comprehensively assess the corridor beyond its road performance, and that mapping and comparative analysis should be the basis for future decisions regarding the interface with the Arden-Macaulay area and the function of the corridor as a waterway and linear trail.

In terms of both Royal Park and the Moonee Ponds Creek (south of Racecourse Road) Professor Bull recommended that minimum outcome criteria be identified and mandated and that the relevant documents be adjusted to incorporate this. She further recommended that an independent expert assessor with open space experience be appointed to ensure optimum outcomes.

In answer to questions, Professor Bull noted that in Royal Park the infrastructure is subservient to the landscape, but this is not evident in the Reference Project where the proposed works are in her words, very intrusive. The proposal shifts the balance in Royal Park from being an informal space to one of structured use.

She considered that the UDF does not specify minimum Performance Requirements for particular spaces to guide designers when faced with competing criteria, and that desired outcomes, not a 'wish-list' as in the UDF, are needed.

In answer to a question from Mr Wren, Professor Bull said that a substantial piece of work should be done to provide proper guidance and which would be a “*robust guide*” for use both during design and during construction.

To questions from Mr Morris, Professor Bull acknowledged that Royal Park was bisected by roads, a rail line and a tram line and that these limit pedestrian movements. Mr Morris noted the uses such as golf course, playing fields and tennis courts that are not naturalistic elements. Professor Bull's view was that, while this is so, there is danger in making this dissection as there is a matrix of soft landscaping that gives Royal Park its structure. Managing the balance between formal and informal areas is a constant challenge for Park managers.

Asked if the proposed structures in the Ross Straw Field area would be visible from the eastern part of the Park, Professor Bull responded that that there is a dramatic difference between the tunnel and the viaducts in terms of the use of the affected land where viaducts limit the use under them.

Asked to respond to the urban design aspects of EastLink and Peninsula Link, Professor Bull stated that while good, these are different environments and that she has no confidence that the same can occur with the Project due to the lack of rigour in the UDF which provides adequate guidance for works in Royal Park.

It was her conclusion, that while the Urban Design Principles in the CIS are sound (apart from the ‘gateway’ in Royal Park), the Reference Project is not aligned with them, and the Reference Project could not be achieved using the Urban Design Principles. She argued that much stronger work is needed at this planning stage. In response to a question from Mr Pitt, Professor Bull stated that the Urban Design Principles are not achievable by the Reference Project or a variation of it.

Ms Pederson and Mr Peck, Submission 439, who own residential property in Manningham Street, engaged the services of Mr Craig Czarny, consultant town planner and an urban designer, to prepare an expert witness statement on their behalf. Mr Pitt assisted the submitters by calling Mr Czarny. His evidence focused on the impacts of the viaducts at the western portal on the parklands and nearby properties in Parkville West. His position was, in essence, that “*the execution of the proposed alignment and connections through Parkville West and Royal Park (Precinct 3) does not pay adequate regard to best practice process in the procurement of major infrastructure projects”.*

In terms of the Project's impact on Parkville West, he stated that:

The project as designed in its current form represents a damaging response which has not had due regard to the integrity and image of the neighbourhoods through which it passes, and does not represent either sound urban infrastructure proposition representative of our advanced level of urban thinking in Melbourne. I am of the opinion that the proposed Reference Project will have a significant and irreparable impact upon the Parkville West neighbourhood and Royal Park.

The Australian Institute of Landscape Architects (AILA) (Submission 366 and Hearing Documents 285 and 286) submitted that the Project should not proceed in its current form because of *“its severe impacts, inadequate justification, and poor planning and design*”. Much of the submission centres on the process to date and the impact of the Reference Project on Royal Park, asserting that a flawed process has led to an unacceptable design.

AILA believed that a freeway is an intrusive and inappropriate element in a park, and that Royal Park is no less sensitive to intrusions than other valued parks, such as the Botanic Gardens, and that its values should be enhanced not abused. The Institute noted that the Reference Project is in conflict with the Royal Park Master Plan, one Objective of which is to “*Enhance accessibility to all Park facilities by minimising the disruptive and divisive effects of through traffic*”.

Notwithstanding this, design options within Royal Park should “*seek to avoid, minimise, make good and offset damage and provide improvements beyond the status quo*”. To this end, AILA believed that “*the western part of Royal Park will be effectively lost as useable parkland, regardless of slight mitigation of impacts that may be achieved through options like those put forward by the City of Melbourne*”.

AILA accepted the notion of cut-and-cover within the Park, but only west of Elliott Avenue; it supported the total closure of Elliott Avenue with all vehicular park access from Royal Parade or Park Avenue; and the relocation of the Elliott Avenue portals to outside the Park or, at least, adjacent to Flemington Road, but considers this not to be an ideal alternative.

Mr Tweedie for the LMA called Mr John Patrick, consultant landscape architect. His evidence centred on Royal Park and its landscape. Mr Patrick had contributed to the preparation of Technical Appendix G: *East West Link Historical Heritage Assessment* of the CIS.

Mr Patrick stated that there is no pre-European settlement vegetation in Royal Park, confirmed that there are no trees subject to a Heritage Overlay in Royal Park and that he had not identified any trees worthy of individual Heritage Overlay protection. He considered that the grass circle would be able to withstand intervention. He considered that Ross Straw Field reads as a separate and separated part of the Park and that the Park is a series of separate areas.

With regard to the Manningham Parkland area, he considered that the 1984 Master Plan has flexibility in it and that, as part of the Master Plan, the wetlands are not of high significance. He accepted that the elevated roads will have an enormous impact and will change the character of this part of the Park “*absolutely dramatically*”. He considered that the avenue of elms in this area stands in stark contrast to other elements nearby and should be protected, along with the wetlands, as a buffer between the wetlands and the viaducts.

Mr Patrick considered the transport infrastructure within Royal Park to be a barrier to movement, and that the sugar gums near the tram line which are to be impacted by the realignment of the tram line are aging and may need to be removed before long.

He considered that the philosophy of the 1984 Master Plan can continue as it should be able to accommodate well-designed interventions into the Park, integrating the proposed works with relatively limited visual impact. Replanting and revegetation will assist in this. He accepted that there will be a loss in terms of the Flemington Road elms proposed to be removed, but that these can be replaced, and proposed a Performance Requirement that trees of the same taxon and local provenance be used for replanting.

In response to a question from Mr Wren regarding the viaducts at the western portal, Mr Patrick stated that the LMA is seeking ways to minimise the visual impact by such means as additional vegetation, extending the wetlands to create more water than grass, and to integrate the proposed works as best as possible. He believed that the scheme can accommodate landscape treatments to “*overcome the wounds*” in the Ross Straw Field area; an area of low value where the proposed works can be accommodated. Asked about the time-frame to achieve a high quality outcome, Mr Patrick said that the rates of growth in the Park are surprisingly quick and that there would be a strong sense of regrowth in five years.

He favoured a maximum use of tunnels as opposed to the cut-and-cover construction method, accepting that any cut would be “*quite wide*” and more damaging.

Asked if a Tree Management Plan should be written into a Performance Requirement or part of a Construction Management Plan, Mr Patrick agreed, for trees near any proposed works.

In terms of the Elliott Avenue works, he said that the location has some logic being close to the Zoo as it partially screens the view from the north and that the works can be screened, possibly by re-establishing bushland planting as envisaged by the Master Plan, not as a screening wall to hide the works but to integrate them.

Asked if a location on the boundary of Royal Park would be preferable, Mr Patrick acknowledged that this would be an alternative in heritage terms but did not favour the Flemington Road location that has been canvassed.

Asked about the Ross Straw Field area he considered it to be a less significant element of recreation as baseball is a minor sport and Ross Straw Field is part of a modified landscape.

In terms of the 1984 Royal Park Master Plan, Mr Patrick agreed that it changed the approach to landscape architecture for parks of this type, its features being how it approached indigenous vegetation and the layers of history and development. Whether the Project works would enhance the Park's values, he advised that he wasn't sure, but this would depend on traffic volumes. He supported retention of the trees in the Elliott Avenue median although avenue planting is being replaced by a more integrated and naturalistic approach.

He considered that traffic is already a major element, with a significant impact in terms of noise and visual presence. While the portals and viaducts will be visible, with a significant impact, this can be moderated by planting, including in the shaded areas under viaducts.

Mr Tweedie, in re-examination, asked if the proposed net increase in tree canopy is a positive. Mr Patrick agreed, assuming it is consistent with the Master Plan. Regarding the use of cut-and-cover construction method, Mr Patrick considered this to be acceptable, as there are few trees in the affected areas and re-establishment of new trees would be a satisfactory outcome.

Submitters provided extensive criticisms of this part of the Reference Project, citing loss of parkland, both temporary and permanent, loss of residences and impacts on remaining properties, visual intrusion, loss of amenity for nearby open space, poor environments under the viaducts and the visual conflicts with the 'Melbourne Gateway' as reasons for opposition to the proposal.

The Friends of Royal Park (Submission 396) focused on the area west of the Upfield rail line. The group's concerns were that the wetlands, the White's Skink habitat and, in particular, the Remnant Native Vegetation Site, would be destroyed. The group was concerned that the Reference Project would cause loss of property values in the area, increased noise pollution and light spill and that there would be long-term impacts of the construction work.

Regarding loss of trees, the group's view was that while trees may be removed and replaced this was inconsistent with the aim of letting trees grow to maturity as part of returning the Park to its naturalistic character.

The group felt that the project had been rushed and that greater thought was needed before it could be considered a worthwhile project.

The Safety Net for Royal Park (Submission 257) was a comprehensive assessment of the Reference Project which concluded that the CIS showed no significant consideration of measures to avoid impacts or of alternatives with lesser impacts. SNRP put forward a proposal (SNRP Option 1) which the group considered had fewer impacts on Royal Park and the Moonee Ponds Creek corridor because it followed a route between The Avenue and CityLink that is both underground and to the south of Racecourse Road. A second scheme (Option 2) extended the tunnels to Oak Street south of the wetlands.

The essence of SNRP's position was to remove all aspects of the Project from Royal Park east of Oak Street and hence remove any visual or other impacts on the Park.

The community group Residents Against the Tunnels (RATs) made a comprehensive presentation, including comments about the visual impacts of the project, particularly in the Manningham Parklands area. They asked rhetorically “*What is minimised and what is maximised*?” in reference to the viaducts across this open space and the resumption of residential properties west of Manningham Street. The group contended that the UDF would not be able to appropriately manage the visual impacts of the Project on public open spaces.

The Australian Garden History Society noted the cultural significance of Royal Park and considered that the CIS failed to appreciate this significance, with the Reference Project having “*unacceptable impacts*” on the western part of the Park.

Urban Camp is a building in Brens Drive where groups of school children from regional Victoria stay when in Melbourne. The Urban Camp building abuts the Proposed Project Boundary in an area of Royal Park where either bored tunnel or cut-and-cover construction may be used. Representatives of Urban Camp advised the Committee that, in discussions with the three contractors bidding for the Project, they advised that the impacts on the Camp would be so significant it was suggested that they should close for the duration of the works.

#### Precincts 3 and 4: Along CityLink North

The parts of the Project that are generally along the Moonee Ponds Creek corridor were the subject of many submissions.

Issues raised by Moonee Valley City Council, and reinforced by many other submitters including sporting groups, community groups and individuals, was that the Reference Project would have major visual impacts. It would require loss of passive and active open space due to the design the road and the necessary occupation of land at various locations, whether due to construction at ground level or as elevated structures. The visual impact of proposed noise walls was raised as a significant visual impact.

The extent of land required and the impacts on the activities of sporting clubs, the community garden and open spaces generally were the subject of several submissions. These submissions highlighted, where relevant, the visual proximity of the road, whether at ground level or elevated, and the added visual impact of noise barriers if they are to be installed.

Moonee Valley Council's submission described the various Council plans, strategies and policies that Council has in place to manage and enhance its open spaces, improve transport, walking and cycling. For Council, Ms Hicks stated that the visual impact on neighbourhoods and open spaces of the elevated structures along the Moonee Ponds Creek corridor cannot be mitigated. She stated that the UDF and the Urban Design Principles will not appropriately mitigate the significant impacts of the Project on Moonee Valley.

Council prepared a document (Appendix A to Document 194, being Document 171) to “*try and ensure that the regionally significant open space and amenity of the neighbourhood is not further compromised and appropriate offsets are created”.* It described and showed in diagrams and maps what mitigation measures Council proposes for each of the Debney’s Park area, Delhi Reserve and Travancore Park, Fenton Street and Brisbane Reserves, the Essendon Community Garden, and Ormond Park. It is evident that these measures, while addressing the various impacts of the Project on Moonee Valley's open spaces and parklands, they do not fully mitigate the impacts but work with them to reduce their severity.

Moonee Valley Council has endeavoured to resolve the physical and land-take impacts of the Project. While this exercise demonstrated that Council and its community can, by making compromises, accommodate the construction of the Project in Precinct 4, it demonstrated that impacts will remain.

#### Precinct 5: CityLink South

South of Racecourse Road the main concern was that the elevated road would have unacceptable impacts on the amenity and environment of the Moonee Ponds Creek and open space corridor. It is inconsistent with the Arden-Macaulay Structure Plan and, particularly for people living in the converted and extended former warehouse building at 18 Bent Street. The elevated road would be intolerably close to their windows and balconies with all the attendant issues of visibility, noise, air pollution and loss of property value.

There were several submissions, from residents and commercial property owners close to Part B, as well as Melbourne City Council, which criticised Part B in terms of whether it is required now on traffic grounds or for its visual and other impacts.

Several submitters proposed that Part B, if required, should be located on the east side of CityLink for two main reasons; one, that the land use in this area is more industrial and there is some vacant land, and two, that there would be fewer impacts on sensitive land uses such as the open space corridor of the Moonee Ponds Creek and on nearby residential areas. It may also be that connections to the Part A, if it was oriented towards a point midway between Racecourse Road and Arden Street rather than towards the Manningham Parklands, would be less dominant than the Reference Project's interchange viaducts.

### Discussion

The Reference Project describes new road and associated infrastructure at four parts of the project:

* Precinct 1: At and around the Hoddle Street / Eastern Freeway junction;
* Precinct 3: Royal Park at and around Elliott Avenue;
* Precinct 3: Royal Park in the area of the Manningham Parklands;
* Precincts 3 and 4: Along CityLink north of the proposed junction with the Project; and
* Precinct 5: Along CityLink south of the proposed junction with the Project.

These are discussed separately.

#### Precinct 1: Hoddle Street/Eastern Freeway Interchange

The Committee notes the primary function of the Project, being “*an 18 kilometre freeway-standard road connecting the Eastern Freeway to CityLink and the Port of Melbourne area and extending to the Western Ring Road”.* In this regard, the purpose of the new work in the Hoddle Street area is to direct traffic on the Eastern Freeway into a tunnel travelling west, and vice versa. Other traffic movements are both ancillary to this primary function, or are already in existence.

Experts engaged by LMA to prepare technical reports remained fully supportive of the Reference Project. Any acknowledgement of adverse impacts or community concerns expressed in submissions was almost universally discounted, the capacity of the Performance Requirements as included in the CIS and the contractor's obligation to address any issues being the accepted fall-back means of resolving any perceived concerns.

Submitter opposition to the Hoddle Street flyover was almost universal. Reasons included:

* There is no compelling justification in terms of vehicle numbers, particularly as the 'reverse movement' is not catered for in similar fashion, that is, without traffic signals;
* The loss of all residential properties on the east side of Bendigo Street and three properties in Hotham Street;
* The proximity of the flyover to residences in and near Alexandra Parade East;
* The visual impact of the flyover itself;
* The change in character of the intersection to one more akin to outer urban freeway interchanges than an inner city location and an environment surrounded by heritage overlays;
* The proximity of the flyover and its cable tower to the Shot Tower and the visual intrusion of the tower on vistas to the Shot Tower, which are protected under the Yarra Planning Scheme; and
* Noise caused from the traffic on the elevated roadway.

#### Precinct 3: Royal Park - Elliott Avenue

The permanent works proposed in the Reference Project in this area are largely below ground. However, based on the Mapbook, open cut trenches occupy a length of about 330 metres along Elliott Avenue and about 80 metres to its east to the portal locations. Other works include the realignment of the tram line for a distance of about 300 metres, an elevated structure for southbound traffic on Elliott Avenue and the associated infrastructure of lighting, signage, signals and railings. A number of trees will be removed, and replacement planting is presumably proposed.

Construction activity within the Proposed Project Boundary is more extensive than the proposed permanent works, and these will have a potentially very significant impact on this part of the Park, both during construction and after. These works include the possible cut-and-cover construction method being used from the western portal to 200 metres east of Elliott Avenue. Along this length of underground road, the Proposed Project Boundary has a width varying from 200 metres to 70 metres. If all of this area is affected by the works, there would be a significant impact on the Park in terms of disruption to activity, loss of trees, loss of open space, disruption to movement, visual intrusion and impact on birdlife and fauna.

The Mapbook shows parts of the Elliott Avenue ramps as open trench, parts as cut-and-cover and part as bored tunnel. From the limited information provided by LMA regarding the method of construction, a tunnel boring machine (TBM) will excavate the main tunnels from west to east, commencing in the Manningham Parklands. While this is understandable, the method of boring the on-and off ramps is not evident, given the size and lack of manoeuvrability of the TBM that has been described to the Committee. While this matter is largely for the contractor to resolve, it is of concern to the Committee because the impact of this aspect of the construction is not evident and its consequent impact on this part of Royal Park is therefore unknown in extent and severity.

LMA advised that the bidding consortia may consider the prospect of cut-and-cover further east than 200 metres east of Elliott Avenue (as proposed in the CIS as the easterly limit of cut-and-cover) as far as The Avenue as part of a non-conforming bid.

Experts engaged by LMA were supportive of the Reference Project while acknowledging that there would be, at times, significant impacts on this part of Royal Park both temporary and permanent, but that these impacts were acceptable.

This position was not held by other submitters, whether professionals, special interest groups or individuals. While there was some recognition that, if the route had to pass through Royal Park and if there had to be ramps in the Royal Park area, these could either be better designed or relocated to a less central and less sensitive location.

Concern was expressed regarding the uncertainty surrounding both the extent and impact of cut-and-cover as opposed to bored tunnel and the timing of such works in terms of Park use, particularly the loss of open space during construction, including cut-and-cover construction.

Representatives of the Urban Camp had been advised by LMA that it would be able to operate during Project construction but tenderers suggested to the Urban Camp it may need to close.

#### Precinct 3: Royal Park - Manningham Parklands

The Reference Project includes the construction of roads in an open cut trench and on viaducts from a portal below the Upfield rail line across the Manningham Parklands, across Oak and Manningham Streets through an area where residential properties are to be acquired and over CityLink. One pair of viaducts links to CityLink to the north, with an extension to Ormond road, and another pair sweeps around towards the south, linking to both CityLink and to a new elevated road on the west side of the elevated CityLink south of Racecourse Road.

The works remove the capacity of much of the Manningham Parklands to continue as active sporting fields, including the baseball diamond at Ross Straw Field and ovals used for various sports, both informally and formally. The works also impact an area of woodland north of the tunnel portal and a water storage basin west of Manningham Street.

A total of 55 properties are to be acquired within the Proposed Project Boundary and, as advised by LMA, there are additional residential properties outside the boundary where property owners have requested acquisition due to the proximity of viaducts to their dwellings. Minor roadworks are required to the existing level of Oak Street to achieve clearance from the viaducts which cross it.

The Proposed Project Boundary extends across the full area of the Manningham Parklands, from the north side of the Upfield rail line to the north side of the Trin Warren Tam-boore Wetlands. This extensive parcel of land has an area of about 17ha, and includes, as well as sporting fields, passive recreation areas, avenues of trees and the wetlands, a large area of woodlands on the rising ground to the south-east, regarded as important as is the habitat of White's Skink.

This mixed use public space effectively constitutes the extent of Royal Park west of the Upfield rail line, all of which is within the Proposed Project Boundary.

The LMA, in response to a request of the Committee, advised (Document 507) that the area is within the Proposed Project Boundary as it is the anticipated location of activities including (Document 507):

* Assembly of the tunnel boring machine;
* Machinery storage and maintenance workshops;
* Acoustic shed;
* Laydown areas;
* Area for spoil storage, loading zones and truck access;
* Construction zone for CityLink ramps to north and south;
* Office for up to 200 staff and parking for up to 1000 cars; and
* Site accommodation, training and meeting rooms.

LMA identified a useable area for these activities to be the 7.8ha of land excluding the wetlands and the steeply sloping land. However it is evident that much of this flat open area is to be occupied by roads in trench or on viaduct. It is notable that the only road access to this area is Oak Street leading to Park Street to the north and Church Street leading to Flemington Road to the south, both of limited traffic capacity with residential and institutional frontages.

The Committee has reservations about the capacity of these roads to service the proposed construction works site and to manage the volume of trucks anticipated to remove unwanted spoil from the tunnels without causing unacceptable noise and other impacts.

The northbound viaduct from this area to CityLink is understood to be constructed early in the construction process to provide a route for trucks to carry spoil away from the site. While this may be feasible, the details of this aspect of the Project are not clearly spelled out to a degree that the Committee is reassured of its practicality and feasibility.

Professionals engaged by LMA who, having read written submissions relevant to their areas of expertise, generally concluded that the Reference Project remained an acceptable means of achieving the road function of the Project in terms of its connections to CityLink, and did not recommend or support any change to it.

LMA provided detailed information on how those sporting clubs and groups affected by the loss of playing fields in this area, will be assisted in relocation to alternative sites.

#### Precincts 3 and 4: CityLink North

North of Mount Alexander Road, the Project comprises the viaducts of the northern ramps from the tunnel portal which connect to CityLink northbound, a new section of road on the west side of CityLink extending to north of Dean Street and a new, partly elevated, off ramp to Ormond Road.

The northbound carriageway of the Project is on a flyover over CityLink about 100 metres north of the angled yellow ‘cheesestick’ component of the ‘Melbourne Gateway’. It occupies part of the concreted Moonee Ponds Creek on the west side of CityLink to a point north of the Ormond Road overpass. An off ramp, some 250 metres long is proposed to provide access to Ormond Road from the Project. This ramp will be on structure as it rises to the level of Ormond Road.

There is no complementary southbound ramp from Ormond Road (Brunswick Road), presumably due to a lack of available land in this area, and an inadequate distance to the off ramp.

The major area of visual impact in the area north of Mount Alexander Road will be the required sound walls to reduce traffic noise to an acceptable level. There is thus a trade-off between achieving appropriate noise levels and the visual effects of noise walls, the heights and locations of which are unclear. The use of dense planting to hide sound walls has some merit, but it is evident that space is frequently very limited, that sound walls on elevated structures such as the Ormond Road off ramp cannot be screened and will be highly visible due to their height above ground level.

The ability of some sports clubs to continue at their current locations is compromised or made very difficult due to the proximity of road, road structure or sound walls.

LMA does not propose any compensation or other solution to the loss of open space, as it has done with Melbourne City Council and sporting clubs in Royal Park. This is something that Moonee Valley Council seeks.

#### Precinct 5: CityLink South

In considering the purpose and alignment of Part B, it is clear that while its design and location facilitate traffic movements between Part A of the Project and the Port area, there is significant opposition to it, both in principle and in terms of the location on the west side of CityLink.

South of Mount Alexander Road, Part B of the Project is an elevated structure, generally on the west side of CityLink and at a similar height above ground level.

It extends south to Footscray Road where the proposed western section of the Project commences. From Racecourse Road, the Project is above the Moonee Ponds Creek open space corridor and in places above private property, road and rail infrastructure to the Melbourne Freight Terminal beyond which it connects to Footscray Road.

The viaduct has a width of about 25 metres and is located at varying distances to the west of CityLink, but generally some 35 metres away from it. The Proposed Project Boundary is further west, encompassing roads and properties up to 100 metres from the viaduct itself.

For its length between Racecourse Road and Mount Alexander Road, the elevated road has a width of about 25 metres and is separated from CityLink by about 10 metres. The Proposed Project Boundary extends about 50 metres west of the CityLink structure and covers land which is open space, part of the Debney’s Park Estate currently used for a variety of purposes including soft landscaping with trees, hard paving, a recently-constructed adventure playground and part of an extensive community garden.

The general alignment of the Proposed Project Boundary through this area has been configured to deliberately exclude the Flemington Community Centre, a multi-purpose building used by residents of both the Estate and wider community.

While not precise, it has been calculated that the location of the elevated Project is about 30 to 35 metres from the 20 storey apartment building at 120 Racecourse Road.

This part of the Project will have a significant visual and operational impact on both the nearby residential buildings and the community centre, and on the open space and its facilities.

In terms of visual impacts, there are the views to the elevated road structure itself from many ground level vantage points and from the windows of apartments, but also of the traffic on the viaduct. It is noted that the sound tube, a functional and visual component of the Melbourne Gateway, and which extends for a distance of 300 metres, was installed to reduce noise and visual impacts of traffic on CityLink to improve amenity and reduce noise for people in the open space and the buildings of the Debney’s Park Estate.

In visual terms, the sound tube is effective in not only reducing direct traffic noise in the immediate vicinity but in screening vehicles from view, which reduces the sense of their proximity.

The Project not only makes the sound tube largely redundant but brings a new elevated road some 40 metres closer to residences and directly overhead of the open space areas and the facilities in it. The visual impact will be significant both from a distance, at close quarters and when underneath this proposed road.

The elevated road will have a major impact in visual terms on Mount Alexander Road immediately north of the existing CityLink overpass. Here, the Project is higher than CityLink as it passes over CityLink a few metres to the north. The Project at this point is about 25 - 30 metres from a recently-constructed 30 storey apartment tower on the former Lombard site.

The visual impact of Part B of the Project south of Racecourse Road will be felt in several ways;

* Views to it along east-west streets, including Arden Street, Macaulay Road and Racecourse Road and several local streets, where it will be another structure near to but separated from the existing CityLink;
* Views to it from the bike and pedestrian path on the east side of Moonee Ponds Creek and from the open space along the creek, where the viaduct will either be in close proximity or directly overhead;
* Views from pedestrian points such as Macaulay Station;
* Views from commercial and industrial properties, including Vision Australia and the West Melbourne Terminal Station, both properties where the viaduct is above these properties and whose businesses will be directly affected by it; and
* Residential properties in the Arden-Macaulay redevelopment area, in particular those facing the viaduct in Bent Street where the western edge of the viaduct is generally as close as 8 to 10 metres from these properties.

Part B of the Project is stated in the CIS Summary Report (p.5) as being a separate direct southbound connection from the Eastern Section to the Port precinct part of which is a three kilometre elevated road (viaduct) parallel to and on the western side of CityLink from Mount Alexander Road to Footscray Road and including north-facing ramps at Arden Street.

Thirteen residential properties and 12 commercial properties are to be acquired.

### Findings: Precinct 1 – Hoddle Street/Eastern Freeway Interchange

The Committee considers that the design of this intersection, as well as the proposed land acquisition for the temporary sidetrack on Alexandra Parade, is the consequence of road design taking precedence over other considerations. The Committee believes that the traffic function of the Project in this area can be met by means other than as shown in the Mapbook.

As discussed in Chapter 6.3.4, the Committee considers that by attention to the staging of works and the possible relocation of the eastern portals to a location further east, the need for the sidetrack, and hence the acquisition of many properties including some of acknowledged heritage value, can be avoided.

The Committee considers that the additional traffic functions of the intersection required by the Project can be achieved without the flyover.

Impacts of the Reference Project on this area include:

* Acquisition and demolition of many residential and commercial properties;
* Loss of heritage properties and impacts on heritage precincts;
* Social disruption to residents whose properties are to be acquired;
* Loss of amenity and neighbourhood character and changed visual environments for residents of properties close to areas of property acquisition;
* Significant visual intrusion of the flyover and its associated infrastructure;
* Changed local movement patterns, particularly pedestrian movements; and
* Impacts in terms of air quality as discussed in Chapter 10.

The Committee considers that these impacts can be either avoided or minimised by further design investigations, and that these investigations must be holistic in terms of factors other than facilitating traffic movement.

The Committee has made a number of recommendations in this regard and changes to the Performance Requirements. The Committee finds to reduce the Project’s visual impact, the following design and construction responses are required:

* Design to ensure there are no above ground structures (apart from necessary overhead signs, lighting and sound barriers) at the Eastern Freeway/Hoddle Street interchange, and resolve the traffic movement served by the flyover in a less visually intrusive manner that requires no acquisition of residential property.
* Locate the portals east of the Hurstbridge/South Morang rail bridge, (whether or not the road design in the area east of the Reference Project's portals changes), with openings in this covered area for ramps as required.
* Investigate the capacity to cover roads which are below natural ground level as far east as the relocated portals as a means of creating useable passive public open space and to improve north-south pedestrian and cycle links in this area.
* Sequence the construction process and the management of traffic on Alexandra Parade during construction so that all ground level activity occurs within the Alexandra Parade reserve, thereby negating the need for the sidetrack and the proposed property acquisition for it.

The Committee notes that the Eddington Report (at Section 9.3, Further Recommendations) states that “*If the opportunity is not taken to improve priority for public transport and to improve community amenity, the reductions in surface traffic when the tunnel opened would be eroded over time by natural growth in traffic. Given the likely nature of cut-and-cover in Alexandra Parade, there will also be scope for significant landscaping and beautification works at the completion of construction, as well as opportunities for improving cycling and pedestrian options”.*

The Committee agrees with this recommendation and therefore finds that an urban design study should be undertaken for Alexandra Parade and Princes Street between Lygon Street and Hoddle Street and the Hurstbridge/South Morang railway line precinct. The study should aim to enhance the environment in response to reduced through traffic volumes; provide improved amenity for abutting land uses, pedestrians and bicycle movements; and maximise open space and landscaping within these parameters.

The Committee finds that any structure or works in this Precinct be consistent with the revised Urban Design Principles in Appendix F.

The Committee also finds that measures to improve north-south connections and increase 'green time' at signalised intersections for trams, vehicles, bicycles and pedestrians should be implemented.

### Findings: Precinct 3: Royal Park

The Committee considers the visual and related impacts of the Reference Project in this area represent an unacceptable intrusion into Royal Park. The further reduction in open space, the permanent loss of trees, the realignment of the tram line and the increase in road and traffic-related infrastructure can and should be avoided.

The Committee accepts that the route of the Project may pass under this main part of Royal Park but, if this is the selected route, the visual and landscape impacts on the Park must be reduced to a minimum. This is a key objective of the CIS, namely:

To minimise adverse impacts on the quality of the existing built environment and landscape, including public open space, and maximise the enhancement of public amenity where opportunities exist. (Executive Summary, Technical Appendix H: Urban Landscape and Visual Impact Assessment, page i.)

The Reference Project does not minimise adverse impacts on the landscape of Royal Park.

The Committee notes however, the acceptance by the LMA (CIS Summary Report, p. 36) that:

In Precinct 3, there would be significant temporary and permanent impacts [at the] Elliott Avenue interchanges.

The difference between the objectives of the CIS and the design of the Reference Project in regard to Royal Park are unfortunate and significant.

The Committee recognises that cut-and-cover construction would cause more temporary visual and landscape impacts than a bored tunnel, but accepts that these temporary impacts will not be long term.

It considers that the Urban Design Principles have merit and should be met, and that the Reference Project fails to do so.

The Committee has recommended that the Elliott Avenue interchange not be proceeded with due to its visual intrusion into this part of Royal Park and its impact on the landscape values of the Park, in favour of other means of achieving the proposed traffic movements.

The design of any structure or works in this part of Royal Park should be consistent with the Urban Design Principles set out in Appendix F.

### Findings: Precinct 3: Manningham Parklands

The Manningham Parklands are the most visually impacted part of the Project area. The Committee considers that the evidence in support of the Reference Project in this area is unconvincing, and it was persuaded by the evidence and submissions made by experts, community groups and individuals.

The Committee finds it surprising that these parklands and their adjacent areas of biodiversity significance have been chosen as the optimum location for the construction of such visually divisive infrastructure.

The alignment of the roads and viaducts needs to be modified to ensure that following the completion of the Project, due to the extensive visual and long-term functional impacts of the Reference Project in this area, there is no net loss of passive or active public open space.

The Committee recommends that construction activity should be avoided near land identified as being the habitat of White's Skink or the edges of the Trin Warren Tam-boore wetlands east of Oak Street, and that the part of the Project connecting to CityLink to the east of Manningham/Oak Streets be placed underground.

### Findings: Precincts 3 and 4

While this section of the Project has direct impacts in terms of visibility of roads, sound walls, traffic and infrastructure such as lighting, signage gantries and the like, these are not of sufficient severity that the Committee recommends any major changes. This is despite the Committee’s acknowledgement that there are significant consequences for nearby residents, local parks and sporting fields.

### Findings: Precinct 5

The traffic function of Part B and the traffic connections from Part A to Part B is discussed in Chapter 6 of this Report, which concludes that Part B cannot be justified based on projected traffic volumes until and unless the Western Section of the Project is resolved.

The Committee considers that it would be less visually and socially intrusive for major interchanges, particularly those requiring double-height flyovers, to be located away from sensitive land uses such as residential properties and open space areas where visual and other impacts are greatest, and located in less sensitive areas where industrial uses or other transport infrastructure already exists.

The Committee considers that Part B has been designed without proper attention to the impacts of its alignment on land through which it passes and on properties close to it. A more thorough process, including an assessment of sensitive land uses and the preparation and assessment of alternatives, would have identified the evident shortcomings of Part B. If, indeed, this identification and evaluation of alternative alignments has been carried out by LMA, it is not evident in the CIS or other public information. This has led to community disquiet and scepticism. The occupation of part of the Vision Australia property in Barrett Street, very recently upgraded as a national facility, suggests an inadequate planning and evaluation process and supports the perception that the Project has been designed with inadequate attention to its impacts and following the ‘line of least resistance’ and been the primary determinant of the alignment.

The Committee considers that in terms of its significant visual impact on the Moonee Ponds Creek corridor and buildings and public spaces adjacent to the route, the extent of residential property acquisition that is to be acquired and its proximity to residential properties that are not to be acquired, Part B is an unacceptable design outcome.

The Committee acknowledges that any alternative alignment will have design challenges. These are not able to be understood because the CIS does not include an analysis of factors which led to the selection of the proposed alignment; and the process of arriving at the proposed alignment is not clearly described and is required to be accepted at face value.

The design of any elevated road in this area should be resolved so that impacts such as overshadowing, visual impact, light spill and other aspects are minimised and are consistent with the Urban Design Principles set out in Appendix F, particularly as they apply to elevated road structures.

## Urban Design Framework Assessment

### Introduction

A feature of the CIS is the UDF (Technical Appendix C). While it is a stand-alone document, it is referred to in the *Urban Landscape and Visual Impact Assessment* (Technical Appendix H) at Section 2.4.3 where it is stated that:

The Urban Design Framework illustrates ideas that:

* Respond to regional and local issues at key locations,
* Show how urban design opportunities could achieve positive outcomes, although it is recognised these are not fully resolved design solutions
* Benchmark the urban design quality desired for the project.

Page 7 of the UDF notes that it has been developed taking into account a range of factors including landscape and visual impacts. Relevant to visual impacts are these Urban Design Aspirations (p. 10):

* A consistently high quality, innovative, enduring, urban design response that contributes to Melbourne's reputation for design excellence in the public realm;
* A unifying concept and coherent sense of journey for users of the road and the shared use path network;
* A sequence of significant landmarks - the Eastern Gateway at the Eastern Freeway, the Melbourne Gateway at CityLink, and Western Gateway at Footscray Road/Docklands Highway;
* A series of secondary 'moments' along the way, creating a memorable experience and aiding legibility for road users - the tunnel portals, Elliott Avenue, the tunnel and viaduct journeys; and
* Strengthens place values, resulting in high value usage and activity, improved access for all and an attractive, safe and comfortable public realm.

The UDF describes a series of Principles and Benchmarks which are intended to “*establish the overarching performance requirements for the urban design of the project”*. Many of these refer to visual aspects, whether directly or indirectly. They are set out in pages 13 - 39 of the UDF and are too numerous to articulate here but it is evident that they cover a wide range of criteria against which the LMA intends both the Reference Project or any variation of it is to be judged.

### Key Issues

The Committee accepts the LMA’s position that the Reference Project is a ‘concept only’, a position reinforced by Mr Morris on several occasions at the Hearing. It recognises that the eventual design for Stage 1 of the Project proposed by bidders may differ from the Reference Project, provided it is within the Proposed Project Boundary as shown in the Mapbook, unless there are compelling reasons to depart from it.

The Executive Summary of Technical Appendix H: *Urban Landscape and Visual Impact Assessment* states (page i) that:

The evaluation objectives relevant to this assessment, as set out in the Scoping directions, are:

* Visual amenity - to minimise adverse impacts on the quality of the existing built environment and landscape, including public open space, and maximise the enhancement of public amenity where opportunities exist.
* Noise, vibration air emissions and light spill - to minimise adverse impacts from noise, vibration, air emissions and light spill.

It further states that:

The Scoping Directions require an Urban Design Framework to guide the detailed design of project infrastructure in order to minimise adverse impacts or enhance visual amenity. This Urban Design Framework has been developed for the CIS, and includes ... Urban Design Principles [and] Qualitative benchmarks.

The CIS (Summary Report, p. 43) notes that “*The Reference Project incorporates a detailed, project-wide Urban Design Framework developed by Linking Melbourne Authority”.* In the UDF, it is stated (p. 5) that:

The project is to be designed, developed and delivered by the private sector. Rather than propose a series of prescriptive urban design solutions, this Urban Design Framework articulates some of the key issues and opportunities posed by the project. It stipulates the urban design principles to which the project must respond and benchmarks the quality of the urban design outcomes that are required by Linking Melbourne Authority and the Victorian Government.

It is therefore appropriate to assess the Urban Design Principles to determine:

* Whether the Reference Project meets these Principles and their associated benchmarks; and
* If they are appropriate as a means to ensure that the Scoping Directions can be met.

### Submissions and Evidence

The LMA called Mr Alan Wyatt of ERM. Mr Wyatt presented a summary of the Urban Design Framework (Technical Appendix C) stating that it “*does not provide prescriptive urban design outcomes”* and that it *“envisages that the successful contractor will provide a detailed design*”. The UDF provides examples of built projects around the world which are intended to illustrate options that may be incorporated in the final design. Mr Wyatt's evidence substantially comprised images of examples of bridges, elevated road structures, tunnel portals, landscaped areas, lighting and public artworks, with reference to the five Precincts of the project, as illustrative of written statements included in the UDF.

Mr Wyatt stated that the project can be a good urban design outcome and that the tunnel element of the project demonstrates the LMA's goal of minimising the visual impact.

He considered the junction of the Eastern Freeway with Hoddle Street to already be a gateway; a ‘quasi-entry’ to central Melbourne and that the proposed flyover, described in the CIS as an Eastern Gateway, would not be visually intrusive depending on its design. He cited the Sydney Harbour Bridge and the Westgate Bridge as examples.

Asked if a site analysis as the starting point of the design process had been undertaken (as required by Clause 15 Built Environment and Heritage in the State section of planning schemes) as part of the design process, Mr Wyatt replied that he did not know.

Mr Wyatt was referred to the statement at Section 2.2 of the UDF regarding minimising the extent and impact of elevated road structures He considered that elevated roads can be well-designed, and can be celebrated, consistent with Melbourne's reputation for good design, but accepted that the viaducts in the area of Royal Park west of the rail line would worsen the quality of the area, and that the ideas put forward by Melbourne City Council, including earth mounding over extended tunnels, would be an option. He further agreed that this idea of extended tunnels would be a good design outcome if traffic issues could be successfully dealt with.

When asked if the flyovers between CityLink and the western portals were contrary to the image of the Melbourne Gateway, Mr Wyatt considered that they could be done well and be in harmony with CityLink. He accepted that the presence of the existing CityLink viaducts was not good and that the proposed additional elevated structure would have some additional visual impact.

In terms of the Design Opportunities (UDF, p.25) Mr Wyatt accepted that the Reference Project does not achieve all the desired design outcomes.

He accepted that the eastern vent stack, in its proposed location, would compete visually with the historic Shot Tower, and acknowledged that he had not been asked to consider the visual impact of the western vent stack, but considered that it could be designed to be a visual feature.

In terms of the relevant Performance Requirements in the CIS, Mr Wyatt considered that there was no revision needed to these.

When asked in re-examination if the Performance Requirement LV1 (set out on page iii of the Urban Landscape and Visual Impact Assessment) is adequate to ensure that the Urban Design Principles are used to minimise visual impacts, Mr Wyatt agreed, along with other objectives.

Mr McGauran felt that, while the contents of the Urban Design Principles are valid, there needed to be a better balance between road-oriented objectives and “*place-oriented*” ones.

When asked by Mr Wren about how to get urban design imperatives right, Mr McGauran proposed:

* Retaining the clarity of the edge of the inner city with minimum impacts west of Hoddle Street;
* Concealing the road within Royal Park; and
* Being consistent with the qualities of Royal Park and the Arden-Macaulay area.

He acknowledged the need to connect with CityLink and that some elevated elements would be necessary.

Mr Morris noted that the Incorporated Document is more relevant than the Reference Project to the Committee's considerations

Mr McGauran's conclusions included that:

* There is a poor alignment between the Urban Design Framework and the Victorian Urban Design Charter, and the Reference Project;
* The Reference Project undermines the Arden-Macaulay Structure Plan;
* The extent of viaducts creates a substantial undercroft area that impoverishes the open space options and is contrary to environmental ambitions and urban design benchmarks;
* The loss of trees in Royal Park is contrary to the acknowledged values of the Park given its inner urban location;
* The assessment framework set out in Section 4.7 of the Urban Landscape and Visual Impact Assessment is “*a grossly inadequate assessment tool for the project*”; and
* The ratings summarised in Table 13.1 are inconsistent.

Mr Robert Moore, Manager Urban Design and Docklands at Melbourne City Council, was called by Mr Pitt.

Mr Moore's submission was that the UDF is a design guide rather than a comprehensive UDF. He argued that it fails to provide an over-arching strategic vision for the total project, fails to provide mandatory (and some discretionary) Performance Requirements, and is vague due to its use of words such as ‘minimise’, ‘where possible’, and ‘where feasible’. It is not clear how and where the many images included in the UDF might be applied to the Reference Project or any variation of it.

He offered alternative design solutions for Alexandra Parade (generally consistent with those of Mr McGauran) and for roads within Royal Park. He proposed new Performance Requirements for the surface roads that currently carry the traffic expected to use the Project, noting that these design changes are achievable based on LMA's stated anticipated traffic volume reductions following the opening of the Project.

He stated that the UDF must require a high quality urban design solution for any above ground road infrastructure. At the Melbourne Gateway on CityLink, any works must be sympathetic to the design integrity of the existing Gateway and not attempt to compete with it, and that any sound wall treatments in that area must be consistent with and complementary to the sound tube element of the Gateway.

In terms of visual impact, Mr Moore considered that there should be no third party signage; a topic not addressed in the CIS or the UDF. He concluded by asserting that the UDF lacks overall vision, is inadequate and unenforceable and should be supported by mandatory performance requirements.

The issue of mandatory Performance Requirements was raised in cross-examination by Mr Tweedie for LMA who noted that there are no such controls in Docklands or in Clause 22.18 of the Melbourne Planning Scheme. Mr Moore replied that the development in Docklands was managed “*with some difficulty*”.

Mr Czarny was critical of the process of the preparation of the CIS, stating that “*The CIS as documented does not in my opinion provide a balanced appraisal of the project and its influence, and relies almost wholly on inadequate mitigation measures”.* He stated that:

The removal of the process from typical planning channels of rigorous enquiry has severely compromised the ability of the project to represent a contextually response format. The CIS ... relies almost wholly in a list of inadequate mitigation measures. This document does not engage in adequate, established processes for the production of Urban Design Frameworks.

In terms of the UDF, Mr Czarny stated that “*Whilst positively idealistic in its intention, the clear use of the UDF as applied ameliorative device to the Reference Project as designed, renders its integrity dubious at best. The stage of the process at which it has been produced means that it is unlikely to achieve a meaningful impact upon the successful delivery of the project*”.

In response to a question from Mr Tweedie, Mr Czarny stated that the Urban Design Principles were appropriate in themselves, but the UDF is at odds with them.

Mr Czarny considered that there were other ways to link the tunnels with CityLink other than the Reference Project, and that these need to be explored. In response to a question from Mr Wren, he considered that the options proposed by Mr Higgs (Document 109) are generally preferable in urban design terms.

### Discussion

The Urban Design Principles are listed in the Urban Landscape and Visual Impact Assessment (Section 2.4.2, pages 5 - 10) and in the Urban Design Framework under twelve headings:

1. Design and integration

2. Bridges and elevated road structures

3. Tunnels

4. Ventilation structures

5. Noise attenuation

6. Pedestrian and bike connections

7. Public realm, parkland and recreation

8. Planting and vegetation

9. Materials and finishes

10. Lighting

11. Water Sensitive Road Design

12. Integrated public artworks

While these Principles are extensive, they are characterised by prevalent use of terminology that often includes unquantifiable or unmeasurable words and phrases such as ‘minimise’, ‘maximise’, ‘make a positive contribution’, ‘consider the incorporation of ... ‘, ‘spaces ... are to be optimised to facilitate spatial useability’. The Principles occasionally state the obvious, such as ‘10.3 Design is to provide lighting for pedestrians and cyclists to the parkland, places and paths ... ‘, or ‘11.2 Employ best practice ... ‘.

This lack of clear criteria against which to assess the design makes it difficult to have confidence that any design for the project will achieve the goal of the Scoping Directions, namely, “*to minimise adverse impacts or enhance visual amenity”.*

The word ‘minimise’ is of relevance in assessing the Reference Project, as it is frequently used in the evaluation objectives included in the Scoping Directions. It is reasonable that the Project, whether the Reference Project or any alternative design, be assessed against these evaluation objectives.

In terms of Visual amenity, the evaluation objective is “*to minimise adverse impacts on the quality of the existing built environment and landscape, including public open space, and maximise the enhancement of public amenity where opportunities exist*”.

The Committee considers that the Reference Project fails to meet this clear objective and does not incorporate many of the key elements of the Urban Design Principles and hence the UDF.

This position was reached having assessed the Reference Project against the Urban Design Principles. Illustrative of this are the following Principles, as examples:

Table : Response to Urban Design Principles

| URBAN DESIGN PRINCIPLE | ASSESSMENT COMMITTEE COMMENT |
| --- | --- |
| 1.1 Provide a ... memorable, innovative urban design response which is enduring in expression and quality of finish, for road users, surrounding land users and for Melbourne as a whole. | The elevated viaducts across the Manningham Parklands do not meet this Principle in terms of those open spaces. |
| 1.2 Provide a high quality outcome for residents and adjacent private and public land users with respect to protection of views and privacy, noise amelioration, minimising overshadowing, and providing access and security through innovative and high quality urban, architectural and landscape design. | This Principle is not achieved in terms of the project's impacts on the residents of Bendigo Street (west), the Bent Street apartments or the users of the Debney’s Park Playground. |
| 1.6 Any works within the Moonee Ponds Creek corridor are to enhance the creek environment for open space, amenity and habitat ... | The shadow of a new elevated roadway above the open space which is currently open to the sky between Racecourse Road and Arden Street fails to meet this Principle. |
| 2.2 Minimise the extent and impact of elevated road structures, where possible. | If this Principle has been met, it implies that it is absolutely not possible to reduce the extent or impact of the viaducts over the Manningham Parklands, the Moonee Ponds Creek corridor or public open space in Travancore such as the Essendon Community Garden, as examples.  It implies that any different design at the tunnels' western end must involve more elevated road structures, a point which has been refuted by many submissions.  It also implies that the Reference Project reduces the impact of the proposed elevated road structures to the greatest extent possible. This is arguably not been achieved for the Hoddle Street flyover and the viaducts at the western end. The Reference Project has failed its own Urban Design Principles. |
| 2.6 Any new road structures in the Royal Park setting are to emphasise the dominance and broad context of the parkland and landscape, and minimise severance. | The Elliott Avenue works and the portals and elevated road structures in the Manningham Parklands area demonstrate that this Principle has not been adhered to in the design. |
| 6.2 Maximise opportunities to create and enhance pedestrian and bike paths that provide for local connections and linkages to the wider Principle Bicycle Network. | It was only in response to an approach by the Boroondara Bicycle Users Group that LMA investigated and prepared an indicative design to link the Yarra Trail to Alexandra Parade through the Hoddle Street intersection. No provision for this useful and much-needed link was made as part of the Reference Project. |
| 7.3 Maximise opportunities to create or enhance open space, community and recreation facilities, and to improve accessibility, inclusiveness and general amenity for the community. | Given the Reference Project's occupation of existing open spaces in Royal Park and along the Moonee Ponds Creek corridor and the impacts of these intrusions, it is evident that the Project not only fails to enhance existing open spaces or create new ones, but that it also does not maximise community and recreation facilities, reduces accessibility and is detrimental to the social inclusiveness engendered by sporting clubs and associations which will have their playing areas and facilities adversely affected. |
| 8.1 The design is to enhance the landscape amenity and biodiversity of areas along the corridor and surrounds. | The Part B viaducts will adversely impact the landscape amenity of the Moonee Ponds Creek environment south of Racecourse Road.  The inclusion of the Trin Warren Tam-boore wetlands and the woodland habitat of White's Skink within the Proposed Project Boundary raises doubt that this Principle will be adhered to.  The occupation of the Manningham Parklands by construction activity including an office building and car park and later by elevated viaducts is clear evidence that existing areas of high landscape amenity are to be sacrificed rather than enhanced. |

The Committee notes the response by LMA to its Request for Information under s57(4) of the MTPF Act that the Reference Project is a concept design and that it does not constitute a considered response to the UDF.

The Committee acknowledges that the Reference Project does meet some of the many Urban Design Principles, but it remains concerned that any alternative design for the Project may not be a more complete example of the Urban Design Principles in action than the Reference Project.

The above examples place significant doubt on the degree to which the Reference Project is an example of the Urban Design Principles in action. More importantly, it places doubt on whether any design can represent the implementation of the Urban Design Principles.

At Section 2.4.3 of the CIS it is stated that *The Urban Design Framework illustrates ideas that:*

* Respond to regional and local issues at key locations;
* Show how urban design opportunities could achieve positive outcomes, although it is recognised these are not fully resolved design solutions; and
* Benchmark the urban design quality desired for the project.

The Committee considers that the Reference Project is not an acceptable response to the Urban Design Principles.

Section 2.4.3 states that “*The Urban Design Principles outline the overarching urban design intention of the project. These principles are not mitigation measures”.* This latter sentence makes it clear that mitigation measures are not included within the UDF, and raises the question as to when or where they are to be established and rendered enforceable.

It appears that LMA, has written its own Urban Design Principles and has used them to justify the Reference Project, although it is evident that, in many instances, the Reference Project fails to meet these Principles. The Committee finds that the Reference Project fails to meet a number of important Principles and benchmarks described in the UDF.

Any design proposed by bidding consortia must be able to be rigorously assessed against these Principles and benchmarks to ensure that it achieves them to an acceptable extent, otherwise the UDF does not serve its stated purpose as a key determinant of the final design.

The Committee notes the LMA's comment (in its response to the Request for Information under s57(4) of the MTPF Act, p.61) that “*Performance Requirement LV1 requires that the ultimate design of the Project demonstrate how the Urban Design Framework, including the urban design principles, has been met. The UDC must accordingly be taken into account, along with the more tailored urban design principles articulated in the UDF, in the formulation of the ultimate project design*”.

### Findings

The Committee considers that the process of reaching the design that is the Reference Project has not been one that follows the logical path of identifying viable options, evaluating them, engaging the community in the process at an early stage when such input can be incorporated, testing the preferred option against robust criteria, adjusting it and then proposing it with supporting justification.

The Committee is concerned that the Reference Project has preceded the UDF and the Urban Design Principles and that it is not an evident response to them. While the Urban Design Principles include many unquantifiable statements, they do collectively represent a set of objectives against which any design for the Project should achieve. The Reference Project fails to do this.

Technical Appendix C 'Urban Design Framework' to the CIS includes a set of Urban Design Principles and qualitative benchmarks which *establish the overarching performance requirements for the urban design of the project*. The Principles are set out in twelve categories with one or more primary Principles for each and, in some cases, 'sub-Principles'.

The Cities of Melbourne (Document 444), Yarra (Document 477) and Moonee Valley (Document 244) provided proposed changes to the exhibited version of the Urban Design Principles. So did urban design expert Mr Rob McGauran and the individual submission of Andrew Herington (Document 489). The LMA provided specific responses to the proposed changes via a number of separate versions of Table 1 in its closing submission (Document 525). It also provided its consolidated version of changes it accepts in a five page version of Table 1, dated 15April 2014.

The Committee accepts that the Principles are in general, an appropriate basis on which to assess any design for the Project. However, the Committee considers that the Principles can be more effective, and recommends they are revised as set out in Appendix F.

It is relevant that the LMA frequently stated that the Reference Project is a concept only and is unlikely to be constructed. For this reason Urban Design Principles must be sufficiently broad to be able to be applied to any design, and not relevant only to the Reference Project. This is not the case with many of the Principles, and they are revised accordingly.

The 'sub-Principles' have not been revised. The Committee anticipates that the independent assessor will apply the intent of them, as appropriate, to aspects of any design whose details are not covered by them, as articulated in Appendix F.

For the Principles to be effective, they must be incorporated into design objectives and specifications for each element of the Project, as appropriate.

As it is likely that the responsibility for this incorporation and ultimate implementation will be the contractor's, it is recommended that an independent design assessor or assessment panel be appointed, whose role will be to ensure that at all stages of design, documentation, tendering and construction, these Principles are incorporated and implemented. This could be the Office of the Victoria Government Architect or some other independent body.

If a process such as this is not adopted, it raises the potential that the Principles are not achieved to the extent necessary to ensure best practice, as described in Principle 1.1.

It is noted that many words and phrases within these Principles are subjective and not able to be quantified. An example is 'minimise', which is hard to measure as there is no comparison project against which to determine if minimisation has actually been achieved. Another is 'where appropriate'. This absence of measurable performance standards, is a further reason for the oversight role of an independent design assessor.

The Committee finds that the final design for the Project must be rigorously evaluated against the Urban Design Charter for Victoria, and the Urban Design Principles provided in Appendix F.

# Noise and Vibration

## Introduction

### Terms of Reference and Applicable Approvals

In addition to its overarching tasks of assessing the CIS and evaluating all applicable law criteria for applicable law approvals, Part 7(d) of the Committee’s Terms of Reference includes the following *‘Public Hearing Matter’* relating to noise and vibration:

Whether the **noise, vibration**, air emission and light spill impacts of the project will be appropriately managed by the proposed measures. (Committee emphasis)

The relevant applicable approval under the MTPF Act is a Works Approval under section 19B (road tunnel and ventilation system air and noise emissions) of the *Environment Protection Act* 1970.

### Conclusion of the CIS

Chapter 12 of the CIS concluded that while construction of the project tunnel may produce extended periods of noise and perceptible vibration at times, these would be minimised in accordance with the relevant guidelines and standards. In relation to the recommended performance requirements the CIS concludes that they would not completely remove the potential for vibration impacts. However, they would minimise the potential for vibration related damage to property and other infrastructure, as well as heritage items and buried assets (such as pipelines and fibre optic cables) and therefore would confine impacts to personal amenity rather than physical damage to assets:

Short-term amenity related impacts would be managed by implementation of the construction environmental management plan.

The potential for vibration impacts as a result of surface construction would be managed by compliance with AS2570 where practicable and compliance with the performance requirements.

Any noise impacts generated by the project would need to comply with the VicRoads or CityLink noise limit criteria. This could be achieved with noise barriers and other noise reduction treatments at particular locations.

The CIS concluded that once operational, the Project may provide noticeable “*and even significant”* improvements in the noise environment in proximity to existing roads due to a reduction in traffic volumes.

According to the CIS, the tunnel ventilation system would be designed to achieve compliance with SEPP N-1.

### Objectives and Performance Requirements

The CIS evaluation objective (set by the Scoping Directions) for Noise and Vibration is:

To minimise adverse impacts from noise, vibration, air emissions and light spill.

There are nine corresponding Noise and Vibration Performance Objectives in the CIS:

* A requirement to Comply with limits on noise levels (Listed in Table 12-9);
* Minimise traffic noise impacts of East West Link – Eastern Section and local roads;
* To minimise noise impacts of the tunnel ventilation system;
* To minimise traffic noise impacts of East West Link – Eastern Section and Local Roads;
* Manage surface construction noise to protect amenity;
* Manage construction vibration and regenerated noise impacts to protect amenity;
* To manage construction vibration to protect utility assets;
* To manage construction vibration and regenerated noise impacts through community engagement to protect amenity; and
* To manage construction vibration and regenerated noise impacts to protect the Melbourne Zoo.

An extensive list of Performance Requirements are specified in Chapter 12 of the CIS (Table 12-9) which are to be included in the Environmental Management Framework for the Project to meet these Performance Objectives. The CIS stated that it “*would be up to the contractor(s) to determine the best approach to meeting the performance requirements, subject to legislative and other requirements*”.

### Noise and Vibration Issues

The Committee heard noise evidence from the following experts:

* Mr Peter Fearnside of Marshall Day Acoustics for the LMA;
* Dr John Heilig of Heilig and Partners Pty Ltd for the LMA;
* Mr Timothy Beresford of Norman Disney and Young for the City of Melbourne;
* Mr Robin Brown of Renzo Tonin and Associates for Moonee Valley City Council; and
* Mr Neville Goddard of Watson Moss Growcott for the City of Yarra.

At the request of the Committee, all experts met to discuss the relevant issues and determine points of agreement and dispute. A meeting on operational noise and noise and vibration from surface construction activities was attended by Messrs Fearnside, Beresford, Brown and Goddard.

At the conclusion of the conclave and further discussions an ‘*Agreed Statement*’ (Document 9), was provided to the Committee.

The following topics were discussed and generally **agreed** by the experts at the conclave.

