NORTH EAST LINK INQUIRY AND ADVISORY COMMITTEE

IN THE MATTER OF THE NORTH EAST LINK PROJECT ENVIRONMENT EFFECTS STATEMENT

IN THE MATTER OF DRAFT AMENDMENT GC98 TO THE BANYULE, MANNINGHAM, BOROONDARA, YARRA, WHITEHORSE, WHITTLESEA AND NILLUMBIK PLANNING SCHEMES

IN THE MATTER OF THE WORKS APPROVAL APPLICATION MADE IN RESPECT OF THE NORTH EAST LINK TUNNEL VENTILATION SYSTEM

CLOSING SUBMISSIONS ON BEHALF OF

NORTH EAST LINK PROJECT
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Outline

1. As foreshadowed in its Part A submission, these submissions are made on behalf of NELP to respond in detail to submissions made in relation to the Project and issues raised during the course of the hearing.

2. These submissions address:
   
   (a) the process to date;
   
   (b) the contents of the EES and the IAC's role in assessing environmental effects;
   
   (c) the notion of net community benefit in the context of the Project;
   
   (d) the strategic transport model;
   
   (e) the environmental effects of the Project by subject matter, proposing appropriate findings and recommendations for the IAC’s consideration;
   
   (f) the alternative designs that have been put forward; and
   
   (g) the submissions of the combined Councils, the schools, community groups and other key submitters.

3. For convenience, these submissions adopts the same definitions and acronyms as were used in the Part A submission.

Overview

4. At the commencement of this hearing, NELP suggested that a major focus of the IAC’s task would concern complex physical and engineering issues such as traffic impacts and direct impacts to the natural environment. All of these impacts were necessarily traversed in the hearing and, as will be submitted in more detail below, can generally be found to have been soundly addressed in the material before the IAC, and readily capable of management through the Environmental Management System (EMS).

5. At the closing of this hearing, NELP suggests that there was an equal, if not greater, emphasis in submissions on the human cost of the Project, caused by the extent of disturbance to residents and businesses along the alignment during construction and, in some cases, on a permanent basis. Such is the nature of large scale urban projects such as this one, particularly in the absence of a road reservation.
6. With this in mind, these written submissions respond to the key issues before the IAC in detail, but the oral presentation will place a time emphasis on matters that affect the lives of families and communities along the alignment during construction and beyond.

7. NELP appreciates that the consultation process to date may not have pleased, let alone appeased, all affected persons. It is most unlikely that some impacts of the Project can be “consulted” away. But it would not be fair to assume that the consultation process has failed on the basis that affected persons do not accept the Project or the outcome. The submissions to the IAC support both ends of the spectrum. There are instances where submitters feel let down by the process and there are instances where submitters have commended NELP for its efforts. The IAC should be satisfied that, ultimately, there is not a shortage of information before it, or the community.

8. The Project must also be viewed in context. While much of the negative response is aimed at surface impacts along the alignment, it is beyond doubt that, at a landscape scale, there is a wholesale avoidance of key valued habitat and waterways, and loss of housing, through tunnelling and interchange layout. The failure on the part of the combined Councils to recognise or give any weight to these aspects of the Project is indicative of a failure on their part to objectively assess the overall merits of the Project.

9. Nevertheless, the impacts of the Project on housing, businesses and local amenity amount to a large scale of disturbance commensurate with the scale of the Project. NELP recognises that the delivery of the Project must ensure that these impacts are managed with respect and empathy and that the EPRs must provide the necessary assurance that this is put into practice.

10. Following eight weeks of open hearings, the IAC, Counsel assisting, submitters and their representatives are to be commended for their conduct, efforts and contributions to this important process. Counsel assisting in particular has undertaken her role in assisting both the IAC and the community in understanding the issues with diligence, integrity and balance.

11. NELP acknowledges the direct, personal and in some cases permanent cost on individuals of a major infrastructure project such as this, and the need for ongoing sensitivity and care in delivering the Project in such a way as to minimise impacts upon those individuals. NELP suggests that the presentation by the West Gate Tunnel Authority at the inspection of the tunnel boring machine was a good example of how seriously community impacts are
taken during the construction of projects of this scale that are delivered by means of private public partnerships.