* Where buildings are demolished in Precinct 1 the noise criteria should be ‘existing + 12dB’ for dwellings behind exposed to noise;
* Noise mitigation should be considered for open space;
* A number of suggestions for a construction noise management plan;
* A number of technical issues to do with different noise criteria;
* Further detail was needed in relation to traffic volumes behind noise modelling; and
* Pre-construction noise modelling is needed.

The following topics were discussed and generally **not agreed** by the experts at the conclave.

* There was not agreement on mandatory noise limits for open space;
* There was not agreement on a reduced noise limit for the Arden – Macaulay Structure Plan area; and
* Technical disagreement about a noise limit related to the Project and CityLink.

Based on its consideration of the evidence and written and verbal submissions and evidence relevant to its Terms of Reference relating to noise, the Committee has grouped its assessment under the following headings:

* Policy Settings;
* Consideration of Noise Impacts;
* Traffic Noise;
* Construction Noise;
* Tunnel Ventilation Noise; and
* Vibration.

## Policy Settings

### VicRoads Traffic Noise Reduction Policy (VTNP)

*VicRoads Traffic Noise Reduction Policy* (VicRoads, 2005) is an internal VicRoads policy that guides traffic noise consideration on roads constructed and managed by VicRoads and was tabled in the Hearing as Document 81.

The Policy identifies two categories of buildings for noise protection. Category A is defined as “*residential dwellings, aged persons homes, hospitals, motels, caravan parks and other buildings of a residential nature”.* Category B is defined as “*schools, kindergartens, libraries and other noise sensitive community buildings”.*

The VTNP sets noise limits for new (arterial roads or freeways built on new alignments) and improved (existing arterial roads and freeways that are widened by two or more lanes resulting in loss of protection from noise by building removal) roads. For improved roads, the criterion is qualified by being the greater of the numerical level or the level that would have prevailed if the improvements had not occurred.

The VTNP sets limits of 63 dB LA10(18h) for Category A buildings and 63 dB LA10(12h) for Category B structures. It contains a provision to consider limiting noise increases for road improvements where the existing noise levels are less than 50 dB LA10(18h)by restricting the noise increase to 12 dB.

Off-reservation noise reduction measures (essentially building façade treatments) are provided for subject to practicability and to agreement with the relevant parties.

The VTNP includes consideration of retrofitting traffic noise reduction measures to existing freeways and arterial roads. The trigger noise level for considering retrofitting is 68 dB LA10(18h). That retrofitting program is limited to Category A and B buildings and includes provision for building treatments.

The Committee was informed by the LMA that the VTNP applies only at the ground level of sensitive receptors although this is not stated in the Policy itself. The ground level reference appears to derive from RDN 06-01 *Interpretation and Application of VicRoads Traffic Noise Reduction Policy* 2005 (VicRoads 2010) and *Traffic Noise Measurement Requirements for Acoustic Consultants* (VicRoads 2011); documents not referred to in the VTNP.

The Committee was advised that the VTNP provides for design to ensure that traffic noise complies with the criterion specified for at least 10 years. The source for this figure appears to be RDN 06-01.

The VTNP does not provide for traffic noise protection for passive or active public open space but suggests that VicRoads will consult with affected parties on the need for small area open space protection*.*

The VTNP does not set a night time traffic noise objective but notes that *“VicRoads will implement appropriate traffic management measures, if necessary, to ensure that night time noise levels are not excessively high”.*

RDN 06-01 provides for the assessment of traffic noise reduction measures to be subject to a *practicability* test. That test includes evaluation of *feasibility* and *reasonableness*; those two aspects are described.

### CityLink Concession Deed Traffic Noise Criteria

The Committee was informed by LMA that the CityLink Concession Deed requires the concession holder (Transurban) to meet a noise criterion of 63 dB LA10(18h) at identified sensitive receptors. This requirement, unlike the application of the VTNP at ground level receptors only, requires compliance for elevated receptors that existed prior to the construction of CityLink. The source of this appears to be *Melbourne CityLink – Project Scope and Technical Requirements* at Clause 1.5, which notes:

Except within tunnels, noise generated by traffic volumes consistent with the Design Traffic Capacities on the Link and at any tunnel portals must comply with the following noise level objectives:

(a) 63 dB(A) L10 (18hour) for Class A and B categories (refer VicRoads Noise Policy) of abutting development throughout the Project.

(b) No attenuation required for Class C categories (refer VicRoads Noise Policy) of abutting development throughout the Project. (Panel note the VTNP contains no Category C.)

Noise attenuation measures on land or buildings outside of the road reservation are permitted subject to the written agreement of the Responsible Authorities and relevant property owners.

The Committee was not advised if the Deed contains a practicability assessment. The Deed requires compliance for the length of the concession; that is, until 2035.

### Australian/New Zealand Standard AS/NZS 2107:2000 Acoustics-Recommended design sound levels and reverberation times for building interiors

The standard specifies interior sound criteria for occupied building spaces and provides information by the use of the spaces. For each use a “… *satisfactory* and *maximum”* level is identified.

The noise levels are presented as dB LAeq. For dwellings near major roads the recommended *Satisfactory* level for living areas is 35 and the *Maximum* 45; for sleeping areas the levels are 30 and 40 respectively.

AS/NZS 2107:2000 is used to complement external traffic noise criteria. Traffic noise levels are used to establish appropriate levels of traffic noise that respect outdoor amenity. The Standard informs the extent of acoustic attenuation that might be required. The noise reduction for a building with open windows is usually taken as about 10-15 dB and with windows closed perhaps about 25 dB. In comparing external traffic noise objectives using the L10 metric with the internal Leq objective for typical traffic noise Leq is usually regarded as 3 dB less than L10. Thus an external noise of 63 dB LA10 translates approximately to an indoor level with windows open of approximately 45-50 dB LAeq.

### Environmental Guidelines for Major Construction Sites, EPA Victoria, Publication 480 (1996)

The Guidelines provide information for major roads and development projects to help set environmental performance objectives and how to meet them using best practice. The Guideline embraces a range of possible environmental impacts from major construction works including noise. It considers planning and design, the role of an environmental management plan including segmented plans for large sites, and inspections, monitoring and audits, and presents a number of measures that might be used to mitigate construction noise from all site activities. One of those suggested measures is placing limits on operating hours.

### Noise Control Guidelines, EPA Victoria Publication 1254 (2008)

These Guidelines provide suggested noise control measures for a wide range of sources including construction and demolition site noise and are primarily to be used by Councils in avoiding and resolving noise nuisance. The Guidelines identify its purpose as protecting nearby residents from unreasonable noise, and identifies the importance of community consultation, particularly for large scale or high impact works and articulates the importance of work scheduling. A schedule to the Guidelines provides guidance on noise limits for out of hours, including night time.

The schedule does not include a noise limit during normal working hours butexplains that there remains the ability to respond to noise that is, at any time, considered to be “*unreasonable”*

The Guidelines make provision for “*unavoidable works*” that might be essential but breach the construction noise requirements. It allows for approval of “… *low-noise or managed-impact works that are inherently quiet or unobtrusive or that do not have intrusive characteristics such as impulsive noise”.*

### Noise Guidelines – Construction and Maintenance Works, VicRoads Technical Guidelines, VicRoads (2009)

This document provides a statement of the regulatory framework for noise control from the *Environment Protection Act* 1970 and the *Health Act* 1958. It presents a construction noise management flow chart, and it documents noise management options grouped into “*source control, path control and receptor control”.* The Guidelines discuss work times and give guidance for noise monitoring, and provides information on community engagement and stakeholder liaison.

### Australian Standard AS2436:2010: Guide to noise control on construction, maintenance and demolition sites.

This standard provides guidance on controlling noise from construction sites including the investigation, identification and measurement of noise and of project supervision. It presents information on the noise mitigation effectiveness of various control measures.

### State Environment Protection Policy (Control of Noise from Industry, Commerce and Trade) No. N-1 (SEPP N-1)

SEPP N-1 applies in the Metropolitan region and has the goal of protecting people from noise from commerce and industry. It defines the beneficial uses to be protected as:

*Beneficial uses shall be the normal domestic and recreational activities including, in particular, sleep in the night period.* (p.2)

The Policy defines noise sensitive areas to be protected and also defines day, evening and night periods when different limits apply. Schedules to the Policy describe the process for measuring background noise and determining appropriate limits. The SEPP specifies base noise limits such that:

The noise limit shall not be less than the values below:

Day period 45 dB(A)

Evening period 40 dB(A)

Night period 35 dB(A)

### Interstate Policies

The *New South Wales Road Noise Policy* (2011) was tabled as Document 80 and is a comprehensive document that provides quantitative noise assessment criteria for a wide range of land uses. The criteria are more stringent and extensive than those in the VTNP. Its application is subject to tests of feasibility and reasonableness. The NSW Policy is adopted NSW Government Policy and is administered by NSW EPA.

The *Interim Construction Noise Guideline*, Department of Environment and Climate Change NSW (2009) is a comprehensive document that describes a quantitative and a qualitative approach to controlling construction noise. The quantitative assessment method prescribes guidance noise levels or management levels for various sensitive land uses and discriminated by time. The qualitative method is to be applied to short term works of not more than three weeks at an individual sensitive location. The guideline provides for the application of feasible and reasonable measures to the noise control approaches.

The *Construction Noise Strategy*, Transport Construction Authority NSW (2011) presents suggested construction noise management strategies. It provides suggested maximum allowable noise levels for items of construction plant and equipment. It gives noise levels above background, by day and time, for which additional mitigation measures are advocated.

## Consideration of Noise Impacts

The Committee has considered noise impacts in the following three areas which consolidate some of the Precincts used in the CIS:

* The eastern section, being the connection to the Eastern Freeway, and surface works at Hoddle Street including changes to the Eastern Freeway;
* The tunnels including the access to the portals;
* The western section, being the surface works providing the connections to CityLink and the port connection.

Appendix J (*East West Link – Eastern Section, Surface Noise and Vibration Assessment)* of the CIS presents the LMA’s evaluation of surface traffic noise impacts for the Reference Project.

### The eastern section of the Project (Precinct 1)

The summary of Appendix J noted the following:

* Traffic noise may increase in some areas due to increased Eastern Freeway traffic and new links to Hoddle Street, including the flyover;
* The limit for most residences in the area will be 68 dB LA10(18h);
* The limit for residences exposed to increased noise by building demolition will be 63 dB LA10(18h);
* Modelling of noise scenarios shows predicted levels can be complied with using noise barriers up to 4.5m high in most locations;
* Noise mitigation is not proposed in the Yarra Bend Park open space area; and
* There may be some noise reduction along Alexandra Parade.

At the eastern end it is proposed to apply the VTNP.

Modelled noise contours to support the assessment were provided in Appendix J including more detailed contours for Bendigo Street and the proposed sidetrack. Proposed noise barrier locations and heights were also included.

The key results of the assessment were:

* Sensitive receptor locations with removal of intervening buildings:
* Bendigo Street, Collingwood. Increased noise exposure for houses on the west side due to demolition of houses on the east side. Existing noise levels are about 57-64 dB LA10. Noise barriers would protect dwellings to a level of 63 dB LA10(18h).
* Alexandra Parade, Clifton Hill. The sidetrack construction requires removal of buildings which will expose residential properties abutting the northern side to increased traffic noise. The existing noise level at those dwellings is about 50 dB LA10. A 4m high noise barrier to protect dwellings to a level of 63 dB LA10(18h) is proposed which would be in place until construction is complete and new buildings erected.
* Sensitive receptor locations with no removal of intervening buildings:
* Alexandra Parade East, Clifton Hill. East of Hoddle Street and north of the Eastern Freeway the houses are currently protected by a noise barrier along the Eastern Freeway. They will be affected by the proposed Hoddle Street flyover. The existing noise level is about 64-65 dB LA10. A 4.5m noise barrier is proposed plus a 1.5m high barrier on the left side of the flyover to meet the proposed 68 dB LA10(18h) criterion.
* Maugie Street, Abbotsford. East of Hoddle Street and south of the Eastern Freeway a noise barrier currently protects these houses from the southbound exit ramp on to Hoddle Street. The existing noise level is about 66 dB LA10. A 3 to 4m noise barrier is proposed to meet the 68 dB LA10(18h) criterion.
* Alexandra Parade, Clifton Hill. West of Hoddle Street and north of the Eastern Freeway a noise barrier currently protects the social housing units from the at-grade loop road. No existing noise level has been provided for that location. A 4m noise barrier is proposed to meet the 68 dB LA10(18h) criterion.
* Alexandra Parade, Collingwood. West of Hoddle Street and south of Alexandra Parade/Eastern Freeway a noise barrier currently protects these units from the Eastern Freeway emerging from in-cut to at-grade. The existing noise level is about 59 dB LA10. A 3.5 to 4m noise barrier is proposed to meet the 68 dB LA10(18h) criterion.
* Alexandra Parade traffic noise impacts. Existing noise levels are currently significantly over the 68 dB LA10(18h) criteria in Alexandra Parade. Two short term day time noise measurements, one on each side of Alexandra Parade, both recorded noise levels of about 77 dB LA10. Noise barriers will not be practical in this environment, but given that noise is not expected to increase by 2dB or more, and may decrease, it is unlikely additional noise mitigation will be required.
* Hoddle Street traffic noise impacts. Appendix J does not address traffic noise from works on Hoddle Street. Two short term day time noise measurements are provided, both on the western side of Hoddle Street. North of Alexandra Parade the reading was 69 dB LA10, and south of Alexandra Parade was 77 dB LA10.
* Yarra Bend Park. The Eastern Freeway east of Trenerry Crescent is bounded on both sides by Yarra Bend Park. Appendix J notes that although traffic in this area is expected to increase by 50%, no noise limits are proposed based on the VTNP.

### The tunnels of the Project (Precinct 1 (part), Precinct 2) and Precinct 3 (part)

Appendix J notes that there will be no adverse surface traffic noise impacts in this section and there is potential for a reduction in surface traffic noise.

### The western section of the Project (Precincts 3, 4 and 5 (part))

The summary of Appendix J included the following for Precincts 3 and 4:

* As 63dB noise limit will apply to the eastern end of the Project as per CityLink, requiring consideration of cumulative noise impact;
* The noise limit is likely to be exceeded at a number of locations at the eastern end without mitigation works;
* Noise mitigation should bring the project into compliance at ground level, but noise levels at higher building facades may require building treatment;
* Traffic noise levels around Elliott Avenue should decrease, but will increase around the tunnel portals and Ross Straw Field; no mitigation is proposed for these open space areas.
* Existing noise barriers on CityLink will need to be relocated and possibly increased to ensure the noise criterion of 63 dB LA10(18h) is met by the combined noise from CityLink and the Project; and
* As for other precincts no open space mitigation is proposed.

The Ormond Road ramps were not part of the Reference Project when Appendix J was prepared. An Addendum was provided as part of the expert witness statement of Mr Fearnside.

Precinct 5 Appendix J includes:

* Noise sensitive uses are limited in this area and include housing in the Bent Street Kensington vicinity;
* Noise criteria would not be exceeded at ground level with the Project;
* On the upper levels of the Bent Street apartments the addition of noise from the Project will only be in the order of 1 dB by 2031.

The Arden Street ramps were not part of the Reference Project when Appendix J was prepared. An addendum was provided as part of the expert witness statement of Mr Fearnside. This adds for Precinct 5:

* The Arden Street ramps change the predicted noise contours in this area but the predicted levels are below the 60 dB target; and
* If noise sensitive uses are introduced in this area (Arden-Macaulay) it will be the developers responsibility to address traffic noise mitigation.

## Traffic Noise

### Introduction

This section of the report considers the scoping directions, evaluation objectives and Committee Terms of Reference in evaluating the predicted traffic noise impacts. The Committee recommends traffic noise performance requirements which it believes are appropriate to providing a satisfactory acoustic environment and which are achievable.

The exhibited Performance Objectives and Performance Requirements are shown in Chapter 17 of the CIS.

### Key Issues

The key issues for traffic noise include:

* The adequacy, or otherwise, of the noise criteria of the VTNP to prevent annoyance from the noise of traffic using the Project;
* The appropriateness of the traffic noise management proposals in the CIS;
* Whether the daytime traffic noise criteria are sufficient to protect amenity;
* The need for a separate night time noise criterion to protect against sleep disturbance;
* The need to provide noise protection at elevated building levels;
* Providing acoustic mitigation of sensitive receptors to complement traffic noise criteria;
* Noise protection for passive and active public open space;
* The duration of compliance with traffic noise criteria; and
* Where traffic is projected to decrease on roads within the Proposed Project Boundary because of traffic diverted to that road, including Alexandra Parade and Princes Street, to ensure that the benefit of the associated traffic noise reductions are realised and maintained.

The following sections present the major elements that are essential to the Committee’s discussion of traffic noise and its recommendations.

### Submissions and Evidence

Mr Fearnside gave evidence for LMA. He provided a comprehensive presentation (Document 76) to the Committee that emphasised and explained the major points of the CIS traffic noise assessment including an overview on a precinct by precinct basis of the key noise issues for the Project. Mr Beresford gave evidence for the City of Melbourne. Mr Beresford’s evidence focussed on the effect of traffic noise on Ross Straw Field and Royal Park near the proposed Elliott Avenue ramps, and on the port connection impact on the Arden–Macaulay area. He provided noise measurements in Ross Straw Field of 56-60 dB LA10(18h) and near Elliott Avenue of 62 dB LA10(18h). He provided figures illustrating the traffic noise impacts on these two areas of Royal Park using the CIS modelling but without the façade correction used in the CIS. Mr Beresford discussed speech intelligibility implications of heightened traffic noise levels. For the Arden–Macaulay area he provided a noise measurement of 69 dB LA10(18h) at the fourth floor of the Bent Street apartments and presented an approach for a noise criterion for that area.

Mr Brown was called to give evidence for the City of Moonee Valley. Mr Brown reported on measuring traffic noise at four ground level locations in Ascot Vale, Moonee Ponds and Flemington including the Flemington Community Centre. The results were in the range 56-61 dB LA10(18h) indicating compliance with the CityLink Concession Deed at those sites. Measurements were also taken at the façades of levels 10 and 18 of 120 Racecourse Road in the Debney’s Park Estate. These gave results of 67 and 69 dB respectively. Calculation of internal noise levels between 7 am and 10 pm indicated 57 dB LAeq with windows open and 40 dB LAeq with windows closed, and between 10 pm and 7 am 54 dB LAeq with windows open and 37 dB LAeq with windows closed. Mr Brown said that he would not expect the proposed noise barrier on the proposed elevated section of the project to provide significant noise attenuation to upper levels of the building.

Mr Brown suggested that the traffic noise assessment using a simple model should be updated with a more comprehensive one to assess with greater confidence the need for façade treatment. He advised that the CIS response to open space noise was “*a satisfactory approach*.”

Mr Goddard gave evidence for the City of Yarra. He observed that the VTNP was developed and implemented to respond to community concerns about traffic noise while limiting expenditure of public funds on noise control and added that with that focus *“…..the policy allows for relatively significant increases in noise level under some circumstances”.* Mr Goddard said that the policy is an appropriate basis on which to assess the impact subject to that caveat.

Submissions from the City of Melbourne raised a number of concerns, some of which included loss of amenity due to noise impacts in Royal Park, provision of noise barriers, and noise impacts from the portals. The key issues for the City of Yarra included increased noise and consequent social and environmental impacts, sleep disturbance, and increase in noise at the sidetrack area. The City of Moreland tabled a report on traffic noise measurements (Document 337) made at a number of residential receptors immediately south of the Ring Road in Gowanbrae. These showed day time traffic noise levels during the day to generally be within, sometimes marginally, the VicRoads policy level of 68 dBLA10(18h) and night time levels to be often similar to and not much less than those day time levels. Further, the data showed apparent differences in the noise character between day and night.

Various submissions from individuals and groups included concerns about traffic noise impacts on the Clifton Hill Primary School, Melbourne Zoo, various roads along and adjacent to the Project route, Royal Park, its facilities and surrounds and residential areas. Other matters raised included the effectiveness of noise attenuation structures, noise emissions not adequately addressed in the CIS, impacts on liveability, and from trucks and construction vehicles.

### Discussion

#### Day time noise

The Committee considers that it is not appropriate to propose different traffic noise criteria on different parts of the Project, and the Project must be assessed as a single project with uniformity in Performance Requirements. It is understood that that is the case with CityLink and EastLink.

The major factors influencing traffic noise are the number of vehicles using a road including the ‘mix’ of vehicles (particularly the number of heavy vehicles) and the intrinsic noise of the classes of vehicles. Other factors that contribute to noise are speed, road grade and the type of road surface. It is satisfied that the assessment of traffic noise has been appropriately carried out using projected traffic volumes, including heavy vehicles and road conditions as inputs to a well-developed and widely used, although simple, model.

However, evidence was provided to the Committee by the LMA that the traffic estimates for Part B are for the Project only and do not include traffic that would be generated by the proposed Western Section of the East West Link. That evidence indicated that the full East – West Link through to the Western Ring Road would be expected to increase traffic on Part B about fourfold. That would increase traffic noise by about 5 dB, which is a substantial increase in traffic noise. The Committee believes that it would be prudent to incorporate this increased traffic noise projection in the design of noise mitigation measures.

Based on the evidence before it, the Committee is not persuaded that the traffic noise Performance Requirements presented in the CIS are appropriate. It believes that it does not in all cases provide adequate protection from intrusive traffic noise that protects amenity and health. Further the complexity of the proposed Performance Requirements, a point acknowledged by the LMA, is likely to lead to uncertainty, and to difficulty in apportioning responsibility between the Project and CityLink, and possibly conflict and failure to meet the noise criteria.

The Committee has reservations about the appropriateness of a strict application of the noise limits of the VTNP. The policy is dated and is not consistent with contemporary practice in traffic noise control and appears to have no particular status in law or planning. Its application is difficult at the CityLink corridor because of the interface with the noise requirements of the CityLink Concession Deed.

The Committee recommends a uniform day time noise limit for specified noise sensitive sites affected by noise from the Project of 63 dB LA10(15h). The averaging time is discussed later.

#### Night time noise

The Committee is aware that the present VTNP does not provide a specific and direct control of night time traffic noise. Given the usual diurnal variation of traffic, with day time volumes typically more than those at night, it is assumed that if day time traffic noise levels meet a criterion then night time levels will be less and thereby satisfactory. Some expert evidence supported that position.

The Committee is conscious that a major reason for limiting noise at night from any source is to provide protection against sleep disturbance. It is aware that many noise control strategies and policies provide for maximum noise levels at night, and that these are lower than day time levels. Traffic is a major source of noise along major roads in urban areas. The Committee believes that it is no longer appropriate to accept this implicit control of night time noise. Further, it seems feasible that on some roads there might be increasing heavy vehicle movements at night.

The submission from Moreland City Council was informative. The noise results taken from several residential locations adjoining the Western Ring Road in Gowanbrae, which show night time LA10 (6h) noise levels similar to or approaching the day time LA10 (18h) levels, suggests to the Committee that this premise of a day time traffic noise control resulting in a satisfactory night time level cannot remain unquestioned.

The Committee therefore recommends that a night time traffic noise level be implemented for the Project. It suggests that the level be 58 dB LA10(9h) from 10 pm to 7 am. The Committee accepts that there is currently no night time Victorian traffic noise standard, but considers that given the intensively settled inner urban environment; and the likely 24 hour operation of the Project in terms of noise; the Committee considers the limit is not unreasonable.

The limit suggested above is approximately 55 dB LAeq(9h). That compares with the NSW assessment criteria of 55 dB LAeq(9h) for the redevelopment of an existing freeway or major arterial road, and contrasts with 50 dB LAeq(9h) for a new freeway or major arterial road.

The 10 pm to 7 am night time band is advised to recognise a reasonable sleep time and to be consistent with many other noise strategies such as SEPP-N1.

The internal night time noise with windows open of that external traffic noise level would seem to be about 40-45 dB LAeq. Some AS/NZS 2107 noise mitigation would appear to be indicated to reduce noise by 10-15 dB LAeq to reach internal night time noise levels of 30 dB LAeq.

The Committee notes that in advocating both day time and night time traffic noise levels one would usually be expected to determine the ‘transmission path control’ noise mitigation measures (noise barriers and building façade treatments). If measures to meet the day time objective also meet the night time one that day time goal then prevails. If such day time measures fail to meet the night time objective the measures must be designed to meet that night time goal in which case the day time target would be expected to be met comfortably. It is that latter situation that demonstrates the value of a night time traffic noise objective.

The noise sensitive receptors for night time noise are the same as those to be protected for day time noise.

#### Noise objective time periods

The Committee recognises that introducing a night time noise band affects the time band for the day time limit. That day time noise band hence becomes 15 hours rather than 18 hours and extends from 7 am to 10 pm. Evidence submitted to the Committee suggests that there would be insignificant difference in the traffic noise LA10 metric between 18 and 15 hours. At worst, the Committee believes that it may make the day time level very slightly more stringent by removing small periods of possibly lower traffic volumes.

#### Duration of traffic noise objectives

The Committee acknowledges the difference between the VNTP and the CityLink Concession Deed on the length of compliance with traffic noise goals. The former requires mitigation design to be effective for a minimum of 10 years; the latter for the length of the Concession Deed.

The Committee recommends that for the Project the traffic noise objectives should be met for the duration of the Project Concession Deed, and that the works should include that within the present Proposed Project Boundary plus CityLink from Dynon Road north to where CityLink is included in that boundary.

#### External traffic noise and internal acoustic amenity

The Committee accepts that external traffic noise objectives may not always be prescribed as absolutes. Neither can acoustic attenuation of existing buildings to meet internal AS/NZS 2107:2000 noise criteria. Decisions must be tempered by considerations of feasibility and reasonableness. Those decisions may need to be made on a case-by-case basis.

The Committee believes that external traffic noise levels need to be set to provide protection of outdoor amenity, and that indoor noise levels from traffic need to protect indoor amenity including protection against sleep disturbance. That indoor amenity can be achieved by sufficiently low external traffic noise levels, or a combination of acceptable external traffic noise levels and building noise mitigation measures.

RDN 06-01 *Interpretation and Application of VicRoads Traffic Noise Reduction Policy* 2005 (VicRoads 2010) describes practicability. That depends on feasibility and reasonableness. Feasibility includes cost of abatement, access, safety, topography, structural, heritage listings and maintenance. Reasonableness includes noise abatement benefits, site history and project approval, urban design objectives, opinions of residents, and environmental impacts.

The Committee considers the following should be applied:

* The 63 dB LA10(15h) day time and 58 dB LA10(9h) night time external traffic noise objectives are to be met other than in circumstances where it is decided that it does not meet the practicability test as determined by the Independent Reviewer;
* In that case the traffic noise must not exceed 68 dB LA10(15h) day and 63 dB LA10(9h) and noise mitigation measures must be provided to the extent reasonably possible, as determined by the Independent Reviewer, to reduce that traffic noise;
* Regardless of the external noise, sensitive receptors affected by the Project traffic noise to the extent of not achieving the AS/NZS 2107:2000 internal noise objectives should be offered building treatments to achieve those levels other than where that fails the practicability test as decided independently by the Independent Reviewer; and
* In that case noise mitigation is to be offered to the extent that is reasonably possible, as determined by the Independent Reviewer.

The Committee envisages a system independent of LMA and the contractor to decide on the aspects of feasibility and reasonableness and on the balance between external traffic noise mitigation and building attenuation. It has suggested the Independent Reviewer would be appropriate for that role.

#### Open space

The Committee is not persuaded that open space should be afforded no protection from intrusive traffic noise; to not do so is to accord to such spaces the same acoustic protection as, for example, industrial areas or transport depots. It believes that for passive recreation those areas should have a traffic noise objective equal to that for residential protection. For active recreation there seems to be less justification for that level of noise protection and 5 dB higher level is reasonable.

The Committee recommends a traffic noise objective of 63 dB LA10(15h) from 7 am to 10 pm for passive open space and 68 dB LA10(15h) from 7 am to 10 pm for active open space. In making this recommendation the Committee is mindful of the diverse perspectives presented to it. It believes that these are appropriate traffic noise levels that will take the ‘edge’ off high levels of traffic noise and hence provide reasonable protection of the amenity of these open space recreational areas.

#### Traffic noise at the eastern (Eastern Freeway connection) end (Precinct 1)

A description has been provided earlier in this Chapter of the proposed traffic noise measures at the eastern end of the proposed project. At that end the Performance Requirements proposed by LMA are an application of the VTNP. The Committee finds that the traffic noise Performance Requirements proposed by LMA in the CIS are complex, and may not deliver an effective noise regime.

The Committee believes that a traffic noise level of 68 dB LA10(18h) to protect residential amenity can no longer be seen as an criterion that is appropriate. It notes, for example, that Technical Appendix J advises that for Ross Straw Field, noise levels would typically be 60-65 dB LA10(18h) with levels near the tunnels portals up to 70 dB LA10(18h), and hence limiting that section to noise tolerant uses. 68 dB LA10(18h) is within that range.

Accordingly the Committee believes that for the eastern end of the Project, the following are appropriate traffic noise management measures:

* A day time traffic noise limit of 63 dB LA10(15h) (7 am to 10 pm) and a night time limit of 58 dB LA10(9h) (10 pm to 7 am) should apply;
* Those criteria should apply to the VicRoads Category A and B noise sensitive receptors;
* Those objectives should apply at all habitable levels of those receptors;
* The objectives should apply to sensitive receptors that exist before the Project is in the planning scheme;
* Those noise limits apply to dwellings adjacent to the proposed temporary road, until they are subsequently shielded by new buildings to at least that noise level;
* Objectives of 63 dB LA10(15h) from 7 am to 10 pm will apply for passive open space and 68 dB LA10(15h) from 7 am to 10 pm for active open space;
* The noise objectives shall apply where traffic noise from the Project contributes to exceedences of those criteria at noise sensitive premises adjoining the eastern section of that road; that area is defined in the Performance Objectives; and
* In the event that internal noise levels at premises impacted by traffic noise attributable to the Project exceed the *Satisfactory* criteria specified in AS/NZS 2107:2000 noise mitigation should be offered.

#### Traffic noise at the tunnels section (Precinct 1 (part), Precinct 2) and Precinct 3 (part)

The Committee acknowledges that there is no surface traffic noise from traffic in a tunnel. It observes that although the CIS suggests the potential for noticeable improvements in traffic noise exposure on east-west surface roads, no estimate of that benefit is provided.

#### Traffic noise at the western section of the Project (Precincts 3, 4 and 5 (part))

For this area, the Performance Requirements proposed by LMA are an application of CityLink Concession Deed requirements with noise from the Project incorporated into that.

The Committee has considered traffic noise by consideration of the proposed interface of the Project with CityLink. Over a distance of approximately five kilometres from Dynon Road at the south to Moreland Road at the north the Reference Project runs parallel and close to CityLink, adds lanes or changes line marking. For effective traffic noise management, the Committee believes that it is appropriate that this be considered as a single road transport corridor.

The Committee finds that the traffic noise performance requirements proposed by LMA in the CIS are complex, difficult to understand, may not deliver an effective noise regime, and may lead to uncertainty and conflict between the concessionaires of these two roads. The Committee is not able to fully reconcile the CIS Technical Appendix J text on traffic noise objectives for this part of the proposal with the proposed performance requirements.

The Committee’s understanding of the basic proposal is that CityLink is required to meet a traffic noise goal of 63 dB LA10(18h) at all habitable floors of nominated sensitive receptors (although the CIS is equivocal on that) for the duration of the concession, that the CIS seeks to take advantage of a 2 dB allowance, and proposes to set a traffic noise level of 60 dB LA10(18h) for the Project in this corridor.

The origin of that 2 dB is not clear to the Committee. It is used on a number of occasions in Technical Appendix J without explanation of its basis and justification. A number of submitters have opposed the use of this allowance. The Committee has identified a reference in VicRoads RDN06-01 *Interpretation and application of VicRoads Traffic Noise Reduction Policy* 2005 under *New alignments and upgrades:*

If the existing noise level is >63 dB(A), then the objective is to limit noise level increase to 0 dB(A),which in practice is very difficult to achieve. The accepted practice when existing noise level is >63 dB(A) is to limit the increase in noise levels by no more than 2 dB(A), or the level that would have prevailed if the road upgrades had not occurred, whichever is the greater.(p.2)

The Committee does not believe that it is appropriate that that allowance be applied in this circumstance. The Project is a very substantial undertaking with potentially significant noise impacts.

A 63 dB LA10(18h) traffic noise at a receptor from one road source plus 60 dB LA10(18h).from another road source at the same receptor gives a total traffic noise of 64.8 dB LA10(18h). (Committee estimate). This increase is within that 2 dB margin. When rounded to the nearest integer number that is 65 dB LA10(18h), an increase of 2 dB in the corridor.

The Committee believes that residents adjoining CityLink have an understandable expectation that traffic noise would be limited to 63 dB LA10(18h) and not eroded. The Committee believes that it is not appropriate to allow slippage of that objective.

The recently announced widening of CityLink may also have implications for the noise environment in this area, both in relation to CityLink itself and the addition of the Project. The Committee does not believe that it is feasible to have two such adjoining roads with separate noise limits. A receptor is indifferent to the individual noise sources. Ensuring compliance would be fraught; the CIS acknowledges that separating the contributions of two such sources would be difficult. In the event of non-compliance with a traffic noise objective, the consequence might be uncertainty and possibly conflict between the road concessionaires with a delay or inability to provide an acceptable external acoustic environment.

Limited evidence before the Committee suggested that CityLink noise limits are being met at ground level. However, the evidence suggested exceedence of 63 dB LA10(18h) at the façade of the Debney’s Park housing estate. The length and height of noise barriers along this section of CityLink is apparent.

Assessed against the evaluation objectives, the Committee believes the exhibited traffic noise performance requirement for the CityLink interface is unlikely to be effective; may not be enforceable and if so with difficulty; and that maintaining the 63 dB LA10(18h) should be achievable in any case. The Committee concludes that the traffic noise proposal put forward by the LMA for this CityLink/East West Link corridor is not appropriate.

The Committee believes that for the shared road transport corridor between Dynon Road and Moreland Road the external traffic noise objective should be 63 dB LA10(15h) for day time and 58 dB LA10(9h) night time and that should apply to the Project and CityLink combined, without regard to the contribution from either road individually. As discussed earlier the Committee considers that a night time noise objective should be applied to the shared corridor. It is not persuaded that a day time limit is a sufficient surrogate for managing night time noise, more so with the likelihood of further increases in heavy vehicle traffic at night. Adopting the practice of a night time limit being 5 dB lower than that during the day it recommends a night time external traffic noise objective of 58 dB LA10(9h).

As discussed before, the Committee does not accept that the time period for the night time noise limit should be for six hours to align with the current day 18 hour time period. It recommends that the night time period be for nine hours from 10 pm to 7 am to more appropriately protect against sleep disturbance and to be consistent with wide spread practice in setting noise goals. The day traffic noise objective would hence apply for the 15 hour period from 7 am to 10 pm.

Hence, as with the whole Project the Committee recommends a day time external traffic noise criterion of 63 dB LA10 (15h) to apply from 7 am to 10 pm, and a night time level of 58 dB LA10 (9h) to apply from 10 pm to 7 am. The application of this is qualified by a practicability test.

The next issue is the vertical aspect of the application of recommended traffic noise objectives. That is, at what habitable level of adjacent sensitive receptors the noise limits should apply. This is particularly relevant in the western section because of the proximity of multistorey residential buildings adjoining the Project. It is not clear to the Committee how the VTNP and the CityLink Concession Deed apply to this matter. Table 2 (p.9) of Technical Appendix K states that the VicRoads practice applies to the *“Lowest habitable floor (generally ground floor) only”* and the performance requirements from LMA specify the application at *“all levels”.*

The Committee observes that the VicRoads policy itself does not prescribe that limitation; that interpretation seems to have its source in other VicRoads traffic noise documents that are not specifically referenced in the policy.

Table 2 (p.9) of Technical Appendix K states that the CityLink Concession Deed applies to *“All floors where noise sensitive uses take place”* which is then qualified with a note *“Not an explicit requirement of the CityLink Project Scope and Technical Requirements (PS&TR). However, noise mitigation measures were provided at all levels of the apartment towers at the Flemington public housing estate”.*  The Technical Requirements provide physical specifications of that CityLink sound tube adjacent to the Debney’s Park housing estate but seem to provide no acoustic requirement. Evidence by noise modelling at the façade of those buildings by MDA in Table 2 (p.9) of Technical Appendix K and measurements presented by Mr Brown indicate external noise levels broadly in the range 65-70 dB LA10(18h), substantially higher than the objective.

The Committee finds that there is ambiguity and lack of clarity in the application of traffic noise objectives to sensitive receptors above ground level. An aspect of this is that the Committee’s understanding is that traffic noise has been modelled at ground level of a building near an elevated section of road with modest noise barriers that shows compliance. That receptor is largely shielded from traffic noise from the structure; receptors above the road are not.

The Committee believes that it is necessary to apply all traffic noise criteria to all sensitive receptors above ground level. Accordingly the Committee has included Performance Requirements to give effect to this approach that applies to noise criteria at all levels of habitable buildings.

The Committee proposes that the noise sensitive receptors at which the recommended external traffic noise objectives apply are those identified as Category A and Category B in the VicRoads Policy amalgamated as a single group, including residential buildings, aged persons homes, hospitals, motels, caravan parks and other buildings of a residential nature, and schools, kindergartens, libraries and other noise sensitive community buildings. The Committee recommends that the traffic noise criteria advised should apply for the duration of the Project concession period.

To achieve the traffic noise criteria, the Committee suggests that for the current CityLink road transport corridor between Dynon Road and Moreland Road, the East West Link concessionaire should be responsible for ensuring that applicable traffic noise criteria are met for increases associated with the Project..

The Committee observes that the proposed connection to the Port of Melbourne (Part B) is estimated to carry about 15,000 vehicles per day. Evidence indicates that construction of the East West Link – Western Section would increase the number of vehicles on Part B connecting to WestLink to about 60,000 vehicles per day. The evidence to the Committee is that would increase traffic noise levels by about 5 dB. Hence the traffic noise at elevated levels of the Debney’s Park Estate tower and the Bent Street apartments could increase from the present approximately 70 dB LA10(18h) to about 75 dB LA10(18h). This issue will need to be considered if the Committee’s primary recommendation on Part B is not accepted or as part of the planning for WestLink.

### Findings

The Committee finds that the proposed traffic noise performance requirements (NV1) are not appropriate to manage the impacts of traffic noise. The measures proposed do not minimise traffic noise sufficiently to protect amenity and to the extent that is reasonably possible. The Committee finds that the corridor currently occupied by CityLink between Moreland Road and Dynon Road should be treated as single road transport corridor to be occupied by both CityLink and the Project, and that the Project be responsible for meeting applicable traffic noise criteria in that corridor due to increases in traffic noise resulting from the Project.

The Committee finds that the following should apply in terms of noise criteria:

* Apply a single day time traffic noise criterion to the Project for specified noise sensitive building uses of 63dBLA10(15h) (7 am to 10 pm) to all such buildings at which traffic noise levels increase from the operation of the Project.
* Apply a night time traffic noise criterion for specified noise sensitive building uses of 58 dB LA10(9h) (10 pm to 7 am) to all such buildings at which traffic noise levels increase from the operation of the Project.
* Apply the criteria specified in the two points above for day and night time traffic noise at all habitable levels of buildings.
* Offer noise mitigation measures to all habitable buildings to meet the internal noise criteria for building uses provided under the *Satisfactory* column of Table 1 of Australian/New Zealand Standard AS/NZS 2107:2000 *Acoustics-Recommended design sound levels and reverberation times for building interiors.*
* Apply a traffic noise criterion of 63 dB LA10(15h) (7 am to 10 pm) for passive use open space and 68 dB LA10(15h) (7 am to 10 pm) for active use open space to all open space at which traffic noise levels increase from the operation of the Project.
* Apply the traffic noise criteria for the duration of the Project concession period.
* Apply a *practicability test* comprising assessment of *feasibility* and *reasonableness* for application of the traffic noise criteria and the AS/NZS 2107:2000 building noise mitigation. That test shall be as described in RDN 06-01 *Interpretation and Application of VicRoads Traffic Noise Reduction Policy* 2005. Practicability is to be determined by an Independent Reviewer.
* Undertake traffic noise and AS/NZS 2107:2000 compliance monitoring according to requirements developed in the Operational Environmental Management Plan. That must include monitoring at specified locations after commencement of road operation, after traffic patterns have settled and as required thereafter. Monitoring must comply with the requirements of RDN 06-01andAS/NZS 2107:2000 as appropriate.
* Respond to incidents of non-compliance with traffic noise and AS/NZS 2107:2000 criteria and take remedial action as soon as possible.
* Provide traffic noise monitoring results publicly and provide generic AS/NZS 2107:2000 compliance reporting.

These findings have been translated into the modified Performance Requirements found in Appendix E of this Report and recommended for adoption for the Project.

## Construction Noise

### Introduction

This section of the report reviews the appropriateness of the proposed construction noise performance objectives proposed by the LMA. It recommends construction noise Performance Requirements which the Committee believes are appropriate to providing a satisfactory acoustic environment during construction and that are achievable.

The LMA has prepared proposed construction noise Performance Requirements for the Project. It has adopted the *evaluation objective* of the Scoping Directions and proposed a performance objective “*To manage surface construction noise to protect amenity*”.

NV6 proposes performance requirements for construction noise by reference to specified construction noise documents and working hours unless a variation is granted, and NV7 provides for construction noise amelioration at tunnel portal sites to reduce noise impacts.

Construction noise is presented as part of Chapter 12 in the CIS and in greater detail in Appendix J. The CIS deals with construction noise across the project rather than by precinct. The Executive Summary stated:

*The proposed East West Link – Eastern Section is located in a highly urbanised environment that already features high to very high levels of traffic and other noise. Construction of the project has potential to increase noise in the study area for the duration of construction activities …*

*Surface-level construction activities with potential to generate noise and vibration impacts include demolition works, excavation works, piling and the construction of open roadways. Heavy vehicles and worker vehicles accessing the construction site could also increase traffic noise for the duration of construction activities, along with any local traffic diversions required.*

*Noise from surface construction would be managed in accordance with the construction environmental management plan, which would include relevant requirements from EPA Victoria publications 1254 (Noise Control Guidelines) and 480 (Environmental Guidelines for Major Construction Sites).* (p.i)

The summary statements of Precincts 1, 2, 3, 4 and 5 note that there could be construction noise impacts for extended periods which would be “… *managed through the construction environmental management plan”.* Precinct 4 has added that “*This includes residences that would be temporarily exposed to higher levels of traffic noise as a result of the demolition and relocation of existing noise barriers”.*

The overall assessment says:

*Construction of East West Link – Eastern Section tunnel may produce extended periods of noise and perceptible vibration at times. However, noise and vibration would be minimised in accordance with the relevant guidelines and standards.*

Appendix J provided a list of relevant documents at Table 1 and noted EPA Publications 1254 and 480, as well NSW construction noise guidelines. The NSW documents cited include:

* *Interim Construction Noise Guideline*, Department of Environment and Climate Change NSW, 2009; and
* *Construction Noise Strategy*, Transport Construction Authority NSW, 2011.

Possible construction noise mitigation measures include community consultation and negotiation, scheduling of works, the management of work practices including implementing construction noise control measures and engineering noise control, monitoring noise, and handling unavoidable activities outside of standard work times. Appendix J refers to AS 2436 – 2010 *Guide to Noise control* *on Construction, Maintenance and Demolition sites* as providing *“… possible remedies and alternatives to reduce noise emission levels from typical construction equipment”.*

Appendix J provided Performance Requirements for Project construction noise.

The key issues for construction noise include the:

* Adequacy of the construction noise performance requirements proposed in the CIS;
* Role of quantitative noise criteria in managing construction noise;
* Extent to which certain construction activities should be permitted at night time and the need for a separate night time noise criterion to protect against sleep disturbance;
* Significant measures that should be in a construction noise environment management plan;
* Mechanism by which the construction noise environment management plan should be developed including the lead role and the involvement of major stakeholders;
* Identification of the party to approve the construction noise environment management plan;
* Oversight, reporting, compliance assessment and enforcement roles to manage the construction noise environment management plan;

Construction of the Project is expected to take about five years, although the construction periods and duration may vary from one site to another. The construction is to occur in a highly urbanised environment. As well as noise generated by on-site construction activities, construction noise must consider vehicle movements bringing materials and equipment to site, vehicle movements removing materials, predominantly an anticipated 2-3 million cubic metres of spoil, and workforce travel.

The following sections present the major elements that are essential to the Committee’s discussion of construction noise and its recommendations.

### Submissions

Submissions from EPA discussed the need for a construction noise management plan (as part of the CEMP) to be prepared and implemented, the proposed construction noise Performance Requirement referring only to EPA Publication 480 since that refers to major construction sites, and the deletion of the reference to Publication 1254 as that is intended for smaller projects.

Submissions from City of Melbourne raised concerns about noise from construction activities, including at the Urban Camp. The City of Yarra discussed the negative social and environmental impacts of construction noise, that construction noise will exceed allowable night time limits, and prolonged exposure to excessive construction noise is unacceptable;

The submissions from individuals and groups expressed concern about a range of issues on the impact of construction noise on liveability along the Project corridor.

### Discussion

The East West Link is a major construction project intended to be built in a sensitive highly urbanised inner city environment. Construction is anticipated to take about five years. The Committee acknowledges that there is likely to be considerable variation in construction duration along various parts of the Project. It anticipates that there will be an expectation of some construction works occurring outside of standard construction times. There will be significant movement of materials onto and off the site and transport of construction employees. For these reasons the Committee believes that a comprehensive and rigorous program of controlling construction noise is required.

The Committee has been asked through its Terms of Reference to advise if the measures proposed in the CIS to manage noise, in this case of construction noise, are appropriate.

Managing construction noise will depend on inter alia, the construction schedule, construction techniques, and the final design for the Project. That can be done through a well informed and comprehensive construction noise management plan. The Committee envisages that being one part of a suite of plans embraced in a Construction Environment Management Plan (CEMP).

The Committee takes the position that an appropriate CEMP must include certain essential measures and that a mechanism must be in place to develop the plan and to ensure that it is implemented. The Committee’s findings are based on those two issues.

The Committee notes that the CIS has not provided a tighter description of the control of construction noise for the Project given the scale of the works; the possible intrusiveness of many construction activities; and the closely settled inner city environment.

The Committee notes the submission from EPA that EPA Publication 1254 is not intended for large construction sites such as the Project, unlike publication 480. EPA advised that 480 is applicable and 1254 has information that may be useful. The Committee observes that the more recent 1254 is more informative than the dated 480 such as in providing suggested noise levels. Further, publication 1254 has suggested noise limits for construction periods greater than 18 months, which is not compatible with a small construction activity.

The Committee notes that EPA publication 1254 seems to be the guideline for assessing construction noise for other major projects. It believes that the reference to that publication should stand.

The proposed Performance Requirements include at NV7 a specific requirement about construction noise amelioration at tunnel portal construction sites.

The Committee anticipates that the contractor would expect to undertake the tunnelling work on a 24 hour day basis. It is not clear if that same expectation might extend to the surface works at either end of the tunnels to develop the portal approaches. These portal approaches would be extensive excavations to a sufficient depth to facilitate the tunnelling. They would be expected to be some 40 m or more in depth.

The Committee understands from the LMA that tender documents include a requirement that bids must include an acoustic structure at the portals to control noise. It understands that such structures have been used on major road tunnel construction works including in Brisbane. Mr Goddard informed the Committee about the successful use of such a structure in Melbourne for the tunnelling of a major sewer project.

The Committee understands that such acoustic sheds for this Project would be very large structures, similar to a multi storey building. They would be designed so that spoil excavated overnight would be stored for removal the next day and thereby avoiding night time heavy vehicle movements. The Committee supports such approaches to noise control.

The Committee does not support the proposed NV7 Performance Requirement. It is not clearly worded and does not add to the substance of the proposed Performance Requirement NV6. Subject to the implementation of a prohibition on night time surface construction works other than by specific exemption, and by the imposition of quantitative noise criteria including evening/weekend limits and inaudibility at night, there is no need for a separate provision. The Committee recommends that the proposed NV7 be deleted and captured in a more comprehensive NV6.

The Committee notes that no submission was received from the Melbourne Zoo on construction noise but a Performance Requirement was included in the CIS. The Committee accepts this requirement in Appendix E.

### Findings

The Committee is not satisfied that the proposed construction noise performance requirements are sufficient to ensure an appropriate level of protection of amenity. Further, the Committee believes that the Performance Requirements must be enforceable and enforced.

The Committee considers that construction noise be minimised through the development of a Construction Noise Management Plan as part of the CEMP that meets the criteria of EPA publication 1254 *Noise Control Guidelines* and has regard to EPA Victoria publication 480 *Guidelines for Major Construction Sites*, Australian Standard AS 2436:2010 *Guide to Noise Control on Construction, Maintenance and* *Demolition Sites*.

The Committee considers it would be useful to make reference to the VicRoads Technical Guideline *Noise Guidelines – Construction and Maintenance Works* andNSW DECC *Interim Construction Noise Guidelines* and NSW *Transport Construction Noise Strategy* in providing detailed guidance to the more general guidance of the EPA Victoria publications. However reference to these latter documents will be left to the discretion of the EPA and they have not been included in the Performance Requirements.

Further, the Committee recommends that construction noise be monitored as specified in the CEMP to verify compliance with the requirements of the CEMP and take remedial action as soon as possible if non-compliance is shown.

A noise communications plan before commencement of construction should be developed and implemented as part of the Construction Noise Management Plan. The Plan should be maintained during the construction to inform Councils and the community, and provide for regular construction noise reports and on-line access to monitored noise levels,

## Tunnel Ventilation Noise

### Introduction

This part of the report advises on the appropriateness of the proposed ventilation noise performance objectives proposed by the LMA. It recommends noise performance requirements which it believes are appropriate for providing a satisfactory acoustic environment and which recognise the statutory role of EPA. The relevant proposed performance objectives are “*To minimise noise impacts of the tunnel ventilation system”.* The associated proposed Performance Requirements include:

*Design and implement the tunnel ventilation system to achieve compliance with State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1 (SEPP N-1). Provide detailed design to the satisfaction of EPA Victoria prior to works commencing*.

*To minimise traffic noise impacts of East West Link – Eastern Section and Local Roads*

*Measure noise from the tunnel ventilation system on commencing road operation and monitor noise from the tunnel ventilation system to verify conformance with SEPP N-1 (EP Act). Take remedial action if noise level targets are not met.*

Ventilation noise of the proposed road tunnels is presented in Chapter 12 of the CIS and in Appendix J.

This noise matter has an applicable approval:

*The relevant applicable approval under the MTPF Act is a works approval under section 19B (road tunnel and ventilation system air and noise emissions) of the Environment Protection Act 1970.*

The Executive Summary of Appendix J states “*There is also the potential for noise to be generated from operation of the tunnel ventilation. Equipment associated with tunnel ventilation must comply with the State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1 (SEPP N-1)”.* The overall assessment says “*The tunnel ventilation system would be designed to achieve compliance with SEPP N-1”.*

Appendix J provides a description of the application of SEPP N-1 including the specified day, evening and night time periods required by that policy. SEPP N-1 requires measurement of “*background noise levels”* which provide the basis for calculating “*effective* *noise limits”* which are used with the planning zones to determine the noise limits. It is against these that the measured or predicted noise levels are assessed for compliance.

Indicative background noise levels were measured at six locations. One site was near the possible eastern ventilation stack, three near the proposed western stack and two in the vicinity of a possible mid-point ventilation air intake if that is needed. All measurements were taken at night on the basis of that being the most critical time for achieving compliance. i.e. if night time compliance levels are achieved then it is probable that compliance is also met for the day and evening limits. These indicative background noise levels ranged from 42 dB LA90 to 47 dB LA90. Marshall Day noted in Appendix J that these limits were similar to those determined for other projects in inner urban areas of Melbourne. The Committee notes that these six locations are not the same sites used for the short and long term measurements of existing traffic noise, and a different noise metric is used.

Those background noise levels are then used with the planning zone(s), taken from the planning scheme(s), to determine the noise limits. Those noise limits are between 45 dB LAeff and 50 dB LAeff. For the six locations at which background noise was measured the noise differences between the noise limits and the background noise levels were all 3 dB. Those noise limits became the Performance Requirements for the ventilation system.

### Key Issues

The key issues for noise associated with the tunnel ventilation noise include:

* The adequacy, or otherwise, of the ventilation system noise performance requirements proposed in the CIS;
* The statutory role of the EPA in managing these noise sources; and
* Limiting combined noise from traffic and the ventilation outlets of the tunnels when these ventilation outlets are placed near the portals.

Of necessity, long road tunnels carrying high volumes of traffic, such as the proposed Project, require forced ventilation to maintain satisfactory air quality in the tunnels. The two three lane tunnels are intended to be essentially parallel. Each tunnel is intended to be about 4.4 kilometres long. In each tunnel, the longitudinal ventilation air movement is proposed to be in the same direction as the movement of vehicles. That takes advantage of the ‘piston effect’ of the vehicle movement contributing to the ventilation air movement.

The likely ventilation system is discussed in Chapter 10 of this report but several elements of the system are likely to generate noise:

* Mid tunnel air intakes;
* Jet fans within the tunnel;
* High volume discharge fans at vent stacks; and
* Ancillary plant and equipment.

The ventilation system of a road tunnel is a *Scheduled Premise* under the EP Actand is hence required to be subject to the conditions of a Works Approval and subsequently a License to operate. The noise from the tunnels ventilation system is controlled by SEPP N-1 which is subordinate legislation under the EP Act.

### Submissions and Evidence

The submission from EPA discussed the need for demonstration of compliance with SEPP N-1 best practice requirements and noise limits following detailed design of the system. Council submissions discussed noise from ventilation structures, while other submissions spoke broadly about noise from the operation of the Project.

### Discussion

The Committee acknowledges that managing the noise due to the ventilation system of the proposed tunnels is a statutory responsibility of the EPA under the EP Act. The Committee accepts the submission of EPA that SEPP N-1 is a long established policy that has been used successfully for many years in controlling noise from various sources.

Specifically, it has been applied to control noise from the ventilation stacks at both CityLink and EastLink. In both those cases, and like the Reference Project for this Project, the ventilation stacks are near the tunnel portal exits. The CityLink Burnley tunnel has a mid-point air inlet, as has been suggested might be the case for the Project tunnels. The Committee was advised that the application of SEPP N-1 to these noise sources has been successful, and it was not made aware of any complaints about noise from those.

The focus of the application of SEPP N-1 to road tunnel ventilation systems has been, and is, on the ventilation stacks. These are a possible source of external noise. Both Mr Fearnside and Mr Robinson referred to these stacks being subject to SEPP N-1 as applicable legislation for which approval would be required. Both said that any mid-tunnel air intake would be subject to SEPP N-1. The Committee notes that the background noise measurement sites were selected with regard to the eastern ventilation stack, the possible mid-tunnel air inlet, and the western ventilation stack.

### Findings

The Committee finds that noise from the ventilation stacks of the tunnels and any mid tunnel air inlet is appropriately dealt with as a condition of the EPA license for operation of the stacks. Given the possible co-location of ventilation stacks and surface traffic on the Project entering and leaving the tunnels both generating noise the Committee finds that the combined noise from these sources should not exceed those limits recommended for traffic noise alone.

The Committee considers that the Performance Requirements proposed are generally acceptable.

## Vibration Impacts

### Introduction

This chapter of the report considers the appropriateness of the proposed vibration and reverberated noise performance objectives proposed by the LMA. It recommends Performance Requirements which it believes are appropriate for protecting assets and amenity and that are achievable.

The LMA has prepared vibration Performance Requirements for the construction of the Project in Chapter 17 of the CIS flowing from the evaluation objectives and performance objectives. The exhibited Performance Requirements include:

* NV8 for continuous vibration from construction, such as from a tunnel boring machine, to protect amenity;
* NV9 for impulsive vibration from construction, such as from blasting, to protect amenity;
* NV10 to monitor vibration and noise and take remedial action as needed;
* NV11 to protect utility assets from vibration;
* NV12 to engage the community to protect amenity from construction vibration; and
* NV13 to protect the Melbourne Zoo from vibration.

### Key Issues

The key issues for consideration of vibration impacts include:

* Adequacy of the continuous vibration criteria proposed by LMA to protect assets of the built environment from damage due to construction of the Project;
* Adequacy of the continuous vibration and regenerated noise criteria proposed by LMA for construction to protect human amenity and comfort;
* Adequacy of the impulsive vibration criteria proposed by LMA to protect assets of the built environment from damage due to construction;
* Adequacy of the impulsive vibration criteria proposed by LMA for construction to protect human amenity and comfort;
* Appropriateness of measures proposed to protect the Melbourne Zoo from being affected by construction vibration and regenerated noise;
* Appropriateness of the proposal to monitor vibration and regenerated noise during the construction phase and to respond to any non-compliance and complaints; and
* Design and implementation of an effective vibration and regenerated noise communications plan.

#### The Comprehensive Impact Statement

Vibration is presented as part of Chapter 12 *Noise and vibration* of the CIS and in greater detail at:

* Appendix J East West Link – Eastern Section, Surface Noise and Vibration Assessment (Marshall Day Acoustics, September 2013); and
* Appendix K East West Link – Eastern Section, Tunnel Vibration and Regenerated Noise Assessment (Heilig and Partners Pty Ltd, September 2013);

Appendix J presents material on criteria for construction vibration and regenerated noise. It advises that criteria may vary according to the duration of the exposure, whether the vibration is continuous or impulsive, and what the criteria are intended to protect.