12. NELP particularly recognises the personal investment in this process that has been made by multiple individual submitters, whether by simply observing the hearing on a daily basis or, in the case of individuals such as Ms Giovas and community groups, through daily active participation in the process. There is no doubt that environmental outcomes are improved as a direct result of the participation of individuals in these processes.

13. While inquiry and advisory committee processes examining major infrastructure projects in Victoria are always challenging, complex and intense, this IAC hearing has been conducted in a fair and transparent manner. The material before the IAC, while voluminous, is no more voluminous than in similar processes.\(^1\) Happily, the IAC is constituted by experienced and qualified practitioners in the area of environmental assessment, assisted by independent advisors with expertise in particular areas, and by Counsel assisting.

14. The Cities of Banyule, Boroondara, Manningham and Whitehorse (combined Councils) say the hearing has been “well-behaved” but not orderly, open or equitable.\(^2\) NELP does not agree. The combined Councils have been ably assisted by a team of senior and senior-junior counsel and instructing solicitors, all highly experienced in the area of environmental assessment. Their leading of evidence and cross-examination has not been curtailed in any way. Advance comments have been provided by NELP to facilitate evidence by Councils’ experts. Witnesses have been brought forward or delayed to suit their constraints. NELP agreed to a significant extension of time for the combined Councils to put their case in written and oral form, and has not objected to the provision of significant additional material by Councils’ witnesses after they had been cross-examined (including no fewer than six memoranda from Mr O’Brien).\(^3\) It is legitimate, in those circumstances, to query whether the combined Councils’ emphasis on the criticism of the process was entirely fair.

15. NELP is at a loss to understand the Councils’ complaint that they have been forced “to lead evidence from witnesses and address on subjects that they have not cross-examined about”.\(^4\) The Councils did not lead any evidence until the close of NELP’s evidence, and

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\(^1\) Cf the assertion in hearing document 374a, para 645.
\(^2\) Hearing document 374a, paras 663-664.
\(^3\) Hearing documents 372a-f.
\(^4\) Hearing document 374a, para 661.
did not put their case until the second-last day of the hearing, when all witnesses had been called.

16. It is curious for Councils to raise the rule in *Browne v Dunne* (rarely applied in its true form in planning and environmental cases before panels) in circumstances where the Councils chose not to cross-examine Dr Willumsen at all but felt comfortable to adduce additional evidence from Mr McDougall that had not been put to Mr Veitch or Dr Willumsen, and then to suggest that Mr McDougall’s evidence should be preferred.\(^5\)

17. The combined Councils have complained at length about the use of a reference design. Yet the combined Councils themselves concede that the use of a reference design is lawful, and the question of its appropriateness depends upon the facts and circumstances of the case. In this case, that decision was made back in February 2018: the nature of the “public works” the subject of the EES and the inquiry process was determined by the Minister for Planning when he issued his public works order under s 3(1) of the *Environment Effects Act 1978* on 2 February 2018. The public works were defined by a deliberate description of their key components and a schematic diagram of the outline of the Project, in the form of a reference design. Furthermore, section 3.3 of the Scoping Requirements was consistent with the Minister’s public works declaration, and specifically provided that the “EES may assess the effects of a concept or reference design for the project with the ultimate design to be developed at a later stage”.

18. NELP contests the assertion that the reference project does not allow for an adequate assessment of the environmental effects of the Project. The combination of the clear terms upon which the Project has been declared by the Minister (which includes the identification of specific Project components), the relatively confined nature of the proposed project boundary, the preparation and exhibition of a project-specific UDS, EMF and EPRs, and the detail provided in respect of the reference project, allows for the effective assessment of the Project’s environmental effects.\(^6\) That said, whether or not the use of a reference design was appropriate, is not before the IAC. This process is not a

\(^5\) Hearing document 374a, paras 119 to 151.