Appendix J notes that the criteria for construction vibration advised in Appendix K is based on Australian Standard AS2670.2-1990 *Evaluation of human exposure to whole body vibration – Part 2 Continuous and shock induced vibration in buildings (1-80 Hz)* (AS2570.2) which is commonly used in Australia to assess construction vibration and which is based on the protection of human comfort. It notes that Appendix K acknowledges that it would be necessary at times to exceed those criteria, notably if blasting is used, but the risk of building damage must be minimised. In that case, criteria for minimising building damage are provided in Australian Standard AS2187.2-2006 *Explosives – Storage and use – Use of* explosives (AS2187.2). It comments that “*Human perception of vibration occurs at levels that are much lower than the levels at which building damage occurs. Thus, criteria set for human comfort would be well below the levels which present any significant risk of building damage”.*

Appendix K noted that the expected construction methods would involve a number of methods that are capable of producing levels of vibration and regenerated noise that could be elevated compared to the existing environment. It proposes performance criteria for continuous vibration encompassing ground vibration and regenerated noise, and for impulsive vibration (blasting) covering ground vibration and air peak overpressure (airblast). It considered various standards in doing so.

The CIS presented assessments of the impact from possible construction methods to demonstrate the likely extent of the areas affected by vibration and regenerated noise based around those recommended performance criteria. In assessing the impacts Appendix K said in the Executive Summary:

*Vibration data have been collected from other sites, both within Australia and internationally. These data, together with other published international literature and additional analyses, have been used to determine the level of vibration and regenerated noise as function of distance from the mechanical equipment. Other vibration data collected in rock types similar to those identified along the alignment have also been analysed to help quantify the decrease in vibration levels as a function of distance from an explosive source.*

The recommended continuous vibration Performance Requirements are tabulated in NV8 of the Performance Requirements. These criteria have been calculated using AS 2670.2. They are presented for four classes of occupied buildings to protect human comfort and sensitive equipment, and are discriminated by a 16 h day and an 8 h night period. The vibration levels are expressed in velocity units of mm/s.

Recommendations are made for impulsive vibration performance requirements and accompanying performance requirements for peak overpressure levels, and are presented in NV9. These have been calculated using AS 2187.2 and the German standard DIN 4150.2 and are presented for three site categories based on personal amenity and protecting damage to structures. They are all qualified by agreement with the site occupier that a higher limit may be acceptable, dependency on an asset condition survey, or on a limit that respects vibration sensitive equipment. The vibration levels are expressed in velocity units of mm/s and the air overpressure limits in dBL, a linear weighting of the measured pulse i.e. with no frequency weighting.

The CIS notes that for infrastructure such as surface and underground assets acceptable levels should be set in consultation with the asset owner to prevent damage to those. Appendix K refers to the manner in which vibration from construction may be perceptible at sensitive receptors, that is, ground borne vibration, regenerated noise, and air borne overpressure from blasting.

The CIS provided information on approximate vibration levels vs. the degree of perception derived from the German standard DIN4150.2 whilst noting that there is a wide variation in personal tolerance to vibration.

* 0.10 mm/s Not felt
* 0.15 mm/s Threshold of perception
* 0.35 mm/s Barely noticeable
* 1.0 mm/s Noticeable
* 2.2 mm/s Easily noticeable
* 6 mm/s Strongly noticeable
* 14 mm/s Very strongly noticeable

It comments on regenerated noise and informs that this vibration induced internal noise is typically audible at very low vibration levels and is manifested as a low rumble. The report said that within normal structures, regenerated noise starts to become noticeable at about 35 dBA; below that it can be masked by other noise sources. It noted *“However, in very quiet areas, or those where people are particularly sensitive, the noise may be noticeable at much lower levels”.* It observed that regenerated noise varies to a greater extent than vibration within a property and varies according to the construction of and furnishings in a building.

The vibration impact assessment presented in the CIS is provided for a number of possible construction methods:

* Driving the main tunnels using a tunnel boring machine;
* Excavating ramps to and from the main tunnels other than at the main portals using a road header;
* Constructing cuttings, cut and cover sections and main tunnel portal access excavations using hydraulic hammers or controlled drilling and blasting; and
* Developing cross passages (safety passages interlinking the tunnels at about 120 m intervals) using a road header, hydraulic hammer or drilling and blasting.

The results of the vibration and regenerated noise assessment for various construction techniques are presented as figures in Appendices A to I of Appendix K.

For driving the main tunnels using a tunnel boring machine, the CIS discussed the likely vibration levels and the extent of surface vibration, and identified those areas where vibration and regenerated noise is most likely to be perceptible. It stated:

*Where elevated vibration levels are predicted to occur, higher regenerated noise levels are also expected. The modelling indicates regenerated noise levels are expected to exceed values of 45dBA for properties along Alexandra Parade and Princes Street over a tunnelling length of approximately 2000 metres. Noise levels for the section of tunnelling along Princes Street, where the east-bound tunnel is directly beneath properties, is modelled to exceed 50dBA at those properties above the alignment. ……*

*The Melbourne Zoo is more than 150 metres from the nearest construction activity and vibration levels are fully expected to comply with the performance criteria for building related damage and personal amenity specified in this report. It may however be necessary to impose a lower permissible vibration limit so that the wellbeing of the animals is appropriately cared for. The permissible vibration level will be dependent upon the type of animal and should be considered by the contractor when the equipment type has been specified. The appropriate vibration level should be based upon data presented in the international literature.*

The use of a road header for excavation is discussed with reference to the construction of the ramps between Elliott Avenue and the main tunnels proposed in the Reference Project. The assessment indicated that for both ramps the predicted maximum levels of vibration and regenerated noise are about 0.25 mm/s and 40 dBA respectively for the majority of the lengths of the ramps. Toward the western ends of the ramps there would be some increase as they approach the surface. Inspection of the figures indicated that for a small area near the driven portals of these ramps vibration might exceed 0.5 mm/s and regenerated noise 45 dBA. For those ramps the assessment reports that the location is distant from sensitive receptors and that compliance with the performance requirements is expected.

The figures for the construction of the Elliott Avenue ramps show estimated vibration and regenerated noise contours from using hydraulic hammering and from drilling and blasting techniques. These show that the vibration and regenerated noise impacts, both in intensity and extent, would be markedly greater than from the use of a road header. The vibration resulting from blasting is shown to be significantly greater than that generated from the other excavation techniques. The report noted that the vibration from the use of a road header and hydraulic hammer is continuous and that from blasting is impulsive.

Appendix K of the CIS presented the analysis of vibration and regenerated noise impacts from the proposed eastern portal. This large excavation proposed for the Reference Project between the present Alexandra Parade southern carriageway and the re-aligned northern carriageway (the temporary road) is required for the construction of the driven tunnels and the cutting for the cut and cover tunnels at the east to connect to the Eastern Freeway and Hoddle Street. Excavation would be expected to be largely in basalt.

The use of hydraulic hammering for this excavation is predicted to cause perceptible levels of vibration at properties to both the north and south of Alexandra Parade. The predicted levels are reported as being outside the proposed criteria, particularly on the northern side, but *“the predicted values are below those considered to cause superficial damage”.* The report advised that drilling and blasting might need to be considered, but with minimal explosive charges vibration would be expected to exceed recommended levels. It said “*it would be necessary to seek acceptance of vibration levels higher than those specified in the criteria”.* The assessment stated:

*Under the proposed performance requirements for blasting activities, permissible explosive quantities that could be used in the eastern portal area are not expected to be economic or deliver the require benefits of blasting.*

After presenting possible amelioration measures, it noted:

*In areas where the above amelioration measures are inappropriate or cannot reduce vibration levels to acceptable values, other measures such as temporary relocation, vibration isolation devices or noise amelioration measures may be required.*

The CIS discussed hydraulic hammer construction for cross passages. It observed that it would generate higher levels of vibration and regenerated noise than that from tunnel boring machine activities. In particular, it identified the area along Princes Street between Nicholson Street and the Melbourne General Cemetery as likely to experience elevated vibration levels and for which it advised that mitigation measures would need to be considered. On regenerated noise from hydraulic hammer construction it stated:

*Regenerated noise levels are modelled to exceed 45dBA at properties on the northern side of Alexandra Parade for each of the cross passages with levels in excess of 50dBA, possibly 55dBA, for the properties above the alignment east of the Melbourne General Cemetery to Princes Street. A large number of properties in this area would be exposed to regenerated noise levels exceeding 35dBA. It is estimated the extent of the influence zone would extend around 60 metres from the tunnel alignment. Methods of reducing regenerated noise levels to acceptable values are limited and compliance is often only possible by changes to the method of excavation or limiting the hours of operation to outside the more restrictive evening hours. Limiting regenerated noise levels within the building by adjustments to the dwelling are not expected to be feasible.*

Appendix K analysed the vibration impacts of using drill and blast construction for cross passage construction. The assessment used a fixed explosive weight of one kilogram (presumably per delay) which is said to be at the lower end of explosive weight for economically justifiable blasting. It indicated some marginal non-compliance with the 10 mm/s criterion towards the eastern end of the tunnel to the north of Alexandra Parade. Non–compliance is expected between Nicholson Street and the Melbourne General Cemetery and hence blasting may not be feasible in that location.

Under the Melbourne General Cemetery, blasting would exceed the lower bound criterion for susceptible monuments of 3 mm/s over an area of impact extending for about 100 metres from each cross passage. Directly above the passages vibration levels of 10 mm/s to 15 mm/s might be anticipated. The assessment stated:

*It may be feasible to adopt a higher vibration limit for these monuments on the basis of their condition and susceptibility to vibration impacts. Each monument should be* ***assessed separately***(Committee emphasis) *and an appropriate vibration limit justified and detailed in the vibration management plan.*

Technical Appendix K provides figures showing expected contours for vibration and regenerated noise from hydraulic hammer and drilling and blasting at the proposed western portal.

#### Victorian criteria

The Committee is aware of the existence of noise and vibration guidelines for construction sites prepared by the City of Melbourne and of State Government guidelines on vibration limits for blasting in quarries.

The Melbourne City Council *Noise and Vibration Management Guidelines* for demolition, excavation and construction require a:

* Vibration limit of 10 mm/s measured at the site boundary;
* Vibration limit of 2 mm/s measured on a foundation, floor, wall or ceiling surface of neighbouring specified sensitive sites; and
* Vibration limit of 5 mm/s measured on a foundation, floor, wall or ceiling surface of any other adjoining building.

The guideline document *Ground Vibration and Airblast Limits for Blasting in Mines and Quarries* provided by the Victorian Department of State Development, Business and Innovation is reproduced from the 2001 document prepared by the then Department of Natural Resources and Environment, which in turn drew on criteria recommended in a document on blasting vibration management prepared by the then Australian and New Zealand Environment and Conservation Council.

That guideline recommended the following limits for vibration and air overpressure limits at sensitive receptors:

* Ground vibration < or = 5 mm/s for 95% of blasts in a rolling 12 month period

< or = 10 mm/s for all blasts

* Airblast < or = 115 dBL for 95% of blasts in a rolling 12 month period

< or = 120 dBL for all blasts

and that blasting should be restricted to between 9 am and 5 pm Monday to Saturday.

### Submissions and Evidence

Mr Fearnside gave evidence on surface noise and vibration assessment for LMA. On vibration he deferred to the assessment and evidence of Dr Heilig of Heilig and Partners. Dr Heilig provided a presentation to the Committee (Document 82) that emphasised and explained the major points of the CIS vibration and regenerated noise assessment. Dr Heilig advised that he had undertaken further work on possible effects of vibration on the wellbeing of animals at the Melbourne Zoo, and said:

Preliminary modelling indicates that given the position of the construction activities relative to the Melbourne Zoo, particularly the southern corner, the vibration generated by the construction will be very minimal and is expected to have negligible effect on the welfare or behavioural patterns of animals housed in the pavilions when compared to other sources of vibration to which they may have been exposed, such as traffic and building activities within the Melbourne Zoo. The level of vibration from the tunnelling activities is predicted to be minimal and, in all likelihood, immeasurable at the southern boundary of the Melbourne Zoo. It is, however, my recommendation that discussion with the staff at the Melbourne Zoo continues to develop a specific program regarding the monitoring and definition of permissible levels of vibration.

Mr Brown gave evidence on surface noise and vibration for the City of Moonee Valley. He suggested that consideration be given to the use of the vibration dose value to quantify human comfort vibration levels in buildings, particularly where vibration is not continuous, and recommended that reference be made to additional vibration standards.

Mr Goddard gave evidence on surface noise and vibration for the City of Yarra. Mr Goddard said that the predicted vibration from tunnel boring and hydraulic hammering are likely to be acceptable during day time periods, but not at night. He said that a range of vibration management responses would be required to minimise adverse impacts. Further, Mr Goddard advocated that Yarra be involved to ensure that measures to limit vibration are adhered to.

Submissions from City of Melbourne raised concerns about loss of amenity due to vibration, vibration effects at the Urban Camp, and integrity of heritage structures. The City of Yarra discussed the integrity of heritage structures, vibration exceedances in the evening, relocation is not an acceptable mitigation response, prolonged exposure to vibration is unacceptable, and remedial responses to non-compliance should be implements as soon as possible. Moreland City Council expressed concern about vibration impact on animals at the Melbourne Zoo.

Submissions were received from Melbourne Water about the integrity of sewers, particularly the greater than 100 year old brick North Yarra Main Sewer. The APA Group submitted about the integrity of lead jointed cast iron gas mains. SP AusNet submitted about tripping of critical electrical infrastructure at West Melbourne Terminal Station and damage to underground 220kV electrical transmission line along Hoddle Street.

The submission from the National Trust expressed about historic sites, including the Shot Tower, former college church and Melbourne General Cemetery memorials. The Clifton Hill Primary School noted its concerns about vibration impacts on its school. It sought an assurance that vibration will not affect students and staff questioned whether relocation may be necessary. The Urban Camp inquired whether there should be a condition survey.

Submissions from various community groups and individuals raised issues about:

* Road use and pile driving vibration;
* Vibration criteria;
* Aggravation of ground movement;
* Structural and property damage;
* Animals at the Melbourne Zoo;
* Lack of vibration assessment for western section of the Project;
* Effect of vibration on heritage assets and the shot tower;
* Need for condition surveys;
* Health of patients for health service practices;
* Understatement of vibration impacts;
* Inadequate mitigation; and
* Impacts on lifestyle and amenity.

### Discussion

The Committee accepts that some vibration from construction of the Project is inevitable. The issue that it must consider is that of appropriate maximum vibration levels that protect the integrity of structures in the built environment that do not unreasonably impact on the amenity and comfort of people.

The Committee understands that vibration is solely linked to the construction of the Project. Negligible vibration would be linked to the operation of the road and hence there is no need to consider operational vibration. No evidence suggested otherwise.

The Committee perceives an apparent gap in the CIS on vibration assessment. Technical Appendix J largely defers to Technical Appendix K on vibration assessment. However, Technical Appendix K discusses vibration of the construction of the proposed tunnels and the portals. It does not deal with vibration that might be associated with other surface works. Technical Appendix J does not provide a comprehensive assessment of surface works that might cause vibration beyond adherence to particular standards. The Committee would have been helped by evidence on vibration that might result from constructing piers for elevated structures including from pile driving that it anticipates might be contemplated for the unconsolidated soils near the western end.

The Committee recognises that a number of aspects of construction vibration need to be considered including:

* The effect on assets of continuous vibration, such as might be generated from a tunnel boring machine, road header or hydraulic hammer constructing a driven tunnel. These assets might include surface structures and buildings of all types, council assets, and underground utility assets. Those buildings would encompass residential buildings, heritage structures and cemetery monuments. The council assets might include kerbs, footpaths, surface drains and similar. Underground assets could include gas pipelines, electricity lines, sewers, water pipes and similar owned by utility companies and government organisations. Those assets might also include vibration sensitive equipment such as might be in laboratories and hospitals;
* The effect of continuous vibration on human amenity and comfort. This would apply largely to residents. Evidence suggests that people can be aware of vibration at much lower levels than that required to cause damage to structures;
* The effect of impulsive vibration, such as might be caused by blasting, on assets both above and under the ground;
* The effect of impulsive vibration on the amenity and comfort of people;
* The effect of regenerated noise on people in occupied buildings; and
* The effects of vibration and regenerated noise on the wellbeing of animals at the Melbourne Zoo.

The Committee considers that the issue of exposure of sensitive receptors to sequential periods of vibration and regenerated noise should be given consideration. It does not believe that this has been adequately considered in the CIS. The Committee understands that some receptors may be exposed to a single episode of vibration and regenerated noise, albeit over some time, such as from the nearby passage of a tunnel boring machine or the day time use of hydraulic hammering or a road header for some facet of surface or underground construction. But it envisages the possibility in some cases of sequential vibration and regenerated noise exposures from different aspects of the construction work. For instance, a sensitive receptor towards the proposed eastern end of the tunnels might experience vibration and regenerated noise from the construction of the portal access by hydraulic hammering and perhaps blasting, further vibration and regenerated noise some time later from a tunnel boring machine and perhaps a second machine, and possibly later again more vibration and regenerated noise from a cross passage construction using hydraulic hammering and perhaps blasting.

The Committee envisages some possibility of combined vibration and regenerated noise from adjoining vibration inducing activities. A s57(4) request to LMA about sequential noise impacts was interpreted as a request for information on combined impacts. The response advised that a possible combined impact could be from two adjacent tunnel boring machines and the combined impact would have to meet the performance criteria.

All vibration and regenerated noise episodes, whether they be single episodes or sequential or combined impacts would be required to comply with vibration criteria or any agreed departure from those. However, the durations and times of perceptible impacts may differ significantly. The Committee believes this possibility of sequential impacts, and to a lesser extent combined impacts, exemplifies the need for a comprehensive and effective community engagement and information program.

The community and councils will need to be informed about the likely impact of vibration and regenerated noise, when it might occur, whether it will be continuous, limited to normal working hours or otherwise, whether it will be impulsive (e.g. blasting or pile driving), whether there might be sequential episodes, and how to make contact for information or complaint. The Committee endorses the LMA intention of a comprehensive network for the monitoring of vibration. It believes that the data should be provided on line for access by other parties in addition to regular reports.

The Committee is satisfied that vibration criteria should be expressed as proposed in the velocity domain. It notes the evidence of Mr Brown that a vibration dose value be adopted. Dr Heilig acknowledged some merit in that but observed that among other things the proposed approach facilitates a more rapid identification of non-compliance and hence mitigation. The Committee believes that a prompt recognition of non-compliance, or an approach to any vibration criterion, and mitigation as soon as possible is desirable. It accepts the evidence of Dr Heilig that the proposed approach be adopted.

Melbourne Zoo is near to some of the construction activities, notably the driven tunnels, the Elliott Avenue ramps and the surface works proposed for Elliott Avenue itself, and to the western portal. The Committee is conscious that that western portal is the area proposed for major construction works including the possible launch site for probable tunnel boring machines. The Committee did not hear from the Melbourne Zoo but notes that there is a Performance Requirement relating to the development of management measures with the Melbourne Zoo and City of Melbourne for vibration, construction noise and working hours; this is appropriate.

### Findings

The Committee finds that vibration and regenerated noise is an unavoidable consequence of construction of the Project. It finds that measures must be implemented to limit vibration and regenerated noise to protect human amenity and wellbeing and to avoid damage to assets, both surface structures and underground infrastructure. It is satisfied that that is achievable given close attention to project design and planning, selection of construction equipment and operational techniques, construction management, and community engagement. That will require detailed preparation of a construction environmental management plan for vibration, implementation of that, and responsive revision in the event of justified complaints or asset damage.

The Committee is satisfied that vibration impacts relate solely to construction and are not a consequence of operation of the Project.

The Committee has made a number of recommended changes and refinements to the Performance Requirements based on the consideration of vibration in this Chapter. These are shown in Appendix E and in summary relate to:

* Revisions to further refine requirements around sensitive sites;
* Improved clarity around property condition assessments; and
* A range of other changes related to implementation and monitoring.

# Air Emissions and Air Quality

## Introduction

### Terms of Reference and Applicable Approvals

In addition to its overarching tasks of assessing the CIS and evaluating all applicable law criteria for applicable law approvals, Part 7(d) of the Committee’s Terms of Reference includes the following *‘Public Hearing Matter’* relating to air emission:

Whether the noise, vibration, **air emission** and light spill impacts of the project will be appropriately managed by the proposed measures. (Committee emphasis)

The applicable approval relevant for the Project with respect to air quality is the Works Approval as required under the EP Act.

### Conclusion of the CIS

Chapter 11 of the CIS*, ‘*Air quality’ concludes that dust generated during construction would need to be appropriately managed. During the Project’s operation, tunnel ventilation and emissions would need to comply with SEPP (Air Quality Management). In-tunnel concentrations would need to comply with World Road Association (PIARC) guidelines.

In relation to ventilation systems and emissions the CIS concluded:

Fans would be installed in each tunnel to manage in-tunnel air flow. The ventilation structures would house the fans to exhaust tunnel air to the exterior air shed. The ventilation system would manage air quality in the tunnel and the ventilation structures.

Emissions from the tunnel ventilation structures have been modelled (30 metres for the eastern vent and 20 metres for the western vent) and shown to comply with EPA Victoria air quality criteria. Once the tunnel is designed, compliance with these criteria would be demonstrated through additional air quality modelling similar to this assessment and the exact heights may change slightly.

The CIS acknowledged that further air quality assessment will be required during the detailed design phase to confirm that the contractor’s design, including the location of vent structures, can comply with PIARC and SEPP (AQM) requirements.

In respect of localised emission assessment, the CIS noted:

Five areas along the project alignment were considered further due to the high localised emissions per area identified in the detailed traffic modelling. At each area, levels of NO2 comfortably fall within SEPP (AQM) criteria of 263 µg/m³ at all sensitive receptor locations (that is, everywhere beyond the roadside) even after consideration of background levels.

The CIS concluded that across the region, the predicted motor vehicle emissions and associated air quality impacts due to the operation of the project were found to be negligible compared to no Project operating. It stated that a minor decrease in key traffic emission constituents may be experienced due to easing congestion and free flowing traffic.

### Objectives and Performance Requirements

The CIS evaluation objective (set by the Scoping Directions) for Air Quality and Greenhouse Gas is:

To minimise the adverse impacts from noise, vibration, air emissions and light spill.

There are four corresponding Air Quality Performance Objectives in the CIS and one Greenhouse Gas Performance Objective:

* To manage tunnel emissions to protect the beneficial uses of the air environment;
* To ensure in-tunnel air quality is safe for motorists and others using the tunnel;
* To manage tunnel emissions to protect the beneficial uses of the air environment;
* To protect beneficial uses of the air environment for the surface sections of East West Link – Eastern Section; and
* To protect the beneficial uses of the air environment in relation to greenhouse gas emissions.

An extensive list of Performance Requirements are specified in Chapter 11 of the CIS (Table 11-10) to meet these Performance Objectives. The CIS stated that it “*would be up to the contractor to determine the best approach to meeting the performance requirements, subject to legislative and other requirements*”.

### Air Emission Issues

The Committee heard air quality evidence from the following experts:

* Mr Barry Cook of GHD for the LMA;
* Dr Paul Torre of the EPA for the EPA; and
* Professor Louis Irving of Royal Melbourne Hospital for Ms Clare Walter

At the request of the Committee, all experts met to discuss the relevant issues and determine points of agreement and dispute. Two meetings on air quality were held in this regard. The conclave was held in two parts as not all experts were available on the same days. Mr Cook and Dr Torre met on 24 February 2014, and Mr Cook and Professor Irving met on 27 February 2014.

At the conclusion of the conclave and further discussions an ‘*Agreed Statement*’ (Document 29), was provided to the Committee.

The following topics were discussed and generally **agreed** by the experts at the conclave.

* The need to control development close to the portals and ventilations structures by the use of planning controls implemented by the relevant Councils;
* The Alphington and Footscray air monitoring data was appropriate for representative background data for the Project;
* SEPP (AQM) compliance could be demonstrated even with a higher percentage of heavy vehicles than that used in the CIS;
* The in-tunnel CO standards adopted for CityLink and Eastlink should be adopted for the Project;
* The near road emissions would need to be remodelled if the final design differed significantly from the Reference Design;
* No portal emissions should be allowed;
* Health effects can occur at levels below the current Australian standards and it is unclear whether there is a lower limit for these adverse effects;
* PM2.5 has a greater effect on human health and constitutes the majority of particles emitted from motor vehicles; and
* That an air monitoring program be implemented for at least one year before and one year after commencement of the operation of the tunnel to measure the impact of the Project.

The following topics were discussed and generally **not agreed** by the experts at the conclave.

* Mr Cook and Dr Torre agreed that the health impacts of air pollution arising from the Project are accounted for by the levels set in SEPP (AQM). Professor Irving disagreed with this;
* Professor Irving argued that pollution control equipment is commonly used in international road tunnels and would improve the in-tunnel air quality and reduce emissions to the external air. Mr Cook disagreed with this;
* Professor Irving raised concerns that the proposed in-tunnel and ambient air monitoring programs were inadequate and should be ongoing.

Based on its consideration of the evidence and written and verbal submissions and evidence relevant to its Terms of Reference relating to air quality, the Committee has grouped its assessment under the following headings:

* General Issues;
* Tunnel Emissions;
* In Tunnel Air Quality;
* Surface Roads and Near Road Air Quality;
* Part B;
* Greenhouse Gas; and
* Public Health.

### Legislative Framework for Air Quality Management in Victoria

Air quality in Victoria is managed by two State Environment Protection Policies (SEPP):

* SEPP (Ambient Air Quality) [SEPP(AAQ)]; and
* SEPP (Air Quality Management) [SEPP(AQM)]

The SEPP (AAQ) contains the air quality standards and monitoring and reporting protocols contained in the National Environment Protection Measure (Ambient Air Quality) [AAQ NEPM]. These standards are used to assess general air quality across a region arising from emissions from a wide range of sources.

The SEPP (AQM) establishes the management framework for the control of emission to the air environment to ensure that the ambient air quality standards contained in the SEPP (AAQ) are met and that continuous improvement in Victoria’s air quality is achieved.

#### SEPP (AQM)

**Policy Aims and Intent**

The aims of the policy are to:

* Ensure that the ambient air quality standards in SEPP (AAQ) (which reflect the AAQ NEPM standards) are met;
* Drive continuous improvement in air quality and achieve the cleanest air possible having regard to the social and economic development of Victoria; and
* Support Victorian and National Measures to address the greenhouse effect and depletion of the ozone layer.

The policy is guided by the principles of environment protection as set out in the *Environment Protection Act* 1970, including consideration of the precautionary principle and the wastes hierarchy with avoidance being the main aim.

The policy intent is that emissions to the air environment will be managed so that the beneficial uses of the air environment are protected, Victoria’s air quality goals and objectives (standards) are met, air quality continues to improve and the cleanest air possible is achieved, having regard to the social and economic development of Victoria.

Class 3 indicators (such as benzene) will be managed at source to achieve the best practicable outcome irrespective of their ambient levels due to the extremely hazardous nature of these pollutants.

Proposals for new or substantially modified industrial sources (such as the ventilation stack) will be designed to minimise their operational impact. The ventilation system for the EWL tunnels is subject to Works Approval and Licence by EPA (Victoria).

**Definitions of Air Quality**

There are four types of air quality described in the SEPP (AQM):

* Regional Air Quality – this is the air quality that exists within a region, for example the whole of Melbourne which is described in the SEPP as the Port Phillip Air Quality Control Region. The CIS refers to regional air quality meaning air quality across the Melbourne Metropolitan area.
* Neighbourhood air quality – is the air quality experienced across a neighbourhood. This could be a suburb or group of suburbs that are affected by a major source or sources of pollution.
* Local air quality – this is what is experienced by people close to a source. In the CIS local air quality is referred to as the air quality experienced due to emissions from the surface roads as part of the Project or the area around the ventilation stacks impacted by emissions from stacks.
* Near road air quality – the air quality experienced adjacent to a road, usually up to 100m from the road. In the CIS this refers to the air quality experienced due to changes in traffic on surface roads or the new elevated viaducts.

**Air Quality Indicators**

The SEPP (AQM) classifies air pollutants into three classes based on their toxicity and/or odorous properties. For transport related pollutants the key pollutants are:

* PM10, NO2 and CO – these are classified as Class 1 indicators. They are ubiquitous in the environment and are a subgroup of pollutants used to describe regional air quality as they arise from a wide range of sources. These pollutants are covered by the AAQ NEPM and have ambient air quality standards set to describe general air quality within a region.
* PM2.5 – Class 2 indicator. Also ubiquitous in the environment and arises from many sources. The AAQ NEPM contains ambient air quality standards for PM2.5.
* Formaldehyde – Class 2 indicator.
* Benzene, polycyclic aromatic hydrocarbons (PAHs), 1,3-butadiene – Class 3 indicators. These substances are all carcinogenic. Class 3 indicators are the most toxic pollutants covered under the SEPP.

Class 1 and 2 indicators must be controlled by the application of best practice which goes beyond the application of technology controls.

Class 3 indicators require control to the maximum extent achievable (MEA) which goes beyond best practice. The aim is to minimise these emissions due to their toxicity.

These levels of control apply to all generators of emissions in Victoria not just industrial point sources.

**Types of Air Quality Standards**

* Ambient Air Quality Standards – set out in the SEPP (AAQ) and AAQ NEPM. These describe regional air quality across an airshed and do not apply to individual sources.
* Design criteria – these apply to individual point sources (such as the ventilation stacks) in the design stage of a facility. They are more stringent than the ambient air quality standards so that multiple sources can be managed and not exceed ambient air quality standards.
* Intervention levels – these are set at 10% higher than the ambient standards and only apply at hotspots – where multiple sources lead to high levels of pollutants. These are set at the upper bound of health risk and are ‘not to be exceeded’ numbers. If they are exceeded then EPA, other responsible bodies (such as VicRoads) or local Government need to take action to reduce air pollution levels in that area.

For the Project, the design criteria apply to the emissions from the ventilation stacks. The intervention levels apply to the near road air quality but would not apply to sensitive areas, like the Clifton Hill Primary School, where the ambient air quality standards would apply.

The design criteria and intervention levels apply wherever that maximum concentrations are predicted to occur. For buildings such as the Flemington Housing Estate, these criteria would apply at the elevated receptors not at ground level if the maximum concentrations occur at the higher levels.

**Demonstrating Compliance**

In demonstrating compliance with the SEPP (AQM) the following process is required:

* Identify pollutants of concern;
* Control of emissions by application of best practice or MEA;
* Model residual emissions (those left after appropriate level of control as been applied) to see if they meet relevant standards;
* If the standards are exceeded then either:

1. Review design and emission controls to reduce the impact of the emissions;
2. Conduct a health risk assessment to assess what the risk is to the affected community.

The approach to the air quality assessment in the CIS is focussed on meeting the standards in the SEPP (AQM), not minimisation of emissions. Compliance with the standards in the SEPP is the minimum requirement (after controlling emissions) as many of these pollutants do not have a threshold for adverse health effects. All of the pollutants of concern for the Project are considered to be non-threshold pollutants, so there is no ‘safe’ level of exposure. Even meeting the standards has some level of risk associated with them. The level of risk inherent in the standards is that which Government deemed ‘acceptable’ at the time of making the SEPP. The focus of the SEPP on minimising emissions and not just meeting numbers is due to the fact that any increase in pollution is linked to an increase in risk in potential health effects associated with exposure to air pollution.

Internationally, the main pollutant of concern with respect to transport is PM2.5.

In the opening submission from LMA, Mr Morris stated that the relevant policy and standards for the air quality assessment for the Project is the SEPP (AQM). The Committee agrees that this is the appropriate legislative framework for assessing the air quality impacts associated with the Project. It is the view of the Committee that the qualitative aspects of the SEPP (AQM) are an integral part of assessment of compliance with the policy and must be considered in any assessment of the impact of emissions arising from the project.

## General Issues

Although the Committee has identified issues that are of specific concern for the assessment of the air quality impacts arising from the Project, there are some general issues that impact more broadly that need to be considered. These are:

* The selection of NO2 as the key indicator for the impacts of the Project; and
* The selection of background data used in the air quality assessment.

In terms of minimising the impacts of air emissions arising from the Project, the Committee agrees with the position put forward by the LMA that putting the road in-tunnel is best practice. This is consistent with international trends, discussed by many submitters, that surface roads are being replaced by road tunnels thereby increasing the amount of open space within cities as well as providing improvements in air quality. The Committee is of the view that as far as practicable, as much of the Project should kept in-tunnel to reduce air quality impacts as well many of the social and heritage issues that are addressed in other sections of this report.

The CIS air quality assessment has adopted NO2 as a key indicator of traffic pollution for the Project. Although NO2 is emitted from motor vehicles PM2.5 is a more relevant indicator of the potential health effects arising from exposure to motor vehicle pollutants. It is used internationally as the key indicator for assessments of the impacts of motor vehicle emissions and the Committee is of the view that it is the more relevant indicator for this Project. This issue was raised by a number of submitters. PM2.5 emissions are higher from diesel vehicles than other pollutants especially when the vehicle is under load. As the Project is proposed as an alternate freight route to the M1, a relatively high proportion of heavy duty vehicles would be expected to use the road system.

In the submission from the RATs (Submission 156,) they quoted from the finding of the Senate Inquiry into Air Pollution in Australia that was conducted in 2013. The report of the Reference Committee that undertook this inquiry found:

A major source of particles in Australia are vehicle exhausts. Particles are created by both petrol and diesel engines, and the constituents of vehicle exhaust particles are particularly damaging to health as they often contain metals and sulfates.

The background levels of PM2.5 are already high and often exceed air quality standards in Melbourne. This is not the case for NO2 where background levels are well below current air quality standards and exceedances of the standards do not occur. This means that it is much easier to demonstrate compliance for NO2 than it is for PM2.5 or PM10 as background levels must be taken into account in the assessment. As the final design of the road system, alignment and ventilation system (including location of the ventilation stacks) is dependent on demonstrating compliance with SEPP (AQM) standards, the Committee is of the view that additional modelling should be done using PM2.5 and/or PM10 as the key indicator to guide the final design of the project.

In its submission, the Department of Health raised concerns over the background data used in the air quality assessment. Similar concerns were raised Ms Walter (Submission 480), the 3068 Neighbourhood Group (Submission 326) and the RATs, (Submission 156). Data from the Alphington air monitoring station was used as background for the assessment of impacts at the Eastern end of the project and data from Footscray was used in the assessment for the western end. The use of this data was supported by EPA Victoria.

Both the Alphington and Footscray air monitoring stations have been sited to provide a representative picture of air quality generally experienced by the local population. They have been located to not be directly influenced by individual sources such as roads or industry. The EPA has conducted monitoring at the North Yarra Community Health Centre on Hoddle Street and at Collingwood College, also on Hoddle Street. These locations are much closer to the proposed location for the ventilation stack and road infrastructure, such as the Hoddle Street flyover, at the eastern end of the Project.

The EPA Publication 874 that reports the results of the air monitoring at Collingwood College, notes that PM10 levels are higher at the College compared to Alphington or Richmond as the College is closer to the road than either the Alphington or Richmond monitoring stations. The report concludes that:

The average 24-hour PM10 concentrations were generally higher than the concentrations measured at fixed monitoring sites in Richmond and Alphington. The higher PM10 levels are due to the closer proximity to a main road.

Ms Walter’s submission (Submission 480) raised similar concerns and comments that for the residents of Precinct 1, this uncertainty in the modelling may have “*devastating”* effects on their health.

Ms Walter submitted that the conclusions of the EPA report means that the background data measured at Alphington is not representative of air quality in Precinct 1 and is different from the roadside locations in Precinct 1.

The appropriateness of the background data from Alphington and Footscray for the Project was discussed at the Conclave (Document 29). It was acknowledged that the data collected at Collingwood by the EPA was higher than that measured at Alphington, however Mr Cook and Dr Torre both agreed that the Alphington data was appropriate for use in the air quality assessment.

The CIS claimed that there may be improvements in background air quality due to changed traffic conditions once the Project is in operation. The Committee questions this assumption given that the background data used has not been obtained from the local area. In addition, the traffic modelling presented by Mr Veitch predicts that the traffic on Alexandra Parade will be back to current levels by 2031, so any improvements will be only short-term.

In several places the CIS stated that existing air quality in the Clifton Hill/Collingwood area is already poor and the incremental increase from the Project will not affect that. This issue was raised by the 3068 Neighbourhood Group, the RATs and Ms Walter in their submissions. The SEPP (AQM) requires continuous improvement in air, and Clauses 30 and 31 of the SEPP establish provisions to manage air quality in designated Air Quality Control Regions. These provisions enable the Authority to refuse to allow new sources into an airshed that already has poor air quality unless offsets for emissions can be demonstrated. The Committee believes that the existing condition of the air, as measured in Alphington, should not be used as an excuse to not optimise the design of the ventilation system and the Project overall to minimise the impact of emissions.

The 3068 Neighbourhood Group stated in its submission:

The modelling still shows that the PM10 performance is non-compliant and that, even in leafy Alphington, ambient air already exceeded the level that ‘would present an unacceptable risk to human health’. The argument supporting this project is that the project will only make things incrementally worse.

The 3068 Neighbourhood Group are of the view that the CIS does not adequately address the air quality issues. They went further to say that:

The undue haste with which the CIS has been prepared gives us no confidence in the assurances from the proponent, the Linking Melbourne Authority (the Authority) that it can in fact manage the impacts, or even in fact fully understands them.

## Tunnel Emission Issues

### Introduction

The Scoping directions required the design of the Reference Project to *“minimise impacts of air emissions”.*

The CIS recommended that a new Design and Development Overlay be introduced into local planning schemes to maintain separation for residences from ventilation stacks to minimise impacts and meet requirements of SEPP (AQM). The Design and Development Overlay would apply to the final design.

The scoping directions required the CIS to provide an outline of potential and any proposed siting and design measures to minimise air quality impacts, including on sensitive receptors in the vicinity of the tunnel ventilation system during project operation.

### Key Issues

The Committee has identified that the key issues in relation to the impact of the air emissions from the ventilation stacks are:

* Location of the ventilation structures, in particular the eastern ventilation stack near Gold St, Clifton Hill;
* Inclusion of pollution equipment in the ventilation stacks; and
* Uncertainty in traffic data that may lead to underestimates of the impact on sensitive locations.

A number of submitters raised concerns about the potential health effects of the emissions from the ventilation stacks and whether the SEPP (AQM) standards were protective of public health. These issues are discussed in Chapter 10.8.

### Submissions and Evidence

Evidence on the impact of the location of the ventilation stacks on local air quality was contained in the expert witness statement of Mr Cook of GHD. Evidence was provided by Professor Irving in relation to the potential health impacts of the emissions on the local community.

A number of submitters raised concerns about the location of the eastern ventilation stack and the potential impacts on sensitive receptors such as the Clifton Hill Primary School. The 3068 Neighbourhood Group discussed the potential impacts of the ventilation stack and proposed alternative locations to lessen the impacts of air pollution, noise and visual impact (Document 303). Document 282 raised concerns about the location of the ventilation stacks and the need for pollution control equipment to be installed.

### Discussion

The Scoping Directions for the CIS state that the Reference Project must be designed to minimise the potential impacts of air emissions arising from the Project.

The CIS Technical Appendix I, p57, states that the proposed location of the ventilation stack is an arbitrary location that was chosen to demonstrate that the requirements of SEPP (AQM), in particular the air quality standards, can be met. The proposed location that has been assessed has not been optimised to minimise the impact of the emissions.

The Committee has concerns that the design that has been assessed has not met the scoping directions in that location of the ventilation stack has not been optimised to minimise the emissions. In Mr Cook’s expert witness statement, the results of additional air dispersion modelling were provided to show the effect of moving the ventilation structure either 200m east or west of the location assessed in the CIS on the predicted impacts on the Clifton Hill Primary School. The results of this modelling showed that the predicted concentration of PM10 at the school was halved by moving the ventilation stack 200m east. This modelling indicates that optimising the location of the ventilation stack can be done and achieve the minimisation of the impact of emissions from the stack. The Committee believes that additional modelling must be undertaken to guide the final design of the tunnels and the location of the stacks. Consideration should be given to moving the ventilation stacks to the east of Hoddle Street and the South Morang/Hurstbridge Rail Line, away from more sensitive locations.

The relocation of the ventilation stack to the east of Hoddle Street was raised in the submission made on behalf the Clifton Hill Primary School (Submission 907). The school conducted a survey of parent to collect their views in regard to the Project. The submission stated that 90% of respondents supported moving the ventilation stacks further east away from residential areas and the school. The main concern raised was the potential impact on the health of the school staff and students arising from PM10 and PM2.5 emissions. The submission raised concern about the impacts of smoke arising from fire, such as that experience in the CityLink Burnley tunnel, on the health of the local community with the ventilation stack located in such a densely populated area. The Committee acknowledges these concerns and such considerations need to be taken into account in the final design of the tunnel ventilation system and the location of the ventilation stacks.

The submission of the 3068 Neighbourhood Group (Document 303) also proposed that the ventilation stacks be moved away from the more densely populated areas to the east of the railway line. The Group proposed three alternative locations which the Committee believe warrant further consideration by the LMA. The 3068 Neighbourhood Group believe that moving the eastern portal to the east of Hoddle Street and the railway line will reduce the impact on sensitive uses such as housing and the schools and locate the ventilation stacks in areas with more open space that will assist in the dispersion of pollution from the ventilation stack. The noise and visual impacts would also be reduced, as well as the need for the Hoddle Street flyover.

In comparing the proposed location of the eastern ventilation stacks with the location of the CityLink and EastLink stacks, it is apparent that the proposed location is in a much more densely populated area than any of the other ventilation structures, including the Burnley ventilation stack in Richmond. The more densely populated the surrounding land use is, the higher the risk of building downwash which essentially traps the pollution from the ventilation stacks at ground level and stops effective dispersion of the emissions from the ventilation stacks. This issue is discussed in the CIS and it was concluded that Design and Development Overlays should be introduced into Local Planning Schemes to restrict the height of buildings in the vicinity of the stacks. The CIS said 2-3 storey buildings may cause building downwash to occur.

One key issue with the proposed location of the ventilation stack used as the basis of the air quality assessment for the Reference Project is that there are already existing buildings that are 2-3 storeys high. The modelling in the CIS does not appear to have taken this into account – it has assumed that there are no buildings other than single story buildings and that there is flat terrain. The Committee believes that taking this approach underestimates the potential impacts on the local community. This concern was raised by Dr Torre from EPA, in his expert witness statement.

There are a number of properties along Alexandra Parade that will be demolished as part of the construction of the Project. The Committee heard submissions from Mr Morris that once the Project was operational, this would provide opportunities for urban renewal along this corridor. Mr Finanzio, on behalf of the City of Yarra, suggested that should the Project proceed, urban renewal opportunities in this area should be pursued. Evidence from Mr McGauran included diagrams of possible urban renewal along the Alexandra Parade precinct that included medium density development. To ensure that the operation of the ventilation stacks and the dispersion of emissions from the stacks were not restricted, such medium density development may need to be prevented.

The area east of Hoddle Street and the railway line is less densely populated than the location assessed in the CIS. The terrain is flatter and the potential for effective dispersion is greater at this location. The Committee is of the view that this location is a preferable location for the eastern ventilation stack. The tunnel should be extended beyond Hoddle Street with the exit portals and ventilation stack located east of the railway line. Air quality modelling should be undertaken for this option and the location of ventilation optimised to minimise the impacts of emissions on the surrounding community. Professor Irving recommended that the ventilation stacks be moved further east to reduce the potential health impacts arising from the air pollution from the stacks. However he further recommended that even with moving the ventilation stacks east of Hoddle Street, pollution control equipment should be installed to ensure that the air emitted from the tunnel is as clean as possible.

During the hearing, the Committee asked LMA if consideration had been given to extending the tunnel and locating the portals and ventilation stack east of Hoddle Street. LMA responded by saying that it had been considered but was a more expensive option. LMA commented that in moving the tunnel east, it may encounter issues with the Merri Creek. No evidence or documentation to support LMA’s argument was provided to the Committee. The Committee accepts that extending the tunnels further east and relocating the ventilation stacks may be a more expensive option than the Reference Project, however the Committee is not able to take cost into its considerations. The Committee is of the view that extending the tunnels east of Hoddle Street and the railway line, and locating the ventilation structures at this location would minimise the impact of air emissions meeting the requirements of the Scoping Directions.

A second issue in relation to the minimisation of air emissions is whether the installation of pollution control equipment should be required in the ventilation stacks. Evidence provided by the LMA was that the installation of such equipment is not considered international best practice for emissions control, and would make no demonstrable difference to the external air quality arising from emissions from the ventilation stacks. Many submitters argued that pollution control equipment is used in international road tunnels and should be used for this Project to minimise the health impacts of the air pollution emitted from the ventilation stacks. Professor Irving was strongly of the view that pollution control equipment would improve the quality of the air being emitted from the ventilation stacks, thereby minimising the potential health impacts on the local community.

The LMA did not accept Professor Irving’s position. It quoted the experience of the trial of pollution control equipment in Sydney’s M5 tunnel as an example that it did not make any difference to the air quality emitted from the ventilation structure. The Committee notes that the M5 tunnels are of a different design to that proposed for the Reference Project. In the M5 tunnels in-tunnel air is drawn from one tunnel into the second tunnel and both tunnels are then vented through a ventilation stack located approximately 1km from the tunnels. The air flow and ventilation within the tunnels is not as effective as that proposed for the Project, and the Committee consider that it is not an appropriate comparison to consider the effectiveness of air pollution control equipment for a longitudinally vented tunnel as proposed in the Reference Project. However the Committee notes that even though the efficiency target for removal of PM10 of 80% set for the M5 tunnels was not met, 68% efficiency in PM10 removal was achieved. Professor Irving was of the view that removal of 68% of PM10 from the ventilation stack emissions was an acceptable improvement in air quality and would lead to a reduction in potential health impacts in the surrounding community. The Committee accepts Professor Irving’s position.

The SEPP (AQM) requires control of emissions by the application of best practice. In the Works Approval Application, contained in the CIS, it is stated that:

Treatment of emissions is not typically required for tunnel ventilation systems as they are designed to collect and disperse emissions that would otherwise occur at surface and readily achieve air quality limits. It is not expected that a high percentage of heavy vehicles will use the tunnels, and as such treatment of tunnel ventilation systems, which would require significant energy to operate, is considered unnecessary to meet relevant air quality requirements.

…. treatment of emissions from the tunnel ventilation system would be costly and energy intensive, and as such is not warranted given the improvement in air quality concentrations for Class 3 indicators that may be achieved (especially given the level of compliance with the relevant SEPP (AQM) criteria that has been predicted with the proposed ventilation system). Therefore the proposed system is the most effective practicable means at the present time to minimise the risks to human health from emissions of Class 3 indicators.

The question of whether the use of pollution control equipment in road tunnel ventilation systems constitutes best practice emissions control was discussed during the hearing. Mr Morris argued that although pollution control equipment was used internationally, it was not widely used. He quoted that out of hundreds of road tunnels in Norway as an example, only seven tunnels had pollution control equipment installed. There was no explanation provided to the Committee as to why this situation existed. Mr Cook stated that the use of pollution control equipment did not constitute best practice emissions control, and was not widely used overseas for road tunnels. When questioned by Mr Wren on behalf of the Committee, it was clear that he had not undertaken a detailed review of the use of pollution control equipment internationally.

A review of international practice on the use of pollution control equipment in overseas tunnels and the legislative basis for it showed that the reasons for inclusion are dependent on a range of factors (CETU, 2010 (Document 100); Norwegian Public Roads Administration, 2004). The common basis for requiring pollution control equipment includes:

* Whether it is located in a densely populated area or not;
* The sensitivity and quality of the existing environment;
* Community concern about existing air quality in the vicinity of the ventilation stacks;
* Length of the tunnel (tunnels less than 1km in length generally do not require pollution control equipment); and
* Mix of traffic using the tunnel (tunnels with a high proportion of heavy vehicles which emit more particle pollution are more likely to have pollution control systems installed).

In countries such as Norway, the use of studded tyres in the winter months increases particle pollution in the tunnels and reduces visibility. In these situations pollution control equipment is often required to improve visibility in the tunnels.

As discussed above, the proposed location for the Eastern vent stack is within a densely populated area. Based on the above criteria this alone would warrant consideration of the installation of pollution control equipment.

The quality of the existing environment is an important consideration, and is of concern if:

* The area is a pristine area that should be protected; and
* The existing air quality is already poor and exceeds air quality standards.

For the eastern ventilation stack, the existing air quality, represented by data collected at the Alphington air monitoring station, already exceeds air quality standards for PM10 and PM2.5. The CIS acknowledged this and argued that the incremental increase in PM10 makes no difference to local air quality as it already exceeds the standards and the ventilation stack emissions do not cause any additional exceedances. The Committee acknowledges that, on the basis of the modelling that was done for the CIS, the predicted impact of emissions from the ventilation stacks is small compared to the existing air pollution levels. However, from submissions made by several submitters and Dr Torre of the EPA, there is strong evidence from international studies on the health effects of air pollution, and in particular PM10 and PM2.5 that there is no threshold for the health effects associated with these pollutants so that any increase in air pollution will lead to an increased health risk. There is significant community concern about air quality resulting from emissions from the ventilation stacks and the associated health effects.

The tunnels included in the Reference Project are proposed to be 4.4km in length. The CIS concluded that a mid-tunnel fresh air inlet is not required based on modelling of in-tunnel air quality against the PIARC guideline for NO2. International practice is that tunnels of similar length require fresh air inlets to improve in-tunnel air quality and the quality of the air vented to the external environment. Some tunnels, such as the A86 West tunnels in France, have more than one fresh air intake to provide adequate ventilation in the tunnels. The Burnley tunnel, as part of CityLink (which is about 3.5km in length), has a fresh air inlet in located in Gosch’s Paddock in Richmond. This was required to enable the in-tunnel air quality limits applied to CityLink to be met. At this stage it not proposed for the tunnels for the Project and the Committee considers it should be a requirement.

As discussed above, in the Works Approval application, LMA stated that the percentage of heavy vehicles (HCV) using the tunnels is not expected to be high, and therefore pollution control equipment is not required. The Committee questions this assumption. The Project has been put forward as providing a freight solution for Melbourne. The Project is to provide a key link between the Port of Melbourne, CityLink and EastLink to provide an alternative option to the M1 for freight movements. On that basis it is unclear how the conclusion has been reached by LMA that the percentage of heavy vehicles would be low. Some international road tunnels are restricted to commuter vehicles with HCV banned from entering the tunnels. This helps control the air pollution levels both in-tunnel and external to the tunnel. As the Project is a proposed freight solution, restricting traffic to commuter vehicles is not a viable option. This would suggest that the inclusion of pollution control equipment in the ventilation stacks should be considered.

LMA put forward that rather than installing pollution control equipment in the ventilation stack, motor vehicle emissions are better controlled at the tail pipe of individual vehicles. This puts the responsibility on individual car owners as well as Government to introduce new vehicle emissions standards and programs to reduce emissions. While the Committee supports actions to reduce motor vehicle emissions, it does not accept that this is an option that alleviates the need for optimal design of the ventilation stacks to minimise the impact of the emissions on surrounding communities. The responsibility for the management of emissions from the Project sits with LMA, not individual car owners.

The predicted level of air pollution arising from the ventilation stacks is strongly dependent on the volumes and mix of traffic assumed to use the tunnels and associated surface roads. As discussed above, the Project has been put forward as a freight solution for Melbourne which would suggest that a relatively high percentage of heavy duty freight vehicles would be expected to use the route. Although the CIS is dealing with the Eastern section of the full link, approvals for Part B (the Port connection) is also being sought. Ultimately the Project would link to the Western Ring Road through the second stage of the project. Since the completion of the Hearing, the Government has announced funding for Stage 2, indicating that the full link will be constructed.

In terms of air quality, a number of factors influence the resulting air quality in the vicinity of the tunnels and associate surface roads. As discussed on p20 of Technical Appendix I of the CIS these include road location (design), ventilation structure location, road gradient (tunnel), speed limits, number of vehicles, vehicle type, emission factors, tunnel ventilation control, meteorological conditions and background ambient air quality data building influences.

On p45 of the CIS Technical Appendix I, it is stated that the traffic mix would be expected to be similar to EastLink, which is primarily a commuter route. This seems to conflict with the stated purpose of the Project as a freight solution. Both the CIS and the Works Approval application state that the expected percentage of heavy vehicles would not be expected to be high. The air quality assessment has assumed 3% of heavy vehicles during peak periods and 5% at maximum freight times. The Committee questions this assumption and believes that this underestimates the potential impacts of emissions from the ventilation stacks (and surface roads associated with the project). Mr Veitch stated that the percentage of commercial vehicles expected to use the tunnels would be of the order of 7-8%. This was based on toll data from Eastlink, and was supported by Mr Pelosi who stated that he would expect approximately 7% of commercial vehicles to use the Project, made up of 3.5% HCV. Mr Pelosi compared this to 10% of HCV currently using the M1 freeway. The impact of using lower freight percentage is of greater importance for PM10 and PM2.5 as diesel freight vehicles emit a higher percentage of particle pollution than passenger vehicles.

In 2010, CETU conducted a review of road tunnels in various parts of the world, including the M5 tunnel in Sydney. The report found that the main reason that the M5 tunnel experiences problems with air pollution is that there is a greater density of traffic using that tunnels than predicted in the modelling done as part of the approval process, in particular the number of HCV using the tunnel (p20, CETU, 2010 – Document 100). The report goes further to say that the reason the cost of installing pollution control equipment in the tunnel ventilation system was so high was because the tunnel was not designed initially to accommodate this equipment. This highlights the need to get the traffic predictions, mix and volumes correct in the design phase of the Project to ensure that the emissions to air are minimised and that the tunnel is designed optimally.

The CIS states that the modelling has been done on theoretical maximum traffic volume from PIARC of 2000 passenger vehicles/hr. It has not been done on the actual predicted traffic flow for this Project including the predicted freight movements. Technical Appendix I stated that the predicted traffic flow is actually lower than the maximum capacity suggested by PIARC. This position is inconsistent with the evidence of Mr Pelosi that the tunnels will be at capacity by 2031. However, the air quality assessment did not assess 2031 traffic conditions. The reasons stated in the CIS and Technical Appendix I is that there were no emission factors available from PIARC for 2031, and therefore the assessment could not be conducted. This position was put forward by Mr Cook in his evidence, which the Committee does not accept. A conservative assessment should have been undertaken using the emission factors used for 2021 applied to 2031 traffic predictions. GHD claim that vehicle emissions will reduce by 2031 and that this would over-predict the potential impacts (i.e. be conservative).

The SEPP (AQM) requires assessment of new sources of pollution to be conducted on the worst case emissions arising from the normal operation of the facility, in this case the ventilation stacks. The use of the 2021 emission factors with the 2031 traffic predictions would represent such a situation and should be assessed in the final design of the tunnels and associated ventilation stacks. Although a Discussion paper was released by the Commonwealth Government in 2010 to obtain stakeholder views on the adoption of Euro 6 emission standards for heavy vehicles in Australia, no commitment or timeframe has been made to adopt these standards. The PIARC emission factors assume that the Euro 6 standards will be adopted and implemented by 2031. This may lead to an underestimate of the predicted pollution levels and the 2021 factors may in fact be more relevant.

The modelling undertaken as part of Dr Torre’s evidence used different emission factors to those used by GHD in the CIS. The predicted levels of PM10 from the ventilation stacks in the EPA modelling, although still low, were double those predicted by GHD using the PIARC factors.

### Findings

Based on the information contained in the CIS, evidence presented at the Hearing and in submissions, the Committee finds that the air quality assessment has made a number of assumptions that may underestimate the potential impact of the emissions from the ventilation stack. In finalising the design of the tunnel and the ventilation system, additional air quality modelling is required. The Committee recommends that a detailed air modelling assessment as part of the final design of the tunnel ventilation system using PM2.5 and PM10 as the key indicators for the assessment be undertaken and the ventilation stacks be moved to the east of Hoddle Street and the Hurstbridge/South Morang Railway Line, with the tunnel portal extending to that point. Moving the ventilation stack to the East of Hoddle Street and the Hurstbridge/South Morang Railway line will minimise the potential impact on local communities.

Given the location of the ventilation stack and the condition of the existing air environment, it could be considered that pollution control equipment would be considered as best practice emissions control as required under the SEPP (AQM). The Committee accepts that this has not been required in other road tunnels in Victoria, however it has been a requirement of approval that both the EastLink and CityLink tunnels had to make provision to retrofit pollution control equipment in the future should it be required. It is recommended that this be adopted as a Performance Requirement for this Project.

The LMA should make provision for retrofitting of pollution control equipment, and fit air pollution control equipment into the tunnel ventilation systems if the modelling for the final design shows that the PM10 or PM2.5 levels from the ventilation stack emissions is greater than 30% of the applicable air quality standards.

Thirty percent is used as a common ‘rule of thumb’ in the industry as a point at which impacts may become measureable or may become significant.

Further, a Design and Development Overlay should be introduced into the Yarra and Melbourne Planning Schemes to limit the height of development in the location of the ventilation stacks and portals once the final design is resolved.

## In Tunnel Air Quality Issues

### Introduction

The scoping directions required the design of the Reference Project to minimise the impacts of air emissions. In-tunnel air quality can affect the health of people using the tunnel as well as impacting on the external air environment at the point of release either at the portals of the tunnels or through the ventilation stacks.

### Key Issues

The Committee has identified that the key issues in relation to in-tunnel air quality are:

* Selection of NO2 as the key indicator;
* Selection of appropriate in-tunnel air quality standards; and
* Need for mid-tunnel air intake.

### Submissions and Evidence

Evidence on the in-tunnel air quality was contained in the expert witness statement of Professor Irving. The EPA submission recommends alternative in-tunnel air quality standards to be used in the project. These are discussed in the report of the Conclave on air quality.

### Discussion

The focus of the CIS in terms of in-tunnel air quality is based on the meeting of the PIARC standards for in-tunnel air quality. The modelling, based on the traffic predictions which are dominated by passenger vehicles, indicated that the PIARC in-tunnel air quality standards for NO2 would be the most difficult to meet. The conclusion reached in the CIS was that NO2 was the controlling pollutant to guide the design of the ventilation systems for the tunnels. The primary aim of the PIARC standards is to provide a safe environment for people travelling through the tunnels in normal operating conditions. They do not take into account sensitive groups within the population that may be impacted at lower levels of pollution or situations, such as accidents in the tunnel, where people may be exposed to in-tunnel air quality for a prolonged period of time.