\(^6\) It is noted that these features of the assessment undertaken for this Project distinguish the assessment from that undertaken in respect of the East West Link (wherein the project declaration was particularly broad, where no UDS had been developed at the time of assessment, and where the reference project was not more specifically designed than that proposed in respect of the Project). NELP notes, separately, that it is wrong to contend that the Melbourne Metro assessment process did not involve material surface works. Indeed, as noted by the IAC appointed in respect of the MMRP (at p 283 of its assessment report): “This Project has many elements to it including vent shafts, stations, the tunnelling works, road works/changes to traffic conditions, new bridges, TBM launch sites and others, all of which have no design plans yet available.” In that case the IAC concluded that the adoption of a reference project was an effective means of assessing environmental effects. The IAC should reach a comparable decision in this case.
review of the Minister’s decision to declare the Project on the terms that he did, nor is it a review of the Minister's decision in relation to the terms of the Scoping Requirements which expressly provide for assessment of the Project by use of a reference design.

19. The environmental effects of works have been assessed in various forms over the last couple of decades, including:

(a) corridor or alignment options assessments;\(^7\)

(b) transport strategy options assessments;\(^8\)

(c) reference or concept design assessments;\(^9\)

(d) design options assessments;\(^10\) and

(e) design assessments.\(^11\)

20. Never has an inquiry panel appointed in respect of a major transport project found itself unable to assess the environmental effects – including in the case of the East West Link (despite the Assessment Committee’s observations about the use of a reference design). Ironically, the use of an actual design in the case of the West Gate Tunnel Project (which is likely to be the only such case in the history of major road project inquiries in Victoria, and occurred because it was a market-led proposal) also proved controversial for submitters such as the City of Melbourne, because it was seen to be too inflexible.

21. The combined Councils also complain about the “absence of a design explanation”. Nothing in the Terms of Reference demands an explanation of how the design was developed, what the design drivers were or what trade-offs were made.\(^12\) But where NELP has offered explanations - in Chapter 6 of the EES, through an extensive opening presentation by Mr Frodsham, or by way of technical notes or submissions, of certain aspects of the design resolution - that has come in for criticism as well, either because it is too “high level” or because the combined Councils demand evidence capable of being tested through cross-examination. That is contrary to the inquisitorial nature of this process, which enables the IAC to inform itself as it sees fit.\(^13\)

\(^7\) For example, the Craigieburn Bypass and the Deer Park Bypass.
\(^8\) For example, the Scoresby Transport Corridor.
\(^9\) For example, CityLink, Peninsula Link, East West Link, the Melbourne Metro Rail Project, the Mordialloc Bypass, the Edithvale and Bonbeach level crossings removal projects and this Project.
\(^10\) For example, Bastion Point Boat Ramp.
\(^11\) The West Gate Tunnel Project.
\(^12\) Cf hearing document 86, para 86.
\(^13\) See Terms of Reference, para 22.
22. In reality, it would be an entirely inefficient and unwieldy process if an authority such as NELP, which has been working on a reference design for this significant road project since 2017, was obliged to provide evidence to an inquiry panel, in the form of witness statements, of all decision-making steps and processes that had been taken, and all of the various iterations of the design that had been considered.

23. The task of the IAC is to assist the Minister in assessing the environmental effects of the Project as described in the public works declaration. It is not to conduct a roving audit of NELP’s work over the past three years.

24. As it transpired, the various complaints of the combined Councils conceal the real complaint at the heart of their case, namely, that they have not been able to find any “environmental show-stoppers” (to adopt their language)\(^\text{14}\) in this Project. This was best demonstrated when the delivery of the combined Councils’ lengthy submission\(^\text{15}\) on 9 September coincided with the receipt of the final reports of IAC’s independent expert advisors,\(^\text{16}\) none of whom have concluded (in relation to their topics of air quality, groundwater, ground movement, contamination and urban design) that the environmental effects of the Project cannot be assessed, or that they are such as to preclude the Project from proceeding.

25. The combined Councils ultimately called for the hearing to be adjourned to an unspecified date in the future. The difficulty that the combined Councils had in responding to the direct question of the IAC concerning the duration of any such adjournment, or in articulating what the utility of any such adjournment would be, was telling. Indeed, it was evident given the highly rhetorical terms upon which the combined Councils’ closed their case, that their principal complaints do not stem from any deficiency in substance of the assessment recorded within the EES, but instead from their reluctance to concede that their efforts have not revealed any substantial defect in respect of that analysis.