In-tunnel air quality is usually controlled by PM10, NO2 or CO (CIS Technical Appendix I, p51)). The CIS does not provide any assessment of PM10 or CO. It is acknowledged in the CIS (Technical Appendix I, p51 that NO2 is not commonly used to control in-tunnel air quality. Only one example in an Austrian tunnel is given where NO2 has been used and in that case the controls were applied to limit emissions to the external air environment to control ambient levels of NO­2.

Both the CityLink and EastLink tunnels use CO to limit in-tunnel air quality. The CO standards used in these tunnels were derived to protect sensitive groups within the population with a significant margin of safety to account for situations where people may be in the tunnel for extended periods of time – for example if an accident occurred requiring people to leave their vehicles and walk out of the tunnels. The standards also protect maintenance workers who may have to enter the tunnel.

The EPA (Document 29) recommended that the CO standards applied for CityLink and EastLink be applied for in-tunnel air quality for the Project. The Department of Health also recommended that these standards be applied to control in-tunnel air quality. This recommendation has been accepted by LMA and has been included in the draft licence for the ventilation system for the Project tunnels. This needs to be reflected in a Performance Requirement for the Project.

Although the CO standards have been adopted for use in the Project, no modelling has been done to assess whether they can be met with the proposed design. Modelling for the final design needs to be done to confirm that these standards can be met and whether a mid-tunnel air inlet is required.

The Committee is aware that internationally, mid-tunnel air intakes are commonly required in tunnels of the length proposed for the Project to ensure that acceptable levels of in-tunnel air quality can be achieved and also to reduce the emissions from the ventilation stacks to the external air environment. A mid-tunnel air inlet is not proposed for the Project tunnels. This conclusion was based on the assumption that the PIARC NO2 standards can be met. However, on p51 of Technical Appendix I to the CIS it is stated that arbitrary ventilation rates were used to ensure compliance with the PIARC standards. No attempt appeared to be made to optimise the design to reduce air emissions. The CIS Technical Appendix I, p51, goes further in saying that the design and ventilation rates used in the air modelling in no way represent optimal design for ventilation rates. The Committee believe that this raises significant concern about the conclusion reached in the CIS and is of the view that to guide the final design of the tunnels and associated ventilation structures additional air quality modelling must be done. This modelling is to be conducted to ensure that the design of the ventilation system can meet the proposed CO in-tunnel air quality standards and to explore the benefits of including a mid-tunnel air intake to improve in-tunnel air quality and reduce the impact of the tunnel emissions to the external air environment.

The risk pathway identified in the CIS (p41 Technical Appendix I) states that the ventilation system is rated as a medium risk. This is based on the potential for in-tunnel air quality standards to be exceeded. The CIS proposes a Performance Requirement to reduce the risk to a low risk which would require closing of lanes in the tunnels to reduce traffic or by the use of variable speed signage. The closing of lanes to manage in-tunnel air quality is currently used at times when the in-tunnel monitoring in the Burnley tunnel exceeds the in-tunnel standards. Limiting the amount of traffic in the tunnels reduces the emissions in the tunnels. This approach to managing emissions can lead to significant traffic congestion and delays; effectively limiting tunnel traffic capacity at the time when it is most needed. The Committee is of the view that the inclusion of a performance requirement that introduces traffic management practices to reduce emissions is not appropriate at the design stage.

The tunnel ventilation system should be able to be designed to provide an adequate margin of compliance with the in-tunnel air quality objectives when the tunnel is operating at full capacity. To provide this level of conservatism a mid-tunnel air intake should be included in the final design which is consistent with international best practice in road tunnel ventilation.

Professor Irving put forward the position that in-tunnel air quality should be as clean as possible so that it is safe for people using the tunnels as well as cleaner air being emitted from stacks. Professor Irving believes the in-tunnel air quality must be at a level that does not impact on the health of people who fall into groups who are particularly susceptible to the health effects of air pollution. This would also ensure that the emissions from the ventilation stacks were minimised and would not impact on the health of the surrounding communities. The use of the CO in-tunnel air quality standards that have been applied in both the CityLink and EastLink tunnels together with a mid-tunnel air intake would assist in achieving this outcome.

### Findings

The Committee supports the adoption of the in-tunnel air quality standards for CO used for CityLink and EastLink for the control on in-tunnel air quality. The adoption of these standards is reflected Performance Requirements in Appendix E. To ensure that the in-tunnel air quality can meet these standards additional modelling must be undertaken to guide the final design.

The final design must include a mid-tunnel air intake to ensure that the in-tunnel air quality is as clean as possible. This will protect the health of people using the tunnel as well as minimising emission to the external air environment through the ventilation stacks. This will also help to avoid the closure of traffic lanes to manage in-tunnel air quality.

## Surface Roads and Near Road Air Quality

### Introduction

The scoping directions required the design of the Reference Project to minimise the impacts of air emissions. The scoping directions identified the following key risks in relation to air quality requiring assessment in the CIS:

* Localised increases in emissions affecting residential areas, users of public open space or other sensitive receptors during project construction or operation;
* Localised reduction in air quality from tunnel vents and altered traffic conditions during project operation exceeds relevant standards, and
* Assessment of air quality including in the vicinity of the tunnel ventilation system, the eastern portal and the Flemington Road/CityLink interchange and any other areas identified as being at risk of significant air quality impacts.

### Key Issues

The Committee has identified that the key issues in relation to air emissions from surface roads and near road air quality are:

* The gradients of the roads used in the modelling;
* Lack of assessment for PM10 and PM2.5;
* Modelling of impacts from elevated viaducts; and
* Set back of roads from residential buildings.

### Submissions and Evidence

The Committee did not receive any evidence in relation to emissions from surface roads. Several submitters raised concerns about the health effects of air pollution arising from trucks using the Project.

### Discussion

The CIS Technical Appendix I, p20, identifies the key issues that affect air emissions from transport and associated roads. One of the key influences is the grade of the road. The greater the grade the higher the emissions per km travelled in particular for PM10 and PM2.5. The CIS on p20 of Technical Appendix I acknowledges that the grade of the road affects emissions but claims that this is only important for the tunnel. The Committee does not accept this position as the grade of the road affects emissions whether in tunnel or at surface.

The elevated viaducts that are proposed through Royal Park connecting to CityLink in the north and to the Port Connection in the south are at significant grade. The south bound road in the Reference Project is proposed to rise over CityLink and comes within 25 to 30m of the Debney’s Park Housing Estate at the closest point at a height greater than 10m above ground.

The CIS Technical Appendix I states that the surface roads have all been modelled at zero grade. This ignores the significant grades of the elevated viaducts at the western end which are located close to properties in Parkville West as well as the Debney’s Park Estate. In the s57(4) Request for further information the Committee requested further assessment of the impact of grade on the local air quality for these areas. In the response from LMA, GHD responded that the assumption was that “*there were as many up grades as there were down grades and that this averaged out to zero grade”.* The Committee does not accept this response. Even if this could apply to regional air quality it ignores the potentially significant local impacts on residential locations. At a local level the impact of grade can be significant especially for diesel vehicles under load. This is apparent for vehicles exiting the Burnley tunnel where visible emissions from diesel vehicles are observed when under load due to the significant grade of the road at the east end of the tunnel.

In the s57(4) request, the Committee asked for an assessment to be done taking the proposed grade of the surface roads into account for NO2, PM10 and PM2.5. Although some modelling was done for NO2 no assessment was provided to the Committee for PM10 or PM2.5. The influence of grade is likely to be greater for these pollutants than for NO2 and an assessment of these pollutants needs to be done to guide the final design and alignment of the elevated viaducts to minimise the impacts on the local communities. The modelling provided for NO2 is likely to underestimate the impact of emissions arising from these elevated roads.

As discussed in Chapter 10.2.4, there is significant uncertainty about the assumptions used in the traffic modelling relating to the percentage of heavy vehicles using the Project. It is unclear whether the freight traffic that would use Part B has been included in the modelling and the estimates of 5% heavy vehicles that have been assumed in the air quality modelling is low for a proposed freight route. The low percentage of heavy vehicles combined with modelling the surface roads at zero grade will significantly underestimate the potential impacts of near road emissions of PM10 and PM2.5.

The modelling of the surface roads has been assessed at ground level even for elevated roads (CIS Technical Appendix I). Mr Morris in his closing on behalf of LMA stated that the impact of emissions from surface roads is greatest at ground level. While this is correct for roads at ground level it is not true for elevated roads. As argued in the CIS the impact of emissions from surface roads decreases with distance from the side of the road. In evidence from Mr Cook in response to submissions, reference is made to several studies that show significant decreases in near road air pollution levels within 50m of the road. The greatest impact is at locations closest to the roadside even for elevated roads as this is closest to the source. Assessing the impact of the elevated viaducts at ground level ignores the potentially significant impacts at the elevated locations such as the apartments in the Debney’s Park Housing Estate where the proposed Port Connection passes within 25 to 30m at the closest point. Vulnerable groups to the effects of air pollution on health have been shown to include people in low socioeconomic groups. This would suggest that the residents of the housing estate are already more vulnerable to the effects of air pollution than the general population.

The Committee is of the view that the approach to the assessment of the surface roads underestimates the potential impacts of emissions arising from these roads on local communities. The Committee recommend that the air quality assessment for the surface roads, including Part B of the Project, needs to be redone to guide the optimal design of the road structures to minimise the impacts on local communities. In his evidence at the Hearing, Dr Torre, EPA, in response to questions from the Committee, stated that it is important to get the design of the surface roads right. If the design is wrong and the air quality impacts are greater than predicted there are very limited mitigation measures can be implemented to reduce the impacts. The Committee accept Dr Torre’s opinion and believe that any modelling done to guide the final design and alignment of the surface roads is critical to ensure that the impacts of these roads is minimised in accordance with the Scoping Directions issued for this Project. This should include exploring alternative setbacks of the roads from residential areas, including the Debney’s Park Housing Estate, Parkville West and the Arden-Macaulay urban renewal precinct. International studies have shown that the health effects of traffic pollution are greatest within 100m of the road and can be experienced as far as 500 m from a major road. The Reference design for the Project has roads generally within 8 to 10m of residential properties such as the Bent Street apartments in Kensington.

### Findings

The assumptions that have been made in the modelling of surface roads are likely to underestimate the impacts of the air emissions on local communities. As reflected in the evidence of Dr Torre, it is important to get this assessment as accurate as possible, as once a road is built there is very little that can be done if the impact is greater than expected.

It is therefore recommended that an additional air quality assessment be undertaken to guide the final design and alignment of the surface roads and elevated viaducts. The modelling must be done for PM2.5 and PM10 and use accurate traffic mix data and road grades that are proposed for the final design.

Given that air pollution levels are highest adjacent to the surface roads and has been shown to drop off rapidly within 50m of the road and close to background levels within 100m of the road side, adequate setbacks need to be included to minimise the impacts of air emissions on sensitive locations.

## Part B

### Introduction

The scoping directions required the design of the reference project to minimise the impacts of air emissions. The scoping directions identified the following key risks in relation to air quality requiring assessment in the CIS:

* Localised increases in emissions affecting residential areas, users of public open space or other sensitive receptors during project construction or operation
* Localised reduction in air quality from tunnel vents and altered traffic conditions during project operation exceeds relevant standards, and
* Assessment of air quality including in the vicinity of the tunnel ventilation system, the eastern portal and the Flemington Road/CityLink interchange and any other areas identified as being at risk of significant air quality impacts.
* Identification of dwellings and other sensitive receptors that could be affected by emissions.

### Key Issues

The Committee has identified that the key issues in relation to the air quality assessment for Part B are:

* No detailed assessment for Part B has been conducted; and
* No assessment done for the Arden-Macaulay Urban Renewal area.

### Submissions and Evidence

No evidence was given in relation to the air quality impacts of Part B. Some submitters raised concern about air pollution from traffic, and trucks in particular, impacting on their residences.

### Discussion

In reviewing the CIS it is clear that no detailed air quality assessment has been conducted for the proposed alignment of the viaducts that form Part B of the Project. Some modelling has been done of air emissions from the existing CityLink but the impact of the emissions from the proposed Project viaducts has not been assessed. Modelling of the emissions from the centre of the existing CityLink will underestimate the impacts of the emissions from the Project on local communities adjacent to the proposed road alignment. The CIS does not contain any information about how the proposed alignment has been chosen that would minimise the impacts of air emissions on local communities. As such the CIS does not meet the requirements set out in the Scoping Directions for Part B.

The modelling that has been undertaken only considers NO2 emissions. As previously discussed the most relevant indicator for traffic emissions is PM2.5 especially for roads that are predicted to carry a significant amount of HCV. No assessment has been conducted for either PM10 or PM2.5 for the roads in Part B of the Project. It has been assumed in the CIS, p83 Technical Appendix I that compliance with NO2 standards will translate to compliance for PM10 and CO. This is not necessarily true as existing background air quality for PM10 and PM2.5are already close to or exceeding the standards for these pollutants. The same situation does not apply to NO2 where existing background concentrations are well below air quality standards. To guide the final design for Part B, modelling of PM10 and PM2.5 must be undertaken.

The modelling done for Precincts 4 and 5 has been done at a height of 10m above the ground using the existing CityLink height and centre point as the basis of the modelling. The proposed viaduct however runs to the west of the existing CityLink and is much closer to residences. Several submitters raised concerns that the proposed road would generally be 8 to 10m from their Bent Street apartments which are outside the Proposed Project Boundary and not being considered by LMA for acquisition. Modelling has not been conducted to estimate the impacts of the proposed viaducts on the Bent Street apartments or for the Arden-Macaulay urban renewal precinct more broadly. Given that the Arden-Macaulay Structure Plan for this area has been released (Document 20), the impacts of the proposed roads on local air quality need to be assessed to ensure that the final design minimises the impacts on local residents. This should include the impact on emissions from the Arden Street off ramps and associated traffic changes in the local area.

### Findings

A detailed assessment of the air quality impacts of Part B is required to guide the final design and alignment. Alternate alignments to those presented for the Reference Project must be considered to minimise impacts on residences, for example the Bent Street apartments. Any new modelling must take into account traffic volumes and the traffic mix predicted for the whole link.

## Greenhouse Gas

### Introduction

Greenhouse Gas was assessed in Technical Appendix R of the CIS. In the Committee’s Terms of Reference at 7(d) under *Public Hearing Matters*, the Committee is required to consider:

Whether the noise, vibration, air emission and light spill impacts of the project will be appropriately managed by proposed measures.

As described in Section 1.2 of the Greenhouse Gas in the CIS, the relevant Applicable Approval is the *Environment Protection Act* 1970 Works Approval. The Works Approval Application “*…needs to include the predicted operational energy use and greenhouse gas emissions associated with the tunnel ventilation system, …”*

### Conclusions of the CIS

The CIS concludes on Greenhouse Gas emissions that there should be a small reduction in vehicle emissions compared to a ‘no project scenario’ due to more free flowing traffic. Savings from improved traffic flow are offset by electricity use by the project but there should be a small net positive impact of 17 kt CO2-e per annum.

There are likely to be construction emissions totalling 660 kt CO2-e per annum from fuel use, electricity use and embodied energy, but these construction emissions are estimated to be only 0.5 per cent of current Victorian Greenhouse Gas emissions.

### Objectives and Performance Requirements

There was no specific evaluation objective for Greenhouse Gas in the CIS, but the LMA suggested that they are covered in the air quality objective:

Noise, vibration, air emissions, and light spill – to minimise adverse impacts from noise, vibration, air emissions and light spill.

A specific performance objective was developed:

To protect the beneficial uses of the air environment in relation to greenhouse gas emissions.

And then a Performance Requirement:

Integrate sustainable design practices into the design process to identify, implement and monitor measures that will reduce overall greenhouse gas emissions arising from construction, maintenance and operation of the project. Include mandatory actions under the SEPP Protocol for Environmental Management (Greenhouse Gas Emissions and Energy Efficiency in Industry) for selection of best practice energy usage for the tunnel ventilation system.

### Key Issues

The Committee did not hear any specific evidence relating to greenhouse gas.

Based on its consideration of the written and verbal submissions relevant to its Terms of Reference relating to greenhouse gases, the Committee has grouped its assessment under the following headings:

* Greenhouse Gases from traffic and construction; and
* Greenhouse Gas emissions from tunnel ventilation.

### Submissions and Evidence

#### Greenhouse Gases from traffic and construction

Mr Morris for the LMA in closing acknowledged that a significant number of submissions raised the issue of Greenhouse Gas emissions from vehicle traffic.[[11]](#footnote-11) He relied on the work undertaken in Appendix R and noted that no submitter had effectively challenged the technical basis of that assessment.

Ms Kerry Echberg for the Yarra Climate Action Now (YCAN) group presented at the Hearing[[12]](#footnote-12) and noted that vehicle traffic emissions account for a significant amount (60%) of transport emissions. Ms Echberg questioned the assumptions in Appendix R, suggesting that predicted vehicle efficiency gains are likely to be offset by larger vehicles and increasing vehicle air conditioning and electrical loads.

YCAN also questioned the likely Greenhouse Gas benefits of improved traffic congestion, given that those improvements have been challenged at the Hearing.

Finally, YCAN did not agree that the emissions of Greenhouse Gases are likely to be insignificant in a Victorian context, submitting that a calculation by one of their members suggested that the construction emissions are similar in magnitude to the annual Greenhouse Gas emissions of a town the size of Traralgon.

The EPA[[13]](#footnote-13) at the Hearing noted that it does not consider Greenhouse Gases from construction and embodied energy in their assessment, but it encourages best practice.

#### Greenhouse Gases from tunnel ventilation

Mr John Marsiglio provided the EPA view on Greenhouse Gas emissions from tunnel ventilation, the consideration of which forms part of the Work Approval Application. Mr Marsiglio submitted that for the Project, Greenhouse Gas emissions must be considered in terms of:

* The SEPP (AQM) to achieve best practice; and
* Because of the calculated Greenhouse Gas emissions from the tunnel ventilation system, triggers requiring consideration of the Protocol for Environmental Management – Greenhouse Gas Emissions and Energy Efficiency in Industry are reached and best practice energy efficient plant and equipment must be used.

Mr Marsiglio submitted that whilst the EPA could comment specifically on the Project as a detailed design is not available, the EPA supported the proposed Greenhouse Gas Performance Requirement (GG1) that requires specific consideration of the Greenhouse Gas Protocol for Environmental Management.

### Discussion

#### Greenhouse gases from traffic and construction

The Committee notes the concern of a number of submitters regarding Greenhouse Gas emissions from construction and increased traffic. There is no doubt that Greenhouse Gas emissions from construction (fuel use, electricity use and embedded energy in materials) will be significant. The Committee does not find it useful to attempt to minimise the conceptualisation of the Project emissions by comparing them to Victorian and Australian emissions. It might have been more useful to compare them to construction project emissions to provide a fairer comparison.

The calculations provided in Appendix R are based on the Reference Project and thus the real figures will vary depending on the design and construction measures proposed. That being said, the basis of the figures relating to construction Greenhouse Gas emissions was not significantly challenged through the Hearing process.

In relation to traffic Greenhouse Gas emissions, the Committee notes the submissions of YCAN and others as to the reliability of the calculations in Appendix R of the CIS. In essence the Committee considers little weight can be given to predictions of Greenhouse Gas emissions over time, as there are numerous assumptions and variables that have high levels of uncertainty attached. These include future fuel prices, vehicle efficiency, passenger and freight modes and others.

The Committee notes the extensive discussion on this issue in the Frankston Bypass EES Inquiry Report (Frankston Bypass (EES) [2009] PPV 33) at Chapter 14. That Inquiry concluded that there is little value in considering the Greenhouse Gas emissions from individual capital works projects, and that they should be assessed at a higher strategic planning level.

Whilst not necessarily adopting the position of that Inquiry in toto, the Committee does consider it is an issue which must be tackled more holistically than at a project by project level. It will include broader community issues such as new vehicle emission standards and the broader investment decisions around transport and city planning.

On these matters the Committee concludes that:

* Construction Greenhouse Gas emissions will be significant, even with mitigation by design and materials and equipment selection; and
* The conclusion by the LMA that Greenhouse Gas emissions from traffic will be reduced over time compared to a ‘no project’ scenario are dependent on a number of uncertain variables and assumptions.

#### Greenhouse Gases from tunnel ventilation

As there is no detail before the Committee on the location or form of the tunnel ventilation system, it is somewhat difficult to discuss whether or not the Committee considers it is an acceptable part of the Project. However, given that such systems are in use widely in Australia and around the world, the Committee considers it should be possible to design and implement a system that provides acceptable Greenhouse Gas emission performance.

The Committee notes the submission of the EPA on this matter and is given some comfort that it appeared satisfied that the Greenhouse Gas emissions from the tunnel ventilation system can be managed within the established regulatory framework.

### Findings

The Committee concludes that the Greenhouse Gas emissions from the Project are likely to be significant over time from construction and operation. The Committee notes that the evaluation objective is to ‘minimise’ impact rather than prevent impact. This flows through to the proposed Performance Requirement where the intent appears to be to reduce impacts from construction, operation and maintenance compared to a scenario where no impact minimisation is undertaken.

In this context the Committee generally supports the Performance Requirement GG1..

## Public Health

### Introduction

Although there are no direct evaluation objectives from scoping document/CIS, the objective set out in the scoping documents for air and noise emissions is relevant to public health considerations.

*Whether the noise, vibration, air emission and light spill impacts of the project will be appropriately managed by the proposed measures.*

### Key Issues

The Committee has identified that the key issues in regard to public health are:

* Health effects associated with air pollution experience below the current air quality standards;
* Health effects of noise not being reflected in Policy;
* Impact on vulnerable groups within the population including children, the elderly, people with existing disease and people in low socioeconomic groups; and
* Current policies for air quality and noise overdue for review and not reflective of the current understanding of the health effects of exposure to these hazards.

### Submissions and Evidence

Professor Irving gave evidence on the health effects of air pollution. Many submitters raised concern about the potential health impacts of air pollution from the tunnel ventilation stacks and that the air quality standards did not reflect the most recent understanding of the health effects of air pollution and thus were not protective of health. Submitters raised concern about the health impacts of diesel and that diesel emissions have not been assessed in the CIS.

### Discussion

A number of submitters raised concern about the health effects of air pollution arising from the Project. Ms Walter (Submission 480) and the RATs group (Submission 156) provided extensive reviews of the health evidence for the effects of air pollution. It is clear from the submissions put before the Committee that it is accepted internationally that the main pollutant of concern with respect to transport is PM2.5. Dr Torre in his evidence on behalf of the EPA acknowledged that in terms of health, PM2.5 is the main pollutant of concern. However the CIS did not provide any detailed assessment of the impacts of PM2.5 arising from either the ventilation stacks or the surface roads.

In October 2013 the WHO/International Agency for Research into Cancer (IARC) classified ambient air pollution as a known human carcinogen. This was noted by a number of submitters who questioned the use of the SEPP (AQM) standards as a basis to assess this Project given that the most recent health information has not been used in the derivation of these standards. This was based on European Study of Cohorts for Air Pollution Effects (ESCAPE) that found an increase in lung cancer associated with exposure to air pollution, in particular PM2.5. Professor Irving quoted the ESCAPE study as a key study in identifying the long-term health risks from exposure to traffic pollution. The results of the ESCAPE study showed that the health risks were higher for people living near major roads. Mr Morris questioned the applicability of the findings of this study to the Project area, given that the air pollution levels in the ESCAPE study were generally higher than those predicted for the area around the ventilation stacks. Professor Irving pointed out that it is accepted that there is no safe level of exposure to PM2.5 and PM10 and his view was that the study findings were relevant. This was a position put forward by other submitters.

Numerous other studies have found living near main roads and exposure to traffic emissions, including trucks, is associated with increases in deaths due to cardiovascular and respiratory disease, hospital admissions and emergency department attendances for cardiovascular and respiratory disease, including asthma, reduction in lung function and lung growth in children, as well as increases in cough and wheeze. A number of these studies were reviewed in the submissions of Ms Walter, The RATs and evidence of Professor Irving (Submissions 480 and 156). These effects can extend up to 500m from a road. People who have existing cardiovascular disease and respiratory disease, asthma, diabetes, pregnant women, foetuses and people in low socioeconomic groups all form vulnerable groups for the effects of air pollution. Other submitters referred to vulnerable groups and raised concerns about the potential health effects arising from emissions from the Project. The NHMRC report on Air Pollution in and Around Road Tunnels (2006) was quoted in relation to impaired lung development in children and the association with emissions from traffic. Other submitters commented that the LMA must get the assessment and management of the tunnel emissions right based on the views of health experts and the history of Sydney’s M5, and questioned the fast track approval and procurement process.

Diesel emissions are classified by WHO/IARC and the United States Environment Protection Agency (USEPA) as a known human carcinogen. This issue was raised by a number of submitters. No assessment was undertaken of the potential impact of diesel emissions which many submitters believe is a substantial flaw in the CIS. Given that the Project is a proposed freight route, it would be prudent for such an assessment to be done to ensure that the final design of the Project minimises the impact of these emissions on the health of the local communities.

The carcinogenicity of the emissions has not been considered in the CIS even though it is considered a freight route. The RATs group (Submission 156) raised concern with regard to the PAHs and metals that are attached to diesel exhaust that have been identified as causing direct and indirect oxidative damage and genotoxic effects. The RATs were of the view that the CIS did not adequately address the health effects of these pollutants. This was a view echoed by many others including Professor Irving, the Clifton Hill Primary School (Submission 907) and Ms Walter (Submission 480). The RATs went further to say that:

The reliance on a reference design which is subject to change by the contractor and LMA provides no assurance that bets practice technology, focussed on ensuring the best health outcomes for the community, will be implemented.

In 2010, the National Environment Protection Council (NEPM) conducted a review of the standards in the Ambient Air Quality. The review recommended, based on new evidence about the health effects of air pollution, that there were health effects observed at levels below the current ambient air quality standards and that the standards should be changed to provide a greater level of protection to the Australian population. Some work has been done on PM2.5 and PM10 but as yet the NEPM standards have not formally been changed. In April 2014 the NEPC announced its intention to vary the Ambient Air Quality NEPM to change the standards for PM10 and PM2.5 to reflect the current understanding of the health effects of these pollutants (www.nepc.gov.au).

The SEPP (AQM) was due for review in December 2011. It appears as yet EPA has not conducted the review or made any changes to the SEPP. The Committee is of the opinion that the standards in the SEPP are out of date and do not reflect the current understanding of the health effects associated with exposure to many of the pollutants covered in SEPP, including those of concern for the Project. When the Committee asked Dr Torre from the EPA about the timeframe for review of the SEPP, his response was that DEPI was responsible for the review and that a timeline had not been set. When asked if any of the standards had been changed since the SEPP was made in 2001, his response was that they had not.

In submissions from the LMA, it was proposed that the area of Ross Straw Field that would remain under the viaducts could be used for active recreation once the Project was completed. Professor Irving in his evidence stated that the health effects experienced by people increases with exercise due to a greater intake of air (faster breathing rate). The Committee asked Professor Irving if he thought that the area of Ross Straw Field that would be under the viaducts would be suitable for active recreation and his response was that it was not, due to the increased health risk.

Professor Irving was asked his opinion on the LMA’s proposal to locate the Debney’s Park Playground under the elevated road adjacent to CityLink. He responded that children are a particularly vulnerable group to the effects of air pollution and that having children playing under a freeway would increase the risk to their health. His view was that it was not an acceptable option for the playground, or any open space where active recreation may occur, to be placed under the elevated road structures.

As discussed in Chapter 10.5, the elevated road for the Port Connection is proposed to go to within 25 to 30m at the closest point of the residential buildings within the Debney’s Park Housing Estate. Many international studies have found that people in low socioeconomic groups, such as the people at the Estate, are particularly vulnerable to the effects of air pollution. This is due to several reasons including:

* They tend to have poorer health status and health care;
* They live in more polluted environments as it is cheaper to live there; and
* Their houses tend to be old stock and are leaky to external air. What pollution is outdoors ends up indoors so their exposure is greater.

Submitters from the Debney’s Park Estate, who presented at the Hearing and in written submissions, commented that the flats do not have air conditioning, and during the warmer months the only way to cool their homes is to open the windows. If the road is built close to these residences, the pollution from the traffic will enter their homes increasing their exposure and the potential associated health effects. The site inspection of an apartment on the 12th floor of the Estate at 120 Racecourse Road demonstrated to the Committee the reality of this issue.

Ms Yesuf (Submission 63) commented that opening the windows of her apartment on 120 Racecourse Road led to black marks on her walls from traffic (diesel) emissions and that this would only get worse with having heavy freight traffic even closer if the Project proceeded. Ms Yesuf stated that although the CIS stated that the EPA requirements were to be met, she did not think that they were adequate.

Mr Petit (Submission 109) raised concerns about the health effects of noise and that they hadn’t been addressed in the CIS. Mr Petit provided a copy of the WHO Night Noise Guidelines for Europe which are based on protecting public health. In recent years evidence has accumulated regarding the health effects of environmental noise. Epidemiological studies have found that cardiovascular diseases are consistently associated with exposure to environmental noise. The WHO has released three reports on the health effects of environmental noise: *Guidelines for Community Noise* (1999), Night Noise Guidelines for Europe (2009) and the *Burden of Disease from Environmental Noise* (2011). In these documents the main health effects associated with environmental noise are:

* Cardiovascular disease;
* Cognitive impairment;
* Sleep disturbance;
* Tinnitus;
* Annoyance; and
* Hearing impairment.

As discussed in the WHO Night Noise Guidelines (Submission 109) epidemiological studies suggest a higher risk of cardiovascular diseases, including high blood pressure and myocardial infarction, in people chronically exposed to high levels of road or air traffic noise. Mr Petit raised concern about the lack of a night time noise standard in the Vic Roads Traffic Noise Policy. He requested that the health effects of noise be investigated as part of the approvals process for the Project and that sound attenuation measures be installed to ensure that noise levels did not exceed levels that endangered public health.

Concerns about sleep disturbance were raised by a number of submitters. Sleep disturbance is one of the most common complaints raised by noise exposed communities, and can have a major impact on health and quality of life (WHO (2009) part of Submission 109). Studies have shown that noise affects sleep in terms of immediate effects (e.g. arousal responses, sleep stage changes, awakenings, body movements, total wake time, autonomic responses), after effects (e.g. sleepiness, daytime performance cognitive function deterioration) and long-term effects (e.g. self-reported chronic sleep disturbance). Mr Trippas (Submission 110) raised concerns about the noise from the Project creating sleep disturbance and in particular the impacts on the Debney’s Park Housing Estate which is a particularly vulnerable community.

As discussed in the appendix to Submission 109, sufficient undisturbed sleep is necessary to maintain performance during the day, as well as for good health (WHO 2009). Humans recognise, evaluate and react to environmental sounds even when asleep. Although they are natural responses to noise, it is assumed that substantial increase in the number of these effects constitutes a health issue.

The CIS has considered noise in terms of amenity only and has ignored the potential public health issues associated with the traffic noise generated from the project. The proximity of the roads to residential areas, schools, kindergartens, child and aged care facilities increases the potential health risks posed by exposure to noise in the vulnerable groups.

The VicRoads Road Traffic Noise policy does not contain a night-time noise criteria. The daytime limits are based on minimising annoyance from traffic noise. These criteria were developed before there was a strong understanding of the health effects associated with road traffic noise. These criteria should be reviewed to reflect this understanding.

As with air quality, the final design of the Project needs to consider mitigation measures as well as optimising the alignment of the surface roads to minimise noise being experienced at night and at sensitive locations along the route. Measures need to be implemented to avoid sleep disturbance which may include the adoption of Project specific standards for night-time noise. Mitigation measures should be implemented in areas where schools, kindergartens and child care centres are located to minimise any impact on the cognitive development of children that may be impacted by noise from the Project.

### Findings

The Committee accepts that there is a significant body of new information on the health effects of air pollution that needs to be considered. The applicable Policies have not been updated to reflect this information in the air quality standards, and the policies are well overdue for review. One of the key scoping directions is that the impacts of air emissions from the Project be minimised. This is consistent with the aim of the SEPP (AQM) to drive continuous improvement in air quality.

Although the SEPP (AQM) is overdue for review, it is the statutory policy in Victoria for the management of air quality and applies to this Project. However, the qualitative parts of the SEPP (AQM) are focussed on avoidance and minimisation of emissions - not just meeting the standards in SEPP. In assessing compliance with SEPP (AQM) these issues need to be considered alongside meeting the standards as the minimum requirement.

While not a formal recommendation in the context of this assessment process, the Committee urges DEPI/EPA as a priority to undertake a review of the SEPP (AQM) and SEPP N1 to ensure that the standards contained in these policies are protective of public health. Likewise, VicRoads should review the road traffic noise policy to include health based criteria, in particular night-time noise standards.

The Committee has recommended in Chapter 9 that a project specific night time noise criteria is warranted for the Project, given the likely traffic volumes and mix and the proximity of dense residential areas.

The Committee recommends that in the final design of the Project, the contractor must consider design elements, both in pollution control and alignment options (including the location of the ventilation stacks), to minimise air pollution levels in sensitive areas. In doing this, the impacts on public health will be minimised. It is further recommended that no playgrounds where young children frequent or formal active recreation areas be located under the elevated viaducts.

Truck movements and construction activities in residential areas should be kept to a minimum at night and if possible avoided, to avoid sleep disturbance for local residents.

## Applicable Approvals

As discussed in Chapter 3.3 of this report, a Works Approval under s19B of the EP Act is required for the tunnel ventilation system. The need for the Works Approval is triggered by the in-tunnel CO levels which exceed the limits under the *Scheduled Premises and Exemptions Regulations* 2007. Under the MTPF Act, it is the Minister for Planning who may issue the Works Approval.

Based on the reasoning and findings in the Chapter, the Committee recommends that the Works Approval for the tunnel ventilation system be issued, conditional on:

* Conducting further detailed air modelling assessment on the final design which includes moving the ventilation stacks east of Hoddle Street and the Hurstbridge/South Morang Railway Line.
* Including a mid-tunnel air intake in the final design.
* Adopting the CO in-tunnel air quality standards used in CityLink and EastLink for the Project.
* Making provision to retrofit pollution control equipment in the ventilation stacks for PM10 and PM2.5.
* Requiring pollution control equipment if PM10 or PM2.5 levels are greater than 30% of the applicable air quality standard.
* Undertaking an air monitoring program in Clifton Hill and in the vicinity of the western stack for a period of 12 months prior to the tunnel opening and 12 months post opening. Repeat the monitoring 5 years post opening of the tunnel.

# Cultural Heritage

## Introduction

### Terms of Reference and Applicable Approvals

In addition to its overarching tasks of assessing the CIS and evaluating all applicable law criteria for applicable law approvals, Part 7(e) of the Committee’s Terms of Reference includes the following *‘Public Hearing Matter’* relating to cultural heritage:

Whether the impacts of the project on cultural heritage places have been appropriately addressed.

The relevant applicable approvals for cultural heritage are:

* Permits under section 67 of the *Heritage Act* 1995 for the Melbourne General Cemetery (H1788), Cambridge Terrace (H1606), Royal Parade (H2198), Former Police Station complex (H1545) and the former College Church (HO394);
* Consent under section 129 of the *Heritage Act* 1995 for Yarra Bend Park (H7922-0142), Debney’s Park East (H7822-0209), Royal Park (H7822-2311), West Melbourne Rubbish Tips – Dynon Road Tip (H7822-0312); and
* Planning scheme amendment under sections 8, 29 and 35 of the *Planning and Environment Act* 1987 to remove Heritage Overlay permit triggers from land within the Proposed Project Boundary in the Melbourne and Yarra Planning Schemes for Gold Street Precinct (HO321), Clifton Hill Western Precinct (HO317), North and West Melbourne Precinct (HO3), Parkville Precinct (HO4), Kensington Precinct (HO9) and Bridge (railing only) over Moonee Ponds Creek at Arden Street, Kensington (HO814).

Section 5.5 of the CIS noted that Section 49A of the *Aboriginal Heritage Act* 2006 requires a Cultural Heritage Management Plan (CHMP) to be prepared if a comprehensive impact statement is required under the MTPF Act The preparation of the CHMP has been prepared separate to the CIS and is beyond the Committee’s Terms of Reference.

### Conclusion of the CIS

Chapter 9 of the CIS, *‘Heritage’* concluded that a number of heritage impacts have been identified. During construction, impacts would primarily be associated with the loss of heritage buildings. Archival recordings of any items to be removed for the project would be undertaken prior to demolition.

In relation to the potential for vibration impacts on heritage items, the CIS concluded that these would be managed through appropriate construction techniques.

The potential for subsurface disturbance of unknown archaeological items during construction was acknowledged:

The potential for subsurface disturbance of unknown archaeological items during construction would need to be further investigated during the pre-construction phase through predictive archaeological modelling and the development of appropriate management techniques.

In respect of impact on character, the CIS concluded:

In the longer term, the presence of the East West Link – Eastern Section structures may have an impact on the character of heritage precincts along the alignment, such as the Gold Street, Clifton Hill Western and Kensington heritage precincts, or Royal Park (Parkville heritage precinct). The application of urban design principles would minimise long term visual impacts to these heritage precincts.

Future development at cleared sites, no longer required post-construction, would also need to consider the heritage values of adjacent heritage precincts or sites.

The CIS noted that all heritage impacts would need to be considered further during detailed design of the Project.

### Objectives and Performance Requirements

The CIS evaluation objective (set by the Scoping Directions) for Cultural Heritage is:

To provide appropriate protection for cultural heritage.

There are five corresponding Cultural Heritage Performance Objectives in the CIS:

* To minimise impacts on sites of Aboriginal cultural significance;
* To minimise impacts on sites of historical cultural significance;
* To minimise impacts on both known (identified) and unidentified archaeological historic sites and values;
* To protect structural integrity of known historic sites and values; and
* To record historical values of buildings and streetscapes or relocated/reused small structures if feasible that are disturbed by project works.

An extensive list of Performance Requirements are specified in Chapter 9 of the CIS (Table 9-3) to meet these Performance Objectives. The CIS stated that it “*would be up to the contractor(s) to determine the best approach to meeting the performance requirements, subject to legislative and other requirements*”. The CIS noted that in addition to these requirements, other Performance Requirements, such as those relating to land use, vibration, and landscape and visual impacts, may contribute to minimising these impacts.

### Cultural Heritage Issues

The Committee heard cultural heritage evidence from the following experts:

* Mr Peter Lovell of Lovell Chen for the LMA;
* Ms Christina Dyson of the City of Melbourne for the City of Melbourne; and
* Mr Bryce Raworth of Bryce Raworth Pty Ltd for Yarra City Council.

At the request of the Committee, all experts met to discuss the relevant issues and determine points of agreement and dispute.

At the conclusion of the conclave and further discussions an ‘*Agreed Statement*’ (Document 8), was provided to the Committee.

Among the topics discussed and generally **agreed** by the experts at the conclave were the following:

* The assessment of heritage impacts of the Project is constrained by the lack of a final design;
* The landmark role of the Shot Tower should be considered in both the immediate and wider local contexts;
* As the CIS does not address post-construction planning controls for the proposed sidetrack area, there is potential for adverse impacts of future renewal in this area;
* Recording of heritage buildings to be demolished is an appropriate action;
* The identified significance of the former Box's Hair Curling works (Provans) as a contributory heritage place is accepted;
* The preferred methodology of the CIS would have been one that addressed the significance of Royal Park in accordance with the principles of the Burra Charter;
* Royal Park is at least of local significance and the 1984 Master Plan should form the basis of the approach to reinstatement of landscapes within Royal Park; and
* In terms of Royal Park, the river red gums on the south side of Elliott Avenue require review, the elms adjacent to Ross Straw Field should be retained and protected, and the Australian Native Garden is of significance and should be protected during construction.

Among the topics discussed at the conclave and generally **not agreed** by the experts were the following:

* The approach to risk assessment/modelling;
* The level of heritage impact on the loss of less mature trees in Royal Park;
* The impact of the realignment of the tram line in Royal Park; and
* The cultural heritage significance of Ross Straw Field in the context of the western portal.

Based on its consideration of the evidence and written and verbal submissions and evidence relevant to its Terms of Reference relating to cultural heritage, the Committee has grouped its assessment under the following headings:

* Sites of Historical Cultural Significance; and
* Applicable Approvals.

## Sites of Historical Cultural Significance

### Introduction

The parts of the Project area where cultural heritage is an issue are the areas around the Hoddle Street interchange and to its west, and Royal Park. Although the Melbourne General Cemetery and the Colleges associated with Melbourne University are on the alignment, because the Reference Project has the Project in-tunnel below these places, there are no impacts on these properties or places.

The CIS evaluation objective for cultural heritage is “*to provide appropriate protection for cultural heritage*”.

### Key Issues

The key issues with regard to cultural heritage are the impacts of the Reference Project on the Heritage Overlay Precincts to the north-west, north-east and south-west of the Hoddle Street/Eastern Freeway interchange, in particular the visual impacts on the Shot Tower on Alexandra Parade, the loss of contributory buildings in Bendigo Street and in the area of the proposed sidetrack, including the former Box's Hair Curling Works building, and the impacts on Royal Park's landscape and vegetation due to both construction processes, such as cut and cover, and permanent works.

### Submissions and Evidence

Mr Tweedie called Mr Lovell who had prepared Technical Appendix G: East West Link Historical Heritage Assessment of the CIS. Mr Lovell addressed the Performance Requirement CH5 and made one recommendation, namely that a photographic record of the former Box's Hair Curling Works complex at 64 Alexandra Parade (now Provan's timber merchants) be undertaken and that a measured drawing for the original two-storey section of the works be prepared prior to demolition.

In other respects Mr Lovell stated that he had undertaken further detailed work in relation to Royal Park and had read all submissions to the Committee which were relevant to his area of expertise. He advised he had undertaken site visits to particular locations along the Project alignment. He prepared a detailed ‘Response to Submissions’ (Appendix C to his Statement) which responded to each Precinct and the impacts of the Reference Project on buildings, heritage precincts and sites, trees in Royal Park and Flemington Road, and Arden Street, and the Moonee Ponds Creek precinct.

Mr Lovell concluded that, with the exception of his advice regarding 64 Alexandra Parade, this further work did not cause him to materially change his opinions expressed in Technical Appendix G.

Mr Lovell did not consider the demolition of the dwellings on the east side of Bendigo Street affects the significance of the Heritage Overlay area (Gold Street Precinct HO321), although he acknowledged that the removal of these buildings, while a significant local intervention, was not a significant impact in the wider context. He stated that the proximity of the eastern part of the Hoddle Street flyover would not jeopardise the integrity of the Heritage Overlay area to the north (Clifton Hill Eastern Precinct HO316), although the ramp would be visible along Rutland Street.

Further, Mr Lovell did not consider the loss of part of the Heritage Overlay area (Clifton Hill Western Precinct HO317) north of Alexandra Parade for the construction of the temporary sidetrack to be of concern. He considered that with regard to the Shot Tower, the visual impacts of new structures could be controlled through design. He did accept during cross-examination, that there would be a 'tension' between the Shot Tower and the proposed tower which is part of the Hoddle Street flyover.

With respect to Performance Requirements, Mr Lovell relied on the UDF as the vehicle to manage impacts on heritage elements near the proposed Project.

In terms of Royal Park, Mr Lovell's opinion was that the Reference Project’s associated works, while requiring loss of trees, realignment of the tramline, the use of cuttings and the proximity to Anzac Hall (the Urban Camp), did not 'fatally' affect the Park historically, and that the impact, when taken in the context of all of Royal Park and its component 'rooms' would be adverse but not fatal. He stated that extent of impact would depend on how the interventions were managed.

He considered that the Reference Project's impacts on the Ross Straw Field area did not represent a loss in heritage terms and there was no heritage status in the rail cutting.

In terms of the loss of 13 buildings (5 of which are graded) in Bent Street and within Heritage Overlay area HO9, Mr Lovell considered this not to be significant given the size of the area.

During cross-examination, Mr Lovell admitted that he did not recommend that any buildings not be demolished because of their heritage significance. He stated that no buildings were of sufficient significance to alter the Proposed Project Boundary and that he accepted the Proposed Project Boundary within Royal Park. He considered that the proposed works at Elliott Avenue can be mitigated over time by landscaping and that Royal Park is an evolving and dynamic landscape. He agreed that it would be preferable to not have to move the tram line, and that the trees in Flemington Road that would be removed can be reinstated.

In terms of Bendigo Street, Mr Lovell accepted that it would be better if the houses did not have to be demolished, in that the flyover ramp would impact the heritage precinct, but he said this would not marginalise the properties on the west side of the street.

Mr Tweedie called Mr Patrick. As discussed in Chapter 8, much of Mr Patrick's evidence centred around the landscape aspects of Royal Park. He did however, highlight that there is no pre-European settlement vegetation in Royal Park, that there are no trees subject to a Heritage Overlay in the Park, and he had not identified any trees worthy of individual heritage protection.

Mr Finanzio called Mr Raworth. In answering questions regarding heritage aspects of the Project, Mr Raworth agreed that in the context of the Local Planning Policy at Clause 22.03 (Landmarks and Tall Structures) which specifically nominates the Clocktower of Collingwood Town Hall as a landmark which should remain the principle built reference, the flyover would interrupt the existing view to the Collingwood Town Hall from Hoddle Street north of the proposed flyover.

Mr Pitt called Ms Dyson. Her evidence focused on the cultural and historic significance of Royal Park and was based on research carried out as part of a doctoral research.

Ms Dyson noted that the CIS methodology should have referred to the Burra Charter. She described the historic development of Royal Park and confirmed the importance of the 1984 Master Plan as a pivotal document in terms of the Park's recent and on-going development. She noted in particular the location of various tree groups and avenues which contribute to the Park’s landscape value including those near the proposed Elliott Avenue works and on the north side of Ross Straw Field. She noted that Ross Straw Field was the first purpose-built baseball field in Australia.

Asked if the heritage values of Royal Park will be adequately protected, Ms Dyson considered that other options than the Reference Project could do this better, and stated:

*That for such a large infrastructure project which has the potential for major temporary and permanent adverse impacts on an aspect of Melbourne's and Victoria's cultural heritage, this approach [the methodology adopted in the preparation of the historical heritage assessment] [as it relates to Royal Park] in my professional opinion is inadequate and unjustifiably constrained.*

Mr Nigel Lewis (Submission 1406), architect and conservation consultant, presented material relating to the Shot Tower in Alexandra Parade and his concerns about the adverse heritage impact of the Project. He was concerned about the impact of the proposal on the values of the Heritage Overlay areas in Clifton Hill and Collingwood and the environmental values of the Yarra Bend Park.

The tower is listed on the Victorian Heritage Register (No. H0709) and is classified by the National Trust (B3798). It is, in Mr Lewis' opinion, not of local significance as stated by Mr Lovell on behalf of LMA, but is of “*global significance*” as it has the most distinctive design for a shot tower due to its scale, design and patterned brickwork. Mr Lewis cited two international experts who have visited the site, one of whom was impressed with the visual impact of the tower on the surrounding area and how it dominates views from many locations due to its isolated location on relatively flat ground.

Mr Lewis considered that it is imperative that the aesthetic and landmark values of this “*remarkable structure*” are not devalued by the Project. He indicated concern with the proposed loss of contributory buildings within Heritage Overlays, the *“massive visual impact*” of the Hoddle Street flyover, and the location of the eastern vent stack due to its proximity to the Shot Tower.

The Committee notes that the Shot Tower is listed in local planning policy at Clause 22.03 ‘Landmarks and Tall Structures’ of the Yarra Planning Scheme as a landmark which should remain the principal built reference in its vicinity.

Mr Lewis considered that a specific geotechnical investigation is needed to ensure the stability of the Shot Tower.

Mr Lewis indicated concern with the proposed upgrade to the Eastern Freeway within Yarra Bend Park in terms of increased traffic including trucks, particularly at the Merri Creek bridge which is proposed to be widened potentially affecting the values of the environment at this 'sensitive location'.

### Discussion

#### The Hoddle Street/Eastern Freeway area

Experts called by the LMA found no heritage reasons to disagree with the Reference Project's proposed acquisition of contributory buildings to facilitate the construction of the Reference Project. They considered that the recording of buildings to be demolished would be an appropriate measure prior to demolition.

Other experts echoed Yarra Council's and the community's position that alternative designs for the Project should be explored to avoid the loss of contributory buildings and other buildings that are within Heritage Overlay Areas and the impacts on those Precincts.

The Shot Tower was seen by many submitters as being adversely affected by the presence of the Hoddle Street flyover and its tower, particularly in vistas from the east near and on the Eastern Freeway and the Hurstbridge/South Morang rail bridge and, to a lesser extent, from the west. It is noted that the Shot Tower is specifically listed in the Yarra Planning Scheme as a landmark and tall structure that should remain a visually dominant element of its surroundings.

#### Royal Park

The whole of Royal Park is covered by a Heritage Overlay (HO4) under the Melbourne Planning Scheme. While some buildings and places within the Park have individual overlays, none is directly affected by the Reference Project, although the Proposed Project Boundary is adjacent to Anzac Hall (the Urban Camp) (HO898).

There was much discussion regarding the relative importance of both the broad landscape of the Park and various stands of trees within the Park for their contributions to the cultural heritage of the place. Within this context, there was general agreement that the Park is an evolving entity in landscape terms and that the 1984 Master Plan was an agreed and acceptable mechanism to guide the Park's continued management and development.

It is evident that the impacts of the Project would be experienced most at the site of the Elliott Avenue works. The most significant impacts in this location are due to the following interventions: removal of trees and the consequential impact on views and the character of that part of the Park; the physical impact of the portals, excavations and roads on the connectivity between the Park's ‘rooms’; and the isolation of areas of open space separated by roads and the tram line.

There was some acceptance that Royal Park had capacity to accommodate new elements within it and that these could be ameliorated by landscape and other treatments.

The extent of disturbance of the Park by construction activity is not possible to determine, as the method of construction and the extent of cut and cover as a means of building the tunnels is not explicit in the CIS, but is to be determined by the contractor.

### Findings

The cultural heritage values of parts of Collingwood and Clifton Hill and Royal Park as well as some identified contributory buildings and areas covered by Heritage Overlays are to be affected by the Reference Project. Heritage buildings are to be demolished and the contribution of streetscapes to Heritage Overlay areas will be diminished. The valued landscape of Royal Park will be permanently affected.

The Committee accepts that a Project of the scale of East West Link is likely to have some impacts on places of cultural heritage, however, it considers that the proposed extent of intervention can and should be reduced.

The Committee considers that the Reference Project in the Hoddle Street area is unacceptable and that changes are warranted, not only on traffic grounds and visual landscape grounds, but also to reduce the impact on heritage places and values.

The Committee does not support the acquisition and demolition of property within the Clifton Hill Western Precinct (HO317) and the Gold Street Precinct (HO321), and recommends accordingly.

In particular, the Committee considers that the demolition of all properties on the east side of Bendigo Street will irrevocably diminish the heritage value and visual amenity of the street. It therefore considers that if the recommendation to abandon the Hoddle Street flyover is not accepted and demolition proceeds to allow this construction, the Proposed Project Boundary be extended to include all properties on the west side of Bendigo Street and the south side of Hotham Street east of Bendigo Street and that these properties be removed from the Gold Street Heritage Overlay Precinct. This would allow owners of these properties to redevelop in a manner that responds to the changed streetscape environment and the visual and other impacts of the flyover.

The Committee does not support the above ground structures (apart from necessary overhead signs, lighting and sound barriers) at the Eastern Freeway/Hoddle Street interchange to preserve the visual integrity of the Shot Tower.

Should the recommendation to remove the sidetrack not be accepted, the Committee considers that further urban design guidelines be developed to ensure that the current level of residential amenity enjoyed by owners of properties abutting the boundary of the sidetrack acquisition area is not diminished by redevelopment in the sidetrack area.

Further, if there is to be any permanent intervention of the Project in Royal Park that may impact on the cultural heritage of the Park, the Committee recommends a comprehensive study be carried out to identify the specific impacts and to determine appropriate ameliorative measures and that the design of the Project is modified to minimise such impacts.

It recommends that that the design of any structure or works likely to impact the cultural heritage of Royal Park is consistent with the Urban Design Principles in Appendix F.

## Applicable Approvals

The Committee concludes that in relation to Part A, and the five heritage places listed in Table 3.3 of Chapter 3 of the CIS, permits should be granted as the proposed works relate only to tunnelling works at a minimum approximate depth of 20 metres.

The Committee concludes that in relation to Part A, and the two heritage places listed in Table 3.4 of Chapter 3 of the CIS, namely Yarra Bend Park and Royal Park, permits should be granted.

The Committee concludes that in relation to Part B, should this part of the Project proceed, permits for the two places listed in Table 3.4 of Chapter 3 of the CIS should be granted.

# Surface and Ground Water

## Introduction

### Terms of Reference and Applicable Approvals

In addition to its overarching tasks of assessing the CIS and evaluating all applicable law criteria for applicable law approvals, Part 7(f) of the Committee’s Terms of Reference includes the following *‘Public Hearing Matter’* relating to surface and ground waters:

Whether the impacts of the project on surface and ground waters have been appropriately addressed.

The applicable approval as listed in Schedule 1 of the MTPF Act with respect to surface water falls under the Victorian *Water Act* 1989*.* Section 67 of the *Water Act* 1989 requires a licence to construct, alter, operate or decommission works on a waterway. This would be relevant to the widening of the Eastern Freeway crossing over Merri Creek as well as the construction of piers within Moonee Ponds Creek and elevated roadways above Moonee Ponds Creek.

The CIS stated that while no applicable approvals are required in relation to groundwater, the contractor would be required to comply with the relevant legislation, guidelines and policies governing these matters in Victoria.

### Conclusion of the CIS

Chapter 13 of the CIS, ‘*Surface Water’* concluded that good design, the application of best practice and compliance with regulatory requirements would minimise any significant surface water impact. No residual risks achieved a ‘high’ rating.

The CIS concluded that whilst there will be temporary impacts during construction on the Merri and Moonee Ponds Creeks, they should not be significant and the project offers the opportunity to restore and enhance waterways.

Chapter 14 of the CIS, *‘Groundwater and contamination’* concluded that there would be some construction groundwater impacts in Precincts 1, 2 and 3. The most significant were said to be:

* Contaminated groundwater from the former gasworks site impacting on tunnel construction (Note: Contamination is dealt with in Chapter 14 of this report); and
* The potential ‘damming’ effect of the tunnel in Precinct 2.

The CIS noted that these impacts pose significant risks but are not uncommon in major urban tunnelling projects and can be managed through rigorous performance requirements.

### Objectives and Performance Requirements

The CIS evaluation objective (set by the Scoping Directions) for Surface and Ground Water is:

To maintain the functions and values of affected waterways, floodplains and groundwater.

There are nine corresponding Surface Water Performance Objectives in the CIS:

* To maintain or improve existing surface water quality during operation and construction;
* To maintain existing levels of flood protection;
* To maintain flood plain storage;
* To maintain flow regime;
* To protect people and assets from flood waters in the tunnel;
* To maintain access to stormwater assets;
* To protect water quality and habitat in Merri Creek;
* To protect the bank stability of Merri Creek and Moonee Ponds Creek; and
* To protect the beneficial uses of air, land and water, and human ecological health, from the impacts of hazardous materials and dangerous goods.

There are three corresponding Groundwater Performance Objectives in the CIS:

* To protect beneficial uses of groundwater;
* To minimise changes to groundwater levels during operation and construction to manage mobilisation of contaminated groundwater; and
* To minimise impact on existing groundwater users.

An extensive list of Performance Requirements are specified in Chapters 13 and 14 of the CIS (Tables 13-2 and 14-2) to meet these Performance Objectives. The CIS states that it “*would be up to the contractor(s) to determine the best approach to meeting the performance requirements, subject to legislative and other requirements*”.

### Surface and Ground Water Issues

The Committee heard surface water evidence from the following experts:

* Mr Gavin Hay of GHD for the LMA on surface water;
* Mr Tim Anderson of GHD for the LMA on groundwater;
* Dr Peter Nadebaum of GHD for the LMA on contamination; and
* Associate Professor John Webb for the City of Yarra on groundwater and contaminated land (Professor Webb’s evidence was tabled but he was not called).

At the request of the Committee, all experts met to discuss the relevant issues and determine points of agreement and dispute. This conclave was held between Mr Anderson, Associate Professor Webb and Dr Nadebaum to discuss groundwater and contamination. The agreed conclave statement was tabled in the Hearing as Document 6.

The following topics were discussed and generally **agreed** by the experts at the groundwater conclave.

* There were some discrepancies in mapping and others maps and sections have been updated since the CIS was exhibited;
* The contractor will determine the construction method and will be bound by the performance requirements;
* There were a number of suggested updates to performance requirements and the CIS; it was not clear how these were to be addressed; and
* There were a number of agreed points on groundwater and tunnelling risk modification; where this led to changed performance requirements this was on an agreed basis

There were **no points of disagreement** on fact or contention in the groundwater conclave.

In addition, the Committee commissioned Dr Sandy Bennet to provide independent advice on groundwater, geotechnical and tunnelling issues. Dr Bennet provided an initial report (Document 47) and a final report post-Hearing (provided as Appendix G).

Based on its consideration of the evidence and written and verbal submissions and evidence relevant to its Terms of Reference relating to surface water and groundwater, the Committee has grouped its assessment under the following headings:

* Impacts on Surface Water;
* Impacts on Groundwater; and
* Applicable Approvals

## Impacts on Surface Water

### Key Issues

The CIS identified that two major waterways are located within the Proposed Project Boundary, Moonee Ponds Creek and Merri Creek. These waterways flow into the Yarra River (lower reaches), which in turn flows into Port Phillip Bay.