26. The suggestion that a supplementary EES should be required in respect of the Project should also be rejected. As will be addressed in detail in these submissions, none of the three ‘evidentiary deficiencies’ asserted by the combined Councils (in respect of urban design, surface water, or groundwater) have been made out on the evidence. Indeed, in large part, the assertions made by the combined Councils in these respects are inconsistent with the evidence given by their own witnesses.

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\(^{14}\) Hearing document 91, para [12].
\(^{15}\) Hearing document 374a.
\(^{16}\) Hearing documents 349-352, 354.
27. The IAC should ultimately find that:

(a) the EES as exhibited was a competent and adequate statement of the environmental effects of the Project;

(b) the environmental effects of the Project are capable of assessment, having regard to all of the information that has been provided to the IAC as part of these public hearings; and

(c) the environmental effects of the Project are acceptable, subject to implementation of the Environmental Management System, comprising the Environmental Performance Requirements and the Urban Design Strategy.

**The process**

**Assessment and governance**

28. As the IAC is aware and as was explained in detail in the EES and NELP’s Part A submission, the purpose of this process is for the IAC to assist the Minister for Planning to assess the potential environmental effects of the Project. The Minister’s assessment then informs subsequent approval processes, such as the exhibited planning scheme amendments and the works approval.

29. The purpose of this process is **not** to approve the Project or a particular design concept for the Project.

30. It was apparent during the hearing that not all expert witnesses were conversant with the scope and purpose of the IAC process, and the assessment and governance arrangements it entails. This is vital to assessing the merits of the opinions expressed. For example:

(a) Mr O’Brien was under the misapprehension that this process involved the approval of a particular road design or set of plans. This led to him expressing opinions about finer levels of detail than need be shown for a reference design. Mr O’Brien had not been asked to consider the EPRs, let alone the multi-disciplinary interaction between the EPRs. For example, Mr O’Brien was not aware that the EPRs include as a requirement the minimisation of the design footprint (LP1).

(b) Mr Czarny purported to assess the Reference Project against the requirements of the UDS, despite the fact that the UDS has not yet been implemented through a design
concept phase, let alone through detailed design. He expressed disappointment not to have been able to review “schematic designs” at this stage of the process.

(c) Mr Schutt called for a 3D model of the Reference Project to assist him to prepare his own photomontages, on the assumption that the landscape and visual impact assessment had been based upon a particular design.

31. Indeed, Mr Czarny called for the urban design requirements of the UDS to be incorporated into the EES documentation to ensure appropriate project delivery and high quality urban design “as demonstrated in other recent major projects”. 17

32. This misunderstands the process of assessing the Project, and also demonstrates a lack of awareness as to the assessment and governance arrangements for other road projects described by him as “exemplars”.

33. By way of comparison with this Project, the “exemplar” projects referred to be Mr Czarny were subject to the following public assessments and controls:

(a) Extension of the Eastern Freeway and Ringwood Bypass – an EES Inquiry Report was published in 1989, 18 with an incorporated document introduced in 2001 19 requiring a Project Environment Protection Strategy with issues falling under four broad topics to be identified, but no reference to urban design.

(b) Hume Freeway Craigieburn Bypass – an EES Inquiry Report was published in 2001 20 based on an alignment options assessment. It recommended a Project Environmental Strategy Plan, with no reference to urban design in the performance-based mitigation measures.

(c) EastLink – an EES Inquiry Report was published in 1999 in the form of an inquiry into transport strategy options for the Scoresby Transport Corridor, which recommended a freeway of the “highest quality design” and the preparation of an Environmental Management Plan. 21 EastLink was facilitated by the enactment of the Mitcham-Frankston (Eastlink) Project Act 2004 and delivered under a PPP arrangement that specified performance-based outcomes.