In his closing submission, Mr Morris for the LMA (document 525) identified the three main surface water issues that have arisen during the Hearing as:

* First, the extent to which contaminated run-off from construction works or from new road surfaces could enter local waterways and reduce water quality;
* Second, the extent to which the construction of structures in and around the Moonee Ponds Creek will have the potential to impact upon the floodway capacity of the Creek; and
* Third, the impact of the Project on existing drainage infrastructure.

### Submissions and Evidence

In his evidence, Mr Hay identified that in the order of 160 submissions to the CIS raised the issue of impacts on surface water to some degree, although many of these were concerned more in relation to amenity rather than surface water quality. Amenity, including along the Moonee Ponds Creek, is addressed in Chapter 8 of this report.

As a result of reviewing the submissions and technical reports, Mr Hay suggested a number of refinements to the exhibited Performance Requirements. These suggestions were shown in a tabled attachment to his evidence and were generally accepted by the LMA in putting forward its preferred version of the Performance Requirements in Document 525.

Mr Hay attached a detailed response to submissions to his evidence at Appendix C.

In the Hearing, Mr Hay (Document 66) provided comments on the Statement of Associate Professor John Webb who was called for the City of Yarra. He summarised the issues as follows:

1. Given the controls in place there should be no deleterious impacts on surface water during construction.
2. Concern that the Performance Requirement SW3 does not specify in detail how the water will be treated other than in accordance with VicRoads Integrated Water Management Guidelines.
3. Vegetated retarding basins and constructed wetlands should be used to treat all roadway runoff before **it** enters the creek.

In relation to these issues he provided the following response:

1. Agree.
2. The intent of SW3 is to assist in achieving an integrated and appropriate water management outcome. The best method of achieving this may vary with location. The VicRoads Integrated Water Management Guidelines provide a contemporary framework to help achieve appropriate water management outcomes during the planning and design processes, as well as during construction, operation and maintenance activities. While inclusion of the guidelines helps to identify a number of the relevant legislative requirements, there are other Performance Requirements which identify the level of performance required, SW3 provides guidance on how this can be achieved.
3. Although suitable in some locations, I disagree with this suggestion. It is important to recognise that vegetated retarding basins and constructed wetlands are not the only treatment option, or the most suitable treatment option in all locations. The VicRoads Integrated Water Management Guidelines referenced in Performance Requirement SW3 include a range of Water Sensitive Road Design treatment elements which may be more appropriate in some circumstances for achieving the required treatment outcomes.

Mr Hay noted in assumptions behind his evidence that due to the Project approach being taken, using a Reference Project:

No detailed hydraulic modelling of the reference design has been undertaken at this point in time since from a hydraulic perspective there are many approaches and solutions.

He went on to note that the detailed design would need to be undertaken when there is an actual design rather than now at the conceptual stage.

In his evidence for the City of Melbourne, Mr Shears highlighted a number of areas of concern in relation to surface water including, in summary:

* Lack of information about impacts on the Royal Park wetlands and lack of evidence regarding suggested low impacts;
* Lack of detail on how Moonee Ponds Creek may be improved; and
* Lack of regard to an integrated water cycle approach (he noted that the *Melbourne’s Water Future* document encourages integrated water management).

He went on to highlight a number of areas where there may be adverse impacts, particularly in the Royal Park, Parkville West and Moonee Ponds Creek areas.

Other submitters, for example Mr Tony Smith from the Moonee Ponds Creek Coordinating Committee (Submission 1092), expressed the similar concern that given there is little information on the Project, it is difficult to determine what the surface water impacts may be.

In response in Document 66, Mr Hay did not disagree in principle that these are important issues, but submitted that they will be able to be managed through the detailed design process using the Performance Requirement framework.

The City of Melbourne made significant suggested changes to the Performance Requirements for surface water in Document 443. These changes primarily go to the interaction of the Project with the Council’s stormwater infrastructure and assets.

The EPA’s submission on surface water (Document 268) stated that the CIS identified and assessed a number of potential risk to surface water environments during construction and operation of the Project, including:

* Roadway and stormwater run-off affecting surface water quality during operation;
* Contaminated surface water run-off affecting surface water quality during construction; and
* Sediment/chemical laden water from dewatering of surface structures affecting surface water quality during construction.

The EPA noted that public submissions had commented on the potential for the surface water quality in Moonee Ponds Creek and Merri Creek to be impacted by surface and stormwater run-off.In relation to this, EPA advised that SEPP (Waters of Victoria) clauses 10(3) and 11(4) and Schedule F7 sets the framework for the protection and rehabilitation of Victoria’s surface water environments; and defines environmental quality objectives and indicators that must be met.

Mr Metzeling for the EPA provided a submission on surface water in the Hearing (Document 268). Mr Metzeling outlined the regulatory framework for surface water, and in particular highlighted the SEPP (WoV), Yarra River Schedule F7 as setting the objectives for surface water for the project. The EPA supported the LMA’s approach of modifying Performance Requirement SW1 to ensure the Project meets ‘background’ water quality in the Moonee Ponds and Merri Creek rather than a direct reference to the SEPP. This is because the water quality in these creeks is already in poor condition.

The Friends of Moonee Ponds Creek did not agree with this change in the Hearing and submitted that reference to the SEPP should remain in SW1. Similarly, Mr Hanna from the RATS group (Document 430) did not agree with this approach. He submitted that the “*bar is being set too low*” and the risks from poor quality stormwater and water pumped from the tunnel must be addressed. He further expressed concern about the potential for contaminated surface water runoff from the former Fitzroy Gasworks site.

Mr Metzeling commented on the discharge of ‘wastewater’ from the Project and outlined the various regulatory responses that may be required depending on whether this water is polluted or saline. The EPA’s suggested amendment to Performance Requirements on these issues were accepted by the LMA.

In response to the issue of infrastructure impacts, Mr Morris noted that the design of the Project will need to accommodate hydraulic impacts of the elevated roadway and associated structures.

Referring to the expert evidence of Mr Hay, Mr Morris stated in closing submissions that a number of engineering techniques will be required and those that are recommended by Melbourne Water (SW7) are likely to improve the waterway through “*... reshaping, revegetation of creek banks, and the streamlining of existing structures”.*

Further, Mr Morris commented that “*... any large linear infrastructure project of this type and scale will potentially impact overland drainage flows”* and, as articulated in the Performance Requirements, any existing drainage infrastructure that is impacted by the Project will require relocation to the satisfaction of the relevant drainage authority (SW7), which is most likely to be Melbourne Water.

Regarding a Committee question at the Hearing about whether contaminated groundwater could enter and impact on the quality of discharges from the Alexandra Parade Main Drain, Mr Morris noted that due to the separation distances between the water-table and the drain, there is a low risk of this happening.

One of the issues raised in submissions at the Hearing was that of opportunities as opposed to impacts. In Section 13.1 of the CIS, a summary list of ‘*Potential benefits and opportunities’* was provided to reduce surface water impacts and improve surface water outcomes. Mr Hay reflected on this issue in relation to improving the values of Moonee Ponds Creek in response to submissions in his evidence (for example see Page 16, response to submission 902).

Associate Professor Webb, in his evidence statement for the City of Yarra, identified the capture and reuse of stormwater as a potential ‘legacy’ outcome of the Project that should be investigated.

Mr Morris was clear in submissions however, that such opportunities delivered through the Project would be ancillary to project works and should not be taken to be an offer for the Project to deliver improvements beyond the project scope of works.

### Discussion

The Committee recommends elsewhere in this report that Part B of the Project should be set aside at this stage. Comments on Part B in this section are made on a ‘without prejudice’ basis to that recommendation in principle.

There is no doubt that there is significant potential for adverse impacts on surface water given the scale of the Project and the extent of works. If a similar project to that shown in the Reference Project is constructed the impact could be significant on:

* Water Authority assets (Melbourne Water and Local Government);
* Amenity from reductions in water quality and loss of community recreational assets such as the Royal Park Wetlands and Moonee Ponds Creek; and
* Environmental values of waterways.

The detailed impact assessment will need to wait until there is an actual project and final design to be considered. At that stage, serious consultation with Water Authorities and land managers will need to occur.

In principle, the Committee considers that the likely impacts should be able to be managed. Careful design and the implementation of management measures to avoid or minimise impacts will be required to be developed, funded, implemented and then monitored.

This next phase will occur under the guidance of the EMF and Performance Requirements, and based on the submissions received, the Committee considers there are a number of improvements that should be made.

#### Reference to the SEPP

The Committee considers that in Performance Requirement SW1, the reference to the SEPP should be reinstated as exhibited. In practical terms, Mr Robinson for EPA suggested that the SEPP and ‘background levels’ may in practice be the same thing. If this is the case it is another argument for directly referencing the SEPP. In addition, the SEPP has separate statutory weight and thus should be complied with anyway.

#### Recommendations from Local Government

A number of Councils made recommendations to include more consultation as part of the Performance Requirements, and the Committee has generally adopted these.

The City of Melbourne in (Document 443), made extensive additional commentary on Performance Requirements SW3 and SW7. The Committee agrees in principle that some of these elements have some merit, in that they are more specific in outlining what may be required to meet the Performance Objectives. However some of them may equally apply to other Councils affected by the Project. The Committee has reviewed the intention of the Performance Requirements alterations and made changes as shown in Appendix E.

#### Potential benefits and opportunities

The Committee considers that a recurrent theme in the CIS process and Hearings has been a sense of lost opportunities where for a relatively small likely (comparative) cost, the impact of the Project may have been more effectively mitigated. This may be occurring through the tender process, but the Committee has no knowledge of any such program.

The Committee considers that the *Potential benefits and opportunities* contained in the CIS at Chapter 13.1 should be specifically referenced in the Performance Requirements. That is not to say they must be delivered, but they should form a more central part of the thinking around surface water improvements that could result from the Project.

### Findings

The Committee concludes that the management of surface water runoff for the eventual Project should be able to be managed within the regulatory framework established by the SEPP (WoV) and the EMF and Performance Requirements for the Project. As there is no real project before the Committee, it is difficult to be absolutely conclusive on this point; but rather the Committee considers that the range of surface water management issues likely to arise are not unheard of in major project implementation.

The Committee agrees with the submissions of the Friends of Moonee Ponds Creek and RATs and considers the reference to the SEPP (WoV) in Performance Requirement SW1 as exhibited is superior, as it ties the Project succinctly to the statutory instrument rather than a more nebulous ‘background level’, even if in time there is no difference in the outcome.

The Committee further considers that some of the other suggested changes to the Performance Requirements from submitters have merit and has recommended accordingly.

## Impacts on Groundwater

### Key Issues

Appendix M of the CIS, Groundwater Impact Assessment, identified the following issues related to Groundwater impacts:

* Contaminated Groundwater Plumes;
* Contaminated or saline groundwater inflow into the tunnel;
* ‘Damming’ of regional groundwater flow by the tunnel; and
* Dewatering that induces subsidence.

Other issues identified included managing potential acid sulfate soils; protection of groundwater resources for use; and groundwater dependent ecosystems.

### Submissions and Evidence

#### Linking Melbourne Authority

The LMA called Mr Tim Anderson to give expert evidence on groundwater. He commented on further work that has been undertaken since preparation of the Technical Report. In doing so he reviewed the *East West Link Stage 1 Preliminary Hydrogeological Investigation, Final Interpretive Report* (SKM, October 2013).

This report presents the results of preliminary hydrogeological investigations into the project area, and was undertaken by SKM at the request of VicRoads. As noted in Mr Anderson’s expert witness statement, the SKM report included the following key findings:

* Estimates of groundwater inflows were provided using multiple (analytical) methods. Estimates of steady state, lined tunnel inflows were around 14 ML/yr (twin tunnels). Because these methods assumed a fully drained tunnel (and no progressive lining) over its entire length I consider that they are likely to overestimate potential inflows.
* Estimates of drawdown were documented, for both a fully drained tunnel over its entire length, and a lined tunnel. The radius of influence under a lined tunnel were generally less than 1 m at 50 m, and <0.3 m at 1,000 m.
* Estimates of impacts to existing groundwater users were made based on publicly available groundwater information. It was noted that many bores were of unknown use, and that groundwater salinity was likely to limit use for domestic applications.
* Estimates of impacts to waterways (Yarra River) were made using analytical approaches for both fully drained and lined tunnel conditions. Lined tunnel impacts were less than 1.5 L/s (depending upon the analytical method). The report concluded that stream flow impacts should be assessed using a numerical groundwater model.
* Estimates of impacts on groundwater dependent ecosystems were made, focussing on three waterways (Moonee Ponds Creek, Merri Creek and the Yarra River) and their associated riparian vegetation. The report concluded that drawdown impacts at these locations were less than 0.2 m. Further recommendations were made to assess whether mature trees at Royal Park were using groundwater, and if so, their sensitivity to groundwater change.
* Estimates of long term drawdown in the Moonee Ponds Creek suggested a low risk of oxidising Acid Sulphate Soils as the magnitude of drawdown (0.2 m) was within the natural seasonal variation.
* Estimates of subsidence, as a result of long term drawdown (of a lined tunnel) were made, however they were noted as being subject to significant uncertainty and unsuitable for design.
* The estimates recorded in the report that are based on a lined tunnel support the conclusions expressed in the Technical Report with respect to why the groundwater impacts associated with the project are manageable. In my view many of the estimates (drawdowns, groundwater inflows) recorded in the report are potentially over-stated, given the underlying assumption regarding fully drained conditions (during construction) over the entire tunnel length.
* Some uncertainty remains regarding the potential sensitivity of vegetation to drawdown, and also quantitative estimates of construction inflows and drawdown extents. It is for this reason that I consider that assessment of impacts to Royal Park vegetation is required when tunnel designs (and construction methods) are finalised.

The objective of *East West Link Preliminary Assessment of Potential Inflows and Drawdowns – Drained Tunnel and Portals* (GHD, 2013) was to inform the Project specification, in relation to the potential groundwater inflows and the drawdown of the water table associated with ‘drained’ tunnels and excavations, west of Royal Parade and at the eastern (Hoddle Street) portal. The report provided an analysis of aquifer permeabilities, analytical estimation of drawdown and groundwater inflow of a ‘drained’ tunnel. The report stated that:

... analytical modelling at the 6 sections indicated a range of radial influences (up to 1 km) and predicted consolidation settlements estimated as being less than 5 mm. The numerical modelling simulated approximately 1.2 km of ‘drained’ tunnel. Estimated inflows under these conditions were 0.3 L/s to 1 L/s per km.

Higher inflows could be expected during and shortly after construction. Risks of impact of drawdown settlement to infrastructure (e.g. Moonee Ponds Creek culvert) were low under long term inflow rates.

Long term drawdowns could extend to the Oak Street pond and Trin Warren Tam-Boore wetlands. The effect on these surface water features are within the limits of natural seasonal variation. Further assessment of impacts to Royal Park vegetation was recommended.

Mr Anderson stated that the additional modelling demonstrates that the risk of impacts to the built environment and waterways is manageable, and made recommendations in the performance requirements regarding vegetation on groundwater.

The technical paper *Hutchinson and Lamb, Construction Management of the Hydrogeological Aspects of the Melbourne City Link Project, Tenth Australian Tunnelling Conference,* Melbourne 1999 was published as part of a conference documented information regarding the CityLink project. The paper highlighted a number of groundwater related issues associated with CityLink, which Mr Anderson stated reinforce the chosen performance requirements as part of the CIS. Notable information is listed by Mr Anderson in his statement.

#### The City of Yarra

The City of Yarra commissioned expert evidence from Associate Professor John Webb of La Trobe University. He identified in his evidence a number of improvements that could be made to the Performance Requirements in the following groundwater areas:

* Prediction and modelling of the damming effect;
* Development and calibration of a groundwater monitoring program to verify the predictive model; and
* Modelling to determine whether subsidence is likely from dewatering.

Associate Professor Webb identified and discussed these issues in his report and provided commentary on the risk associated with each, suggesting that further work is needed to ensure project delivery. With the consensus of all parties, he was not called to give his evidence at the Hearing.

#### The Environment Protection Authority

In relation to impacts on groundwater, the EPA submitted at the Hearing on two key issues; the contamination from the former Fitzroy Gasworks site (addressed in Chapter 14) and the protection of the groundwater resource. Ms Julia Caluzzi for EPA presented on these issues (Document 270) and outlined the protections available through the SEPP (Groundwater of Victoria).

Ms Caluzzi identified the need for a groundwater management plan and baseline groundwater monitoring to establish groundwater conditions pre-construction.

#### The Conclave Statement

Mr Anderson, Associate Professor Webb and Dr Nadebaum participated in a Conclave on Groundwater (Document 6). There was significant agreement on key issues leading to recommended changes to the groundwater Performance Requirements which LMA accepted. These changes are included in Appendix E to this report.

In his closing submission for the LMA, Mr Morris stated that expert witnesses at the groundwater conclave reached a consensus that “*... the only outstanding matters of contention concerning the impacts of the Project upon groundwater, and of ground water upon the Project, have been appropriately addressed”.*  The recommendations made by the experts, as incorporated in the conclave report, were incorporated by LMA in its revised Performance Requirements.

#### Dr Sandy Bennet

The Committee retained Dr Sandy Bennet to advise it on elements of the Project including groundwater impacts. Dr Bennet reviewed the CIS and relevant expert material and provided his initial advice in Document 47 tabled in the Hearing. Final advice was provided to the Committee post-Hearing and this has been provided to the LMA and posted on the Committee’s website.

Dr Bennet’s report raised a number of issues with the Project conception and many of these are technical issues that will need to be addressed by the LMA and contractor in project detailed design.

At a high level, some of these concerns relating to groundwater are, in summary:

* There needs to be further work undertaken to understand ground conditions to input to sound project design rather than to monitor and model as mitigation measures;
* Further investigation of groundwater chemistry and quantity is critical at an early stage to allow the tunnel design and construction to respond to any issues; and
* A better understanding of any damming effect on groundwater is needed.

Dr Bennet considered that the revised groundwater Performance Requirements agreed in the Conclave were superior to those exhibited.

#### Others submitters

A number of other submitters expressed concern about groundwater protection and management. Mr Hanna from the RATS group highlighted that a treatment plant was constructed for injecting recycled water into groundwater for CityLink and that controversies arose when potable water was used.

Ms Gherardin (Submission 582) submitted that changes to groundwater as a result of the Project may lead to building structural damage.

### Discussion

The tunnel component of the Project is the most critical, (and as advised by LMA, the most expensive) part of the Project. Ensuring that appropriate measurement and investigation of ground and groundwater conditions is undertaken prior to detailed design and construction is essential to minimise risk during both tunnel construction and operation.

Monitoring to find mistakes rather than designing to avoid them is not an acceptable approach for any project, let alone one of such significant cost to the Victorian community. The Committee was aware that even during its Hearings further investigations were ongoing into these elements. Given this, and the lack of an actual, as opposed to Reference, Project, it has been difficult for the Committee to engage at a detailed technical level with the groundwater environment that may be encountered during construction.

The Committee is left to ‘take it on trust’ that the requisite level of investigation is being undertaken to ensure that risks to the community and the Project are effectively managed.

The Committee is given some level of comfort from the work of the experts in the field in refining the Performance Requirements around groundwater. However it is concerned that for a multi-billion dollar project, there was not a higher level of project definition provided to allow more detailed consideration of the likely ground conditions and risk.

### Findings

Based on the minimal information received, the Committee concludes that technically, the tunnel component of the Project should be able to be achieved. However to minimise risk to both the community and the Project, a higher level of certainty is needed as to define the design and construction methods required to accommodate the specific groundwater environments to be encountered. The amended Performance Requirements should assist in providing some of this higher level of certainty.

The Committee has been much assisted by the work of Dr Bennet and commends his final report to the LMA and contractors.

## Applicable Approvals

As outlined in Chapter 12.1.1, the Project requires approval under the Section 67 of the *Water Act* 1989 for “*works on a waterway*” due to works affecting the Merri Creek and Moonee Ponds Creek*.*

The approach to the Water Act approval was provided in Appendix A.5 of the CIS. The CIS appears to suggest that provided a series of Performance Requirements and the EMF are adhered to around Land use and utility assets; Visual and landscape; Surface water and Biodiversity, the consent should be issued, although this is not explicit in Appendix A.5. There are no specific conditions sought to be applied to the consent.

The waterways manager, Melbourne Water, did not make a submission to the CIS either supporting or objecting to the application. This is disappointing as it leaves the Committee to determine the matter in the absence of their opinion. However the Committee considers it is entitled to assume that as there is no objection, this can be taken at some level as an implied consent.

The Committee has considered the impacts on Surface Water in Chapter 12.2 above and has concluded that the impacts should be able to be managed acceptably through Project delivery. This includes the works on waterways consent. The Committee has made recommendations in chief elsewhere in this report regarding elements of the project; particularly with regard to the setting aside of Part B.

There are no specific Applicable Approvals for Groundwater.

The Committee recommends that on a without prejudice basis, consent under Section 67 of the *Water Act* 1989 for works on waterways in Merri Creek and Moonee Ponds Creek be issued.

# Native Vegetation and Biodiversity

## Introduction

### Terms of Reference and Applicable Approvals

In addition to its overarching tasks of assessing the CIS and evaluating all applicable law criteria for applicable law approvals, Part 7(g) of the Committee’s Terms of Reference includes the following *‘Public Hearing Matter’* relating to Native vegetation and Biodiversity:

Whether the impacts of the project on native vegetation and biodiversity have been appropriately addressed.

The relevant applicable approvals include:

* Planning Scheme Amendment to allow removal of native vegetation under sections 8, 29 and 35 of the *Planning and Environment Act* 1987.
* Request for comment from the Secretary of the Department of Environment and Primary Industries (DEPI) regarding the construction of dams, weirs or other structures in or across waterways which potentially interfere with the passage of fish or the quality of aquatic habitat under s66 of the *Conservation, Forests and Lands Act* 1987.

Other permits noted in the CIS that may be required (to be obtained by the contractor) relating to Native Vegetation and Biodiversity include:

* Management Authorisation under the *Wildlife Act* 1975 for handling of fauna (such as pre-clearance of trees)
* A permit under the *Fisheries Act* 1995 from DEPI if fish handling, capture or translocation is required (for example, the capture and release of entrapped fish in any in-stream construction structures such as coffer dams for pier construction).

The CIS noted that a referral under the Commonwealth *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act) was submitted to the Commonwealth Minister for the Environment in March 2013 (LMA 2013). The former Australian Government Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) (now Department of Environment) subsequently determined that the proposed action (East West Link – Eastern Section) was not a controlled action. Consequently, the LMA determined that further consideration under the EPBC Act was not required, and the Committee does not need to take this further.

### Conclusion of the CIS

Chapter 15 of the CIS, *‘Biodiversity’* concluded that most potential impacts associated with the construction and operation of the project are assessed as negligible or low risk to flora, fauna and aquatic ecology values, and that there were no initial or residual risk ratings for the project above a ‘medium’ risk.

Potential ecological impacts highlighted include:

* Removal of up to 3.57 hectares of remnant vegetation comprising four EVCs (up to 3.45 hectares in Royal Park and 0.12 hectares in the vicinity of Merri Creek).
* Removal of up to 93 scattered native trees in Royal Park (10 within the permanent works area and 83 within temporary works/construction laydown areas) and three scattered native trees in Precinct 5.
* Location of viaducts along Moonee Ponds Creek and over Trin Warren Tam-boore Wetlands.
* Potential changes to channel structure could affect fish passage and water quality in Moonee Ponds Creek. These impacts would be localised, short-term and could be managed with the performance requirements. In the highly modified state of Moonee Ponds Creek, the impacts would be minor.

In respect to impacts on biodiversity the CIS concludes that most biodiversity impacts of the project are likely to be associated with its construction and “*some of these impacts may be reduced with refinement of construction works areas”.*

The project would not result in ecological impacts at a bioregional (or higher) scale and while vegetation and habitat loss would occur at a local precinct scale, this would be managed and offset in accordance with the Biodiversity assessment guidelines (DEPI 2013). There would be no net loss in the contribution made by native vegetation to Victoria's biodiversity.

The CIS noted that the Project impacts on waterways and the wetlands system in Royal Park are expected to be localised and short-term, readily mitigated and unlikely to result in regional impacts. Impacts on ecological values within the Proposed Project Boundary are expected to be minimal due to a combination of the highly modified and disturbed state of the waterways and the performance requirements and other possible mitigation measures that could be implemented for the project.

The CIS concluded that the project would not have a significant impact on *Flora and Fauna Guarantee Act* 1988 listed communities, species or habitats. It states that impacts on ecological values are expected to be minimal with the implementation of performance requirements and the incorporation of additional mitigation measures would reduce these impacts further.

### Objectives and Performance Requirements

The CIS evaluation objective (set by the Scoping Directions) for Native Vegetation and Biodiversity is:

To maintain the values of remnant native vegetation and associated biodiversity.

There are four corresponding Native Vegetation and Biodiversity Performance Objectives in the CIS:

* To protect biodiversity values;
* To minimise impacts on Merri Creek;
* To minimise impacts on native vegetation and fauna habitat in Royal Park; and
* To manage interactions with aquatic fauna habitat in Moonee Ponds Creek where impacts are unavoidable.

A list of Performance Requirements are specified in Chapter 15 of the CIS (Table 15-2) to meet these Performance Objectives. The CIS stated that it “*would be up to the contractor(s) to determine the best approach to meeting the performance requirements, subject to legislative and other requirements*”. The CIS noted that in addition to these requirements, other Performance Requirements, such as those relating to surface water, may contribute to the mitigation of these impacts.

### Native Vegetation and Biodiversity Issues

The Committee heard Native vegetation and Biodiversity evidence from the following experts:

* Mr Brett Lane of Brett Lane and Associates Pty Ltd for the LMA on flora, fauna and aquatic ecology; and
* Mr Ian Shears, of the City of Melbourne for the City of Melbourne on water, vegetation and biodiversity.

At the request of the Committee, both experts met in a conclave to discuss the relevant issues and determine points of agreement and dispute.

At the conclusion of the conclave and following further discussions an ‘*Agreed Statement*’ (Document 28), was provided to the Committee.

The following topics were discussed and generally **agreed** by the experts at the conclave:

* Approach used to assess biodiversity impacts, and the use of the State Planning and Policy Framework (SPPF) native vegetation controls within a highly modified urban landscape, would not capture all impacts on biodiversity in the area;
* Large hollow trees, irrespective of provenance had high value as fauna habitat;
* White’s Skink and Trin-Warren Tam-boore wetlands had higher biodiversity value than some other areas of Royal Park, and that screening and light baffling were considered appropriate where light potentially impacts the White’s Skink habitat;
* The term ‘minimising’ in the Performance Requirements is a general term, not a quantitative measure, and more definition of which areas are priorities for retention was needed to ensure minimisation; and
* Habitat connectivity is an important consideration for biodiversity conservation, and the Project has the ability to limit future landscape scale connectivity along the Moonee Ponds Creek.

The following topics were discussed and generally **not agreed** by the experts at the conclave:

* The geographic scale and related threat status at which biodiversity was considered;
* Prioritisation of established indigenous trees species over other trees and vegetation;
* The level to which light spill from the Project would affect fauna within Royal Park, and therefore should be mitigated;
* The level of impact of the Project on the current landscape scale habitat connectivity; and
* The number of trees likely to be impacted by the Project within Royal Park.

Based on its consideration of the evidence and written and verbal submissions and evidence relevant to its Terms of Reference relating to Native vegetation and Biodiversity, the Committee has grouped its assessment under the following headings:

* Native Vegetation; and
* Fauna Species and Associated Habitats.

## Impacts on Native Vegetation

### Introduction

The Proposed Project Boundary encompasses approximately 204ha, which encompass two bioregions, Victorian Volcanic Plain and Gippsland Plain. The amount of remaining vegetation in each of these bioregions is 4.5% and 18% respectively.

The CIS stated that a total of 3.52ha of native vegetation, comprising four Ecological Vegetation Classes (EVCs) has been mapped within the Proposed Project Boundary, of which 3.4ha occurred within Royal Park, and 0.12ha occurred within the road reserve west of Merri Creek. These EVCs are all listed as Endangered within the bioregion in which they occur, and comprise:

* Escarpment Shrubland (EVC 895);
* Floodplain Riparian Woodland (EVC 56);
* Plains Grassy Woodland (EVC 55); and
* Grassy Woodland (EVC 175).

Further, of the 96 scattered native trees identified within the Proposed Project Boundary, 93 occurred within Royal Park, with 16 of these identified as Large Old Trees.

As stated previously the evaluation objective for native vegetation, as set out in the Scoping Directions is to “maintain the values of remnant vegetation and associated biodiversity”.

Where above-ground construction is proposed, impacts on native vegetation could occur in areas proposed for permanent works areas, and temporary lay down areas resulting in loss of patches of remnant vegetation and scattered trees. It is stated in the CIS that potential impacts to native vegetation may be reduced, and this is contingent on the final construction footprint and construction laydown and temporary works areas.

The CIS indicated that implementation of the Reference Project would require the removal of up to:

* 3.57ha of remnant vegetation comprising four EVCs that included:
* Precinct 1 (Hoddle Street - Eastern Portal) - 0.12 ha in the vicinity of Merri Creek; and
* Precinct 3 (Royal Park - Western Portal) - up to 3.45 ha in Royal Park.
* 96 scattered native trees:
* Precinct 3 (Royal Park - Western Portal) - 93 scattered trees (11 within the permanent works area, and 82 within temporary works/construction laydown areas); and
* Precinct 5 (Port Connection) – three scattered native trees.

The following overview provides a summary of potential impacts to native vegetation in Precincts 1, 3, 4 and 5. Project elements within the remaining Precincts (i.e. 2 and 6) are not likely to result in impacts to ecological values.

#### Precinct 1: Hoddle Street (Eastern Portal)

The CIS stated that whilst vegetation within the freeway reserve has had a history of disturbance, areas adjacent to the existing carriageways contain native vegetation and fauna habitat including Escarpment Shrubland, Floodplain Riparian Woodland, and Plains Grassy Woodland.

The CIS stated that if the construction area in this Precinct is located between the existing lanes east of the current bridge structures, then no impact to remnant vegetation would occur in this precinct. If the Project footprint was required to extend to the northern and southern road reserves, the CIS identifies impacts on native vegetation in Precinct 1 as a total area of 0.12ha (0.11ha of Escarpment Shrubland, and 0.01ha Plains Grassy Woodland), the bioregional conservation status being ‘Endangered’ for both EVCs. There do not appear to be any scattered trees that require removal in this area.

#### Precinct 3: Royal Park (Western Portal)

Despite a long history of disturbance, ecological values are present within Precinct 3, and include:

* Grassy Woodland (with patches totalling 0.77ha likely to be remnant);
* Plains Grassy Woodland (an area of 2.43ha of remnant vegetation, which has been partly planted and is located near the rail line, an area of 0.13ha on the corner of Oak Street and Galada Avenue, and an area totalling 0.06ha on a drainage line near the Trin Warren Tam-boore wetlands); and
* Ninety-three scattered remnant trees located throughout the Proposed Project Boundary in Royal Park, consisting mainly of River Red-gum and Yellow Box, including large, medium and small trees. A combination of planted and remnant native vegetation (or vegetation that has colonised naturally) exists within this precinct.

The CIS notes that removal of scattered remnant and planted indigenous trees and hollow-bearing non-indigenous native trees would be required for removal in this precinct, and include:

* 0.59 habitat hectares (hha) of endangered native vegetation within the permanent works area;
* 0.95hha of endangered native vegetation within areas designated as laydown areas, temporary works or strata-tunnel works areas; and
* Eleven scattered native trees, and potentially another 82 scattered native trees (eight large, three medium, and 71 small), contingent upon the final construction footprint.

#### Precinct 4 - CityLink

This Precinct does not include removal of any native vegetation *per se*, and discussion is therefore focussed on the impacts to fauna habitat (See Chapter 13.3).

#### Precinct 5 - Port Connection

In Precinct 5, the Project would require the removal of three scattered native trees on the banks of the Moonee Ponds Creek. The trees appear to have colonised naturally and were identified as River Red-gum and Swamp Gum, and were designated as Small trees (i.e. 23-40 cm - Diameter Breast Height (DBH)). Discussion of potential impacts in this Precinct is focussed on the fauna habitat values (See Chapter 13.3).

### Key Issues

The key issues considered include:

* Whether the extent of impacts to native vegetation is justified;
* Whether the methodology used to define the vegetation and floral diversity, to calculate the potential offset requirements, and the use of the SPPF was appropriate; and
* Whether the Performance Requirements for Native Vegetation are adequate.

### Submissions and Evidence

Each of the key issues outlined above, is discussed relevant to the two precincts in which native vegetation is to be removed. Discussion relevant to Precincts 4 and 5 is presented in Chapter 13.3, as impacts are more relevant to fauna habitat values.

#### Whether the extent of impacts to native vegetation is justified

**Precinct 1 – Eastern Portal**

Neither expert witness made comments related to this matter. Several submissions mentioned potential impacts to the Merri Creek, but comments focussed on impacts to fauna and associated habitats.

The CIS notes that if construction works are located between the existing lanes where there are insignificant ecological values, then no impact to remnant vegetation would occur in this precinct. If the project footprint was required to extend to the northern and southern road reserves, impacts on native vegetation in Precinct 1 will affect a total area of 0.12ha of EVCs Endangered within the relevant Bioregion.

**Precinct 3 – Royal Park (Western Portal)**

Mr Shears made extensive comment regarding the excessive amount of clearance of vegetation proposed in Royal Park, and stated that:

Fragmentation and devastation of this remarkable asset will result in the following impacts:

* Specifically the loss of indigenous River Red-gums ... would create a permanent impact across the landscape;
* ..
* Royal Park contains the only remnant Grassy Woodland (EVC 175) remaining in the City of Melbourne;
* ..
* This potential loss of existing future vegetation will greatly impact flora and fauna species inhabiting the area …

Mr Lane did not make specific comments as to whether the extent of native vegetation clearance was justified, confining his comments to a critique of the assessment methodology according to legislative requirements.

Both the Cities of Yarra (Document 206) and Melbourne (Document 103), and the Combined Community Group’s (CCG) submission (Document 386) from the Royal Park Protection Group/Protectors of Public Lands Victoria, all stated that impacts of the Project on Royal Park were unacceptable, and that the area required for laydown and works areas should be minimised, and sensitive areas must be avoided.

Specifically, the City of Melbourne stated in its submissions that the Reference Project and CIS failed to adequately recognise the range of important community values associated with and embodied in Royal Park, including Biodiversity values; and the impact on Royal Park of both the Reference Project and the design put forward by Mr Higgs (Document 109) was unacceptable.

Further, in relation to the proposed works, the City of Yarra stated in its submissions that:

* The potential negative impacts of any future project fall broadly into the following categories …;
* The destruction and alteration of important parkland …;
* In relation to the Elliot Avenue interchange and the effect on Royal Park, looking at the impact of the reference project as designed, the only conclusion that can be drawn is that the impact of an interchange which involves interference in the middle of Royal Park at the scale proposed is clearly unacceptable;
* Even if a road project like East West link should have an exit in this general location (a view obviously shared by LMA but which is not accepted by any of the Councils or Eddington) it does not necessarily follow that the reference project design appropriately addresses the impacts of such a project; and
* There is no evidence before the Committee that the reference project design or location is the only feasible or alternative location or design.

The CCG submission stated:

* The impacts of stripping Royal Park of over 5,000 trees, and constructing the tunnels using the cut and cover method will be evident in Royal Park for the next 15-20 years (Closing submission Hearing Document 523); and
* that there *is no justification afforded in the CIS, other than general statements about construction needs, to the large amount of land needed in Royal Park during construction (i.e. Why the large section of land to the north of the State Netball and Hockey Centre?, Why does the LMA need the surface of Royal Park to the east of Elliott Avenue if it is to be tunnelled, Why does it need all of Ross Straw Field and the wetlands?).*

Many submissions from the public made comment regarding the extent of impact to vegetation within Royal Park, a large proportion of which were concerned about the extent of impact to native vegetation from the temporary works areas.

The following statements were noted in proforma submissions:

The Large scale removal of mature trees and the removal of wetlands and open space in Royal Park, on the Merri Creek/Moonee Ponds Creek and from parks along City Link, are unacceptable in terms of destruction of native vegetation, habitat and biodiversity loss.

A large swath of native vegetation is scheduled for destruction in Royal Park and nearby areas; loss of 5000 trees, including many mature and historic trees, destruction of important native vegetation in the Upfield rail line corridor, over-shadowing of the invaluable wetlands water recycling area and reservations and adjacent parkland along the Moonee Ponds Creek.

#### Whether the methodology used to define the vegetation and floral diversity, to calculate the potential offset requirements, and the use of the SPPF was appropriate

Mr Shears (in relation to the CIS’s assessment of urban ecosystems and biodiversity and to the Terms of Reference, 2 (7) (g) - whether the impacts of the project on native vegetation and biodiversity have been appropriately addressed), stated that the “impact of the Reference Design for the Project on the mature tree canopy, vegetation species diversity and habitat provision in Royal Park are highly critical”. In summary, he stated that “use of the Native Vegetation Framework is not appropriate to assess the ‘true’ vegetation impacts of this project”.

Mr Shears argued that the statement in the CIS that concludes “the project area generally contains no significant ecological value”, does not reflect the consequences the Project will have at the local scale. Further he went on to say that “no consideration was given to the significant contribution that the trees within the Proposed Project Boundary make to the city through their amenity value, the provision of ecosystem services and mitigation of the urban heat island effect”. Further Mr Shears noted “the CIS refers to only 2 species listed under the FFG Act, the Swift Parrot and the Grey-headed Flying Fox, and states that this is not an adequate assessment as there is a greater diversity of other species inhabiting the area”.

Mr Shears noted that ecological surveys had been undertaken by the City of Melbourne, and these have included some 152 species, of which 59 species listed under the migratory list of the EPBC Act, and six listed under the FFG Act.

Mr Shears argued that in relation to potential areas of adverse impact, that the “remnant vegetation within Royal Park is highly significant, particularly at a local level, and that accordingly the use of the NVF significantly understates the impacts of the reference design on vegetation cover”. Mr Shears stated that “the CIS indicates that less than 100 trees will be impacted, in contrast to the 4,713 trees identified through the City Of Melbourne mapping for the reference design. Mr Lane argued that the effort put to collection of data in the field was considered sufficient, both in length and seasonality, to ascertain the extent of vegetation communities and fauna habitats associated with the Project. Although he noted that not all threatened flora species listed in the Parsons Brinckerhoff (PB) report (2013) would have been flowering in October, he considered it unlikely that any threatened flora species would occur within the project alignment. This summation was based on the lack of suitable habitat and the high levels of public access and degraded nature of any remnant areas. He stated that the assessment was adequate to document the EVCs, to perform habitat hectare assessments, to document scattered trees and to assess habitats for the likelihood of occurrence of threatened species.

Mr Shears raised the issue of monetary compensation for the loss of amenity associated with tree removal, in particular in relation to the *City of Melbourne’s Tree Retention and Removal Policy* 2012. This issue is addressed in Chapter 8.

Mr Lane documented the following points of disagreement in the CIS with regard to the vegetation assessment methodology. He noted several additional treed areas containing native vegetation were identified and mapped, although these were not considered to include remnant native vegetation (p9, Mr Lane evidence statement). He also noted that the calculation of offsets in the CIS was undertaken according to the approach detailed in Victoria’s Native Vegetation Management: A Framework for Action (DNRE, 2002). Since exhibition of the CIS the approach to quantification of impacts to native vegetation is assessed according to the Permitted clearing of native vegetation – Biodiversity assessment guidelines (DEPI, 2013).

In Mr Lane’s evidence, he stated that the proportion of the area that supported remnant or revegetated vegetation and fauna habitats is limited, with just 7.722ha classified as native vegetation in accordance with the *Biodiversity Assessment Guidelines* (BAGs) (DEPI 2013). He also stated that in order to calculate the degree of offsets required for removal of native vegetation, the definitions provided in Clause 52.17 of the planning scheme were utilised, whereby a permit is required to remove, destroy or lop native vegetation unless an exemption under the clause applies. Planted vegetation is exempt from this permit requirement where such vegetation has been planted for aesthetic or amenity purposes, unless public funding was provided to plant or manage the native vegetation, “and the terms of the funding did not anticipate removal or harvesting of the vegetation”(Clause 52.17, Table of exemptions).

This particular matter was addressed by Mr Lane with specific regard to consistency in the classification of native vegetation as amenity planting versus revegetation. The approach that was adopted in this reassessment was that, consistent with Clause 52.17, any planted native vegetation that is locally indigenous, where not planted for amenity, and funded by the public should be treated as native vegetation. Further in a relatively conservative approach, it was assumed by Mr Lane that specific sections of Royal Park had been revegetated for specific purposes (i.e. almost all vegetation either side of the ‘grass circle’ in Royal Park), was planted for purposes of conservation, based on the predominantly indigenous plantings using species from the pre-European vegetation types, including canopy, shrub, and grassy ground-cover layers.

Mr Lane also undertook a revision of the designation of habitat zones within the Project area prepared in the CIS, and surmised that the original assessment in the CIS required refinement.

He considered that the treed and fringing vegetation around the perimeter of the Trin Warren Tam-boore wetlands should be considered as remnant patches of native vegetation in accordance with the BAGs (DEPI 2013). He stated that this vegetation comprised woody species including River Red-gum, Black Wattle, and Sweet Bursaria, and understorey species including Spiny-headed Mat-rush, Flax Lily and Kangaroo Grass, as well as vegetation that fringed the wetlands such as Tangled Lignum, rushes and sedges, Common Tussock-grass, Knobby Club Rush. It did not include aquatic vegetation as this was not thought to have been present in the area prior to pre-European settlement, and therefore would not meet the definition of a remnant patch.

A revised tree inventory was presented by Mr Lane (143 tree count (Mr Lane) compared with114 tree count (CIS)). This was produced as a result of his identification during a further field assessment of several errors in the original inventory. Errors included:

* Exclusion of several trees based on the exclusion criteria mentioned above;
* Misidentification of tree species; and
* Differences in determination of size class of trees.

Having completed his further assessment, Mr Lane concluded that:

* The survey effort was appropriate to ascertain the extent of vegetation communities and fauna habitats in the Proposed Project Boundary and was sufficient to make an appropriate assessment on the suitability of habitats for threatened flora and fauna in the available data bases;
* The native vegetation assessment, including the mapping of the remnant patches and scattered trees, and habitat hectare assessment undertaken in the CIS was incomplete, but had now been addressed by the additional work he has undertaken as presented in his evidence statement; and
* A small number of threatened wetland species were not considered in the assessment, but have been included in his evidence statement and that potential impacts on them were not considered to be significant.

Mr Lane summarised a number of submissions, and made comment on their claims.

In response to the submission from Dr and Mr White (Submission 372), Mr Lane noted the presence of a remnant grassland patch adjacent to Oak Street, and that this area was not recognised in the CIS. Mr Lane agreed with the CIS that this area was a patch of remnant native vegetation of Plains Grassy Woodland (EVC 55), and that the patch was now in a state where it comprised a derived grassland habitat, due to the removal of trees in the past. He agreed that the population of Pink Bindweed “in the submission, constitutes a record of a common grassland species, and therefore is not subject to the controls that protect threatened species, and therefore does not require further consideration”.

In response to the submission on behalf of the Friends of Royal Park (Submission 396), Mr Lane noted the presence of eight regionally significant plant species that occur in the remnant Grassy Woodland vegetation in Royal Park west. Mr Lane stated that none of these species are listed at the State or Commonwealth level, and therefore the occurrence of these species was not subject to the controls that protect species threatened under Commonwealth or State legislation or policy, and therefore did not require further consideration.

Mr Lane largely dismissed the concerns expressed in the submission by a collective of scientists from the University of Melbourne by Dr Williams (Submission 504), that noted the presence of an EPBC Act Listed ecological community within the Project area. Mr Lane stated that the matter of EPBC listed Vegetation communities had been dealt with in a previous section of the evidence statement. Further, Mr Lane acknowledges that the vegetation subject of the submission, consisted of Plains Grassy Woodland (EVC 55), but that the patch fell below the minimum patch threshold of 0.5ha for classification as the listed ecological community, as stipulated in the listing advice (Threatened Species Scientific Committee 2008).

The submission of on behalf of the Friends of Moonee Ponds Creek (Submission 528) noted that there were five additional River Red-gums that had not been included in the CIS assessment, and had therefore not been included in Mr Lane’s evidence. Mr Lane made the recommendation “that these trees be surveyed by an ecologist to determine whether they should be included in the final assessment *of native vegetation for the Project*”.

In respect of the submission by Ms Ervin-Ward (Submission 592) that noted the presence of a significant grassland area in the Royal Park Grass circle, Mr Lane noted that the area comprised almost exclusively introduced grasses. He argued that this did not therefore constitute significant grassland, and as such did not require further consideration.

Mr Shears considered that the approach to biodiversity assessment used in the CIS, and by Mr Lane, was not adequate to encompass the impacts to biodiversity in Royal Park. Mr Lane countered this by stating that impacts to biodiversity were assessed in line “with the mandated approaches of the applicable state planning framework native vegetation planning controls and state and national biodiversity legislation that apply to threatened species and communities in Victoria”. Both agreed that the methodology and approach used to assess biodiversity impacts was different, that Mr Lane *“used an approach that focussed attention on threatened species, and their conservation status in the Project area and on assessable native vegetation as defined in the State Planning Policy Framework for mapping and offset calculation purposes”.* Mr Shears however,considered biodiversity to *“equate to the sum of all species that play a crucial role of ecosystem services”,* which both parties agreed was a correct definition.

Mr Shears believed that applying the SPPF to assessment of native vegetation did not reflect contemporary values of all vegetation, capture all vegetation impacts or provide offsets for the other types of vegetation to be impacted by the Project (i.e. small trees, shrubs, planted non-indigenous trees, planted introduced species, amenity trees). Mr Lane disagreed with this view, and stated that the method objectively determined offsets for native vegetation removal and that this included scattered trees, as well as indigenous small trees and shrubs as offsets were required for the removal of a ‘habitat zone’ or remnant patch of native vegetation, by way of the habitat hectare offset target.

Notably the submission from scientists from the University of Melbourne, discussed above, also stated their concern “that the loss of remnant vegetation in Royal Park is only considered at a bioregional scale, given the extremely limited amount of remnant vegetation in inner Melbourne the scale of assessment in the CIS is inappropriate. In extremely fragmented landscapes such as urban Melbourne, the impacts of the loss of even small natural areas on the cities biodiversity will be magnified”. Ms Nataprawira (Submitter 413) made a presentation to the Committee (Document 457) that made specific reference to this matter, stating that “the evaluation tool fails to take into account the value of this ecosystem to the thousands of people who might benefit from its proximity. To People who live close to Royal Park, this EVC is worthy of preservation because it is the only intact remnant of our local vegetation”. The Friends of Royal Park made a submission (Document 326) that stated that the remnant sited within Royal Park acted as “important core area for increasing indigenous flora and fauna in Royal Park, for building plant resilience and for providing biolink connectivity”.

Mr Lane and Mr Shears disagreed over the number of trees recorded in the CIS. Mr Lane identified 144 scattered trees (i.e. indigenous canopy species with a diameter at 1.3m above the ground (Diameter at Breast Height (DBH)), 0.25 times or greater than the large tree DBH defined in the relevant EVC benchmark that were not planted for amenity purposes. Mr Shears in utilising the same EVC benchmark identified at least 214 scattered trees, a number that was not reviewed by Mr Lane. Mr Shears indicated that the City of Melbourne’s tree database included over 5,000 other trees within the Project area and that impact on all trees needed to be considered.

The City of Melbourne (Submission 902) stated that the CIS significantly under-represented the number of trees that would be removed for the Project. This was reiterated in the submissions put by Mr Pitt during the hearing. Mr Lane noted that whilst he had made some refinement of the numbers presented in the CIS, the far greater magnitude of the difference in numbers of trees to be impacted between the CIS and the City of Melbourne assessments were due to a completely different method to assess tree value being used by the City of Melbourne.

Ms Derriman (Submissions 667) and Mr Lance (Submission 746), commented that the survey duration and timing was inadequate to thoroughly assess the potential impacts of the Project. Many submissions, including that from Ms Clarke (Submission 259) noted that the calculation of losses of native vegetation associated with the project could not be accurately determined until the construction methods and works areas were determined.

A proforma submission received from 14 parties, stated that the CIS erroneously stated there would be no net loss in the contribution made by native vegetation to Victoria’s biodiversity.

#### Whether the Performance Requirements for Native Vegetation are adequate

In their agreed conclave statement, Mr Lane and Mr Shears agreed that the use of the term ‘minimising’ in the performance requirements was not a quantitative measure and more definition of which areas were priorities for retention was needed to ensure minimisation.

However, they disagreed with respect to Performance Requirement B4, whereby Mr Lane stated that priority should be placed on established indigenous tree species, whilst Mr Shears believed that all trees should be given the same priority.

Mr Lane recommended changes to the performance requirements but these broadly relate to fauna habitat values and therefore are discussed in Chapter 13.3.3.

The City of Yarra requested many revisions to the Performance Requirements, namely to replace the term ‘minimise’ with ‘avoid’. The LMA agreed to some amendments to the Performance Requirements, and these are shown in Appendix E.

### Discussion

#### Whether the extent of impacts to native vegetation is justified (i.e. did the Project avoid, and minimise impacts to native vegetation)

All losses of native vegetation associated with the Project occur within Location A, as defined in the BAGs (DEPI 2013). According to the BAGs, this dictates that the Project would be assessed as a moderate risk pathway application, for which the LMA would need to demonstrate “whether reasonable steps have been undertaken to ensure that impacts of the proposed removal of native vegetation on biodiversity have been minimised. These steps should have regard to the contribution to biodiversity made by the native vegetation to be removed and the native vegetation to be retained” (DEPI 2013).

Consideration of whether the extent of impact to native vegetation in Royal Park is justified requires consideration of the following:

* The alternative locations/routes looked at prior to selection of a route that resulted in an alignment through Royal Park; and
* The extent of the footprint within Royal Park.

As discussed in Chapter 2, three broad corridors for this Project were identified as part of the options analysis undertaken for the business case, and were evaluated against goals for the Project that included to:

* Facilitate development of an integrated and efficient transport network;
* Achieve an economic and financially viable solution;
* Protect natural and cultural resources and enhance the environment; and
* Support sustainable communities and land use patterns.

Section 4.1 of the CIS gives a very high level description of the justification for selection of the Alexandra Parade Corridor. However it is not clear to what extent the protection of natural resources or enhancement of the natural environment were considered in the determination of this preferred corridor, and thus the Reference Project.

The CIS did however make clear that within the Proposed Project Boundary, the majority of native vegetation that would potentially be impacted occurred within Precinct 3, in Royal Park.

In relation to the footprint of the Project in Royal Park, there were two main issues that will determine the extent of impacts to native vegetation:

* The existence, design, and location of the Elliott Avenue interchange and the Western portals; and
* The proposed location and extent of both the permanent and temporary works areas during the construction period.

In relation to the Elliott Avenue interchange area, according to the Reference Project, the Project would impact around 8 to 10 Medium to Large Old Trees, and around 60 Small Trees, as well as another non-indigenous but hollow-bearing trees. There was extensive debate and evidence presented regarding the design of this element. The debate focussed on whether the interchange was required, as well as the design and location. The degree to which the removal of native vegetation can be avoided will largely depend on the location and final design of this element. In the CIS, calculations associated with elements such as the Elliott Avenue Interchange, are presented according to the “Best case scenario – which assumed that all native vegetation within the areas marked as ‘**permanent works**’ would be removed (i.e. and represents a minimum loss of native vegetation)”.

The factor that appears to have the greatest bearing on the amount of native vegetation removed according to the Reference Project, is the area required for temporary construction and laydown areas, termed in the CIS as the “Worst case scenario – which assumed all native vegetation within the permanent works area as well as the laydown and **temporary works** areas will be removed”.

In Royal Park, in relation to the extent of vegetation removal associated with permanent and temporary works areas, it is noted that 88% of the scattered trees proposed for removal are associated with temporary works areas. Only 11 trees are located in permanent works areas, the remaining 82 are located within temporary works areas.

There are obvious benefits of avoiding and or minimising impacts on any area that have ecological values. In areas that are purely required for temporary convenience of the Project (e.g., a construction laydown area) it is considered important to avoid and or at least minimise impacts on areas of ecological value. Such areas included in the project boundary that hold intrinsic ecological value and therefore fall into this category include the Grassy and Plains Grassy Woodland EVCs, the White’s Skink habitat and the Trin Warren Tam-boore wetlands.

The Committee recommends that the project should avoid the wetland areas and White

The extent of native vegetation to be cleared along Merri Creek is relatively small, and would only be required if the construction area could not be constrained to the area between the existing freeway lanes. If in the final design and determination of construction footprint, it is determined that this area is required then specific measures (i.e. a Construction Environmental Management Plan, and requirements under the *Conservation, Forests and Lands Act* 1987) should be implemented.

#### Whether the methodology used to define the vegetation and floral diversity, to calculate the potential offset requirements, and the use of the SPPF was appropriate

The Committee is of the view that the assessment related to native vegetation in the CIS was broadly undertaken in accordance with the relevant legislative requirements.

The Committee however, notes the points made by Mr Lane regarding the methodology and approach to the native vegetation assessment in the CIS and that his review revealed that the native vegetation assessment, including the mapping of the remnant patches and scattered trees, and habitat hectare assessment undertaken in the CIS was incomplete. The Committee acknowledges that Mr Lane addressed these matters in his review, and this was presented in his evidence, and that he recommended that an assessment of the five additional River Red-gums that had not been included in the CIS assessment, be surveyed by an ecologist to determine whether they should be included in the final assessment of native vegetation for the Project.

In any case, all parties, including the LMA, agreed that the calculation of offset requirements would need to be revisited upon determination of the final Project footprint.

#### Whether the performance requirements for Native Vegetation are adequate

The ability of the Performance Requirements to protect fauna species and associated habitats is closely aligned to the consideration of native vegetation. For this reason, discussion of these matters will be presented jointly in this part of the Report.

In relation to protection of native vegetation, suggested modifications to the Performance Requirements were put forward by several parties including Mr Patrick and Mr Lane, the City of Yarra, and the City of Melbourne.

The Committee has considered the Performance Requirements as put forward by the LMA, and also the suggested amendments, with the aim being to ensure that the performance objectives listed above are attained. The final recommended performance requirements are presented in Appendix E.

Specific reasons as to why suggested amendments are supported or otherwise are outlined below.

In relation to the Performance Requirements listed under B1 regarding “fencing defined protected areas and no go zones along the banks of the Merri Creek and within Royal Park including protection of scattered native trees to prevent access during construction”, the Committee does not see it as necessary to list all areas that are to be protected, but that in the final design layout all protected areas and no go zones are defined. Protected areas and no go zones may well include the Australian Native Garden, the remnant Grassy Woodland EVC, and the White’s Skink habitat site, but they may also include other areas. It will then be paramount that protected areas and no go zones are clearly identified in the Environmental Management Plans to be implemented by the LMA/Contractor.

The Committee agree with the recommendations from the City of Melbourne as below:

* Development and implementation of a Tree Management Plan for protected Trees based on the recommendations of *Australian Standard 4970-2009 Protection of Trees on Development;* and
* New and replacement plantings of indigenous plantings of indigenous vegetation in Royal Park, where practicable, is to use nursery stock of local provenance.

In relation to the proposed amendment, “Cut and cover construction must not be used for the Main tunnel in Royal Park east of the Upfield Rail Line, and to the minimum level possible in the western area of Royal Park”, the Committee has made comments regarding this matter in Chapter 6.

In relation to the City of Yarra suggestion regarding B1, the Committee disagreed with the suggested word change from “Minimising” to “Avoiding footprint and surface disturbance of temporary and permanent works”, as this is not achievable.

The following suggestions from the Yarra City Council are supported in part:

* To add “Fencing should be to a standard agreed with the relevant land manager” to Fencing of Protected areas dot point;
* Managing the spread and introduction of weeds and pathogens … “including through vehicle hygiene”;
* Reinstating affected areas …“in consultation with local Council”, although this can be combined with suggestions from the City of Melbourne regarding provenance of the source of plant stock for rehabilitation works.

In relation to B2, the City of Melbourne suggested the following change which was not supported by the Committee, “The City of Melbourne must be compensated for the loss of any trees in accordance with Council’s tree amenity value assessments”. As stated previously, this is something to be negotiated between the LMA and the City of Melbourne. The following changes are however supported by the Committee:

* Provide vegetation offsets …“The location of any offsets works should be as near as possible to the area where the loss has occurred”; and
* Where works will result in loss or partial loss of the Trim Warren Tam-boore wetlands “complex”, provide a comparable wetland habitat to compensate for the loss.

The Committee agrees with the change to B2 from the City of Yarra, that “Offsets must be defined before construction commences, and in consultation and to the satisfaction of local council” (Note - this is now required according to the BAGs (DEPI 2013)).

In relation to B3, the Committee accepts the change put forward by Mr Lane that the design of “project structures”, instead of ‘bridge widening’, over Merri Creek “and Moonee Ponds Creek” to minimise additional shading of waterways and select appropriate species for vegetation planting along the waterways under new road structures”. This is now presented as B4 in the Performance Requirements.

In relation to the exhibited B4, the Committee accepts the change put forward by Mr Lane that:

* *Reflect that the Trin Warren Tam-Boore Wetlands and White’s Skink habitat at western end of tunnel are priorities for minimisation and therefore require the retention of at least 50% of each and reinstatement through offsetting (PowerPoint last slide);*

The City of Melbourne suggested a range of changes to the exhibited B4 in relation to the White’s Skink habitat. Apart from minimising the removal of habitat, the Committee does not accept these changes as they contain a level of detail inappropriate for the Performance Requirements.

The final suggested change “*All Flora and Fauna Guarantee Act listed wildlife recorded in Royal Park must be protected. A plan indicating how this will be achieved must be prepared to the satisfaction of the City Of Melbourne*”, is supported in principle, but the Committee suggests wording should be similar to Performance requirements for EPBC-listed species, (i.e. “*Minimising* footprint and surface disturbance to foraging habitat for Swift Parrot and Grey-headed Flying-fox”).

The following changes were suggested by the City of Yarra in relation to B4 (the Committee’s new B5), mostly involving the use of the term ‘avoid’ rather than ‘minimise. The Committee has not accepted these suggestions.

* Develop and implement measures to minimise avoid impacts on native vegetation and fauna habitat in Royal Park, including:
* Temporary works and permanent structures to “*avoid*” removal of remnant vegetation in areas surrounding Upfield railway line and Trin Warren Tam-boore wetlands;
* “*Avoiding*” the removal of aquatic habitat at Trin Warren Tam-Boore wetlands *which requires the retention of at least 50% of the species and reinstatement through offsetting, and Merri Creek*;
* Temporary and permanent works to “*avoid*” removal of scattered remnant trees and non-indigenous hollow bearing trees throughout Royal Park, particularly around Elliott Avenue, avoiding the following trees: [insert list of trees];
* “*Avoiding*” footprint and surface disturbance to foraging habitat for Swift Parrot and Grey-headed Flying-Fox;
* “*Avoiding*” removal of habitat for White’s Skink *which requires the retention of at least 50% of the species and reinstatement through offsetting*; and
* *Establishing and maintaining appropriate screening and light baffling for the White’s Skink habitat*.

### Findings

The Committee considers the large construction footprint within the Proposed Project Boundary in Royal Park cannot be justified. The Elliott Avenue interchange should be designed to minimise the removal of native vegetation, particularly scattered trees that hold habitat value to fauna. The potential impacts associated of the Project on Merri Creek are acceptable if works are constrained to the central median of the Eastern Freeway.

The Committee is satisfied that the CIS has broadly addressed matters of native vegetation assessment, and considers that the evidence statement of Mr Lane advances the assessment. The evidence statement from Mr Lane provided proposed amendments to the approach used in the CIS, which the Committee agree should be adopted. The additional assessment undertaken by Mr Lane as part of his evidence should be used by the LMA and provided to the project contractor to be used as a key reference document.

In relation to the calculation of offsets, these should be revised based on:

* The updated approach outlined in the BAGs (DEPI 2013);
* The evidence of Mr Lane whereby offsets should be recalculated following the results of this revised assessment; and
* Following the development of a final development footprint.

Based on this revised assessment, consideration should be made of any flora species, or vegetation communities that may subsequently be affected.

The five additional scattered remnant River Red-gums between Racecourse Road and Macaulay Road on the western side of the Moonee Ponds Creek should be surveyed by an ecologist to determine whether they should be included in the final impact assessment of native vegetation for the Project.

In relation to the concerns raised by Dr Nick Williams from the University of Melbourne regarding the potentially incorrect botanical classification and description; this goes to the EPBC Act referral status of the project and is an issue more appropriately addressed with the Commonwealth Government. The LMA should consider discussing it further with Dr Williams and seeking further Commonwealth advice if necessary.

In regard to the biodiversity values of Royal Park, the Committee acknowledges that:

* Consistent with the latest approach to native vegetation removal applications, offsets should ensure that there is no net loss to the contribution made by native vegetation to the state’s biodiversity; and
* While some fauna are likely to be displaced by the removal of trees with hollows, impacts on state and nationally threatened fauna are not considered to be significant.

The Committee considers the recommended Performance Requirements in Appendix E are adequate to address potential impacts on native vegetation.

## Impacts on Fauna Species and Associated Habitats

### Introduction

The CIS stated that the area within the Proposed Project Boundary is a “highly modified urban environment that for the majority of its length contains insignificant ecological values”, and therefore offers limited values to native fauna and their associated habitat requirements.

However, the CIS further stated that “three local areas support ecological values, albeit in a modified state, these areas being Royal Park, the Moonee Ponds and the Merri Creeks”. The CIS mentioned the Trin Warren Tam-boore wetlands and stated that the wetlands provide habitat for a number of common native fauna species. The contribution that these areas make to fauna habitat values is discussed below.

The fauna species documented by GHD were presented in the Appendices to the CIS chapter. No FFG Act-listed fauna species were detected during the site assessments by PB (2013) or during the GHD site visit in June 2013.

The following overview provides a summary of potential impacts in each of the relevant precincts. The CIS states that these potential impacts may be reduced depending on the final construction footprint, and construction laydown and temporary works areas.

#### Precinct 1: Hoddle Street (Eastern Portal)

If vegetation in this area were to be removed as discussed in Chapter 13.2, the CIS stated that the native vegetation in areas adjacent to existing carriageways contains fauna habitat, whilst vegetation within the median strip has insignificant ecological value. Table 7 of Technical Appendix O stated that habitat and foraging resources exist within the northern and southern road reserves in areas mapped within EVCs 895, 55 and 56. Wildlife habitat exists within these patches and would provide habitat for common urban-adapted native birds, reptiles and widespread native mammal species (i.e. Common Ringtail and Common Brushtail Possums). However, the CIS noted that removal of this habitat would be expected to result in an insignificant loss of foraging habitat for the Swift Parrot and Grey-headed Flying-fox, which are listed under the FFG Act.

The CIS noted that Merri Creek provides in-stream habitat for a range of common and threatened aquatic mammals (platypus and native water rat), aquatic invertebrates, and fish resident species as well as those undertaking upstream or downstream migrations. It is an important tributary of the Yarra River, with connectivity to upstream reaches of the Yarra River important through this area as it presents habitat for migratory fish species, including several common (i.e. short-finned eel, several galaxias fish species).

The CIS also stated that areas of aquatic and riparian vegetation, under the existing freeway crossing of the Merri Creek are relatively denuded due to the shadowing effect of the overpass. The existing rock-beaching and the history of modification and urbanisation have reduced the diversity of in-stream habitat for fauna species. Water quality in Merri Creek is currently categorised as poor (Melbourne Water 2007).

#### Precinct 3: Royal Park (Western Portal)

Vegetation removal for this precinct is discussed in Chapter 13.2.1. The CIS stated that these impacts may result in loss of foraging habitat for the Victorian Temperate Woodland Bird Community in Royal Park, the Swift Parrot and the Grey-headed Flying-fox, which are all listed under the Victorian *Flora and Fauna Guarantee Act* 1988 *(*FFG Act).

The CIS stated that while Royal Park supports most of the remaining ecological values within the Proposed Project Boundary, it has been subjected to extensive human disturbance over the past 100 years (Talbot Shaw 2012).

Precinct 3 provides habitat for common urban adapted native birds and widespread common native mammal species. Hollow-bearing trees in this area provide diurnal or nocturnally active species (i.e. insectivorous bats, arboreal mammals and a range of bird species) with nesting and denning sites. The associated EVCs were discussed in Chapter 13.2. Of note is the:

* Remnant Grassy Woodland (EVC 175) within areas protected as White’s Skink habitat and as small patches of remnant vegetation within Royal Park. A total of 1.15 ha is located within permanent works areas, with an additional 2 ha located in areas where the construction area requirements are yet to be determined. There were 16 Large Old Trees contained within patches of this EVC;

Removal of scattered trees is expected to result in a minor loss of foraging habitat for the Swift Parrot and Grey-headed Flying-fox, and avian species of the FFG-listed *Victorian Temperate Woodland Bird Community* within Royal Park.

The constructed Trin Warren Tam-boore wetlands are located in Precinct 3, the two ponds of which provide water bird habitat, and could support common frog species, and native and/or exotic fish species. The CIS states that should the Trin Warren Tam-boore wetlands be required for construction, a small number of bird species would be displaced to the nearest suitable habitats. It also states that during the operational phase, overhead structures would reduce light and rain penetration to parts of the wetland, which may result in a loss of vegetation cover, aquatic habitat and reduced water quality, impacting aquatic fauna.

#### Precinct 4: (CityLink)

The potential impacts to fauna habitat within this precinct are limited to those associated with the widening of the existing CityLink carriageways, and are similar to that described below for Precinct 5 in relation to potential impacts on the Moonee Ponds Creek.

#### Precinct 5: (Port Connection)

The CIS stated that road widening and the construction of the viaduct structure between Brunswick and Racecourse Roads could result in the reduction of available fauna habitat and foraging resources for common and threatened fauna species along Moonee Ponds Creek. The CIS noted that there is the potential to impact on water quality, and aquatic fauna/fish passage as a result of instream and/or over stream structures.

Moonee Ponds Creek is a highly modified urban creek, which is generally in very poor to moderate condition (PB 2013). However, it provides habitat for a range of common terrestrial and aquatic fauna species, including common water birds and frog species. The concrete lined section could provide passage for a number of migratory fish species, and the non-lined section could provide habitat for a range of freshwater fish species, and also act as a corridor for fish passage. A number of juvenile stages of native fish are likely to migrate upstream via the creek’s vegetated and non-vegetated edges where flows are generally lower (Appendix D to Appendix O of CIS).

### Key Issues

Key issues include:

* Whether potential impacts to these species, and their associated habitat values, particularly threatened fauna species been avoided as far as practicable;
* Whether the CIS adequately described the fauna species and associated habitats within the project area, and correctly identified threatened fauna species; and
* Whether the Performance Requirements protect fauna species and associated habitats.

### Evidence and Submissions

#### Whether potential impacts to these species, and their associated habitat values, particularly threatened fauna species been well defined and avoided as far as practicable

The following comments relate to the entire Project area.

Mr Shears stated the potential fragmentation of Royal Park by this Project will result in the following impacts to fauna and fauna habitats:

* Loss/reduction in canopy cover, specifically the loss of indigenous River Red-gums and other mature trees would take generations to repair, and the effects of soil profiles and future vegetation growth would create a permanent impact across the landscape;
* Reduced genetic diversity, value of local provenance native vegetation. Royal Park contains the only area of remnant grassy woodland EVC (EVC 175) remaining within the City of Melbourne;
* Reduced viability of habitat corridors for dispersal of fauna;
* Loss of fauna habitat for flora and fauna species, particularly the White’s Skink; and
* Increased levels of light pollution in an area that currently has ‘low levels’ of illumination. Further the CIS has not considered the vast impact of light spill from the Project on nocturnal wildlife patterns.

In relation to the White’s Skink, Mr Lane stated that the CIS, PB (2013) recognised the area as supporting a regionally significant population of the species, despite the fact that the species was not listed as threatened under any Commonwealth or state legislation or policy. He noted that the CIS identified the area that supports White’s Skink habitat as a ‘lay down area or temporary works’ area, and that the species habitat is acknowledged although no discussion of impact to the population is provided. In his evidence, he states that based on the proposed works in the area of White’s Skink habitat, it is considered that the population will be impacted negatively through a significant reduction in habitat area (minimum case) or possible total loss of habitat area, depending on the scale of works in this area. Mr Lane recommended that, to the extent practicable, part of the habitat for this regionally significant population, is retained. Where this cannot occur, a “suitable offset area and salvage of White’s Skink from the works area should be considered prior to works, followed by reintroduction of salvaged individuals into new habitat areas created in the area. This will ensure the persistence of this regionally significant population”. A large number of submissions noted the proposed impacts to the habitat area that had been restored for White’s Skink north-west of the Upfield train line within the corridor, and suggest that the species was not given enough weight in the CIS.

A number of submissions question the impacts of noise on local and nearby Zoo kept fauna. Mr Lane stated that while noise impacts had been considered for the project for humans, such considerations do not seem to have been made for fauna. He further stated that “any increased noise from construction or traffic was likely to have an effect on local fauna through potential displacement. It is noted that the proposed corridor occurs mostly in areas that already are exposed to noise impacts from traffic movements, such as the Tullamarine Freeway, Upfield Railway line, Elliot Avenue and the Eastern Freeway. While some local fauna may be displaced due to noise, impacts on threatened fauna are not considered to be significant as none occurs in the affected areas regularly in significant numbers”.

Mr Lane stated that increased noise may also be heard by fauna in the Melbourne Zoo, and that impacts to Zoo fauna were not considered in the CIS. He also stated that the “impacts of traffic noise on Zoo-kept fauna are a matter more appropriately addressed by the management of the Zoo”.

Several submissions noted that local fauna were considered to be exposed to higher levels of light due to traffic and construction works. Mr Lane noted that the “proposed corridor occurs mostly in areas that are already exposed to light impacts from street lighting, including extensive freeway lighting at either end of the project area, as well as lights from vehicle traffic, taller buildings and sport venues. While some local fauna may be displaced due to an increase in local lighting near construction and infrastructure areas, impacts from this on threatened fauna are not considered to be significant as these areas do not regularly support significant numbers of any threatened species.

In relation to loss of waterbird habitat, several submissions regarding the Trin Warren Tam-boore wetlands noted it as a key location in Melbourne to see a diversity of bird species. Mr Lane observed this was noted during the field assessment on the 4 December 2013. While the area was constructed in 2006, *Where to see Birds in Victoria* (2009) names this area as one of the best places for birding in Metropolitan Melbourne. Mr Lane went on to state that the wetlands:

Although supporting a diversity of wetland habitats for waterbirds, from open water to mudflats and densely vegetated wetland margins, are limited in extent and therefore in their capacity to support significant numbers of waterbirds for any length of time. Although a good bird watching location, the wetlands are unlikely to support significant numbers of any threatened species on a regular basis and, therefore, are unlikely to make a significant contribution to the population of any threatened species.

Mr Lane stated that as their loss is more likely to be temporary (provided it proves feasible to replace them after construction is completed), no long term impact on their role in treating stormwater, or providing habitat for waterbirds is anticipated. He further stated that:

The wetlands have been in existence for less than ten years, and that were any area of the Trin Warren Tam-boore wetlands be removed, and it is technically feasible, consideration should be given to reconstructing similar wetland habitats in order to provide a venue close to Melbourne where a comparable diversity of waterbirds can readily be observed. The performance requirements of Performance Objective B2 and B4 were modified in his report to include the above recommendation. In the case that the wetlands or part of the wetlands can be retained, a small amount of shading may occur from the proposed flyovers in this area. Given the wetlands occur to the north of the northern proposed flyover, only a small proportion of the wetlands would be shaded for a short part of the day, with such shading being even less pronounced in winter. The impacts from such minimal shading are unlikely to significantly impact on the ecology of the wetlands.

In its opening submission (Document 23), the LMA stated that it recognised that the Trin Warren Tam-boore Wetlands “are a valued resource of the City of Melbourne (and of members of the public), and that it is important that the Project’s impacts on the wetlands be minimised”.

The CCG stated that “In relation to the Trin Warren Tam-boore wetlands it is submitted that these provide a number of environmental roles, the RPPG/PPLV submit that they should be protected from any of the impacts of the proposal”.

Many written submissions discussed potential impacts to aquatic fauna in relevant waterways, and stated concerns regarding the potential shading of the aquatic habitats for fish and other aquatic fauna in both the Moonee Ponds and Merri Creeks. Submitters mentioned platypus in Merri Creek, and potential impacts to their foraging and denning habitat. In this regard, Mr Lane stated that there are:

“Several records of platypus in the vicinity of the confluence of Merri Creek and Yarra River, the most recent from 2000 near the Chandler Hwy exit of the Eastern Freeway and the closest at Dights Falls in 1970. While this species is not listed under any Commonwealth or state legislation or policy, the species is considered an Australian ‘icon species’ and impacts on this species from the project are considered below. Platypus habitat comprises permanent waters, stable earthen banks consolidated with tree roots overhanging the water and abundant micro invertebrates for food. Any action that degrades these features is likely to impact negatively on the species”.

And further:

“Given that no in-stream works were proposed for the project where it crosses the Merri Creek it is considered that there will be no direct impacts on platypus or their habitat in the Merri Creek from the project. However, the Platypus is sensitive to human disturbance and construction works in this area are likely to disturb any platypus in the immediate area. Construction will result in increased activity near creek banks by personnel, increased vehicle movements, and a consequent increase in noise. This disturbance is considered to be a temporary impact during daytime works periods and platypus activity in the Merri Creek (which is mostly crepuscular and nocturnal) is likely to return to its current situation once works are complete, either at night or post-construction. Provided that all works near the creek are undertaken consistent with best practice construction environmental management standards, and having regard to the temporary nature of the disturbance from construction, it is considered that there will be no significant medium or long-term impacts on Platypus and their population in the Merri Creek”.

The City of Moonee Valley stated that the Moonee Valley Open Space Strategy 2009 (Open Space Strategy) is a reference document in the Planning Scheme, the long term vision in the strategy is “A linked, sustainable and accessible system of quality open space well used by Moonee Valley’s diverse community, comprising the waterway corridors that are highly valued for their native habitat and recreational use”.

Many written submissions raised the potential loss of vegetation along the western bank of the Moonee Ponds Creek, near Macaulay Road.

Mr Lane stated that shading of Moonee Ponds Creek and the potential impacts on fish and other aquatic fauna behaviour is discussed in the CIS, and found that the impact on aquatic fauna would represent a low risk to this biota given the already highly degraded nature of the creek and the fact that a significant proportion of the affected reaches are already partially shaded by the Western Link component of City Link. Mr Lane stated that the results of this assessment were considered appropriate and agreed that the impacts on aquatic fauna in the Moonee Ponds Creek would be low. Furthermore, he stated that impacts on threatened aquatic fauna had been appropriately dealt with in the CIS.

Mr Lane agreed with the assessment in the CIS of potential impacts to fish passage and aquatic habitat concluded that if present, mudfish would utilise aquatic and emergent vegetation at the sides of the creek to enable their migration through the lower part of Moonee Ponds Creek (i.e. Precincts 3, 4 and 5). A large proportion of Moonee Ponds Creek within the Project Area is concrete lined with little to no aquatic vegetation or habitat and such modifications already pose a barrier to fish passage (Biosis Research 2009).

In his evidence, Mr Lane stated that while three scattered remnant trees were recorded and mapped in the GHD report in this area, remaining trees along the western bank were considered to have been planted for amenity/aesthetic purposes. This is supported by the linear arrangement of trees along the bank. Impacts to these trees had not been considered in the GHD report as these trees do not trigger a permit requirement unlike the remnant scattered trees nearby. He agreed with the classification of these trees as planted, and that their loss will be of local consequence for common, urban-adapted fauna such as birds. No threatened fauna species is likely to utilise these trees as habitat in significant numbers or on a regular basis so the loss will not be of consequence for threatened fauna at a population scale.

He also stated that the Project had the potential to limit the value of the Moonee Ponds Creek as a fauna corridor, if projects that restored the waterway were implemented in the future, and that the Project would not have a significant impact on current landscape scale habitat connectivity (i.e. along Moonee Ponds Creek), as habitat connectivity was very limited beyond Royal Park.

The following generic statement was made in a proforma submission from 33 parties -

Moonee Ponds Creek is already overshadowed by CityLink, and the proposed elevated tollway (which will include two traffic lanes in each direction plus emergency stopping lanes) will compound this. This will result in a likely reduction in vegetative cover and bank stability and the potential to increase erosion within the waterway and adjacent floodplain, thereby reducing the overall health of the creek and increasing the risk of flooding to adjacent properties.

#### Whether the CIS adequately described the fauna species and associated habitats within the project area, and correctly identified threatened fauna species

The following comments relate to the entire Project.

Mr Shears does not make specific comment regarding fauna species and their associated habitats other than that which has already been included in relation to protection of native vegetation broadly. No further comments are made here.

In addition to the comments regarding native vegetation, Mr Lane stated that the databases and information sought for the desktop assessment was considered to be sufficient, with the exception that Eremaea Birdlines (a site maintained by Birdlife Australia) should have been referenced. He stated that considerable field survey effort was undertaken to inform the conclusions documented in the flora and fauna assessment (GHD 2013). The survey effort was appropriate to ascertain the extent of vegetation communities and fauna habitats in the Proposed Project Boundary, and was sufficient to make an appropriate assessment on the suitability of habitats for threatened flora and fauna in the available data bases. A small number of threatened wetland species were not considered in the CIS assessment, but these had been included in his evidence statement. The potential impacts on them were not considered to be significant.

In his evidence, Mr Lane stated that given the range of survey timing undertaken in the preliminary flora and fauna assessment (early and late autumn, and mid spring), he considered the survey timing sufficient to ascertain the extent of vegetation communities and fauna habitats in the Project corridor. He responded that although it was not clearly stated in the reports, field work was undertaken in both winter and spring for both the PB (2013), and CIS documents. This timing was considered sufficient to make an appropriate assessment on the suitability of habitats for threatened flora and fauna. The bulk of the Project area comprises extensive artificial, modified and urbanised areas that are not habitat for significant flora or fauna species. In this context, the duration of the surveys was considered adequate to document vegetation types (EVC’s), to perform habitat hectare assessments, to document scattered trees and to assess habitats for the likelihood of occurrence of the short-listed threatened species.

As discussed, previously Mr Lane stated that the resources utilised in the PB assessment to inform the preparation of lists of threatened species with potential to occur in the study area (Section 2.4 of the PB Report) are considered to be sufficient. The lists prepared utilised the usual sources of information on publicly available biodiversity databases from the Commonwealth and State governments (as well as additional information available from Birdlife Australia). The threatened species lists were appropriately screened by PB, documenting the most recent records for each species as well as providing information on the habitats for which the species occurs.

Mr Lane agreed with the summation in the CIS that through the application of the discussion provided in the significance assessments for EPBC Act listed species, the Project is unlikely to significantly impact on threatened species or communities listed under the FFG Act. Mr Lane stated that on review of the DEPI listed species, he considered that no DEPI listed species will be significantly impacted by the Project.

In relation to comments from the City of Melbourne regarding the paucity of bird data presented, Mr Lane acknowledged that species not listed in public data bases were sometimes overlooked. He concluded however that the extent or quality of wetland habitat present in Royal Park is not considered to make a significant contribution to the species’ population at a state or national scale.

Ms Pepper (Submission 114) and Mr Lester (Submission 321) also questioned the thoroughness of the assessment of avifauna values. Mr Lane stated that the majority of the species on this list had been dealt with appropriately in the CIS/PB (2013). The exception to this being the Common Sandpiper and Australian Painted Snipe, which had been discounted from the assessment in the PB report (2013). Mr Lane stated that these two species should not have been excluded from consideration, as they do occasionally occur inland on other aquatic habitats. The likelihood of occurrence should be listed as ‘Recorded’, given that this species has one record in the affected area, although it is unlikely to be a regular visitor to the area.

The submission of Ms Thomas (Submission 308) made comment regarding potential impacts to bats in Royal Park. Mr Lane assessed the likely microbat and larger frugivorous bat species that might occur within the Project area, which included the Eastern Bent Wing Bat, Gould’s Wattled Bat, and the Grey-headed Flying Fox, and stated that the Project was unlikely to significantly impact upon these species.

The submission of Mr Murtagh (Submission 691) noted that that the CIS demonstrated a lack of assessment of invertebrates, notably the Golden Sun Moth. Mr Lane dismissed this matter, stating that this species was considered in the preliminary assessment (PB 2013), “that the habitats affected by the Project were unlikely to form habitat for this species, and that the Project area was neither near to nor connected with known habitats for this species”.

Mr Lane stated that the White’s Skink habitat area and Trin Warren Tam-boore wetlands had higher biodiversity value that some other areas of the Park. Mr Lane considered these to be of value as spatially highly limited habitats within Royal Park and with respect to White’s Skink, constituted a remnant population of regional significance within Melbourne.

#### Whether the Performance Requirements protect fauna species and associated habitats

In his evidence, Mr Lane stated that the areas associated with the Trin Warren Tam-boore wetlands and the White’s Skink habitat area should be clearly delineated to exclude construction impacts in these sensitive areas. He and Mr Shears was agreed that the Habitat Protection area proposed in Appendix 4 to the City of Melbourne’s submission, if subject to a Management Plan that had agreement from all relevant parties, would ensure retention of sufficient habitat to ensure population continuity for the White’s Skink, by improving the scope for re-establishment of the temporarily disturbed habitat and population after Project Construction had ceased.

Mr Shears, in relation to Term of Reference, 2 (7) (f) “whether the impacts of the project on surface and ground waters have been appropriately addressed”, stated his concern in relation to the functionality of the wetlands (and therefore diversity and longevity of plants), and the potential for shading from the proposed flyovers to permanently affect plant growth, and that in terms of stormwater quality, biodiversity and landscape integrity, it is critical that the wetlands and associated landscape is retained intact and functioning while construction works for the Project are underway. In response Mr Lane suggested the following Performance Requirements be added:

* B1 – to protect biodiversity values – add minimising the removal of planted and remnant native trees along the banks of the Moonee Ponds Creek, to the extent practicable;
* B2 – Provide vegetation offsets *to achieve no net loss* (italics added to original by Mr Lane), as required in accordance with the BAGs:
* Where works are to occur in the White’s Skink habitat area in Royal Park West, undertake salvage of White’s Skink prior to works and create appropriate habitat to compensate for the area of habitat removed; and
* Where works will result in loss/partial loss of the Trin Warren Tam-boore wetlands, provide a comparable wetland habitat to compensate for the loss.

In relation to the degree to which light spill and increased light impacts from the Project will impact fauna species, Mr Shears stated that light impact on biodiversity in Royal Park is considered to be an important factor for fauna and diurnal rhythms, and that light reduction should be an aim for the Project in relevant areas of Royal Park; whilst Mr Lane stated that potentially affected fauna are mostly mobile, urban-adapted species, they would be acclimatised to urban light levels, and that light impacts from the Project were unlikely to significantly affect fauna within the Park. Mr Shears has accordingly requested a modification to the Performance Requirements to reduce light spill throughout the Proposed Project Boundary, Mr Lane agrees that this should only be implemented in the White’s Skink area as a precautionary measure and not in other areas within the Proposed Project Boundary.

The submission from Moonee Valley City Council noted that the Performance Requirements for the Project relevant to biodiversity be revised to include the protection of biodiversity values on the banks of the Moonee Ponds Creek, and to compensate for the removal of vegetation on this area. Mr Lane agreed with this objective. Moonee Valley stated that it was content with Mr Lane’s suggested additions to the Performance Requirements with the addition of “avoid where practicable and otherwise minimise”, rather than going straight to minimise in his last slide first bullet point.

### Discussion

#### Whether potential impacts to these species, and their associated habitat values, particularly threatened fauna species been avoided as far as practicable

With specific regard to impacts to fauna habitat (which is directly related to the potential to impact fauna, including threatened species), it is not evident from the CIS that effort has been made to avoid such impacts as far as practicable. Rather it appears that in relation to the avoidance of removal of native vegetation in Royal Park, in particular scattered trees, the opposite has been put forward. The open space associated with the Ross Straw Field, and the areas of native vegetation surrounding it which include the White’s Skink Habitat area, the remnant Grassy Woodland patch, the Trin Warren Tam-boore wetlands, and the scattered native trees have all been included in the proposed temporary works area. The term ‘temporary’ in this case, is to some degree misleading, as whilst the works areas may be temporary (i.e. during construction which may be up to 7 years), the effects of the impacts to the habitat areas need to be considered on a much longer time scale.

The significant area that has been put forward as potential construction areas and temporary works areas in the Reference design will account for 88% of the scattered trees that need to be removed for the Project. Whilst there are suggested amendments in the performance requirements to replace any vegetation with local provenance plant stock to achieve any offsets as close as possible to the area of impacts, the fact that several Large and Medium Old Trees (some of which have developed hollows) will be removed will have an impact on the local fauna that utilise these assets in Royal Park for foraging, nesting, roosting and denning habitats.

It would take many years for the replacement vegetation to become substantial enough to provide a similar level of resources, given that it can take between 70 to 100 years for many trees to develop hollows.

In relation to any construction activities associated within the Merri Creek environs, these would align with the Project commitments of the EPBC referral (as stated in the CIS), which included the following:

* No works are to be undertaken in the Merri Creek waterway. Bridge piers would be sited outside of the waterway area and no earthworks would spill onto the creek banks or into the waterway; and
* Construction would be managed so that there are no off-site impacts to the water quality within Merri Creek and the Yarra River. Best practice sediment and erosion control measures and appropriate handling of construction materials to be incorporated into the Environmental management requirements.

A similar approach to any proposed works associated with the Moonee Ponds Creek should be adopted.

#### Whether the CIS adequately described the fauna species and associated habitats within the project area, and correctly identified threatened fauna species

The Committee is satisfied that the appropriate methodology undertaken to describe fauna species, and utilisation of relevant habitats within the Proposed Project Boundary, was broadly adequate. The Committee acknowledges the thorough review by Mr Lane that considered the relevant databases, the PB report (2013), relevant submissions, and the CIS. The Committee notes that whilst there are some issues of dispute as to these afore-mentioned elements, the broad conclusions from Mr Lane’s evidence “The assessment of threatened species and communities undertaken for the project (PB 2013) is considered to have been undertaken using the correct process, the results of which were confirmed by BL&A. Additional detail provided by BL&A on threatened species and communities leads to conclusions not inconsistent with the conclusions drawn in the initial assessment report”. The Committee considers that Mr Lane’s evidence adds credibility to the CIS documentation, and should be considered as a preferred document in relation to the assessment of biodiversity values, in particular those related to fauna and habitat values.

#### Whether the Performance Requirements protect fauna species and associated habitats

The Performance Requirements for fauna and associated fauna habitats are addressed in Chapter 13.2.4 (iii) of this report.

### Findings

The Committee is satisfied that the CIS has broadly addressed the matters in relation to fauna and associated habitats, but considers that the proposed amendments in the evidence statement by Mr Lane be adopted, and further that the Evidence Statement be used as a key reference document by the LMA and contractor during detailed project design and development.

As per the recommendations given in Chapter 13.2.5 (ii), based on a revision whereby offsets should be recalculated following the results of Mr Lane’s revised assessment, and following the development of a final development footprint, consideration should be made of any fauna species, or associated habitats that may be affected.

According to the discussions raised in Chapter 13.2.4 (iii), and the final recommended amendments to the Performance Requirements in Appendix E, the performance requirements would be considered adequate for protection of fauna species and associated habitats.

## Applicable Approvals

The Committee turned its mind to the Applicable Approvals relevant to the removal of native vegetation, that being Planning Scheme Amendment GC2 to allow removal of native vegetation under sections 8, 29 and 35 of the *Planning and Environment Act* 1987. Subject to the adoption of the recommendations of the Committee, including the Performance Requirements, the Committee considers it appropriate that this Approval be granted.

In relation to the Applicable Approval relevant to the protection of fauna species and associated habitats, that being a ‘Request for comment from the Secretary of the DEPI regarding the construction of dams, weirs or other structures in or across waterways which potentially interfere with the passage of fish or the quality of aquatic habitat under s66 of the *Conservation, Forests and Lands Act* 1987’, this Approval is only relevant for the Moonee Ponds Creek. The CIS stated that the aquatic ecology fish passage investigation “*was only undertaken for Moonee Ponds Creek as no in- stream structures are planned for Merri Creek. A ‘low’ risk rating was assigned for Merri Creek based on the potential for shading to lead to behavioural impedance to fish passage*".

The Committee has recommended that Part B be set aside, so comment from the Secretary of DEPI in relation to works across waterways is not required. If that recommendation is not accepted, subject to the adoption of its primary recommendations, including the Performance Requirements, it is appropriate that the Applicable Approval under s66 of the *Conservation, Forests and Lands Act*1987 be granted.

# Solid Waste and Contamination

## Introduction

### Terms of Reference and Applicable Approvals

In addition to its overarching tasks of assessing the CIS and evaluating all applicable law criteria for applicable law approvals, Part 7(h) of the Committee’s Terms of Reference includes the following ‘*Public Hearing Matter’* relating to visual impacts and the Urban Design Framework:

Whether the risk from disturbance and disposal of solid wastes has been appropriately addressed.

The CIS states that while no applicable approvals are required in relation to contamination, the contractor would be required to comply with the relevant legislation, guidelines and policies governing these matters in Victoria.

### Conclusion of the CIS

In regard to contamination, Chapter 14 of the CIS, *‘Groundwater and contamination’* concluded that during construction the Project would interact directly with the groundwater environment in Precincts 1, 2 and 3 and that contaminated groundwater from the former Fitzroy Gasworks could potentially enter the tunnel in Precinct 2 and impact on the cut and cover works at the western end of Precinct 1:

While these potential impacts pose a significant risk to the groundwater environment, they are not uncommon for tunnelling projects undertaken in urban settings. These impacts have been managed successfully in many other tunnelling projects, including major road projects in Melbourne.

Identified risks can be managed through the rigorous performance requirements outlined in Section 13.3 Technical Appendix L CIS. Minimising these risks should result in a low overall impact to the groundwater environment.

In particular, a tanked tunnel design, the use of recognised tunnel construction methods and pre-construction groundwater modelling would minimise disturbance to the groundwater environment. These methods would also be effective in managing other risks such as subsidence and the activation of potential acid sulfate soils.

While some potential impacts on human health from the excavation of contaminated soil and rock have been identified, these could be managed through sound construction practices and control measures.

Other than the Fitzroy Gasworks site, the presence of contaminated soils has not been confirmed. However, further investigation and assessment would be undertaken by the contractor prior to construction to characterise soil and rock material present within the study area. This would assist in identifying contamination, assessing if a risk of contaminated material being exposed exists and, if so, determining the most practicable and feasible approach to mitigate this risk.

### Objectives and Performance Requirements

The CIS contains evaluation objectives (set by the Scoping Directions) for Contaminated Land and Hazardous Materials:

* To minimise risks from disturbance and disposal of solid wastes from excavation works, including potentially contaminated materials and acid sulfate soils;
* To maintain the functions and values of affected waterways, floodplains and groundwater; and
* To minimise risks from disturbance and disposal of solid wastes from excavation works, including potentially contaminated materials and acid sulphate soils.

There are three corresponding Contamination Performance Objectives in the CIS:

* To protect the beneficial uses of land and minimise risk to human health and ecosystems from exposure to contaminated soil;
* To minimise odour from the excavation and transportation of contaminated material to protect local amenity; and
* To manage all wastes from the construction and operation of the project.

The CIS includes the following Hazardous Material Performance Objective:

* To protect the beneficial uses of air, land and water, and human ecological health, from the impacts of hazardous materials and dangerous goods.

An extensive list of Performance Requirements is specified in Chapter 14-2 of the CIS (Table 7-7) to meet these Performance Objectives. The CIS stated that it “*would be up to the contractor(s) to determine the best approach to meeting the performance requirements, subject to legislative and other requirements*”.

### Contamination and Solid Waste Issues

The Committee heard contamination and solid waste evidence from the following expert:

* Dr Peter Nadebaum of GHD for the LMA;

There was no conclave on contamination.

Based on its consideration of the evidence and written and verbal submissions and evidence relevant to its Terms of Reference relating to contamination and solid waste issues, the Committee has grouped its assessment under the following headings:

* Contamination Issues; and
* Solid Waste Issues

## Contamination Issues

### Introduction

The CIS identified that the potential for contaminated soil varies for each Precinct and discusses the issues on that basis.

The Scoping Directions for the CIS in relation to contaminated land establishes the following evaluation objective for the assessment:

To minimise risks from disturbance and disposal of solid wastes from excavation works, including potentially contaminated materials and acid sulphate soils.

The key risks identified for assessment were the impacts associated with waste solid materials from excavation works, including those arising from off-site disposal of any acid sulphate soils or potentially contaminated materials.

The CIS was developed to identify the occurrence of acid sulfate soils, contaminated soil, landfills and other potential sources of contaminated materials in the project area, identify volumes and characteristics of waste materials to be excavated and to identify suitable off-site disposal options for waste materials. The identification of any potential or proposed measures to minimise the disturbance and need for off-site disposal of any acid sulfate soils and potentially contaminated materials was also required.

### Key Issues

The Committee has identified that the key issues in relation to the disturbance and removal of contaminated soil are:

* Removal of volatile organic compounds (VOC) contaminated soil in the vicinity of the Fitzroy Gasworks Site during tunnel construction (Precincts 1 and 2);
* Disturbance and removal of asbestos contaminated soil during cut and cover operations in Royal Park (Precinct 3);
* Presence of old landfills near the Ormond Rd/Brunswick Rd off ramp (Precinct 4); and
* The presence of old industrial sites adjacent to the proposed alignment for Part B (Precinct 5).

The potential for encountering the presence of soil contaminated with pathogens during tunnel construction under the Melbourne General Cemetery was raised as a potential issue in the CIS Technical Appendix N. Further assessment undertaken subsequent to the finalisation of the CIS and referred to in the evidence of Dr Nadebaum, indicated that there are no pathogens at levels that would pose a health risk to either tunnel construction workers or the general public. The Committee accepts this evidence and does not consider this form of contamination to be a significant issue for the Project.

### Submissions and Evidence

The Committee received evidence on contamination issues from Dr Nadebaum of GHD, on behalf of LMA. A submission was received from EPA Victoria.

### Discussion

The relevant legislation that applies to the identification, assessment and management of contaminated land in Victoria includes:

* SEPP (Prevention and Management of Contaminated Land) as amended August 2013;
* Contaminated Land NEPM;
* Worksafe OHS Asbestos Regulations;
* EPA Industrial Waste Management Policy; and
* EPA Guidelines for the Management of Acid Sulfate Soils.

The SEPP requires that:

Any decision which has the effect of allowing a use or development of a site to occur, consistent with the Planning and Environment Act 1987, will be made having regard to:

* Any contamination of land at the site and any significant effects that contamination may have on any proposed use or development;
* The potential for any use or development to contaminate land; and
* The need to impose any conditions necessary for the prevention of contamination of land or the ongoing management of existing contamination of land.

#### Precincts 1 and 2

The key issue in Precinct 1 is the removal of contaminated soil during the tunnel construction near the former Fitzroy Gasworks site. The contamination is due to removal of soil that has been in contact with groundwater contaminated with VOC, coal tar and PAHs from the former gasworks site. The presence of contaminated soil has been confirmed in an Audit conducted by URS in 2011 and has been identified to be widespread in fill material and natural clay. The Gasworks site is currently the subject of a clean-up notice issued by EPA.

The CIS, Technical Appendix N, p38, states that:

The construction of the eastern portal, including road widening, open cut, cut and cover, and tunnelling has potential to intercept contaminated soil, rock and groundwater caused by sources detailed in Table 11, which may pose a risk to human health and the environment. The construction works may require excavation of contaminated soils and rock, as well as dewatering of contaminated groundwater, which may represent a risk to construction workers by one of the following pathways:

* Contact with skin,
* Ingestion of contaminated soil, rock and/or water, and
* Inhalation of components and contaminated dust.

The overall risk ranking for this contamination in the CIS was ‘high’. The CIS recommended that further investigation is required to determine the extent of contamination.

The CIS identified that construction of the tunnel in Precincts 1 and 2 will be delivered by a combination of tunnel boring and cut and cover methods. The CIS identified (p41, Technical Appendix N) that:

Excavation of contaminated soil, rock and groundwater during cut and cover works has the potential to release air pollutants. Air pollutants of potential concern derived from the former Fitzroy Gasworks include VOCs, polycyclic aromatic hydrocarbons (PAHs), sulphur compounds, hydrogen cyanide and dust. Asbestos-impacted soils may also be encountered during the excavation works. All these compounds would need to be monitored during cut and cover construction works.

In addition to the requirement to protect beneficial uses of land, the SEPP requires that land must be managed to protect any beneficial use designated under any State environment protection policy as protected in any other segment, or element of the environment. This includes the SEPP (Air Quality Management). The release of any air pollutants through construction activities in Precincts 1 and 2 must be managed in accordance with the requirements of the SEPP (AQM).

Many of these substances are highly toxic and known to cause cancer in humans (NEPM (ASC), SEPP (AQM), WHO, 2000). The location of the potential cut and cover area and its proximity to the densely populated area at the eastern end of the tunnel increases the potential of exposure of the general public to these pollutants. The excavation of soils in this area needs to be carefully managed.

Tunnel boring as opposed to cut and cover methods will reduce the potential for exposure in the local area. All spoil generated through tunnel boring is proposed to be removed through the western end of the tunnel. The Committee considers that any contaminated spoil removed from the tunnel should not be stored in populated areas, and should either be transported for immediate disposal, or to be stored at the former Melbourne Market site which has been identified as a potential laydown area for the Project. Minimising the extent of cut and cover in Alexandra Parade will minimise potential exposure of the local community to contamination and reduce the associated risk. Contaminated soil should not be stored on the former Gasworks site given its proximity to residential areas.

Dr Nadebaum stated that contamination at this site would need to be managed in accordance with a contaminated soil management plan. The Committee supports this intention and notes that Performance Requirement CL1 includes the requirement for the preparation and implementation of a *“Contamination Management Plan, to the satisfaction of the EPA, which includes...”* a number of soil management requirements. Further, the extent of tunnel boring should be maximised to reduce the amount of cut and cover in densely populated parts of Alexandra Parade. This requirement should be included as a Performance Requirement for the Project.

The contamination at this site has been well studied and documented through previous environmental audits. Further detailed site assessment, including assessment of the extent of contamination in the area surrounding the site should be undertaken in accordance with the requirements of the SEPP and NEPM. The delineation and characterisation of the contamination will enable the removal and disposal of contaminated spoil without the need for stockpiling in Ross Straw Field or at the Gasworks site. The site assessment should guide the final alignment and design of the tunnel so that as much of the contamination can be avoided in the construction of the tunnel.

#### Precinct 3

The CIS identified the potential for asbestos contaminated soil being present in Royal Park in the area that has been identified for cut and cover as part of the construction of the western end of the tunnel and the Elliott Avenue interchange. Evidence was given at the Hearing that the area where cut and cover will be used is large, with large areas of potentially contaminated soils being disturbed.

The presence of asbestos contaminated soil has not been confirmed but has been identified through a preliminary site assessment based on historical land uses. Housing was provided during the war in Royal Park. These houses are assumed to have contained asbestos as they were pre-1970’s houses and were demolished after the war, giving rise to potential contamination.

A full detailed site assessment, in accordance with the requirements of the NEPM, must be undertaken prior to any construction works commencing. If asbestos is confirmed, then the impacts must be managed in accordance with the Worksafe regulations. The extent of cut and cover in Royal Park should be minimised to reduce the potential impact arising from disturbance of the contaminated soil to the public using the Park. The extent of tunnel boring through areas identified as being contaminated should be maximised so that the amount of soil disturbed at surface is as low as possible. The contamination, if present, is likely to be close to the surface and is unlikely to be encountered at depth where the tunnel boring would be undertaken. This would minimise the amount of contaminated soil removed during the tunnel construction in this area.

The Worksafe regulations require the limitation of airborne asbestos fibres which is the major exposure pathway (Worksafe OHS Asbestos Regulations 2006, p226). The regulations state that:

An asbestos licence holder performing asbestos removal work must ensure that the asbestos removal work is performed in a manner that, so far as is reasonably practicable eliminates the release of airborne asbestos fibre and prevents the contamination of areas adjacent to the asbestos removal area.

Further the Worksafe regulations require environmental monitoring in surrounding areas if asbestos contamination is identified (Section 4.3.72, p226). Dust control measures must be implemented in all areas where asbestos contamination has been confirmed and soil disturbance for construction works is being undertaken. These measures are required to conform to the Worksafe regulations and will reduce community exposure (both park users and local residents) to potential asbestos contamination.

Environmental monitoring must be conducted in Royal Park for the duration of any cut and cover works if the detailed site assessment confirms the presence of asbestos. Monitoring should be conducted at locations close to the Melbourne Zoo and The Royal Children’s Hospital, as well as areas representative of residential areas of Parkville West and Flemington Road, as well as The Avenue.

Under the requirements of the Worksafe regulations, local residents have to be advised of presence of asbestos, removal works and that monitoring is being undertaken. Given the location of the proposed cut and cover works in Royal Park, in addition to local residents the Zoo and Royal Children’s Hospital should be advised.

The need for environmental monitoring and notification of local communities of the presence of asbestos, removal works and monitoring have been incorporated in the Committee’s Issue-Specific Recommendations in the Executive Summary of this Report..

#### Precinct 4

The preliminary site assessment conducted for the CIS identified the potential for two old landfill sites near the Ormond Road/Brunswick Road on-off ramps adjacent to the Moonee Ponds Creek. These sites were apparent in aerial photos taken in 1960.

Towards the north of Precinct 4 an industrial area was identified in all aerial photographs except 2013 (CIS, Technical Appendix N, p80). This area is situated to the south of Albion Street, just west of Duggan Street, and incorporates approximately 100 square metres of the Proposed Project Boundary.

The demolition of buildings built between 1931 and 1960 are evident in photographs taken in 1972. The demolition of these building raises the potential for the presence of asbestos contaminated soil.

The CIS at Technical Appendix N (p. 82) identified that widening of the CityLink carriageway in this area and the realignment of the Brunswick Road on- ramp has the potential to intercept contaminated soil, rock and groundwater caused by the sources of contamination identified above.

No detailed assessments of these sites have been conducted at this time. If the final alignment of the Project is identified as intersecting with any of these areas, detailed site assessments must be undertaken prior to the commencement of any construction works. If asbestos contamination is identified, then compliance with the Worksafe regulations is required and measured, including environmental monitoring (as discussed for Royal Park), and will need to be implemented.

Detailed site assessments should be undertaken to confirm the presence of old landfills near Ormond Road/Brunswick Road. If these are confirmed, then the extent of contamination beyond the original site boundaries needs to be determined. Detailed site management plans will need to be developed to manage the impacts of old landfill waste and residual contamination.

#### Precinct 5

The preliminary site assessment undertaken as part of the CIS, identified old industrial land adjacent to the CityLink corridor. This land has been the subject of several EPA audits that concluded that the land is unsuitable for residential and other sensitive use redevelopment. This implies that significant levels of contamination have been identified at these sites.

The Proposed Project Boundary in Precinct 5 is very tight as it aligns with the CityLink corridor. The CIS concluded that the contaminated land is outside the Proposed Project Boundary, however from the maps provided in Technical Appendix N, it is clear that these sites abut the Proposed Project Boundary. As the extent of the contamination has not been assessed in the CIS, the nature of the contamination is not confirmed, and the potential of the contamination to migrate into the Project area is unknown. A comment was provided by the LMA at the Hearing that the Proposed Project Boundary is arbitrary and could change with the final design for the Project.

The SEPP states that the site management must take into account the results of any environmental audits. Before any construction activities are undertaken for Part B of the Project, further detailed site assessment must be undertaken in this area. The results of this assessment as well as the results of previous environmental audits should inform the development of a contamination management plan for this area. Strict dust management practices must be implemented during the construction activities to reduce the potential for exposure of local communities to contaminated soil. As far as practicable, the final alignment for Part B of the Project should be chosen to avoid the intersection with contaminated land.

The preliminary site assessment identified old industrial land through Kensington and the Arden-Macaulay urban renewal area. The CIS concluded that these areas are outside the Proposed Project Boundary so further investigation or survey is required. Given that the final alignment and design of the Project has not been confirmed, if there is any change in the Proposed Project Boundary that would extend into these areas, detailed site assessments will be required and contamination management plans developed for this area.

### Findings

Based on information contained in the CIS and evidence provided during the Hearing, it is clear that there is the potential for contaminated soils being intercepted or disturbed during the construction of the Project. With the exception of the Fitzroy Gasworks site, no detailed assessments of contamination have been undertaken. However, the conclusion in the CIS is that the potential risks from these sites are low to medium. Given the identified land use history for these sites, it is difficult to understand how these conclusions have been reached.

It is recommended that complete site investigations be undertaken prior to any excavation of potentially contaminated soil. This includes any old landfill sites and industrial land as well as areas where previous environmental audits have shown land unsuitable for development. All site investigations must be done in accordance with the requirements of the SEPP and the Contaminated Sites NEPM.

In areas where asbestos has been identified, environmental monitoring plans must be developed in accordance with the requirements of the Worksafe Regulations. Community engagement plans must also be developed.

In areas where air pollutants may be released as a result of disturbance of contaminated soil, these impacts must be managed in accordance with the requirements of the SEPP (AQM).

The Committee has recommended that the extent of cut and cover in Alexandra Parade be minimised to reduce the risk of exposure of the local community to contamination arising from the former Fitzroy Gasworks site, and the extent of cut and cover in Royal Park be minimised to avoid the disturbance of asbestos contaminated soil.

It is recommended that the LMA undertake detailed site investigations prior to the excavation of any potentially contaminated soil.

An environmental monitoring and community engagement plans should be developed and it must in accordance with Worksafe Regulations 2007 where asbestos has been identified. The management of air pollutants where these may be released as a results of disturbance of contaminated land the impacts must in accordance with the requirements of SEPP (AQM) is recommended.

Further, it is recommended that the extent of cut and cover construction should be minimised in Alexandra Parade and Royal Park.

## Solid Waste Issues

### Introduction

The relevant scoping directions for solid waste issues include the identification of opportunities for productive re-use of waste materials (in particular, tunnel spoil) in accordance with regulations. The CIS was required to assess capacity issues that could affect either the management of waste on-site or disposal off-site.

### Key Issues

In relation to solid waste the Committee has identified the following key issues:

* Amount of contaminated spoil;
* Location of potential laydown areas;
* Capacity of landfills and treatment facilities capable of accepting contaminated spoil; and
* Traffic movements in local streets.

### Submissions and Evidence

The Committee heard evidence from Dr Nadebaum of GHD, on behalf of LMA. Submissions were heard from the EPA.

### Discussion

The construction of two 4km tunnels will produce a significant amount of spoil that needs to be managed. The CIS has assumed that there will be approximately 2.5 to 3 million cubic metres of spoil material requiring management as a result of the construction of the Project. Not all this spoil will be contaminated. The CIS has assumed that the majority of the spoil will have to be disposed of to landfill due to the lack of reuse opportunities in the Project.

The spoil from the tunnel will have to be stored and tested for classification for disposal. It is proposed that the laydown areas identified in the Proposed Project Boundary will be used for this purpose. This includes Manningham Parklands/ Ross Straw Field, Fitzroy Gasworks site and well as the former Melbourne Market site. Other areas include part of the Moonee Valley Racecourse site and the area around the State Netball and Hockey Centre in Royal Park.

With the exception of the former Melbourne Market site and the Netball and Hockey Centre, all these locations are in or close to residential areas.

Dr Nadebaum calculated that of the total spoil during the from tunnel construction the amount of contaminated spoil that would require disposal to landfill would be of the order of 3,000 to 4,000 square metres. The Committee asked Dr Nadebaum his opinion on the capacity of landfills in Victoria to accept this amount of contaminated spoil, as well as any clean spoil unable to be reused in the Project. In his response (Document 149), Dr Nadebaum identified a number of potential landfills that are in various stages of approval by EPA. The Committee sought the opinion of the EPA on this issue. In response the EPA noted that there were landfills that could accept the waste, but did not identify the number or location of the landfills.

The LMA propose to use Manningham Parklands/Ross Straw Field and surrounding areas for the storage of spoil removed from the tunnel, both clean and contaminated. Spoil would be stored there until transported for disposal or reused in the tunnel construction. The Manningham Parklands/Ross Straw Field was considered appropriate by the LMA as the tunnel boring is planned to commence at the western end of the tunnel adjacent to the Field. The Committee has a number of concerns with regard to the use of Manningham Parklands/Ross Straw Field as a laydown/storage area for spoil.

The Manningham Parklands/Ross Straw Field is located within the residential area of Parkville West, close to both Manningham and Oak Streets. Opposite, are a number of apartment buildings, houses, the Parkville Gardens development, two aged care facilities, child care centres and a kindergarten located in Oak Street.

In their submission, Mr Main and Ms Treleaven (Submission 659), identified a number of sensitive locations within and surrounding the Parkville Gardens estate including:

* Mercy Aged Care facility with up to 100 elderly residents;
* Penguin Childcare Centre (housed in the Estate);
* Thinking Kids Childcare Centre (corner Oak Street and Poplar Street); and
* Elderly Chinese Home.

Dr Nadebaum was questioned by the Committee on his opinion on the suitability of Manningham Parklands/Ross Straw Field for the storage of spoil from the tunnel. His response that the relative isolation of this area makes it suitable for the storage of contaminated spoil. Given its proximity to a number of sites that have of sensitive uses, the Committee finds it difficult to understand how Dr Nadebaum reached this conclusion. When EPA was asked to comment on this, they did not provide a response.

During the Hearing, evidence was heard from a number of parties about the sensitivity of the environment surrounding the Manningham Parklands/Ross Straw Field including the Wetlands and the White’s Skink habitat. Based on the evidence and submissions during the Hearing, the Committee believe that these areas should be protected. Given the proximity of sensitive uses to this area, contaminated spoil should not be stored at this site. If the spoil cannot be tested and classified for disposal in situ, then it should be transported to the Melbourne Market site for storage before ultimate disposal.

If clean spoil is to be stored in the vicinity of Manningham Parklands/Ross Straw Field for potential reuse in the Project, it must be located in a way that does not impact on the White’s Skink habitat or the wetlands. It is recommended that no spoil or construction activities be undertaken within a 25m buffer of these areas. Strict dust management plans must be developed and implemented for the site.

The Fitzroy Gasworks site has been proposed as a potential storage area for contaminated spoil from the cut and cover works in Alexandra Parade. The Gasworks site is in a residential area with townhouses and houses directly opposite on Smith Street. Significantly, the site is located close to the Clifton Hill and St John’s Primary Schools. Given that the contaminated spoil coming from these works contains VOCs and a range of carcinogenic substances, the location of the Gasworks is not suitable for the storage of such material. Any contaminated spoil must be transported directly for disposal or storage at the Melbourne Market site.

Although the Scoping Directions required that the CIS to provide an assessment of capacity issues that could affect either the management of waste on-site or disposal off-site, this was not addressed to any extent in either the CIS or in the evidence of Dr Nadebaum. The EPA did not provide any information to give the Committee confidence that this issue has been adequately considered and addressed. Further assessment of the potential volumes of spoil, both contaminated and clean, that may require disposal and/or treatment, is required to inform the development of the environmental management framework for the Project.

A major issue related to the disposal of spoil is the associated truck movements. This is a significant issue for the Parkville West area if Manningham Parklands/Ross Straw Field is used as the central point for the storage and transportation of waste for disposal. A number of potential routes have been identified that range from construction of a direct link to CityLink to the use of local roads as a transport route. Given that the amount of spoil to be removed is high, the number of associated trucks movements is significant, with numbers of up to four trucks per minute being cited.

The use of local roads has potential significant impacts on the local communities. Diesel trucks under load are a significant source of air pollution and noise. Truck movements at night are likely to cause sleep disturbance due to noise. As previously discussed, the surrounding area has a number of child care and aged care facilities. A large number of truck movements within the local area present a significant safety risk for these vulnerable populations.

Several submitters raised concerns that the use of local streets would lead to the potential closure of local streets to enable truck movements, making it impossible for local residents to access their streets, and therefore limiting of mobility the area. Given that the construction period for the project is a minimum of five years, this would have a significant impact on the quality of life experienced by these residents and may lead to a feeling of isolation. The combined impact of increased air pollution from trucks and noise may lead to adverse impacts on the mental and physical health of this community over this period.

Mr Main and Ms Treleaven (Submission 659) commented that the only through road connecting Parkville West and Parkville Gardens to other parts of Melbourne is Oak and Manningham Streets. They raised concerns that the road will be closed off during the period of construction which would cause significant diversion of traffic to Royal Parade and Brunswick Road leading to massive traffic delays for residents.

Mr Morris stated in the LMA’s closing submission that mechanisms will be put in place for ‘soil management’ rather than ‘contaminated soil management’. He stated that it is expected that spoil will be stored temporarily at the site of the Manningham Parklands/Ross Straw Field. Other activities that may take place in the area of the western portal are described in Document 507.

Off-site disposal will be required for any risks that may result from the extraction, storage and disposal of contaminated soils, and this process will be managed by the successful contractor.

Mr Morris referred to the expert evidence of Dr Nadebaum, which stated that approximately 3000 – 4000 cubic metres of contaminated soil extracted during construction of the project likely will require off-site disposal, and several landfills in the Melbourne Metropolitan Region could accommodate this, in addition to a number of soil treatment facilities.

Mr Morris stated that due to the fact that parts of the Manningham Parklands/Ross Straw Field are located over 200 metres from Manningham Street, and the sensitive receptors are situated on the west side of the Street, this could potentially be an appropriate location for the stockpiling of contaminated materials. Mr Morris referred to the EPA submission which commented that the type of soil will determine the management options selected, and a number of potential management measures can be implemented. Mr Morris stated that the performance requirements require that a Contamination Management Plan, to be verified by an independent environmental auditor, will address these issues (CL1).

The Committee does not accept the position of Mr Morris in this regard. Given the proximity to sensitive receptors, contaminated soil should not be stored on Manningham Parklands/Ross Straw Field or at the former Fitzroy Gasworks site. Contaminated soil should be removed directly for treatment and disposal at landfill, or if storage is required, it must be undertaken at the former Melbourne Market site.

### Findings

The construction of the tunnels will generate a significant amount of spoil, some of which will be contaminated. The CIS does not provide any detail on the amount of spoil that is likely to be generated, but stated that the potential reuse options are small.

A number of laydown areas have been identified as potential storage areas for spoil (both clean and contaminated) including Manningham Parklands/Ross Straw Field and surrounding areas, the Fitzroy Gasworks site and the old Melbourne Market site in Precinct 6. Based on evidence and submissions, the Committee is of the view that no contaminated spoil should be stored in populated areas where there is the risk of exposure to surrounding communities. Contaminated spoil should be immediately trucked off-site for treatment and disposal. If that is not possible, then the former Market site should be used for storage. Any asbestos contaminated soil must be stored in accordance with Worksafe and EPA Regulations including the development of an asbestos control plan.

If clean spoil is stored at Manningham Parklands/Ross Straw Field or the Fitzroy Gasworks site, strict dust management practices must be implemented, including real-time continuous monitoring of PM10 using and hourly trigger level of 80µg/m3 to increase dust management controls. Any soil stored at Manningham Parklands/Ross Straw Field should not be stored within 25 metres of the White’s Skink habitat or wetlands given the sensitivity of these areas.

Truck movements associated with construction and waste removal are likely to be significant in the Parkville West area and will pose a risk to the health of safety of local residents. Truck movements on local streets must be kept to a minimum. No truck movements should occur close to aged care or child care facilities. A transport route with direct connection to CityLink should be constructed.