17 Hearing document 30b, p2.
18 Proposed Eastern Arterial Road, Doncaster to Ringwood and Ringwood Bypass, February 1989.
(d) Western Freeway Deer Park Bypass – a Panel and Advisory Committee report was published in 1999 in respect of road alignment options, which recommended compliance with the relevant municipality’s existing Urban Design Strategy.22

(e) Peninsula Link – an EES Inquiry Report was published in 2009 in respect of a reference design with no reference to urban design in the recommended mitigation measures.23 An incorporated document was introduced in 2009 with a requirement for an Environmental Management Plan, with no reference to urban design.24

34. In the case of each of those major road projects:

(a) The proponent was the State or a public authority such as VicRoads;

(b) Public assessment was on the basis of corridor or alignment options, or on the basis of a reference or concept design;

(c) There was no exhibited or required Environmental Management Framework or Environmental Performance Requirements; and

(d) There was no exhibited or required Urban Design Strategy.

35. Yet each of those projects are award-winners for their design response.

36. By contrast, this Project has adopted the same modern approach as the Melbourne Metro Tunnel Project and the Level Crossing Removal Project by:

(a) using an Environmental Management Framework, comprising a set of Environmental Performance Requirements and an Urban Design Strategy, to guide the final design; and

(b) drawing on an Urban Design Advisory Panel (including the Office of the Victorian Government Architect) for advice in preparing the UDS and assessing the urban design response through the tender process and in finalising the detailed design.

37. This history of environmental assessment of major infrastructure projects in Victoria demonstrates that the use of a reference design coupled with a comprehensive, performance-based Environmental Management Framework is both orthodox and best

22 Proposed Connection of Western Highway to Western Ring Road, Report of a Panel and Advisory Committee, May 1999.
practice. It has continuously prompted innovation from the commercial sector and the use of reputable architectural and landscape architectural firms, and resulted in design excellence.

38. This history also suggests that the public should have confidence that the State, through NELP, intends to secure the best possible outcomes for this Project, as it has done over many decades. There is no reason to suggest that the Project will not, in time, be recognised as an exemplar of major road design.

39. Many of the submissions - and indeed much of the evidence called by submitters - were premised on a lack of confidence in the process, resulting in calls for greater levels of certainty through the application of prescriptive or mandatory EPRs.

40. The Victorian Auditor General’s report into the Melbourne Metro Tunnel Project Phase 1 Early Works (VAGO report) examined the process adopted by DELWP in assessing and approving the governance documents in relation to the Melbourne Metro Tunnel Project as set out below:25

After the Minister’s Assessment, DELWP recommended—and the Minister for Planning approved—the following suite of frameworks and guidelines to manage and mitigate identified risks and impacts:

- an EMF, which includes the EPRs, Business Support Guidelines for Construction and Residential Impact Mitigation Guidelines
- an Urban Design Strategy
- a Community and Stakeholder Engagement and Management Framework.

DELWP’s advice to the Minister for Planning to approve these documents was sound. DELWP assessed whether these documents aligned with the IAC and Minister’s Assessment recommendations, EPRs or other relevant sources. For example, when recommending approval of the Urban Design Strategy, DELWP assessed the proposed strategy against the IAC report and Minister’s Assessment recommendations, as well as those from an expert panel that the IAC convened during the hearing process.

41. This analysis demonstrates that the same governance process adopted here is robust and well-understood by those tasked with administering compliance with it.

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25 Ibid, p62
Consultation

42. No major infrastructure project in Victoria has involved the level of consultation that has occurred in relation to this Project.

43. The consultation that has occurred to date\(^\text{26}\) involved:

(a) Stage 1 - stakeholder and community engagement in relation to corridor selection and the business case, as part of which:

   (i) NELP conducted a community survey to understand the views and concerns of communities in the north east of Melbourne in relation to transport infrastructure prior to corridor selection, which was responded to by more than 7,400 people;

   (ii) NELP established the North East Link Council Communications Working Group involving the 13 local Councils around the four corridors that were being considered at the time; and

   (iii) NELP publicly released the business case for the Project;

(b) Stage 2 – EES preparation and exhibition, as part of which:

   (i) NELP established two Community Liaison Groups (involving representatives of the relevant local Councils) and two Community Technical Discussion Groups (one on walking and cycling and one on engineering and design); and

   (ii) NELP held two series of workshops and two design updates prior to exhibition of the EES.