The Committee has recommended that the storage of contaminated spoil in the Manningham Parklands/Ross Straw Field or Fitzroy Gasworks sites be prohibited, and that clean spoil can be stored at the Manningham Parklands/Ross Straw Field or the Fitzroy Gasworks site, in accordance with the implementation of strict dust management practices, and not within 25 metres of the White’s Skink habitat or Trin Warren Tam-boore wetlands.

Further, truck movements should be minimised in local streets and avoid routes that pass by childcare centres or aged care facilities. In this regard, a direct link to CityLink should be constructed to enable a transport route to be defined to avoid residential areas and minimise impacts on local communities.

# Social and Business Impacts

## Introduction

### Terms of Reference and Applicable Approvals

Unlike other Chapters of the CIS, the Social and Business Chapter (Chapter 16) does not have a corresponding reference in Part 7 of the Committee’s Terms of Reference – ‘*Public Hearing Matters*’. The Committee is required however to consider social and business impacts in the context of its evaluation of the applicable approvals before it.

The relevant applicable approval for social and business assessments is the planning scheme Amendment required under sections 8, 29 and 35 of the *Planning and Environment Act* 1987. The Amendment would remove permit triggers, apply overlay controls across sections of the Proposed Project Boundary and permit the project’s development in accordance with a project-specific incorporated document that covers all relevant planning schemes.

The CIS states that a number of other Acts, guidelines and policies have social and business implications for the Project, including requirements associated with the compulsory acquisition of property.

### Conclusion of the CIS

The Social and Business Chapter of the CIS concluded that the placing of a large section of the project in a tunnel will minimise most of the projects potential broader social and business impacts and the performance requirements proposed for the project would *“mitigate those social and business impacts relating to traffic, noise and vibration, heritage, visual impacts and air quality*”.

The major business and social impacts identified in the conclusion to Chapter 16 relate to property acquisition. The CIS states:

There are major impacts on 105 residential properties (both owner-occupied and tenanted) and 34 commercial properties as a result of surface property acquisition for the project.

Private residential properties would need to be acquired in the following locations:

* Precinct 1: Bendigo Street (14 properties), Hotham Street (three properties) and Alexandra Parade North (18 properties);
* Precinct 3: Manningham Street (55 properties − four houses and 51 units);
* Precinct 4: Pattison Street (two properties);
* Precinct 5: Bent Street (13 properties).

Commercial premises would need to be acquired in:

* Precinct 1: Alexandra Parade North (18 properties);
* Precinct 3: Racecourse Road (one property, with no building);
* Precinct 4: Moonee Valley Racecourse (a small strip of land would be acquired);
* Precinct 5: Stubbs and Barrett Streets (12 properties), SP AusNet’s West Melbourne Terminal Station site (partial acquisition of land) and VicTrack’s Melbourne Freight Terminal site (acquisition of a small section of land).

The CIS concluded that processes associated with the *Land Acquisition and Compensation Act* 1986 would “*protect the above owners’ interests and mitigate these impacts”.*

With respect to employment and other business impacts, the CIS concluded that the acquisition or occupation of commercial properties could lead to the displacement and possible loss of 203 jobs and some businesses could experience financial losses from a reduction in passing trade along Alexandra Parade and from the temporary occupation of car parks in Precinct 5.

Negative impacts on amenity were identified as follows:

Proposed elevated structures would affect the amenity of Manningham Street and Oak Street residents, including the Elderly Chinese Home. The elevated structures would also substantially change the outlook at the Evo apartment complex at Manningham Street, currently under construction. The Victorian Government has announced early voluntary purchase options for the developer and purchasers of this complex.

Given the scale of the project, these impacts would be relatively small in terms of the number of households and businesses impacted. But, as the effects on individuals could be substantial, careful consideration would be given to the best ways to minimise the disruption to these property owners, tenants, businesses and employees. Additional assistance may need to be provided to vulnerable residents.

The CIS concluded that further mitigation measures would be undertaken by the LMA including:

* Providing a high level of assistance to affected landowners and tenants, with particular attention paid to the circumstance and needs of vulnerable residents (including liaising with government departments and agencies, local councils and community groups to provide support to these residents and potentially offering counselling services as appropriate).
* Maintaining negotiations with sporting clubs, facilities managers and councils about the possible relocation of sporting and recreational facilities.

The CIS concluded that up to 23.27 hectares of Royal Park “*could be required temporarily for construction activities and the community would be unable to access parts of the park during the project’s construction. This assumes a ‘worst case’ scenario and the project’s performance requirements would seek to minimise construction footprints where feasible*.” It also notes that small section of Parks in Moonee Valley and Mooreland will be acquired permanently.

In relation to impacts arising from design and construction of the CIS concluded:

Project structures in Royal Park would be designed in accordance with the Urban Design Framework, incorporating sensitive and innovative features to minimise their visual and other impacts on the surrounding parkland.

The permanent loss of Ross Straw Field in Royal Park means that a number of sporting clubs would need to relocate.

In some locations in Precincts 1, 3 and 5, new elevated structures would be visually dominant and change the views from residences and the character of local neighbourhoods. The application of the project’s Urban Design Framework would mitigate the impacts of these structures.

Some residents and business would experience some level of disruption during the project’s construction phase. Specific performance requirements would be implemented to mitigate these impacts.

The contractor would be required to implement a community involvement plan to keep residents informed about the project’s progress and provide opportunities for residents and businesses, local councils and community groups to raise concerns during the construction and operational phases.

### Objectives and Performance Requirements

There is no specific CIS evaluation objective for Social and Business Impact. Rather the “*Land use, dwellings and infrastructure*” Objective is repeated. As identified in Chapter 7 of this report, the Land use, dwellings and infrastructure Objective is:

To minimise adverse impacts and to achieve appropriate integration with adjoining land uses, including minimal displacement of existing land use activities, dwellings and infrastructure.

One Social and Business Performance Objective is listed. It is:

* Minimise impacts on the community through engagement during construction and operation.

One performance requirement, that requires the development and implementation of a community and business involvement plan, is specified in Chapter 16 of the CIS (Table 16-2). The CIS states that it “*would be up to the contractor(s) to determine the best approach to meeting the performance requirements, subject to legislative and other requirements*”. The CIS further states that “*Performance requirements addressing other impacts – such as noise, air quality, traffic, visual and land use – are included in the relevant CIS chapters and are not repeated here*”.

### Social and Business Impact Issues

The Committee heard social and business impact evidence from the following experts:

* Ms Heather Nesbitt of GHD for the LMA on social impacts;
* Ms Bonnie Rosen of Symplan for Moonee Valley City Council on social impacts;
* Ms Marianne Stoettrup of Matters More Consulting for the LMA on business impacts; and
* Mr John Henshall of Essential Economics for both the City of Melbourne and the Moonee Valley City Council on business impacts.

Ms Beverley Kliger of Beverley Kliger and Assoc provided an evidence statement for Yarra City Council on social impacts, but she was not called to give that evidence.

At the request of the Committee, the social impact experts met to discuss the relevant issues and determine points of agreement and dispute. At the conclusion of the conclave and further discussions an ‘*Agreed Statement*’ (Document 7), was provided to the Committee. A an overview of matters agreed and disagreed is provided in Chapter 7.1.4.

Based on its consideration of the evidence and written and verbal submissions relevant to its Terms of Reference relating to social and business impacts, the Committee has grouped its assessment under the following headings:

* Social Impacts; and
* Business Impacts.

## Social Impacts

### Introduction

The “*Social and Business Overview*” documented at Chapter 16.1 of the CIS notes that the Project traverses through a highly urbanised setting and this influences the nature and extent of the social and business impacts likely to be generated by it. The CIS concludes that “*placing a large section of the project in tunnel would minimise* *most of its potential social and business impacts (during construction and post-construction)”*. Having reached this finding, the CIS acknowledged that “*major impacts would be experienced by individual landowners, households and businesses affected by the project’s property acquisition requirements”.*

The CIS further stated that “*the greatest social impacts would be caused by the interchange with Hoddle Street in Precinct 1 and the interchange with CityLink in Precinct 3*”. It is acknowledged that at both locations, private property would need to be acquired and the changed outlook for areas near the Project’s elevated structures “*could reduce the attractiveness of some areas as places to live and visit*”.

Construction impacts and operational impacts are listed. The CIS states “*These impacts would be managed and mitigated through the implementation of environmental performance requirements*.”

The Committee’s assessment of social and business impacts, focuses on whether the impact of the Project has effectively responded to the CIS Land use, dwellings and infrastructure objective, being “*to minimise adverse impacts and achieve appropriate integration with adjoining land use, including minimal displacement of existing land use activities and dwellings*”. It is this goal that Chapter 16-2 lists as the relevant CIS Objective.

### Key Issues

The majority of issues relating to Social Impacts have already been addressed by the Committee in Chapter 7 of this report in its consideration of impacts on housing, recreation and community facilities infrastructure. As noted previously the CIS *Social Impact Objective* and *Land Use Objective* are the same. The Committee does not repeat this here, as the detail of the Social impact evidence and submissions is outlined in Chapter 7. Rather, it provides a high order overview of evidence and submissions as well as an overview of the key findings of emerging from the consideration of Social Impacts. Overarching comments on the adequacy of the Project’s response to the CIS Social Impact Objective and its overall proposed approach to the mitigation of social impacts is provided. This should be read in conjunction with Chapter 7 of this report.

### Submissions and Evidence

As identified in the Social Impact expert witness conclave statement (Document 7), the social planning experts could only reach agreement on a very limited number of matters, the most significant being the need for the Social Impact Assessment to be updated to ensure all community facilities within or adjacent to the project alignment were identified. The areas of disagreement were numerous and related to the following topics:

* Future recreational land provision;
* Mitigation measures for home owners and tenants whose properties would be acquired;
* Perceived community safety underneath elevated roadways;
* Loss of indigenous remnant vegetation in Royal Park;
* Rating of social impact of environmental health issues in Precinct 1;
* Urban renewal;
* Social equity for Flemington Housing Estate residents;
* Performance requirement C1;
* Cumulative and indirect impacts;
* Refinement of performance requirements and mitigation measures; and
* Community health and wellbeing.

It was apparent through the leading and cross examination of the evidence of the Social Planning witnesses that the fundamental points of differences of opinion between Ms Nesbitt for the LMA and Ms Kliger for City of Yarra and Ms Rosen for Moonee Valley were:

* Whether the Reference Project and route alignment can be assessed as adequately avoiding or minimising social impacts; and
* Whether the Performance Requirements represent adequate social impact minimisation initiatives.

As an overarching observation, Ms Nesbitt concluded the Project and the CIS (with a few minor amendments) did adequately respond to these high level objectives of the CIS, while Ms Kliger for the City of Yarra and Ms Rosen for Moonee Valley were firm that they did not.

Ms Nesbitt’s evidence acknowledged that the SIA provides one performance requirement, this being the preparation of a community involvement plan “*to engage potentially affected stakeholders and advise them of*” a number of matters largely concerning construction matters. In response, her evidence is that “*it is likely that additional performance requirements could be applied to ensure negative social impacts are addressed while cross references to other relevant performance requirements in other technical studies should be considered*”. Two new Performance Requirements were recommended in response and a further six modifications proposed to existing requirements. As noted in Chapter 7.3 many of these proposed changes are specific to the Flemington Housing Estate and are not proposed to apply throughout the whole Project area. Others were not accepted by the LMA.

The presentation slides of Ms Nesbitt (Document 97) reiterated her comfort with the Performance Requirements. She identified that one of the main social issues identified in submissions was:

Negative social impacts on properties and people affected by flyovers and new freeway routes including issues regarding compensation, acquisition, environmental health.

Appendix C of her witness statement acknowledged that 876 submitters reflected this as a concern. Despite the magnitude of submitter concern to the issue, Ms Nesbitt did not identify any Recommendation for new or modified Performance Requirements in response to this concern. Her presentation slides noted that she was satisfied that the existing and proposed Performance Requirement, as well mitigation measures in other technical studies, addressed negative social impact concerns.

Ms Nesbitt’s response to other expert material tabled by the LMA (Document 97) sought to respond to a number of criticisms of the SIA. Some of these have already been outlined in Chapter 7 of this report (eg: cumulative social impacts not addressed; social impact rating regarding environmental health impacts in Precinct 1 are too low; urban renewal opportunities in Precinct 1 may not be realised; and loss of Ross Straw Field will impact on the capacity of City of Melbourne to meet its future recreational needs etc).

In relation to the adequacy of Performance Requirements and mitigation measures, the evidence of Ms Kliger was particularly critical. Her evidence stated:

The Performance Requirements proposes a community involvement plan which is essentially an information dissemination process. This does not provide an adequate framework to ensure that the mitigation strategies are carried out appropriately. What is required are plans, criteria or requirements for social impact plans to put into effect the benefits, mitigation measures, monitoring plan, and any governance arrangements required to implement consultation process and impact and benefit agreements. Currently there are no specific requirements for community and project developer agreements and consultation processes.

There should be explicit requirements set out in Performance Requirements and mitigation strategies regarding ongoing consultation especially with community leaders and representatives of the people born overseas who speak a language other than English, hard to reach and vulnerable groups, and local government for facilitating an agreement-making process between communities and project developers. This agreement-making process should set out the

* consultation process(es); and
* process for assessing and monitoring the processes to manage the impacts.

Ms Kliger was highly concerned that the determination of how to implement the Performance Requirements is left to the contractor, as opposed to a more independent, transparent and accountable process.

Ms Rosen’s expert opinion is that the depth of detail presented in the CIS does not facilitate comprehensive, rigorous or robust assessment of the probable impacts associated with the construction and operation of the project. She stated:

In particular, the mitigation and management of measures are insufficiently described, and do not permit a full assessment of the nature and extent of residential impacts.

…

The discussion of the alternatives in the CIS is lacking in detail, dismissing the feasibility of certain design options that would significantly reduce the impact of the Project on the Community of Moonee Valley in particular, and the suburbs of Flemington, Tranvencore, Ascot Vale and Moonee Ponds in particular.

Ms Rosen’s concluding comments reiterated her overarching critique of the CIS and SIA. Her assessment stated the following:

***Principles:***

* *Not adequately addressed equity (disproportionate harm, compensation)*
* *Transparency (lack of detail, understanding of project, duration, omissions, inaccuracies)*
* *Stakeholder engagement*

***Process and methodology:***

* *Identified and discussed changes and impacts but not social impacts as per standard social impact assessment considerations*
* *No assessment of cumulative impacts*
* *Inadequate assessment of alternatives*

***Proposed Project Boundary:***

* *'kink' excludes Flemington Community Centre*
* *Benefits discussed beyond Proposed Project Boundary but assessment of impacts confined to Proposed Project Boundary*

***Mitigation measures and Performance Requirements***

* *Mitigation measures are not mandatory*
* *Standard SIA practice to attempt to avoid and address rather than minimise*
* *PR's which are mandatory are statements of ambition*

***Rigour:***

* *Excluded social impacts from risks*
* *Did not consider social impacts, just changes and effects*
* *Assumptions that the project will have limited social impact unfounded and not supported by evidence or a sound understanding of the context or SIA theory and practice:*
* *Biophysical environment not a key determinant of health and wellbeing*
* *Those already affected by CityLink will not be affected by additional road infrastructure and associated impacts*
* *Renters will experience less harm as they are transitory*

The submission of Ms Hicks on behalf of Moonee Valley (Document 194) in relation to the competing social impact evidence was that Ms Rosen’s should be preferred to that of Ms Nesbitt, for reasons that extend over two pages, and not repeated here.

The closing submission on behalf of the LMA (Document 525) stated that it must be fairly acknowledged that “*the Project will deliver a range of broader social benefits”*. The major benefits cited were principally related to improved connectivity of Melbourne’s road network via better access to jobs and to schools, through facilitating better social interactions. The submission claimed:

*The social benefits of the Project will be real and will be substantial. They must properly be taken into account by the Committee in assessing whether the localised impacts of the Project discussed …. should be considered acceptable.*

*The LMA relies on the Social Impact Assessment contained within the CIS (which was undertaken according to widely-accepted assessment practices).*

The Committee refers readers to Chapters 7.2.3, 7.3.3 and 7.3.4 for more detail on evidence and submissions presented during the hearing relating to Social Impacts of the Project.

### Discussion

Having considered the evidence and submissions put to it, the Committee acknowledges that where the future road alignment is in-tunnel, the Reference Project has substantially avoided many social impacts. The Committee accepts that some social benefits will accrue from improved cross city travel convenience and some potential travel time savings. The key concern of the Committee however, is that Part B of the alignment and a number of ancillary elements of the Project will likely result in significant social impacts that in the view of the Committee are of a scale that are unacceptable. Put simply, the Committee considers that an alternative alignment or design solution should have been found to avoid the physical and social impacts. Of as significant concern to the Committee are the inadequate measures to minimise the Social Impacts arising from the design.

The lack of effort in the CIS, and a perceived reluctance by the LMA to concede to additional remediation or mitigation works to ‘minimise’ or ‘make-good’ the negative impacts, compounds the negative issues arising from what the Committee considers are flawed design elements. In forming the above views, the Committee highlights that it found the Social Impact evidence of Ms Nesbitt overwhelming in its lack of response to submissions that highlighted the need for and benefits that would accrue, by providing more specificity and accountability within the CIS’s proposed mitigation measures. The Committee was not persuaded to accept Ms Nesbitt claim that the SIA is responsive to the needs of those residents that have not had their properties acquired but will have a direct interface with the new road and will suffer significant negative impacts from construction for up to seven years, as well as ongoing (daily and nightly) severance, noise, air pollution, vibration, light spill and other amenity and safety impacts. The Committee is more inclined to accept the evidence and conclusions of Ms Rosen and Ms Kliger.

The specifics design elements where the Committee has most concern regarding likely negative social and land use of the impacts of the Project are outlined in detail within Chapters 7.2 (Housing), 7.3 (Recreation Facilities) and 7.4 (Community Infrastructure). By way of summary the key findings of the Committee that have been influenced by the degree of social impact that relate to housing and residential communities include:

* The demolition of 35 dwellings and corresponding dislocation of residents in Bendigo Street, Hotham Street and Alexandra Parade North associated with the Hoddle Street flyover and the construction of a temporary sidetrack in Precinct 1. The Committee finds that both these ancillary elements fail the CIS evaluation and performance objective for Land Use and Infrastructure as they pose unacceptable impacts arising from dwelling demolition, as well as unacceptable impact on resident amenity and safety for those that have an interface with the Project;
* The demolition of 55 residential properties, and dislocation of residents in Manningham Street required to facilitate the two main elevated structures identified as ‘Footscray Rd to EWL (Stage One)’ and ‘EWL (Stage One) to Footscray Road’ that head south out of the western tunnel portal and then form Part B of the Project Alignment. The quantum of houses to be demolished and the corresponding social dislocation in this one location is remarkable, significant and un-paralleled in Melbourne’s mid-term (generational) history. Significant negative social impacts will also be recurring for the residents and community and social infrastructure of the Flemington Housing Estate; and
* The demolition of 13 houses in Bent Street and the intrusion of a proposed elevated freeway viaduct generally between 8 to 10m from the frontage of an apartment block containing 57 newly refurbished apartments at 18 Bent Street. Significant negative social impacts will also arise from the alignments negative impact on the Moonee Valley Creek open space corridor and from the intrusion of visual and noise impacts with the proposed Arden-Macaulay urban renewal area.

The key findings arising from the Committee’s assessment of the Project Impacts on active sports fields and local parkland include:

* Within both the City of Moonee Valley and Moreland City Council Committee does not accept, that the Project has adequately assessed or minimised the impacts on sporting fields and the local space network; and
* The Committee considers a range of remediation works within the City of Moonee Valley are required for the Project to be acceptable in relation to its impacts on open space in the municipality. The Committee has determined that there is sound justification for a range of works to be funded by the LMA / the Project to make good an extensive range of impacts on Council’s active sports ovals to ensure that they remain fit-for-purpose.

The key findings arising from the Committee’s assessment of the Project Impacts on Community Facilities include:

* With three notable and significant exceptions, the Committee considers that the impacts on the majority of community facilities abutting the Proposed Project Boundary (such as schools and education institutions, health centres and hospitals, some community centres, community gardens, museums, and libraries) are likely to be able to be adequately addressed by the implementation of existing and modified Performance Requirement outcomes; and
* The impacts on the Flemington Community Centre (and the associated the Debney’s Park Playground) and on the Flemington Community Garden have been assessed by the Committee as unacceptable. The Committee considers that the Project alignment/boundary is too close to these facilities and that the corresponding noise, visual intrusion, air pollution, displacement, compromised real and perceived safety, overshadowing, and light spill render the facilities not fit-for-purpose.

The Committee refers to Chapter 7.4.2, 7.4.3 and 7.4.4 for more detailed discussion regarding the concerns of the Committee in relation to land use and social impact issues associated with these aspects of the Project.

The Committee accepts the LMA submission that there will be a number of broad social benefits arising from the project and that where the project is in-tunnel social impacts have been largely avoided. However, as summarised in this part of the Report and explained in some depth in Chapter 7, there are numerous design features and elements of the Project that, in the opinion of the Committee, will pose unacceptable social impacts. They are not again repeated here. This finding should be read in conjunction with the Findings and Recommendations contained in Chapters 7.2.5, 7.3.5 and 7.3.6.

## Business Impacts

### Introduction

The CIS acknowledges that “*major impacts would be experienced by individual landowners, households and businesses affected by the project’s property acquisition requirements*”.

The major business impacts identified within Precinct 1: Hoddle Street (Eastern Portal) and Precinct 2: Alexandra Parade (Tunnel), are associated with the proposed demolition of a row of 18 commercial properties with frontage to or in the vicinity of Alexandra Parade (northern side) from Gold Street to Smith Street. The demolition is required to provide the temporary sidetrack during tunnel construction. The CIS acknowledged that that the impacts on these businesses will be considerable, however once the once Project approval is granted the *“acquisition and compensation process would be triggered immediately, allowing businesses to close or relocate*”.

The CIS contended that “*while the impacts will be significant they will be mitigated by the financial compensation process and by providing timely information about the project’s progress*”. The CIS noted the land required for the temporary sidetrack “*would be available for redevelopment once construction in this precinct is completed*”. Within Precinct 1, the CIS identified that businesses not directly affected by acquisition could be disrupted during the Project’s construction. Potential impacts listed included “*reduced access to services and customers, loss of parking and changed traffic conditions, as well as noise and dust impacts*”. The CIS noted that these impacts would be minimised through the adoption of traffic management measures by the contractor as part of the Construction Environmental Management Plan.

Within Precinct 2 the most significant business impact identified in the CIS related to the loss of passing trade that is expected to result from the reduction in through traffic. The Business Impact Assessment estimated that a $3.2 million reduction in turnover will occur in the Project’s first year of operating, primarily borne by the two petrol stations operating in the Precinct. Within Precinct 2 is the former Fitzroy Gasworks site (on the western corner of Smith Street and Alexandra Parade) which is occupied by a number of businesses. The CIS indicated that “*as this site would be used as a temporary laydown area during the project’s construction, these businesses would be required to relocate*”. The CIS estimated approximately “*six businesses would need to relocate, resulting in a loss of around 36 jobs*”.

The business impacts arising from property acquisition within Precinct 3: Royal Park (Western Portal) is projected to be minimal. The CIS stated that the only commercial property to be acquired in the Precinct is the commercial yoga studio currently operating from Ross Straw Field. While noting only commercial property is to be acquired, the CIS stated that Businesses could be disrupted during construction by impacts that may include “*reduced access to services and customers, as well as noise and dust impacts*”. The CIS stated that:

In particular, it would be important to limit disruption for patients and visitors at the Royal Children’s Hospital and the Royal Women’s Hospital, for workers and visitors at the Melbourne Zoo, for services in the Parkville youth justice precinct and for businesses in the Parkville Knowledge Precinct.

The CIS stated that these businesses employ approximately 21,700 workers (including the University of Melbourne).

Within Precinct 4: CityLink, the CIS stated that the only identified business impact related to the need to occupy temporarily a small section of land at the Moonee Valley Racecourse, including a private access road, for construction purposes. No mention in the CIS is made of the concerns expressed by Moonee Valley Council regarding business impacts associated with traffic congestion in nearby activity centres.

The commercial impacts identified in the CIS within Precinct 5: Port Connection, arise from the acquisition of 12 commercial properties. A number of businesses will potentially be significantly impacted by the occupation of a number of car parks for construction and laydown areas. The CIS stated that in total, *“the acquired businesses are estimated to employ 73 people”*. The CIS noted the sites for acquisition include:

The Vision Australia’s guide dog training compound (currently under construction) – a facility of national importance that is closely linked to a number of Vision Australia operations in this area (including an office on the corner of Stubbs and Macaulay Streets and housing for vision impaired clients who come to the Barrett Street facility to receive training with their allocated guide dog).

The CIS appeared to dismiss the impacts on the Vision Australia site and other businesses in the Precinct, observing:

It should be noted that none of these businesses are likely to remain in place unchanged over the longer term as the Arden-Macaulay Structure Plan is likely to lead to a shift to more intensive mixed development. Already, one of the business sites that would be acquired has been marked for residential development, with its current use as professional offices and warehousing expected to continue only until redevelopment plans could be finalised.

The Committee’s assessment of business impacts focuses on whether the impact of the Project has effectively responded to the CIS Land use, dwellings and infrastructure objective, being “*to minimise adverse impacts and achieve appropriate integration with adjoining land use, including minimal displacement of existing land use activities and dwellings*”. It is this goal that Chapter 16-2 lists as the relevant CIS Objective.

### Key Issues

The key business impact issues arising from consideration of the CIS, submissions and evidence (not in any specific order) include:

* Business impacts associated with demolition of businesses to provide a temporary sidetrack in Precinct 1: Hoddle Street (Eastern Portal);
* Impacts on the Urban Camp in Precinct 3: Royal Park (Western Portal);
* Potential impacts on activity centres in the City of Moonee Valley in Precinct 4: CityLink;
* Potential business and economic impacts on the Arden-Macaulay Urban Renewal Area in Precinct 5: Port Connection; and
* Potential impacts on Vision Australia Guide Dog Centre in Precinct 5: Port Connection.

Each of these issues is addressed in turn. The Committee’s overall conclusions regarding the whether the Project has had sufficient regard to business impacts of the Project are discussed in its Findings and Recommendations at Chapter 15.3.4.

### Submissions and Evidence

#### Temporary sidetrack (Precinct 1: Hoddle Street -Eastern Portal)

The submission by Mr Sumner, of Aspect Town Planning, on behalf of Schotts Home Emporium (Submission 912) and Document 292(a) and (b) opposed the lack of consideration that the Project design has had in regard to land use impacts on Hoddle Street, and the service lane to the north of the proposed interchange. The owners of the Emporium are concerned about the direct business impacts they are likely to suffer due to loss of trade due to restricted parking and access. The submission requested that should the Project proceed, due consideration of their site specific issues be taken into account, and that if there is any loss of business, that appropriate compensation be provided. The impacts identified included:

* Permanent loss of parking along the western side of Hoddle Street opposite Schotts Home Emporium;
* Temporary loss of parking along the western side of Hoddle Street opposite Schotts Home Emporium during the construction phase;
* Loss of vehicle access to Noone Street as a result of the design and/or during construction;
* Road works blocking access along Hoddle Street; and
* There is no detail regarding the works to occur in front of Schotts Home Emporium and along the Hoddle Street service lane.

Ms Stoettrup’s response to the submission on behalf of Schotts (contained in Appendix C of her report) stated:

Consideration of car parking is included in Traffic Performance Requirement (T1), which requires that the design of the Project is optimised in consultation with appropriate road management authorities as part of the detailed design process to minimise loss of car parking. Managing vehicle access for staff and customers to Hoddle Street may need to be reconsidered with increased traffic in Hoddle Street

The Response to Submission table in the LMA’s closing submission stated that “*Performance requirements T1 and T2 relate to traffic impacts on parking during and post construction*”.

The submission by Mr Radisich of Associated Town Planning Consultants on behalf of Provans Timber and Hardware (Submission 82 and Document 293) noted that due to the location of their business in the designated sidetrack area of the Project, “*the property is being acquired by the Linking Melbourne Authority”*. Provans have been advised that they are required to vacate the property by June 2015. The submission noted that the relocation of the business will require a considerable financial investment by Provans and that existing uncertainty regarding the configuration/alignment of Alexandra Parade and Hoddle Street is resolved. They argued that their decision to relocate to the proposed new site cannot be reasonably made until other issues, such as access, are resolved.

The LMA responded to this submission via the production of a briefing note (Document 438), which concluded:

It is understood that Provans intend to use the roller door at 168-174 Alexandra Parade for truck egress. The existing roller door and road width combine to limit the size of vehicle that can currently exit the building from this location. The same or equivalent level of access will be maintained.

The final configuration of the Alexandra Parade/Hoddle Street intersection will depend on a number of factors, including the structures associated with the proposed elevated EWL entry ramp and EWL exit ramp. The provision of access to the properties in question will need to comply with Performance Requirements Tl, T2, TS and LU2.

Ms Stoettrup’s response to the submission noted:

It is possible that Provans business would suffer if the access arrangements are diminished; timber supplies arrive by truck and the ability to use larger trucks provide productivity benefits. Likewise, loss of public car parking arrangements may impact on the business. Consideration of car parking is included in Traffic Performance Requirement (T1), which requires that the design of the Project is optimised in consultation with appropriate road management authorities as part of the detailed design process to minimise loss of car parking. It is proposed that the detailed design discussions continue in order to maintain access and that replacement car parking is identified if the slip lane must be moved.

As identified in the evidence statement of Ms Stoettrup, the owners of the property at 8 Hilton Street claimed that the property cannot be leased or sold in the current environment. The owners requested that their property at 8 Hilton Street be acquired. The owners of the property at 135 Gold Street, adjacent to the Provans Hardware Store, also requested that their property be acquired.

In response to these submissions, Ms Stoettrup commented:

The properties are outside of the Proposed Project Boundary, are not proposed to be acquired, and there is no obligation under the Land Acquisition and Compensation Act to acquire the properties. If the properties are contiguous with an area identified for urban renewal post construction, it may be beneficial to acquire them, use them during the construction phase and then include them in a larger consolidated parcel for renewal post construction. I am instructed that LMA will continue to engage with property owners to discuss opportunities to mitigate project impacts.

Ms Stoettrup did not accept the submissions which questioned and opposed the claims in the CIS that the demolition of houses for the sidetrack will, post construction, provide urban renewal opportunities which represent a positive outcome for the Project. Her evidence was that:

Urban renewal in areas close to Melbourne’s CBD is important to the future development of Melbourne. The opportunities for further land use change and intensification in the area between Smith and Wellington Streets are specifically recognised in the City of Yarra’s adopted North Fitzroy Gasworks Precinct Urban Design Framework (UDF) 2008. The UDF outlines clear land use and built form direction for the precinct between Smith and Wellington Streets, including the potential for “incremental redevelopment to realise higher intensities and more desirable mix of land uses.”

#### Urban Camp (Precinct 3: Royal Park-Western Portal)

The Committee heard from Mr O’Sullivan and Ms Whitby of the Urban Camp in Royal Park (Document 496), who advised of their concerns about the Project. They said:

To date, Urban Camp has received milestone reports or key project updates from Linking Melbourne Authority (LMA) and all advice received in person and in writing, has reported that Urban Camp would not experience any significant impact to operations as a result of the East West Link Project.

In recent meetings, this advice has not changed from LMA, however has significantly shifted from other bodies. This is a result of shifting construction plans and Urban Camp's proximity.

Unfortunately there will now be significant impact to operations and a compromised product. As you can appreciate, this is of great concern to the Executive and Board of Urban Camp, staff and stakeholders.

Urban Camp is a product that must be preserved for the benefit of regional Victoria and the State and we look forward to your support in ensuring this occurs. This position is shared by Urban Camp's land manager, City of Melbourne.

We acknowledge that there could be impacts to the business, as noted in the Comprehensive Impact Statement (Chapter 16) including but not limited to access, noise, light and dust. In this regard it is clear that the impacts on a residential program are materially different to those affecting a 9 to 5 business and require deliberate action to ameliorate and resolve.

…

We understand that responsibility is to be delegated to the successful consortia through negotiated solutions to protect our assets and experience. We believe it is imperative that the solutions or options available to the tendering consortia be considered before their tender is developed, budgeted, finalised and submitted. We are happy to brief our requirements so that the consortia receive a comprehensive understanding of our 24x7 hospitality and accommodation requirements. This will inform consortia budget for the alternative operational plans that may be required to ensure our continuing comprehensive delivery.

The presentation slides noted among other things, that their three options included either maintain location and operation, secondly they could relocate temporarily (or permanently) or thirdly they could close temporarily (12 months). The final slide stated that what they sought, this being:

* Clarity;
* Clear construction timelines and impacts;
* Timely information - pre, during, post;
* Safe, secure and enjoyable environment to continue to delivery Urban Camp experiences - for our members, campers and staff; and
* Full recompense to ensure sustainability.

#### Activity Centres in City of Moonee Valley (Precinct 4: CityLink)

Mr Henshall identified one of potential impacts of the Project within Moonee Valley was on the City’s local roadways and corresponding impact on the function of its activity centres (Document 152). Mr Henshall was perplexed, and disagreed with the claim in the CIS, that Moonee Valley:

… would not experience any major impacts during the project's construction or operation, with impacts generally confined to the acquisition of small strips of public land along the City Link alignment to accommodate road widening and temporary construction areas. (CIS, Ch8, p16)

In relation to likely impacts on Activity Centres within Moonee Valley, Mr Henshall stated the following:

* Moonee Ponds: would likely be impacted by increased traffic volumes, where capacity already reached.
* Adds to vehicle congestion, air and noise pollution, safety and parking issues.
* Reduction in amenity can lead to loss of shopper/visitor patronage of local business.
* Mt Alexander Activity Centre Structure Plan (updated 2012) seeks "traffic calming", not an increase in traffic.
* Racecourse Road: Increased traffic coming of EWL via Elliot Avenue. But no traffic volumes for Racecourse Road provided in CIS.
* Negative effects on shopper/visitor patronage can be anticipated, and therefore on business levels.
* Business Impact Assessment does not identify any business impacts on Moonee Valley - but impacts are not confined to just properties located within the tightly defined 'Proposed Project Boundary'.
* Passing trade is unlikely to generate much benefit for businesses in these activity centres, as the EWL traffic is 'destinational’; it is not on a 'shopping trip'.

Ms Stoettrup responded to a number of the above claims (Document 56). She argued that given that the Project is a major strategic and city shaping initiative, it is likely to have widespread effect across Melbourne and beyond. These effects include agglomeration benefits, and increases and decreases in business and property values outside of the Proposed Project Boundary as a result of a change in their relative accessibility. She considered changes across Melbourne in business activity levels are recognised as wider impacts (positive or negative) and acknowledged that they have not been measured as part of this assessment. Specifically in relation to the impacts on the activity centres in Moonee Valley, Ms Stoettrup concluded that they “*are unlikely to suffer such substantial relative loss of amenity as a result of traffic from East West Link Part A or Part B that trade in the businesses in the activity centres will be significantly impacted*.”

Ms Hicks stated that Mr Henshall’s evidence be preferred to that of Ms Stoettrup’s whose evidence should be given little weight. She said:

There are several reasons for this including the involvement of GHD in the drafting and editing of her report.

From her initial analysis, she moved away from acquisition being the only substantive impact but undertook no assessment of Precinct 4.

Her assessment of the impact on Activity Centres was extremely cursory – more a throw away line.

Having accepted in the end that one needs to look beyond businesses in or adjacent to the property boundary, her assessment was haphazard and minimal. For example, she could provide no rational for a failure to look at businesses in the ALT development which include a supermarket.

Through Mr Morris we now have confirmation that she says she considered all of the traffic analysis in forming her views on the impacts on the activity centres. As she was unable to confirm which parts she relied on when she gave her evidence, I could not cross examine her on her understanding of that material.

Ms Hicks stated that Mr Henshall’s evidence was largely unchallenged and that he has relied on his considerable experience of working with strip shopping centres in forming the view he has of the impact on more traffic in such centres.

The LMA’s final submission (Document 525) in respect of the issues raised by the Moonee Valley City Council, stated:

… there is no sensible basis upon which the Committee can conclude that the impacts of the Project on the Moonee Ponds Activity Centre, the Mount Alexander Road Activity Centre, and the Racecourse Road Activity Centre, will be adverse to any significant degree.

Indeed, the position of the Council in this respect appears to be wholly informed by Mr Henshall’s view that increases in vehicular traffic through activity centres will necessarily result in them being less desirable locations in which to shop. As Mr Henshall conceded in cross-examination, however, his opinion in this regard was based wholly on anecdotal observations and was not supported by any studies of any kind. In the LMA’s submission, an equally plausible outcome of an increase in vehicular traffic through these centres, will be an increase in trade and vitality.

#### Arden-Macaulay Urban Renewal Area (Precinct 5: Port Connection)

In relation to Arden-Macaulay, Mr Henshall concluded that there is a general lack of information to make a considered assessment of the net benefits of the Project (Document 152). He noted that depressed property values are a likely outcome from impacts of reserving land for Part B with no determinate timeline and commitment to construct it which will lead to less investment in urban renewal and development than anticipated in the Arden-Macaulay Structure Plan. His evidence was that the Part B alignment will result in less investment and less employment in the identified urban renewal area, less high residential development and therefore reduced ability to accommodate population growth. Mr Henshall stated that the CIS should recognise adverse impacts beyond the tightly defined Proposed Project Boundary.

Mr Pitt for the City of Melbourne argued that the construction of Part B will not be the driver of change in Kensington and North Melbourne, and stated:

It is a question of semantics as to who would be the agent of change, Part B (in respect of which there is no commitment for it being built within any foreseeable time) or development within Arden-Macaulay where the urban renewal of that area is identified in Plan Melbourne (acknowledging that so is the East West Link) and where Amendment C190 would have been through the Panel process had it not been for the intervention of this project.

Ms Stoettrup, dismissed submitter concern and opposition to the Part B viaducts. The key issues raised by submitters were that Part B will compromise opportunities for the Arden-Macaulay area, and that the viaduct should be placed in-tunnel or moved to the east side of the Viaduct. Her evidence statement responded to these submissions by noting:

Tunnels would have the benefit of not impinging on land uses, but are expensive. A range of design options would have been examined as part of the early studies, prior to the CIS.

#### Vision Australia Guide Dog Centre (Precinct 5: Port Connection)

Vision Australia Ltd (Submission 332) is a not-for-profit organisation and leading provider of blindness and low vision services in Australia. It operates the Seeing Eye Dogs facility in Barrett Street, Kensington. It is the second largest producer of dog guides in Australia. Dr Murfitt, the Chairperson of Vision Australia informed the Committee (Document 312) that a very significant purpose fit upgrade of the facility has just been completed. It incorporates a Breeding Centre and 60 dog accommodation kennel. The submission noted that the proposed Port Link component and Arden Street on-ramp will require acquisition of three quarters of the Vision Australia site. He indicated that the area within the Proposed Project Boundary includes approximately one third of the existing administration and training building and well as the entire new kennel building. This would leave Vision Australia with a part building and a new breeding centre with no kennelling facilities. Dr Murfitt submitted that “*the impacts of the East West Link roadway on Seeing Eye Dogs Australia is catastrophic”*. He stated that the facility would be rendered unfit for purpose. Dr Murfitt reiterated that Vision Australia oppose the Port Link and Arden Street Ramp elements of the Project.

The Business Impact evidence of Ms Stoettrup noted that the Vision Australia business and the jobs it provides are generally in accordance with the strategic direction of the Arden-Macaulay Structure Plan. Having made this admission, the evidence cautioned the following:

However, there is potential for conflict in the future as future residents may take umbrage at the noise from some 90 to 110 dogs in the kennels. Relocation is also difficult as the process of finding a suitable site, obtaining permits and undertaking the development is lengthy (having taken five years for the current redevelopment). A sensitive approach which allows this use to continue in the precinct for as long as it is viable is recommended.

It is understood that LMA is working with Vision Australia to fully understand the impacts of Part B of the Project on Vision Australia in order to mitigate and reduce those impacts as much as possible.

The LMA’s closing submission (Document 525) in response noted:

… the LMA acknowledges that if the construction of the Project is undertaken along the alignment of the Reference Project it may give rise to impacts upon the operation of the facility.

As discussed earlier in these submissions, the extent of potential impacts on both SP AusNet and Vision Australia will depend on the ultimate alignment of Part B. Indeed, SP AusNet tabled a document indicating that the impacts would be largely alleviated were the alignment to run immediately adjacent to CityLink.

The LMA’s reply to submissions summary stated:

LMA will continue to work with Vision Australia to minimise disruption to the Seeing Eye Dog Facility at Barrett St.

The presentation by Mr Smith (Document 325) for the Kororoit Institute (Submission 313) and the Moonee Ponds Creek Co-ordination Committee observed that the impacts on the new Guide Dog Training Centre (and on SP AusNet West Melbourne Terminal Station) were but two of “*no end of reasons to step back down the decision tree in quest of alternatives*”.

The Committee inspected the Vision Australia Barrett Street facility post hearing. The site inspection was informative. As a result of the inspection, the Committee accepts the submission of the Vision Australia that the facility will become non-functional and unviable for its current purpose, if the land acquisition proposed in the CIS was to eventuate.

### Discussion

#### Temporary sidetrack (Precinct 1: Hoddle Street - Eastern Portal)

The Committee has already commented at length (refer Chapters 6.3, 7.2 and 8.2) that it considers unacceptable, the significant negative impacts arising from the proposal to construct a temporary sidetrack on the north side of Alexandra Parade. The economic and business impacts, including the forced closure of 18 businesses adds to the Committee’s weight of concern. While the Committee was informed that the LMA is actively engaging with a number of the businesses, and that businesses will receive compensation arising from the compulsory acquisition of their properties, it considers these actions fall short of *“mitigating the impacts”* arising from the demolition. In relation to the purported consequential benefits of urban renewal and redevelopment opportunities that will be created, the Committee acknowledges that economic benefits will flow from the redevelopment, including jobs and flow on economic stimulus from construction activity. While some businesses may re-settle in the new urban form that eventuates some time post construction, this does not justify or make good the destruction of businesses that have been operating in some instances for a century. The Committee considers that if the temporary sidetrack is advanced as a Project element contrary to the Committee’s recommendation, further consideration should be given to property acquisition to residential and business property owners abutting the construction zone.

#### Urban Camp in Precinct 3: Royal Park (Western Portal)

The Committee agrees with the submission presented on behalf of the Urban Camp that the business impacts and issues arising from their residential retreat and temporary accommodation function, pose different issues compared to a conventional 9 – 5 commercial operation. Based on the Committee’s site inspection, and description of the works that are likely to be undertaken within the immediate environs of the Urban Camp (as described by the LMA and reflected in its commentary on soldier piles and edge retaining walls in Document 220), the Committee accepts the concern of the submitter. The Committee agrees that it is unlikely that the business will be able to operate viably and safely during the construction period. The Committee considers that the LMA should be pro-active in resolving these matters. Providing fair and reasonable compensation and reasonable costs associated with remediation strategies (relocation and or temporary closure) should be accommodated by the LMA/the Project.

#### Activity Centres in the City of Moonee Valley in Precinct 4: CityLink

Having considered the submissions and evidence before it, the Committee does not share the concerns expressed regarding the potential negative impacts on Moonee Valley’s activity centres. It is not convinced that there is a reasonable likelihood that the impacts arising from increased traffic moments through the local activity centres from increased Ormond Road traffic will be such that congestion will increase to a point that shoppers will change their shopping pattern. Conversely, the Committee considers additional traffic flow may result in extra sales from passing trade.

#### Arden-Macaulay Urban Renewal Area in Precinct 5: Port Connection

As previously discussed (Chapter 7.2), in addition to the 25 properties (12 of which host businesses) proposed to be acquired for “*project structures and construction laydown/depot areas*”, the Arden-Macaulay precinct will experience major immediate and enduring impacts associated with the additional traffic on the proposed Part B viaduct structures. Impacts will include significant noise, visual intrusion, overshadowing, air quality, and lightspill.

The Committee considers the intrusion into this proposed “*dense, mixed-use inner city suburb*” is unacceptable, due to its impacts on the planned residential and mixed use redevelopment ambitions outlined within the Arden-Macaulay Structure Plan Area. The Committee is concerned that the construction of the Arden Street ramps may further compromise the existing and future mixed use residential amenity of the area.

As the Committee Terms of Reference to not extend to the consideration of broader economic and cost-benefit considerations, it does not support the implied conclusion by Ms Stoettrup that a Tunnel option through the precinct would be cost prohibitive, where she said:

Tunnels would have the benefit of not impinging on land uses, but are expensive. A range of design options would have been examined as part of the early studies, prior to the CIS.

However, the Committee does accept her observation that a Tunnel would have the benefit of not impinging on land uses.

#### Vision Australia Guide Dog Centre in Precinct 5: Port Connection

The Committee is perplexed with the LMA’s response to the submission on behalf of Vision Australia. It is clear to the Committee having inspected the facility, that construction of the viaduct within the Proposed Project Boundary through Vision Australia’s property will render the facility unsuitable and unusable for its purpose. If Part B of the Project is to be built on its current alignment, the breeding and training facility will need to close. Once this occurs, the other extensive and aligned business operations that Vision Australia has in the neighbourhood will also become untenable.

The Committee is satisfied with the submissions before it that like the apartments at 18 Bent Street, the presence and redevelopment of Vision Australia site seemed to emerge as a very late surprise for the Project design team. The submission and evidence advanced during the Hearing that questions the longevity of Vision Australia operations in the Precinct due to a perception that they may be inconsistent with the long term urban renewal ambitions articulated in the Arden-Macaulay Structure Plan are dismissed by the Committee. The facilities that Vision Australia own and operate in the Precinct have existing use rights. The dog breeding and training centre has been purpose built to protect the inhabitants (animal and human) from noise associated with CityLink. The sound attenuation has the benefit of reducing noise impacts associated with their dog breeding and training operations.

The Committee considers the Project’s impact on this business will be significant and of such magnitude that, if Part B is constructed in the current alignment through the property, relocation of the facility will be required and compensation will need to be paid accordingly. The costs will be significant. These issues add additional support to the Committee’s finding that the impacts associated with Part B of the Project have not been adequately assessed or mitigated, and that this element of the Project should be reconsidered and redesigned via a new process, in conjunction with further resolution of the Arden-Macaulay Structure Plan, and the recently announced proposals for WestLink, as well as the Tullamarine/CityLink upgrade amongst other projects in this vicinity.

### Findings

The Committee accepts the submission of the LMA that the Project has substantially avoided and minimised business impacts where the Project alignment is in-tunnel. It accepts, as a general proposition, that the Project will result in some business productivity improvements associated with reduced east-west travel times.

The Committee however finds that the Project’s design has a range of unacceptable business impacts including:

* The demolition of 18 businesses (and 18 residential properties) to facilitate a temporary sidetrack on the north side of Alexandra Parade;
* The impacts on the Urban Camp within Royal Park during construction of the Project;
* The impacts on the mixed-use urban renewal ambitions articulated in the Arden-Macaulay Structure Plan; and
* The impacts on Vision Australia’s substantial assets within Precinct 5, including but not limited to its recently renovated dog breeding and training facility.

The Committee finds it difficult to reconcile that Ms Stoettrup’s review of the 255 submissions she was provided with by the LMA did not lead her to conclude that not one additional new, or even a modified Performance Requirement or mitigation measure was justified in order to off-set or minimise business or economic impacts arising from the Project.

Overall the Committee considers that the Reference Project has not adequately minimised to the extent practicable the adverse business impacts of the Proposal. The Committee maintains its primary recommendation that Part B be excluded from the Project.

The Committee has recommended that further consideration be given to property acquisition to property owners (commercial and residential) that abut the proposed temporary road alignment if it is determined that the ancillary sidetrack in Precinct 1 is a required element of the Project.

It further recommends that the LMA commence negotiations with Urban Camp to resolve a fair and satisfactory relocation and/or temporary closure strategy and associated fair compensation package, and that it negotiate a fair and comprehensive relocation and compensation package that reflects the need to relocate the Vision Australia dog breeding and training facility to an alternative fit for purpose site and facility, as well as funding to make good associated impacts on other related and nearby facilities, if it is determined that the Part B viaduct is a required Project element in its current location, as it encroaches Vision Australia’s dog breeding and training facility in Barrett Street.

Part C: Implementation

# Environmental Management Framework

Paragraph 3(c) of the Terms of Reference states:

Make recommendations as to appropriate conditions to be attached to any applicable law approvals: such conditions are to include conditions to address the environmental and urban design performance of the project, having regard to opportunities to manage environmental and urban design outcomes through contractual arrangements that the State may enter into, as outlined in the CIS.

Paragraph 7(i) of the Terms of Reference is to make recommendations on:

Whether the Environmental Management Framework in the CIS will provide an effective integrated approach to manage the environmental performance of the project.

These two tasks of the Terms of Reference have been considered together in this chapter.

## Overall Environmental Management Framework

The Environmental Management Framework (EMF) is set out in the CIS Volume 2, Chapter 17. The CIS outlines that a contractor will be appointed under the PPP to finance, design, construct and operate the project. LMA will administer the Project Agreement on behalf of the State Government. The Project Agreement will outline the contractor’s obligations for project delivery, and will include the requirement for the contractor to comply with this EMF. The CIS states:

The bidding process would require the development of outline EMPs for construction and operation that would demonstrate the contractor’s approach to achieving compliance with all aspects of this EMF. The outline EMPs would be reviewed and evaluated by LMA and assessed against this EMF.

The CIS further states:

The successful contractor would be required to prepare documentation including an EMS and full EMPs to meet the requirements of this EMF. The EMS and EMPs would describe in detail how the contractor would meet the performance requirements and approval conditions and identify, manage and mitigate environmental risks arising during construction and operation (including maintenance).

The contractor will be required to appoint an Independent Auditor to complete regular audits of compliance with the approved EMPs and approval conditions and provide audit reports to the LMA, the Independent Reviewer, the Minister for Planning and the other regulators and agencies in accordance with the Incorporated Document.

The CIS outlines the relevant roles and responsibilities for environmental management for the LMA, the contractor, the Minister for Planning, regulators and the Independent Auditor at Table 17-1.

Table 17-2 of the CIS outlines the performance requirements, of which specific issues include:

* Transport connectivity;
* Land use, dwellings and infrastructure;
* Visual amenity;
* Noise, vibration, air emissions and light spill;
* Cultural heritage;
* Surface water and groundwater;
* Native vegetation and biodiversity; and
* Solid wastes.

The CIS indicates that each EMP will be prepared in the context of the environmental management systems (EMSs) of the organisation responsible for the activities consistent with AS/NZS ISO 14001 *Environmental management systems – requirements with guidance for use* and relevant legislation, policy and approvals.

The proposed EMF is viewed as providing the structure for:

* Managing the Project in a way that achieves compliance with environmental legislation and encourages continual improvement in environmental performance;
* Establishing and assessing performance against the Project’s environmental commitments;
* Developing and implementing appropriate plans and procedures for all phases of the Project; and
* Monitoring, auditing, reviewing and reporting performance.

## Key Issues

The key issues are:

* The adequacy of the EMF to ensure environmental impacts associated with the Project are addressed;
* The consultation process described in the EMF; and
* Accountabilities and responsibilities for compliance and reporting.

## Evidence and Submissions

The EMF presented in the CIS sets out the broad approach and accountabilities for the management of the environmental aspects of the project including the design, construction and operation phases of the Project. The EMF outlines the environmental management governance for implementing the performance requirements for the Project, as well as requirements for the EMS and the EMPs to be adopted by the contractor.

Due to the procurement process being adopted for its construction and operation, a robust and transparent EMF will be critical in providing the level of quality assurance expected by many major stakeholders.

In addition to the information presented in the CIS, the LMA tabled a number of documents at the Hearing which:

* Outlined additional information on the proposed EMF;
* Addressed the role of Performance Requirements in the overall EMF;
* Provided more detail on the approach and requirements associated with the delivery of the project as a Public Private Partnership (PPP).

The EPA submission (Submission 349) supports the implementation of an EMF that outlines governance arrangements for implementing the Performance Requirements throughout the delivery of the Project, as well as requirements for an EMS and EMPs to be adopted. The EPA stated that an EMF consistent with AS/NZSISO 14001 provides an appropriate standard for the EMF.

The EPA supports the approval requirements for the EMS and the construction and operation EMPs, as well as requirements that include responsibilities for the Minister for Planning, the LMA, an Independent Reviewer and an Independent Auditor. In addition to, or supporting the Independent Reviewer, EPA recommended specialist review is undertaken for particular issues or works. The EPA suggested in its written submission that an Independent Auditor or similar could also be appointed to audit the detailed design of the Project proposals.

In regard to potential construction risks associated with the Project, the EPA proposed the following conditions be included as part of the construction EMP:

* A dust management plan is prepared and implemented to manage dust generation during construction;
* A noise management plan is prepared and implemented to manage potential noise impacts associated with construction;
* Further site-specific data is collected on groundwater quality, levels and flow to better inform the risk assessment and development of mitigation measures;
* A surface water management plan is prepared and implemented to manage potential surface water run-off impacts associated with construction; and
* A groundwater management plan is prepared and implemented to manage potential groundwater impacts, including the risk of “*mobilisation*” and/or “*migration*” of contaminated groundwater.

The City of Yarra expressed doubt that the EMF would ensure that any negative impacts are mitigated, and stated in paragraphs 24 (a) and (b) of its opening submission (Document 12):

* Much of the EMF is couched in terms which render it effectively unenforceable. These include obligations to ‘minimise’ impacts or to take steps ‘where feasible’. As a practical matter, it is likely to be impossible to prove that a proponent had not minimised an impact or that if the proponent claimed something was not feasible, that it in fact was.
* Further, while the EMF frequently requires the proponent to consult with ‘stakeholders’, it does nothing to ensure that the views are given serious consideration or otherwise acted upon. This is particularly the case in relation to the social impacts, where the creation of a community liaison group is treated as a panacea – as if simply warning about an impact mitigates that impact.

Moonee Valley City Council considered the EMF to be too brief and that it took a very narrow and restricted view of potential impacts arising from the Project. The Council expressed concerned that the EMF is a “*compliance-only approach”* which “*limits the opportunity for the Project to actually result in improved liveability outcomes arising from the Project”*. The reliance on the contractor to consult with the community and stakeholders in relation to construction and operational activities is a concern, and Council advised that was not confident that issues raised by the Council or the community will be heard and acted upon, particularly during construction.

Individual submitters requested that audit reports, monthly reports and compliance reports be made public. Specifically, some submitters raised concerns that the EMF does not provide any requirement for publication of:

* The EMPs developed by the contractor and approved by the Minister;
* Detailed risk assessments developed by the contractor;
* Compliance reports by the contractor, in particular notifications of non-compliance;
* Reports by regulators and agencies in respect of any non-compliance by the contractor;
* Audit results;
* Reviews or reports by the Independent Reviewer in relation to contactor’s compliance with the EMF; or
* LMA advice, particularly in relation to any amendments deemed necessary for the construction EMP.

The Residents Against the Tunnel (RATs – Document 432) emphasised the need for adequate consultation and transparency in the process. Apart from requesting independent audits and review, the RATs suggested in their submission that the EMF *“should also include the requirement for such consultation to take place on a regular basis … be widely publicised so that the community is aware of and can attend these consultations. Matters raised and proposed response to them should also be required to [be] published within a specified and short time after each consultation”.*

A number of submitters raised issues with regard to the transparency and consultation process for the EMF as part of the Project’s implementation. In particular, some submitters (156, 336, 407 and 1424) suggested:

The Requirement for consultation should be set out that the community must be properly consulted about, in addition to construction and operation activities, the Design Framework, any changes and amendments to the Design Framework, any non-compliance with the EMF, and any variations to the scope of works.

Ms Mantell (Submission 201) raised issues with compliance and how the community would be notified about any breaches of compliance. Particularly, Ms Mantell stated *“The EMF fails to identify the full range of sanctions, remedies and compensation mechanisms that will apply in the event of any breaches, how they will be applied, and by whom. How will residents affected by any breaches be able to make these known to relevant authorities, and what recourse do they have? The implication is ‘none’. This is unacceptable”.*

## Discussion and Conclusions

The approach of the EMF is not new and has been used previously for large projects that have been subject to an environmental assessment process (whether under the MTPF Act or the *Environment Effects Act* 1978). Examples include the Desalination Plant and the Peninsula Link projects.

Having reviewed the EMF and the changes put forward by the LMA, the Committee concludes that the EMF is a sound framework for managing potential environmental risks associated with the Project as long as there are robust and transparent monitoring and review mechanisms in place to ensure compliance with the applicable approvals, EMF, construction and operation EMPs and performance requirements.

The Committee agrees with the EPA that the appointment of an Independent Auditor to audit the detailed design of the Project is an appropriate mechanism to ensure the design of the Project is in accordance with the EMF and performance requirements. The Committee sees merit in the EPA’s suggestion of an Independent Reviewer for particular issues or works associated with the Project, for example air quality monitoring reports.

The Project will cause impacts (although some will be temporary in nature) during the course of construction and potentially during operation (such as excessive noise, reduced air quality). It is important that the Councils, the community and other stakeholders are kept abreast of what is happening during this timeframe. For that reason, the Committee believes that the monthly reports should be made available to the public for information, not just to the LMA as proposed in the CIS (17.5.1).

The Committee agrees with the submissions regarding the need for accountability and public reporting of compliance of the Project against the EMF and EMP. In this respect, the Committee is of the opinion that the audit reports of compliance with the EMP and approval conditions, and the Independent Reviewer’s quarterly reports that summarise the contractor’s compliance with the EMF over the quarter be made publicly available. This should occur, as a minimum, through provision of such reports on the LMA’s website.

The Committee sees benefit in the establishment of a Community Liaison Committee (CLC) with an Independent Chair. The role of the CLC would include providing an avenue for community participation and information regarding the monitoring and implementation of the Project. The EPA has appointed CLC’s for other projects where community engagement has been viewed as important in the monitoring and implementation of a project and the Committee believe such an approach would be beneficial to this Project. The CLC could include, for instance, members of relevant parties (LMA, Councils, DTPLI, Contractor(s), EPA and at least three community representatives taken from different precincts in the Project area). The EPA Publication 740 provides relevant guidance on establishing and running CLCs.

As highlighted by some submitters, the Committee notes that the EMF as presented in the CIS does not include a procedure for dealing with complaints associated with the construction and operation of the Project. The CIS does say under s17.5.1 Monthly Reporting that the monthly reports to the LMA will include details of complaints or incidents and corrective and preventative action taken. However the Committee believes that there needs to be a more explicit process of complaints management to ensure that if a community member, Council officer or a regulator has an issue to raise, it is clear who the complaint is to go to and what the process is to resolve any matters. The process is then to be recorded in the monthly monitoring reports.

## Findings

For the reasons outlined above, the Committee concludes that the EMF for the Project should be modified to incorporate a number of additional community reporting and complaints management processes. The Committee considers that the most effective means of realising the suggested actions, is via their inclusion in the East West Link Incorporated Document. The Incorporated Document should be amended to include the following:

* Establishment of a Community Liaison Committee with an Independent Chair;
* The EMF to provide a mechanism for public reporting of compliance against the EMF and EMPs (this may be the Independent Auditor’s report which becomes available on the LMA’s website for instance); and
* The EMF to provide a mechanism for complaints management that is transparent to the public and where follow up action is reported.

The Committee further concludes that dust, noise, surface water, and groundwater management plans as well as collection of further site-specific data on groundwater quality, levels and flow should be undertaken to better inform the risk assessment and development of mitigation measures as part of the EMP. These should also be specified in the Incorporated Document.

The above findings are reflected in the Committee’s revised version of the East West Link Incorporated Document in Appendix D.

# Performance Requirements

## Introduction

Performance Requirements for the Project were exhibited in the CIS in Table 17-2 in Section 17.3. As put in the CIS, the Performance Requirements are:

… expressed in terms of outputs and specify the limits and processes that must be followed to achieve an acceptable environmental outcome.

The Project contractor would need to comply with the Performance Requirements and the specific issues addressed by them are listed in Chapter 16 of this report. The Performance Requirements are intended to operate alongside any statutory controls that exist such as through the *Planning and Environment Act* 1987 and the *Environment Protection Act* 1970.

The Committee is required to consider the Performance Requirements and make recommendations on the overall environmental and urban design performance of the Project under Task 3 of its Terms of Reference.

At the Committee’s direction, the LMA discussed the exhibited Performance Requirements with the Councils and the EPA prior to the main Hearing to determine if agreement could be reached on additional or revised items.

## Key Issues

The Performance Requirements are a critical element of successful project delivery. They attracted considerable attention through the Hearing process, particularly from Local Government. The Committee considers the major issues with the Performance Requirements are as follows:

* The scope of the Performance Requirements and whether they address the full range of issues likely to be encountered in project implementation;
* The specific wording of the Performance Requirements and whether they can be improved to provide clarity and certainty in implementation; and
* How the Performance Requirements should be implemented during project delivery.

These issues are discussed below.

## Submissions and Evidence

No specific evidence on the Performance Requirements was called in chief, but a number of experts for various parties made particular recommendations on technical issues. For example the Groundwater conclave resulted in a number of changes agreed amongst the experts (and accepted by the LMA). These changes have been considered in the Assessment chapters of this report and findings made accordingly. The suggested changes were consolidated in the LMA’s closing submission (part of Document 525).

Mr Morris for the LMA put in his opening submission that the rationale for a using a performance based approach rather than a prescriptive approach was founded on two major premises. First was the need to respond to the project delivery model (a PPP) and foster innovation, and secondly to provide flexibility to allow the contractor to respond to opportunities and challenges

He submitted that the Performance Requirements will “c*onstitute binding contractual obligations on the part of the successful contractor under the Project Agreement”.* Mr Morris noted that the LMA expects that in making the s73 approval decisions under the MTPF Act, that the Minister will exercise his powers to apply conditions under s80(1)(a)(iii) to ensure that the EMF and Performance Requirements are made binding contractual obligation on the successful tenderer.

Mr Morris cautioned that because of the contractual nature of project delivery and Performance Requirement application, care should be taken in their drafting not to include elements that would rely on legislative requirements that are not part of the project assessment. This was said to include making Performance Requirements subject to approval of a responsible authority, a term more synonymous with parts of the *Planning and Environment Act* 1987 not relevant to this project assessment.

Submitters recognised the importance of the Performance Requirements in the Project assessment, given that the Reference Project is only conceptual, and the Performance Requirements will be determinative in shaping the eventual actual project to be constructed.

A number of submitters were critical of the Performance Requirements for being too imprecise. For example, in opening submissions for the City of Melbourne, Mr Pitt noted:

It is submitted that further uncertainty arises where Performance Requirements are not empiric and are expressed in aspirational terms such as "optimise" or "minimise" or minimise “to the extent practical" or like expressions, presumably to be assessed by the independent reviewer during the construction phase, after contracts have been let, and without any other right of review.

Mr Pitt argued that the LMA’s reluctance to introduce more accountability and precision will compromise implementation and the potentially the attainment of critical design elements. He expressed concern that Performance Requirements which related to, for example, the protection of Royal Park, may be traded off against costs and ease of construction across multiple competing objectives and precincts.

In later submissions he reflected on the use of mandatory, empiric provisions that had been supported in the Melbourne Planning Scheme by Panels. He submitted that such are necessary for this Project. Given that the LMA does not have a defined project, it is appropriate to ensure acceptable outcomes by the mandatory definition of Performance Requirements.

Ms Hicks for the City of Moonee Valley submitted that mandatory Performance Requirements may be necessary in some cases where a discretionary approach would not achieve acceptable outcomes.

Mr Pitt strongly submitted that the consideration of Performance Requirements should commence with a consideration of planning policy under the *Planning and Environment Act* 1987 and the relevant planning scheme, given that a planning scheme amendment is one of the applicable approvals.

He provided an extensive analysis of policy and referenced a number of significant court cases in support of his argument, and concluded that:

The Council submits that each of the revised performance requirements [Document II] and matters raised its submission that would require conditions in an approval decision are matters that are validly and appropriately to be imposed defining the physical and operational manifestations of the Project or addressing direct and indirect impacts of the Project.

Mr Pitt further submitted that for such Performance Requirements to be enforceable, they must be a condition in the relevant applicable approval, that is, in the Incorporated Document that is part of the planning scheme amendment. He reaffirmed this point in the City of Melbourne’s closing submission by providing detail on how the wording might be effected.

Mr Finanzio for the City of Yarra rejected the propositions put by the LMA that the Committee should be constrained in its consideration of Performance Requirements by the contractual negotiations that may occur later. He submitted that the Committee has available to it all the “*… tools which are ordinarily available to it to guide outcomes, set direction and to mitigate unreasonable impacts are also available to it here …*” including that of making Performance Requirements subject to the satisfaction of a responsible authority.

An individual submitter, Ms Petra Stock, who was chiefly concerned with impacts on the Zoo, submitted that in her experience as an engineer, Performance Requirements would usually be developed using SMART criteria. That is, they should be Specific, Measurable, Achievable, Relevant and Time-bound.

Mr Morris for the LMA, in response tabled Document 494 which suggested that the SMART criteria may be useful in a management or public policy context but is less relevant in a project context such as this. He conceded that:

While the SMART criteria may be of assistance for some of the more technical performance requirements where clearly defined and specific goals or targets can be set, there will be many other performance requirements where this approach will be inappropriate and is likely to lead to narrowly defined and inflexible outcomes or results.

A number of parties provided ‘tracked changes’ versions of the Performance Requirements including various expert witnesses, the Cities of Melbourne, Yarra and Moonee Valley, the EPA, Mr Ursida and Mr Herington.

The LMA responded to these changes in closing submissions (Document 525) and, with a few exceptions, did not agree with the approach suggested by submitters.

## Discussion

Given the approach of assessing a concept rather than an actual project, the Performance Requirements become critical in determining how the eventual project can be delivered within an acceptable framework.

The Committee has commented earlier in this report as to the merits in principle of such an approach in a dense, inner urban environment with significant amenity, community, heritage, environmental and economic values.

### Scope of Performance Requirements

In general terms the Committee considers that the Performance Requirements identify and address an appropriate range of issues that might be expected for a major project such as this. However, given the lack of an actual project to consider, and the consequent lack of a detailed design, the Committee’s conclusion is thus qualified by the information available through the Reference Project.

Given the lack of detailed design regarding the technical delivery of the Project, particularly the tunnel and elevated structure construction, the Committee’s ability to provide decisive comment on performance is limited.

### Wording of Performance Requirements

The Committee understands the LMA’s desire that the Performance Requirements be worded to maintain a high level of flexibility for the successful contractor, so that the range of responses to achieve a particular outcome is broad.

However, the Committee does not think that this a reasonable approach in a highly urbanised context where the community (and many decision makers) have not seen a detailed project design. There is very little certainty as to what the Project will look like and how it will be delivered. This, in the Committee’s opinion, supports the proposition that the Performance Requirements should be worded to ensure some reasonable level of third party input (particularly from the affected Councils) where relevant to improve project outcomes.

The risk in not taking this approach is, as put by the City of Melbourne, being where value judgements and decisions need to be made between project design and construction and other values, such decisions may be made out of the public eye and with no evident justification or explanation for any given outcome.

The Committee has avoided the temptation to make Performance Requirements subject to secondary consent where that is not otherwise required by legislation, but has attempted to provide more opportunities for meaningful consultation and input. The Committee has attempted where possible to qualify the use of open-ended terms such as ‘minimise’ to reference the Performance Requirements to objective criteria or at least more defined subjective criteria.

While some level of flexibility is desirable so that innovative and high quality responses are not prevented, achieving this balance between flexibility and certainty has been at the forefront of the Committee’s deliberations in formulating its recommendations.

In relation to the use of SMART criteria, the Committee has not adopted a formal approach of reviewing and forming Performance Requirements against such a system. However it has viewed the Performance Requirements informally against such criteria in order to provide a more consistent approach to wording and structure. In the absence of an alternative design to the Reference Project being provided by the LMA, the Committee considers this is reasonable.

### Referencing of Performance Requirements

The Performance Requirements are proposed to be applied contractually between the successful contractor and LMA.

Given that many of the Performance Requirements are a direct result of responding to planning issues and go to the essence of project impacts and delivery, the Committee does not consider applying the Performance Requirements solely through this contractual pathway is appropriate.

The Committee is making recommendations on the Incorporated Document in the relevant Planning Schemes which effectively authorise the Project to proceed, along with the other Applicable Approvals.

Thus the Committee considers that there should be a stronger and direct link between the planning instruments and the Performance Requirements. The Committee considers that the best way to do this would be to include or link the final Performance Requirements to the Incorporated Document.

The Committee considers this would:

* Provide a more transparent approach to ensure the Project is delivered within the agreed Performance Requirements;
* Assist more effective enforcement action where Project implementation is not meeting Performance Requirements; and
* The Committee further discusses its rationale for including the Performance Requirements in the Incorporated Document in Chapter 18.4 of this report.

## Findings

The Committee finds that the Performance Requirements as amended in Appendix E should be applied to the Project and will assist in reducing the impacts of the final design. To improve certainty and provide for more effective project and environmental management, the Performance Requirements should be included in the Incorporated Document. The Committee has recommended accordingly.

# Planning Control

## Planning Scheme Amendment GC2

As discussed in Chapter 3.1, Amendment GC2 seeks to amend the Melbourne, Moonee Valley, Moreland and Yarra Planning Schemes to allow use and development of the land within the Proposed Project Boundary for the purposes of the Project without the need to obtain planning permission or to otherwise comply with the provisions of the relevant Planning Schemes. The Amendment applies to all land proposed to be developed or used for the purposes of the Project, that is for Part A and Part B.

### Changes to the Planning Schemes

Specifically, the Amendment proposes the following changes to the four Planning Schemes:

**Melbourne Planning Scheme:**

* Amend Planning Scheme Maps 4DDOPT1 and 5DDOPT1 to include a Design and Development Overlay over part of the tunnel and associated structures.
* Amend the Schedule to Clause 43.02 ‘Design and Development Overlay’ to include Schedule 62 applying to land above the tunnel to require a permit for buildings and works that are 15 metres or more below ground level and the referral of applications to the Roads Corporation.
* Amend the Schedule to Clause 52.03 ‘Specific Sites and Exclusions’ to facilitate planning approval for the East West Link Project in accordance with the specific control in the ‘East West Link Project Incorporated Document, September 2013’.
* Amend the Schedule to Clause 61.01 to make the Minister for Planning the Responsible Authority for the provisions which apply to the use or development of land for the East West Link Project.
* Amend the Schedule to Clause 66.06 to make the Roads Corporation a referral authority for permit applications required by proposed Schedule 62 to Clause 43.02.
* Amend the Schedule to Clause 81.01 to insert an incorporated document titled ‘East West Link Project Incorporated Document, September 2013’.

**Moonee Valley Planning Scheme:**

* Amend the Schedule to Clause 52.03 to facilitate planning approval for the East West Link Project in accordance with the specific control in the East West Link Project Incorporated Document, September 2013.
* Amend the Schedule to Clause 61.01 to make the Minister for Planning the Responsible Authority for the provisions which apply to the use or development of land for the East West Link Project.
* Amend the Schedule to Clause 81.01 to insert an incorporated document titled East West Link Project Incorporated Document, September 2013.

**Moreland Planning Scheme:**

* Amend the Schedule to Clause 52.03 to facilitate planning approval for the East West Link Project in accordance with the specific control in the East West Link Project Incorporated Document, September 2013.
* Amend the Schedule to Clause 61.01 to make the Minister for Planning the Responsible Authority for the provisions which apply to the use or development of land for the East West Link Project.
* Amend the Schedule to Clause 81.01 to insert an incorporated document titled ‘East West Link Project Incorporated Document, September 2013’.

**Yarra Planning Scheme:**

* Amend Planning Scheme Maps 1DDOP and 2DDOP to include a Design and Development Overlay over part of the tunnel and associated structures.
* Amend the Schedule to Clause 43.02 ‘Design and Development Overlay’ to include Schedule 15 applying to land above the tunnel to require a permit for buildings and works that are 15 metres or more below ground level and the referral of applications to the Roads Corporation.
* Amend the Schedule to Clause 52.03 ‘Specific Sites and Exclusions’ to facilitate planning approval for the East West Link Project in accordance with the specific control in the ‘East West Link Project Incorporated Document, September 2013’.
* Amend the Schedule to Clause 61.01 to make the Minister for Planning the Responsible Authority for the provisions which apply to the use or development of land for the East West Link Project.
* Amend the Schedule to Clause 66.06 to make the Roads Corporation a referral authority for permit applications required by proposed Schedule 15 to Clause 43.02.
* Amend the Schedule to Clause 81.01 to insert an incorporated document titled ‘East West Link Project Incorporated Document, September 2013’.

Amongst other matters, the Explanatory Report to the exhibited Amendment notes that it:

* Furthers the objectives of planning in Victoria;
* Addresses environmental and relevant social and economic effects;
* Complies with relevant Ministerial Direction;
* Is consistent with the State Planning Policy Framework:
* Supports the Local Planning Policy Framework and the Municipal Strategic Statement of the Melbourne, Moonee Valley, Moreland and Yarra Planning Schemes; and
* Addresses relevant requirements of the TI Act.

The two key components of Amendment GC2 are the Incorporated Document and the Design and Development Overlay.

### Incorporated Document

What the Planning Scheme Amendment is seeking to achieve is expressed through the Incorporated Document which is proposed to be referenced in Clause 52.03 ‘*Specific Sites and Exclusions*’ and inserted in Clause 81.01 of the four Planning Schemes. The Incorporated Document is provided pursuant to s6(2)(j) of the *Planning and Environment Act* 1987 and, as drafted, will prevail over any contrary or inconsistent provision in the relevant Planning Schemes. The control in the Incorporated Document applies to land shown as the ‘Project Area’ in Sheets 1 to 5 of Figure 1 (of the Incorporated Document).

The proposed section 4.0 ‘*Control*’ provision states that “*no planning permit is required for, and nothing in the Planning Schemes operate to prohibit or restrict the use or development of land in the Project Area for construction and operation of the Project*”. These include but are not limited to:

* A freeway standard road connecting the Eastern Freeway to CityLink and improvements to CityLink and connection to the Port of Melbourne;
* Interchanges and grade separations;
* A new road tunnel and associated infrastructure;
* Earthworks and other structures; and
* Various ancillary activities.

The above are subject to the conditions of Clause 5.0, where it is noted that the use and development and the ancillary activities ***must be*** (Committee emphasis):

* For the East West Link Project as authorised by the State Government of Victoria under an agreement between the State and the entity appointed to undertake the East West Link Project.
* Generally in accordance with the Urban Design Principles in Table 1 of the document.
* Undertaken generally in accordance with an Environmental Management Plan prepared to the satisfaction of the Minister for Planning after consultation with the Linking Melbourne Authority. The Environmental Management Plan must be prepared in accordance with the Environmental Management Framework in the Comprehensive Impact Statement for the Project.

The conditions within Clause 5.0 allow the Environment Management Plan to be prepared and approved in stages of the Project, and to be amended from time to time. It states:

Amendments to the Environmental Management Plan which provide for a significant change to work methods or scope that results in increased or new environmental risks or impacts must be prepared to the satisfaction of the Minister for Planning.

The Urban Design Principles have been discussed in Chapter 8, and the Environmental Management Framework, including the content and structure of Environmental Management Plans, in Chapter 16.

### Design and Development Overlay

Two new schedules to the Design and Development Overlay (Schedule 62 to the Melbourne Planning Scheme and Schedule 15 to the Yarra Planning Scheme) are proposed to be introduced via Amendment GC2. The Schedules are identical and apply to land within the East West Link Project Area which is either in-tunnel or identified as being potentially affected by tunnel construction or operation. The Design Objectives at Clause 1.0 of each schedule include:

* To ensure that the development of land above the East West Link tunnel is not adversely affected by the construction or operation of the tunnel.
* To ensure that the development of land above the East West Link tunnel does not adversely affect the construction or operation of the tunnel.
* To ensure that the Roads Corporation is informed of development above the East West Link tunnel and to facilitate comment by that authority on any specific requirements relating to the development to the extent that it impacts on, or is adversely affected by, the construction or operation of the tunnel.

At Clause 2.0 ‘buildings and works’, it is stated that a permit is not required to construct a building or construct or carry out works if the buildings or works are less than 15 metres below ground level. Notice and exemption provisions apply. Clause 3.0 notes that a permit is not required to subdivide land. The Decision Guidelines at Clause 4.0 note that apart from the State and local planning policy framework, the Responsible Authority must consider the impact of the construction or operation of the tunnel on and from the development of land above the tunnel.

An additional Design and Development Overlay issue was raised by the Committee in its s57(4) request of the LMA (refer question 46). The question sought a response from the LMA as to whether appropriate planning controls have been drafted in the Amendment to protect the dispersion performance of the ventilation stacks (e.g. overlay height controls for surrounding buildings).

## Key Issues

The key issues to be addressed relate to:

* The form of the Amendment;
* The Incorporated Document, its role in implementing the Project, and the inclusion of Performance Requirements;
* The veracity of the Urban Design Principles;
* The provisions of the exhibited Design and Development Overlay and whether they are sufficient to protect the tunnel, and whether an additional Design and Development Overlay is appropriate to protect the dispersion performance of the ventilation stacks (eg overlay height controls for surrounding buildings).

## Submissions and Evidence

The key submissions about the proposed Planning Controls were provided by the LMA, the City of Melbourne, Yarra City Council and the Department of Transport, Planning and Local Infrastructure (DTPLI) through opening and closing submissions.

### Form of the Amendment

In his opening submission for the LMA, Mr Morris observed that in many respects, the Planning Scheme Amendment (Amendment GC2) is *“… the most substantial of the applicable approvals that relate to the Project*”. He went on to say:

It seeks to introduce, amongst other things, an incorporated document into the relevant planning schemes that will allow the use and development of the land for the purposes of the Project without the need to obtain planning permission and without the need to otherwise comply with the terms of the relevant planning schemes.

Whereas the other applicable approvals relate to discrete components of the Project, the proposed Amendment relates to the Project in its entirety.

Mr Morris noted that there were four key matters relating to the Amendment that the Committee needed to be cognisant of. In summary these included:

* The Amendment is designed to establish a framework within which acceptable outcomes will be delivered, rather than mandating a specific design outcome;
* Whether the Project will facilitate acceptable planning outcomes, rather than best or preferable outcomes;
* The Amendment should be considered to be acceptable, despite it giving rise to potential negative consequences, so long as it implements the objectives of planning in Victoria; and
* In assessing the impact of the Amendment, the Committee needs to be cognisant of the existing planning controls that apply to the land impacted by the Amendment.

In the closing submission, Mr Morris concluded that the Committee should recommend that the Minister for Planning grant the applicable approvals on the terms set out in Appendix A to the CIS. This includes the preparation, approval and adoption of a planning scheme amendment (Amendment GC2) under sections 8, 29 and 35 of the *Planning and Environment Act* 1987.

### Incorporated Document

The closing submission on behalf of DTPLI (Document 512) by Mr Townshend in respect of the Incorporated Document, stated:

The Department does not assume that the Assessment Committee must finally resolve the specific wording of the Incorporated Document and conditions. Nonetheless, the following matters are drawn to the attention of the Assessment Committee concerning the drafting and content of the Incorporated Document.

In respect of the form of the Incorporated Document, the Mr Townshend stated that the conditions “*should be expressed as stand-alone and numbered conditions which proceed in a logical sequence*”. In respect of the conditions within the Document, Mr Townsend stated that they should acknowledge the following approval steps:

a. Identification of the authorised project.

b. Identification of the Environmental Management Framework.

c. Approval of the Construction Environmental Management Plan (CEMP) to the satisfaction of the Responsible Authority.

d. Permission to approve the CEMP in stages.

e. Condition permitting amendments to the CEMP.

f. A requirement that the development be generally in accordance with the approved CEMP.

g. A requirement that the development be generally in accordance with the Urban Design Principles.

In respect of ‘*Reporting’* DTPLI considered that the EMF should clarify the protocol and timing for the provision of audit reports to the Minister for Planning. In regard to ‘*Land’* the submission stated that “*the description of the land in Clause 3.0 of the Incorporated Document and the mapping for the Incorporated Document will need to be finalised upon the approval of the project”.*

The City of Melbourne’s closing submission (Document 513) argued that the Performance Requirements should be included within the Incorporated Document (as a new Table 2) for transparency, and to allow the right of enforcement under the P&E Act. Other recommended changes advanced by Mr Pitt included:

* Insert a condition that the Performance Requirements in the EMF must be consistent with the Performance Requirements in Table 2 of the Incorporated Document; and
* Amend the existing reference to amendments to the EMP (second sentence in third paragraph of Section 5.0) and replace it with a requirement that amendments to the EMP must be consistent with the Performance Requirements in Table 2 to the Incorporated Document.

Mr Pitt concluded that:

The extent to which the LMA is not prepared to accept such conditions and the performance requirements advocated by Melbourne highlights the potential under the CIS for major unacceptable impacts that are almost certain to otherwise arise from the design of the ultimate project.

Mr Pitt emphasised that the current reference to facilitating a connection from CityLink to the Port of Melbourne “*via a new viaduct*” in Clause 2.0 of the Incorporated Document should be deleted thereby enabling this link to be provided via CityLink.

In presenting the closing submission on behalf of the City of Yarra (Document 514), Mr Finanzio opened by confirming that Yarra “*supports the submissions made on behalf of the City of Melbourne with regard to including the Performance Requirements as Table 2 in the Incorporated Document*”. In addition, Mr Finanzio highlighted a number of additional detailed changes to Incorporated Document sought by Yarra. The changes are outlined in Document 490. Mr Finanzio explained that they are aimed at achieving two things:

* Prohibit any future project from comprising features whose negative impacts have not been justified as part of this process; and
* Removes the mechanism which might (potentially unlawfully) delegate to the Minister the power to approve any project whatsoever without any form of supervision in relation to approval or enforcement.

With specific reference to the wording in ‘*Clause 5.0 – Conditions’* that stated that “*Amendments to the Environmental Management Plan which provide for a significant change to work methods or scope that results in increased or new environmental risks or impacts must be prepared to the satisfaction of the Minister for Planning*”, Mr Finanzio noted the concern that the Incorporated Document could therefore be used to approve amendments without consultation with Councils or any other authority or agency that could have environmental impacts that:

* Have not been identified in the CIS or considered as part of this process; or that
* Have been identified and considered, but on the false assumption that the impacts will be those identified in the CIS.

Further, Mr Finanzio submitted that the existence of this power has the potential to undermine the integrity of the CIS process, the objectives of the MTPF Act, and should not be entertained, particularly *“in circumstances where the “project” to be approved is a “reference project”,* and where “*the CIS which has been prepared to justify the reference project is so poor”*.

Mr Finanzio concluded that the power should be deleted from the Incorporated Document. If is to be retained, he said at the very least:

* The word ‘significant’ should be deleted;
* The power should be amended to require, consultation with the relevant council; and
* Where possible, measurable standards should be identified such that any amendment to the EMP which might produce an outcome below such standards should not be permitted as an amendment.

### Urban Design Principles

The submissions and evidence regarding the adequacy of the proposed Urban Design Principles have been discussed in Chapter 8. The Committee’s recommended final version of the Principles is provided in Appendix F of Volume 2 (Appendices) of this Report. No submissions have been identified by the Committee that substantiate a reason for removing the Urban Design Principles from the Incorporated Document.

### Design and Development Overlays

In his advice to the Committee, Dr Bennet raised concerns about the impact of construction and operation of the tunnel on the development of land above the tunnel, or vice versa (Document 47). He said in this regard:

Whilst the vertical and horizontal alignment of the tunnel on the development is not finalised, the key issue is the dimension of twin tunnels … in relation to probable depth of cover, the varied geotechnical conditions and the proximity of development. The Roads Corporation needs the ability to be able to rigorously check any development in proximity to the East West Link tunnels on the basis of all material factors and not only as a design objective. A prescriptive dimensional criterion as proposed (15) does not capture the complexity of tunnels, the geotechnical conditions and the scale of any intended development.

Dr Bennet discussed what had occurred with the Melbourne Underground Rail Loop and ongoing administration. He then observed that *“development of properties along or in the immediate proximity of the Loop has never been stymied by these provisions, and should be considered by the LMA to protect the interest of all parties”.*

The Committee authorised Dr Bennet to meet with representatives of the LMA to discuss this matter further.

In his closing submission, Mr Morris reiterated that the Design and Development Overlay in essence seeks to protect the tunnel from any adverse effects of development undertaken above it, and conversely to protect development undertaken above the tunnel from any adverse effects of the tunnel. He submitted that the Design and Development Overlay does this by:

* Creating a permit trigger for any buildings or works that are undertaken more than 15 metres below ground; and
* Requiring that notice of any such permit application be provided to the Roads Corporation.

Mr Morris noted that by operation of section 102A of the MTPF Act, the LMA will be a referral authority to any permit application in respect of land within the Proposed Project Boundary. In response to Dr Bennet’s concerns with the drafting of the Design and Development Overlay, Mr Morris submitted:

Dr Bennet has queried whether a vertical dimensional criterion of 15 metres is appropriate having regard to the complexity of tunnel design in relation to the depth of cover, the varied geotechnical conditions along the alignment, and the proximity of the tunnel to development.

The LMA recognises the logic in distinguishing between the controls that apply along the “general tunnel alignment” – being that portion of the tunnel to be situated generally between Smith Street and Royal Parade (at which points the depth of the tunnel will have generally stabilised) – and the controls that apply at the “tunnel transition areas” – being the portions of the tunnel outside the general tunnel alignment areas (at which points the depth of the tunnel will vary).

In respect of the general tunnel alignment area the LMA contends that the relevant permit trigger should apply to buildings and works undertaken more than 2.5 metres below the natural surface level or more than 7.5 metres in height.

Mr Morris submitted that a control based on the above terms would better ensure that any future development, such as deep-piled foundations and basement excavations (which may cause substantial loading and lateral/vertical movements), does not impact on the construction and operation of the tunnel. He further submitted that a more cautious approach to that described above is warranted in “*tunnel transition areas*” given the varying depths and that a permit should be required in respect of any buildings or works undertaken in these areas.

Having noted the above, Mr Morris concluded that exhibited Design and Development Overlays should not be applied at this time so they can be appropriately modified once the final location and vertical alignment is determined. He submitted:

Ultimately, because it is not possible to delineate between the “general tunnel alignment” and “transitional tunnel areas” until the final location and vertical alignment of the tunnel is determined, it is submitted that the Committee should not recommend that a control on these terms be introduced as part of this approval process. The Committee should instead recommend that, as part of a separate planning scheme amendment process, a DDO control formulated on the terms set out above be introduced into the Scheme at a convenient time after the final design of the Project has been determined.

In relation to whether the Amendment contained appropriate planning controls to protect the dispersion performance of the required ventilation stacks, Mr Morris referred to the LMA response to the Committee’s information request. The response concluded that it would be appropriate to introduce a control similar to that which applies to the CityLink ventilation structures, such as Schedule 5 to the Design and Development Overlay of the Yarra Planning Scheme. Mr Morris submitted, that like its recommendation to defer the introduction of exhibited Design and Development Overlay until the tunnel alignment is determined:

A similar approach should be adopted in respect of the formulation and introduction of a DDO control to ensure that development undertaken in the vicinity of the ventilation stacks is appropriate having regard to its potential to influence the dispersal of air quality indicators.

Again, because the precise terms of that control will depend on the ultimate design of the Project (and the precise location of the ventilation structures), it would be appropriate that a control of this type be introduced at a later point in time as part of a separate planning scheme amendment process.

## Discussion

### Form of the Amendment

While the majority of submissions lodged in response to the exhibition of the CIS opposed the Project, either entirely or a particular element of it, no party to the hearing materially challenged the overarching form of the Planning Scheme Amendment, if it was determined that approval be granted. Subject to the Amendment GC2 documentation being modified to reflect the Primary and Project Specific Recommendations outlined in the Executive Summary of this report, the Committee accepts that the form of the Amendment is generally sound. In forming this view, the Committee notes that the Planning Scheme Amendment documentation is similar in scope and scale to other major road projects that have been implemented in Victoria in recent years. The Committee accepts that Amendment GC2 is generally consistent with the Ministerial Direction on the Form and Content of Planning Schemes.

### Incorporated Document

The key issues identified and changes proposed by the Committee in relation to the content and structure of the Incorporated Document are categorised as follows:

* Definition of the Project in Clause 1.0 – Introduction;
* Removal of Reference to Part B from Clause 2.0 – Purpose and Part 4. – Control;
* Structure and content of Clause 5.0 – Conditions;
* Modification to Figure 1, Sheets 1 – 5;
* Wording of Urban Design Principles in Table 1; and
* Whether to include Performance Requirements in Table 2.

Each of these matters is addressed in turn.

* + - 1. **Definition of the Project in Clause 1 – Introduction**

The Committee considers it appropriate to describe the Project and its two separate components, Part A and Part B, in the introduction to the Incorporated Document, rather than under the heading Purpose (in Clause 2) which is where it sits in the exhibited version.

The Committee supports the submission by Mr Pitt that the words “*via a new viaduct”* should be removed from the Project definition. As previously discussed, the Committee considers that Part B of the Project should be set aside and a new alignment determined. Within this context the Committee agrees that it is inappropriate for the Incorporated Document to specify that the connection from CityLink to the Port of Melbourne is to be provided “*by a viaduct”.*

* + - 1. **Removal of Reference to Part B from Clause 2.0 – Purpose and Clause 4.0 - Control**

Reference to Part B of the Project has been removed from the description of the purpose of the document in Clause 2.0 and from element of the Project in Part 4.0 Control to reflect the Committee’s Recommendation that the link from CityLink to the Port should be set aside. No further changes to these two clauses are proposed.

* + - 1. **Structure and content of Clause 5.0 – Conditions**

Consistent with the submission made on behalf of DTPLI, the conditions in Clause 5.0 have been re-ordered into a logical sequence and given discrete numbers.

The Committee does not support the submissions on behalf of the City of Yarra that it is necessary to specify as a ‘Control’, that copies of designs and management plans must be provided to Councils. The Committee accepts the submission of the LMA that the Minister for Planning is the relevant responsible authority and Councils receive plans via the consultation process built into the EMF.

The Committee agrees that use and development and the ancillary activities must be “*In accordance*” with the Urban Design Principles, as opposed to “*Generally in accordance*” with them. The Committee notes that the LMA agreed with this change. The condition has been modified accordingly.

The Committee does not support the City of Yarra’s proposed inclusions to the controls that seek to mandate specific design outcomes (eg “*Designed and constructed without access to Elliott Avenue*”). The Committee considers that such specificity is not warranted in this section of the Incorporated Document. The appropriate place for such detail is in the Performance Requirements which will either be specified in the EMF or as the Committee is proposing in a new Table 2 to the Incorporated Document.

With regard to the EMF, as discussed in Chapter 16, the Committee considers it important to specify additional accountabilities in the Incorporated Document including a mechanism for public reporting of compliance, inclusion of a complaints management process and the establishment of a Community Liaison Committee with an independent chairperson. In addition, the Committee believes that to ensure accountability, the audit reports of compliance with the EMF and EMP should be made publically available.

The Committee considers it important to specify within the Incorporated Document that approval of the Construction Environmental Management Plan is prepared to the satisfaction of the Minister for Planning, noting that the Operational Environmental Management Plan is between the LMA and the contractor. The Committee considers it appropriate that this approval process should specify “*after consultation with the Environmental Protection Agency and the relevant municipal council(s)”*. In this regard it accepts the submission of the City of Yarra. By adding the EPA in the consultation process here, their conditions will be clearly addressed.

The Committee accepts that the Construction Environmental Management Plan must be prepared in accordance with the EMF in the CIS and that it is appropriate to specify that it must include the preparation of dust, noise, surface water and groundwater management plans (as required by the EPA).

The Committee does not agree it is necessary or desirable to remove potential for amendments to EMPs as proposed by Yarra City Council. The Committee does however support the Yarra’s submission that the undertaking of such amendments should be endorsed by the Independent Auditor, and include consultation with the Linking Melbourne Authority and the relevant municipal council.

The above findings are reflected in the Committee’s redrafting of Clause 5.0.

* + - 1. **Modifications to Figure 1, Sheets 1 – 5**

Modified sheets 1 – 5 to the CIS that exclude Part B of the Project and that are further modified to reflect the Committee’s Primary and Issue Specific Recommendations will need to replace the exhibited versions.

* + - 1. **Wording of Urban Design Principles in Table 1**

The Committee’s revised Urban Design Principles are contained in Appendix F.

* + - 1. **Whether to include Performance Requirements in Table 2**

The closing submission of the LMA (Document 525) stated that it would be inappropriate in the context of this Project to incorporate the Performance Requirements within the Incorporated Document for a number of reasons. Mr Morris noted that the EMF will provide a comprehensive regime that will ensure that the project contractor is properly held to account, so inclusion of the Performance Requirements in the Incorporated Document is unnecessary. The submission further noted that the regime does require inter alia:

* *both the construction EMP and operation EMP be reviewed by an independent third party appointed jointly by the contractor and the LMA prior to their approval;*
* *the Construction EMP must be approved by the Minister for Planning prior to the commencement of works;*
* *the Operation EMP must be approved by the LMA prior to the commencement of operation;*
* *the project contractor must appoint an independent auditor to conduct regular audits of the contractor’s work to ensure that compliance is achieved with the EMPs during construction, operation and maintenance of the Project; and*
* *the audit reports must be reviewed by the LMA and by the independent third party reviewer, and that the independent third party reviewer must prepare quarterly reports summarising the project contractor’s compliance with the EMF (which will necessarily involve compliance with all specified performance requirements).*

On this issue Mr Morris concluded that under the scope of section 114 of the P & E Act (which allows “*any person*” to apply to the VCAT in respect of a contravention or prospective contravention of inter alia a planning scheme), there is clearly considerable potential for the provisions of the P & E Act to be applied vexatiously by third parties in an attempt to stymie or frustrate the timely delivery of the Project. Given the scale and significance of the Project, this would be unacceptable.

The Committee notes Mr Morris’s submissions on this issue, which Committee has commented on in Chapter 17.4.3. To elaborate further, the Committee is concerned that the examination of the Reference Project design through the hearing process has found it to be wanting in a number of areas. Despite hearing extensive evidence and submissions regarding the deficiencies of the Reference Project, the LMA did not concede that there was a need to modify, in a substantive form, the Performance Requirements for which the final project must respond, reflect and adhere. In this context the Committee can understand submitter concern that a final assessment of a contractor’s proposal by the LMA against the Performance Requirement may result in a project similar to the Reference Project. Accordingly the Committee accepts at face value, there is benefit in elevating the status of the Performance Requirements through their inclusion in the Incorporated Document in a similar way to the elevation of the Urban Design Principles with which the LMA was in agreement.

In light of its finding and recommendations, the Committee considers the eventual design of the Project will be significantly different to the Reference Project and the Reference Project should not be used as its template.

It follows that the Committee shares the expressed concern of the City of Melbourne (and numerous other submitters) that the eventual design of this Project is one that achieves the aspirations set in Section 1.1 of the Urban Design Principles. The Committee believes the Performance Requirements need to be elevated to a position of prominence and that a proper design process is undertaken. Accordingly, the Committee believes that the Performance Requirements like the Urban Design Principles, should be included in the Incorporated Document.

If, as Mr Morris argues in paragraph 727 of his closing submission (Document 525) that compliance with the Environment Management Plan is amenable to review, this would include compliance with the Performance Requirements. The Committee sees no difference in providing the Performance Requirements in the Incorporated Document or the Environment Management Plan other than providing the emphasis referred to above.

On the assumption that the independent reviewer and/or the independent auditor has confirmed the contractor’s compliance with the Urban Design Principles and the Performance Requirements, the Committee considers it unlikely that a third party could successfully challenge compliance. The onus would be on the contractor to demonstrate compliance to the Minister, the LMA and the Independent Auditor. If the review were vexatious, there is scope for VCAT to award costs against the applicant for review.

What Mr Morris is highlighting on behalf of the LMA is its wish to avoid delay. That outcome can be achieved by ensuring compliance with the Urban Design Principles and Performance Requirements.

### Urban Design Principles

As noted previously, the Committee considers that the Urban Design Principles (as modified in response to submissions) are an appropriate basis against which to assess a final design for the Project. The Committee accepts and supports Table 1 of the Incorporated Document as the appropriate location for the Urban Design Principles to be listed, referenced through Clause 5.0.

### Design and Development Overlay

The Committee accepts the LMA submission that the exhibited Design and Development Overlay proposed for inclusion in both the Melbourne and Yarra Planning Schemes should be deleted from the Amendment package and be advanced via a separate planning scheme amendment once the exact tunnel location and its vertical alignment is determined. The Committee accepts that there is merit in applying a Design and Development Overlay similar to the existing control in the Yarra Planning Scheme (Design and Development Overlay 5) and the Melbourne Planning Scheme (Design and Development Overlay 27) in order to protect the dispersion performance of the ventilation stacks, once their exact location are determined.

## Applicable Approvals

The Committee accepts that Amendment GC2 is generally consistent with the Ministerial Direction on the Form and Content of Planning Schemes.

The Committee supports Part A of the Project being approved by the Minister for Planning through adoption of Planning Scheme Amendment GC2 under the provisions of sections 8, 29 and 35 of the *Planning and Environment Act* 1987 subject to:

* Replacement of the exhibited Incorporated Document with the version contained in Appendix D of Volume 2 of this report;
* Removal of Schedule 62 to the Design and Development Overlay from the Melbourne Planning Scheme (Maps and Ordinance); and
* Removal Schedule 15 to the Design and Development Overlay from the Yarra Planning Scheme (Maps and Ordinance).

Once the detailed project alignment, extent of tunnel and its vertical alignment, and location of ventilation stacks are all determined, additional Design and Development Overlay controls will need to be drafted consistent with the Committee’s findings.

Part D: Conclusions and Recommendations

# Conclusions and Recommendations

## Response to Terms of Reference

The Committee was provided with Terms of Reference to guide its assessment of the CIS. It summarises the key outcomes and conclusions from these.

### Task

Part 1 of the Terms of Reference set out its Task and notes that the Minister directs it to *“Prepare a summary of all public submissions made to the Assessment Committee regarding the CIS”.* In response, the Committee summarises the key issues raised in submissions and responds to issue specific matters as appropriate in Part B of its report.

The Committee is to “*Prepare an Assessment Committee Recommendation in accordance with section 73 of the Act, supported by a report that evaluates all applicable law criteria for applicable law approvals sought for the project*”. In response, the Committee has undertaken a detailed assessment of all public hearing matters in Part B of its report in reaching its recommendations in relation to applicable law approvals.

In preparing the Committee’s recommendation and report, the Committee is directed to:

* Assess the CIS in accordance with the Act …
* Consider the alignment, design and Performance Requirements for the project that may be implemented within the Proposed Project Boundary …
* Make recommendations as to appropriate conditions ...

The Committee has undertaken a detailed assessment of the CIS, the evidence provided in support and against it and the submissions, in relation to the alignment, the design and Performance Requirements and the scope of the area in which the Project is considered, that is the Proposed Project Boundary and areas adjacent to it in terms of impacts.

### Procedure

#### Prior to the Hearing

The Committee commenced its investigations upon its appointment on 21 October 2013 and it considered the exhibited CIS, all properly made submissions, and other relevant information. Apart from the LMA, the Minister for Planning and the EPA, the Committee did not receive any advice from an applicable law decision maker under section 65 of the MTPF Act (for example VicRoads, Heritage Victoria or DEPI), or any information requested from a person or applicable law decision maker under section 245(2) of the same Act – either prior to or during the public Hearing.

On 27 November 2013, the Committee conducted an information session, which is discussed in Chapter 5.1 of this report.

On 13 January 2014 the Committee directed the LMA to provide further information in accordance with section 57(4) of the MTPF Act.

The Committee conducted a Preliminary Hearing on 14 January 2014 at which it tabled the request for further information, made directions about the conduct of the Hearing and the timetable and responded to inquiries from various submitters.

The Public Hearing commenced 15 business days from the Preliminary Hearing, and was held for 30 business days from 3 March to 15 April 2014.

#### Public Hearing Matters

In providing its conclusions and recommendations, the Committee summarises its response to the Hearing Matters as set out in Table 12.

Table : Response to the Public Hearing Matters in the Terms of Reference

| Public Hearing Matter | Committee response | Report Chapter |
| --- | --- | --- |
| Whether the impacts of the project on the traffic performance of roads connecting to the project, and the surrounding road network, as well as on connectivity for public transport, cycling and pedestrians, have been appropriately addressed. | The Project through the tunnel connection from the Eastern Freeway to CityLink will improve traffic performance across the city, and provide good opportunities for enhanced public transport, cycling and pedestrian upgrades. The impacts have been appropriately addressed in terms of Part A, with the exception of the Reference Project that shows the Hoddle Street flyover and the location of the eastern and western portals, and the Elliott Avenue interchange. These aspects need further refinement. The impacts for Part B have not been appropriately addressed and these need to be considered in the broader context of the proposed WestLink and other works on CityLink. | 6 |
| Whether the impacts of the project on land use and infrastructure in its immediate environs, including on housing, recreation and community facilities, have been appropriately addressed. | The residential land use impacts of the Project have been well addressed where the Project is in-tunnel. However, a number of elements of the Reference Project have unacceptable impacts on residential properties and residential amenity. These include the Hoddle Street flyover, the temporary sidetrack along Alexandra Parade, the elevated ramp structures across Manningham Parklands linking the Tunnel to CityLink south which impact on Manningham Street properties and residents of the Flemington Housing Estate and Bent Street apartments. These proposed elements are considered unsatisfactory and unresolved.  The CIS has an inconsistent response to impacts on recreation facilities. While the impacts have been satisfactorily resolved within the Melbourne, further mitigation is required to achieve a satisfactory outcome within Moonee Valley and Moreland.  The impacts on the majority of community facilities abutting the Proposed Project Boundary are likely to be adequately addressed through implementation of Performance Requirements. However impacts on the Flemington Community Centre, the Debney’s Park Playground and the Flemington Community Garden are unacceptable.  In relation impact on utilities, the Committee considers Part B of the Project poses unacceptable impacts on the SP AusNet West Melbourne Terminal Station. | 7 and 15 |
| Whether the proposed Urban Design Framework in the CIS will appropriately manage visual impacts of the project on the surrounding area, including public open spaces. | The Committee concludes that in relation to Part A, the exhibited Urban Design Framework was not adequate to appropriately manage visual impacts of the Project on the surrounding area, due to the generality of its nature and the lack of measurability of the Urban Design Principles described in Technical Appendix H, particularly as the design of the Project is the responsibility of the construction contractor.  The Committee has revised the Urban Design Principles and supports their inclusion in the Incorporated Document and adoption for Part A (and Part B if it proceeds). | 8 |
| Whether the noise, vibration, air emissions and light spill impacts of the project will be appropriately managed by proposed measures. | Noise and vibration associated with Project construction and operation can be managed through good design and mitigation. Modified Performance Requirements have been developed to ensure a consistent approach to operational noise limits across the eastern and western end of the project and to recognise the 24 hour nature of major freeway noise by including a night time noise limit. Given the intensively developed inner-urban environment and uncertainty about the final Project design, a conservative approach has been recommended for construction and operation.  A number of assumptions were made in the air quality assessment for the CIS that may underestimate the impact of the air emissions from the Project. The locations of the ventilation stacks in the Reference Project are arbitrary and have not been located to minimise the impact of the emissions. In-tunnel air quality has been assessed based on a number of assumptions to meet the PIARC in-tunnel air quality design objectives.  The ventilation stacks at the east end of the tunnel should be relocated to the east of Hoddle Street and the Hurstbridge/South Morang rail line with the tunnel extending to this location. This will minimise the impacts on the surrounding land uses and potential impacts on public health arising from the air emissions from the Project. In-tunnel air quality needs to be managed consistent with the conditions on the CityLink and EastLink tunnels for carbon monoxide. A detailed air quality assessment needs to be undertaken to guide the final design of the project to ensure that the air emissions and associated health impacts are minimised. The modelling needs to be done for the ventilation stack emissions, in-tunnel air quality and emissions from surface roads (including any viaducts), using PM2.5 and PM10 as the key indicators of traffic pollution.  There was no detailed assessment conducted for the air quality impacts of Part B and it has not been demonstrated that the impacts will be appropriately managed. Such an assessment needs to take into account recent Government announcement regarding WestLink and the widening of CityLink, to ensure that the optimal design is achieved. | 9 and 10 |
| Whether the impacts of the project on cultural heritage places have been appropriately addressed. | The Committee concludes that in relation to Part A, the impacts on cultural heritage places has not been appropriately addressed due to the proposed demolition of contributory buildings and buildings within Heritage Overlays, the proximity of works to heritage places and the uncertainty of impacts on Royal Park.  The Committee concludes that in relation to Part B, that, should the Committee’s recommendation to defer Part B not be agreed to, the same inadequacy exists. | 11 |
| Whether the impacts of the project on surface and ground waters have been appropriately addressed. | The impacts of the Project on surface water and groundwater will depend largely on the eventual design selected for project construction. Whilst without a final design it is difficult to assess the exact impacts, the Committee considers that they should be able to be managed and has recommended modified Performance Requirements accordingly. | 12 |
| Whether the impacts of the project on native vegetation and biodiversity have been appropriately addressed. | The Committee concluded that the Reference Project would have an unacceptable level of impact to native vegetation, and associated fauna habitat within Royal Park, due to the areas proposed for permanent and temporary works.  The Committee specifically addressed this matter in its recommendations, and proposed Performance Requirements. Subject to the adoption of such recommendations and Performance Requirements, as well as those that address other less critical biodiversity issues, the impacts of the project on native vegetation and biodiversity will be appropriately addressed. | 13 |
| Whether the risk from disturbance and disposal of solid wastes has been appropriately addressed. | There will be significant volumes of spoil generated during tunnel excavation; a proportion of which may be contaminated depending on the specific works area. There is a regulatory framework for managing such material which will need to be implemented for the final design. In addition the Committee has recommended Performance Requirements to manage specific issues for the Project, such as preventing the storage of contaminated materials on Ross Straw Field. | 14 |
| Whether the Environmental Management Framework in the CIS will provide an effective integrated approach to manage the environmental performance of the project. | Subject to the Committee’s specific recommendations, the Environmental Management Framework will provide an effective and integrated approach to manage the environmental performance of the Project. | 16 |

### Conduct of Hearings

The hearing was conducted in accordance with the Terms of Reference. The hearing was managed by the Chair (Ms Mitchell), with assistance from the nominated presiding member (Mr Wimbush) as required. The Chair regulated all proceedings to allow the Committee to be fully informed on relevant matters as required and it gave written and verbal directions about the conduct of the hearing and other matters relating to further information as required.

The Committee provided all submitters with a reasonable opportunity to be heard, and it set timeframes for all submitters, including the LMA, the Councils and the EPA.

The Committee gave directions about the form of presentations and observes that all presentations greatly assisted it to understand the Project and the issues raises in evidence and submission that were in support or opposition to it.

The Committee gave clear direction about the form of cross examination and it was conducted primarily by the Committee through its legal Counsel, as well as the LMA and the Cities of Yarra, Melbourne and Moonee Valley.

The LMA was provided with an opportunity to respond to submissions made during the public hearing, as were the Councils, the EPA and the Combined Community Group.

### Technical and Administrative Support

As mentioned in Chapter 1, the Committee was well served and assisted by the staff of Planning Panels Victoria in all aspects of its work. Additionally, it engaged the services of Mr Chris Wren SC, to provide legal advice and to assist in cross examination, and Dr Sandy Bennet, Mr Doug Munro and Ms Mandy Elliott to assist with technical expertise.

## Applicable Law Criteria

The MTPF Act and the Committee’s Terms of Reference provides that the Committee *“make recommendations to the Minister for Planning whether or not to grant any applicable approval required for the project to be developed and if so to recommend appropriate conditions for applicable approvals*”.

In doing so, s73(3) of the MTPF Act notes that the Committee must specify:

1. The conditions;
2. The relevant applicable law under which the conditions are being imposed; and
3. The person or body authorised under the relevant applicable law to administer compliance with the conditions.

Mr Morris observed at paragraph 35 of his opening submission (Document 23) that:

The Committee must be cognisant that each of the applicable law approvals is governed by a different legislative regime and that the range of considerations relevant to each approval differs accordingly.

The relevant applicable law approvals are set out in Appendix A of the CIS and are discussed more fully in Chapter 3.3 of this report. Having regard to the findings the Committee has reached particularly in relation to the Performance Requirements and Part B, which are dealt with in various other parts of this report, it is appropriate to summarise the Committee’s findings and recommendations in response to the Applicable Law Criteria as follows:

### Works approval under s19B of the *Environment Protection Act* 1970

The Committee recommends that the Works Approval for the tunnel ventilation system be issued under the provisions of s19B of the EP Act, conditional on:

* Conducting further detailed air modelling assessment on the final design which includes moving the ventilation stacks east of Hoddle Street and the Hurstbridge/South Morang Railway Line.
* Including a mid-tunnel air intake in the final design.
* Adopting the CO in-tunnel air quality standards used in CityLink and EastLink for the Project.
* Making provision to retrofit pollution control equipment in the ventilation stacks for PM10 and PM2.5.
* Requiring pollution control equipment if PM10 or PM2.5 levels are greater than 30% of the applicable air quality standard.
* Undertaking an air monitoring program in Clifton Hill and in the vicinity of the western stack for a period of 12 months prior to the tunnel opening and 12 months post opening. Repeat the monitoring 5 years post opening of the tunnel.

The Committee considers that the EPA should administer compliance with such conditions.

### Planning Scheme Amendment approval under s8, s29, and s35 of the *Planning and Environment Act* 1987

The Committee recommends that in relation to Part A, Planning Scheme Amendment GC2 be adopted, subject to the Primary and Issue Specific Recommendations made in this report.

The Committee considers the Minister for Planning should administer compliance with the conditions it has recommended be attached to the Amendment.

The Committee has recommended that Part B of the Project be set aside, however if that recommendation is not accepted, the same permissions as Part A should be granted.

### Permit under s74 of the *Heritage Act* 1995 to carry out works or activities in relation to a registered place or registered object

The Committee recommends that in relation to Part A, and the five heritage places listed in Table 3.3 of Chapter 3 of the CIS, permits should be granted as the proposed works relate only to tunnelling works at a minimum approximate depth of 20 metres.

On the assumption that the Performance Requirements are complied with, the Committee does not consider any separate conditions are required.

The Committee is not required to make any recommendations about consent for Part B.

### Consent under s129 of the *Heritage Act* 1995 for impact on archaeological relics

The Committee recommends that in relation to Part A, and the two heritage places listed in Table 3.4 of Chapter 3 of the CIS, namely Yarra Bend Park and Royal Park, consent should be granted.

The Committee recommends that in relation to Part B, should this part of the Project proceed, consent for the two places listed in Table 3.4 of Chapter 3 of the CIS should be granted.

On the assumption that the Performance Requirements are complied with, the Committee does not consider any separate conditions are required.

### Consent under Clause 1 of Schedule 2 of the *Road Management Act* 2004 allowing connection to a freeway

The Committee concludes that in relation to Part A, consent should be provided for the following new connections of the East West Link with the Eastern Freeway and CityLink:

* Direct connection of the eastbound carriageway of the East West Link with the eastbound carriageway of the Eastern Freeway.
* Direct connection of the westbound carriageway of the Eastern Freeway with the westbound carriageway of East West Link.
* Exit ramp from the southbound carriageway of CityLink/Tullamarine Freeway connecting to the eastbound carriageway of East West Link.
* Entry ramp to the northbound carriageway of CityLink/Tullamarine Freeway providing connection from the westbound carriageway of East West Link.

On the assumption that the Performance Requirements are complied with, the Committee does not consider any separate conditions are required.

The Committee has recommended that Part B of the Project be set aside, however if that recommendation is not accepted, the relevant Applicable Approvals as confirmed by VicRoads be granted.

### Licence under s67 of the *Water Act* 1989 required to construct, alter, operate or decommission works on a waterway, including works to deviate a waterway

The Committee recommends that consent under Section 67 of the *Water Act* 1989 for works on waterways in Merri Creek and Moonee Ponds Creek to construct, alter, operate or decommission works on a waterway, including works to deviate a waterway, be issued for Part A of the Project.

On the assumption that the Performance Requirements are complied with, the Committee does not consider any separate conditions are required.

The Committee has recommended that Part B of the Project be set aside, however if that recommendation is not accepted, the same permissions as Part A be granted.

### Comments from the Secretary pursuant to s66 of the *Conservation, Forests and Lands Act* 1987 on plan of works across waterways.

The Committee has recommended that Part B of the Project be set aside, so comment from the Secretary is not required. If the recommendation is not accepted, comment should be sought for works associated with the Moonee Ponds Creek.

On the assumption that the Performance Requirements are complied with, the Committee does not consider any separate conditions are required.

## Recommendations

The Committee endorses its recommendations as provided in the Executive Summary.

*Major Transport Projects Facilitation Act 2009*

**East West Link (Eastern Section) Project**

**Assessment Committee Report**

**Volume 2 – Appendices**

**30 May 2014**



**Appendices**

[**Appendix A:** **Terms of Reference**](#_Toc389141694)

[**Appendix B:** **List of Submitters**](#_Toc389141695)

[**Appendix C:** **Hearing Document List**](#_Toc389141696)

[**Appendix D:** **Revised Incorporated Document**](#_Toc389141697)

[**Appendix E:** **Revised Performance Requirements**](#_Toc389141698)

[**Appendix F:** **Revised Urban Design Principles**](#_Toc389141699)

[**Appendix G:** **Report of Dr Sandy Bennet**](#_Toc389141700)

**Appendix A: Terms of Reference**

NOTE

To reduce the electronic size of this document, Appendix A has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

**Appendix B: List of Submitters**

NOTE

To reduce the electronic size of this document, Appendix B has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

**Appendix C: Hearing Document List**

NOTE

To reduce the electronic size of this document, Appendix C has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

**Appendix D: Revised Incorporated Document**

NOTE

To reduce the electronic size of this document, Appendix D has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

**Appendix E: Revised Performance Requirements**

NOTE

To reduce the electronic size of this document, Appendix E has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

**Appendix F: Revised Urban Design Principles**

NOTE

To reduce the electronic size of this document, Appendix F has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

**Appendix G: Report of Dr Sandy Bennet**

NOTE

To reduce the electronic size of this document, Appendix G has been removed from this version of the report. Contact Planning Panels Victoria to obtain a complete copy of the report.

1. *Major Transport Projects Facilitation Act* 2009, Section 35(b). [↑](#footnote-ref-1)
2. Ibid. Section 36(ba). [↑](#footnote-ref-2)
3. LMA response to s.57(4) request 11 February, 2014, p.3 – 7. [↑](#footnote-ref-3)
4. Ibid. p.7. [↑](#footnote-ref-4)
5. Ibid. p.7. [↑](#footnote-ref-5)
6. Ibid p.8 – 10. [↑](#footnote-ref-6)
7. Document 525, pages 6 and 7. [↑](#footnote-ref-7)
8. Submission on behalf of Yarra City Council, document 206, page 2 – 4. [↑](#footnote-ref-8)
9. Closing submission of behalf of the LMA, Document 525 [↑](#footnote-ref-9)
10. See *Glen Eira CC v Gory* (2011) 9 VPR 101, per. Bamford J. [↑](#footnote-ref-10)
11. Document 525, para 622 onwards. [↑](#footnote-ref-11)
12. Document 304. [↑](#footnote-ref-12)
13. Document 266, para 4.3. [↑](#footnote-ref-13)