44. Each of the Community Technical Discussion Groups produced a report that will be provided to bidders as part of the tender process for the Project, to inform them of specific issues and opportunities identified by those groups.\(^\text{27}\)

45. DELWP established a Technical Reference Group (TRG) in February 2018,\(^\text{28}\) comprising representatives from relevant departments, agencies and local Councils, and the

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\(^{26}\) Which is summarised at paragraphs 131 to 133 of the Part A submission and comprehensively documented in the EES Chapter 5 – Communications and Engagement and EES Attachment IV – Stakeholder Consultation Report.


\(^{28}\) See TN1 (hearing document 36) for detail on lessons learned and improvements made to the assessment process.
46. NELP has partnered with the Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation, including collaborating in the development of the Urban Design Strategy, the development of a cultural values mapping for the project area, early review of the Aboriginal Cultural Heritage assessment, attendance at Technical Reference Group, standing invitation to the Community Liaison Group meetings, extensive workshops and walks on Country to inform this work.

47. Stakeholders with whom NELP has specifically engaged since 2017 included affected local residents, local businesses, community clubs and groups, and educational facilities.

48. In conjunction with the Office of the Victorian Government Architect, NELP also established an Urban Design Advisory Panel (UDAP) to assist it in developing the UDS, and to provide ongoing design guidance and advice. The UDS contains within it a summary of how consultation with stakeholders and the community helped to shape it (see EES Attachment II), including the following consultation exercises over an 18-month period:

(a) multiple community drop-in sessions and urban design community forums;

(b) two to three meetings each with the six Councils;

(c) two Council workshops each with Banyule, Boroondara, Whitehorse and Manningham Councils;

(d) one Council workshop each with Yarra and Nillumbik Councils;

(e) five “Walks on Country” and workshops with the Wurundjeri;

(f) three UDAP workshops with representatives from DELWP, Heritage Victoria, Melbourne Water, Office of the Victorian Government Architect, Aboriginal Victoria, local Councils and agencies such as VicRoads; and

(g) four presentations to the Technical Reference Group on the UDS.

49. Table 5.2 on pages 46-64 of EES Attachment IV sets out in detail the way in which the Project was planned in response to stakeholder and community feedback.
50. In recognition of the additional workload a large EES can place on councils involved in the process and in order to assist local Councils to assess the environmental impacts of the Project, NELP has provided funding to Councils to assist with resourcing of staff to be dedicated to working on the Project and participate in the TRG process. NELP also provided funding for Wurundjeri resources to be involved in the EES and development of the Urban Design Strategy.

51. The EES was also placed on exhibition for eight weeks, compared with the usual exhibition period of six weeks.

52. An excellent example of the consultation process at work in relation to the Project is the significant effort undertaken – and level of consensus achieved – in relation to the sport and recreation relocation options, which Mr Simon commended in his evidence.

53. To the extent that submitters have criticised the consultation process because it has not resulted in changes to the Reference Project that are to their satisfaction, the following comments of the Advisory Committee that considered the Craigieburn Bypass are apt:

> However, the view that no consultation process is adequate unless stakeholders’ own particular views are upheld or endorsed is fallacious. All stakeholders need to be aware that community consultation is essentially a means of identifying issues and ensuring that appropriate investigations are undertaken. But Community consultation should not be confused with the decision-making process itself. Nor is an EES inquiry a decision-making process. It is an assessment process: a way of facilitating informed decision-making. An EES inquiry should evaluate the evidence and information gathered as part of the preparation of the EES and through the course of the public hearings. It should ensure that all relevant issues and impacts are identified and considered in light of the material and submissions, and in the context of relevant legislation, policies and strategies.

54. The reality of a major road project proposed within an established urban area is that some people will face greater adverse impacts than others, whether temporary or permanent. There can be no suggestion that NELP, through this process and particularly through the expert evidence it has led, is shying away from the reality of those impacts. Indeed, none of the expert witnesses called by NELP were cross-examined on the basis that they had underestimated or downplayed the impacts of the Project relevant to their expertise.

55. A number of submitters volunteered that they found NELP personnel to be good to deal with, informative and polite. Disappointingly, some submitters chose to level fairly

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29 Craigieburn Bypass (PSA) [2001] PPV 1 (3 January 2001), p17 (Chaired by Helen Gibson).
personal attacks on NELP personnel. Without descending to detailed responses, NELP vehemently rejects those attacks and stridently defends the honesty, integrity and commitment of the people on its team, who have worked diligently over the last three years to consult with the community and try to respond to their concerns. As with all major projects assessed using this process, while a substantial proportion of submitters that have appeared before the IAC have been aggrieved with aspects of the Project, this proportion must to be understood in the context of the broader public that was consulted and notified in respect of the Project.

**Provision of data**

56. As part of the IAC hearing, numerous requests for further information have been made by the IAC, the IAC’s expert advisors and parties participating in the hearing. NELP has responded comprehensively to those requests in as timely a manner as possible, given the complex nature of many of those requests.

57. Before the exchange of expert evidence, NELP made its internal experts available for meetings with expert witnesses to be called by parties, which was taken up by a number of expert witnesses as documented in hearing document 81 and no doubt greatly assisted those expert witnesses in finalising their evidence.

58. A number of conclaves were held following the exchange of expert evidence. Overall, those conclaves have been of great assistance to the IAC in clarifying areas of agreement and disagreement, and in some instances identifying a way forward through potential amendments to the EPRs. It should be noted in that regard that the substance of agreed changes to the EPRs is more important than proposed drafting changes, given the nature of EPRs as legally enforceable requirements that must work in harmony with one another.

59. The conclave between Mr Kiriakidis and Mr O’Brien was delayed due to Mr O’Brien having been in the United States of America in the week before Mr Kiriakidis was due to give evidence. The manner in which the conclaves were to be conducted was left to the expert witnesses.

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30 See, for example, hearing document 300.
31 The IAC should not proceed on the basis that NELP does not have a response to the various allegations that have been levelled against its personnel; rather, it should proceed on the basis that NELP does not consider a response to be useful or relevant to the IAC under its Terms of Reference.
60. The ecology and transport modelling conclaves took two days each. In the context of other inquiry and advisory committee hearings, conclaves of that length of time cannot reasonably be described as “brief”. 32

61. It was disappointing to learn on 16 August 2019 that a number of expert traffic engineering witnesses had met in a conclave on 7 August 2019, 33 in the absence of Mr Kiriakidis or Mr Frodsham and without NELP’s knowledge. However, unlike the majority of conclaves – which were held with the participation of NELP’s expert witnesses - that conclave did not resolve anything of a technical nature and was of no assistance to the IAC.

62. As in the IAC hearings in respect of the Melbourne Metro Rail Project and the West Gate Tunnel Project, NELP prepared Technical Notes in response to requests for further information, and in response to questions and issues of a technical nature arising during conclaves and during the course of the hearing. By the first day of the hearing on 25 July 2019, 29 Technical Notes had been tabled, with a further 20 Technical Notes tabled by the commencement of the combined Councils’ case on 14 August 2019 and a total of 57 Technical Notes tabled in all.

63. The use of Technical Notes enabled NELP to respond in detail to the various questions raised in a timely and efficient manner, without impacting on the hearing timetable. Preparing written responses in the form of Technical Notes ensured clarity and certainty as to the question that was asked and NELP’s response. NELP has never suggested that Technical Notes should carry the same weight as tested evidence. But their provision was invaluable in ensuring a fair and efficient process, for example by giving Mr O’Brien an extensive opportunity to respond to matters that would otherwise have been put to him for the first time in cross-examination. They were also a necessary means of providing a technical response to the considerable amount of information and evidence (largely adduced by the Councils) that was provided after NELP had called its witnesses, and often after it had cross-examined Councils’ witnesses.

Conduct of the hearing

64. The combined Councils, while indicating their intention to be constructive, raised concerns about the following elements of the hearing:

(a) The absence of a “proper contradictor”;
(b) The delayed provision of data; and

(c) The tightness of the hearing timetable.\textsuperscript{34}

65. The Committee’s process is investigative. The submitters are not involved in litigation, but in an administrative process in which the rules of evidence do not apply and there are no “parties”. The concepts of “puttage” and there being a “contradictor” are foreign in this context. Importantly, it is not appropriate to compare the process with curial processes where a final decision is to be made.

66. Indeed, for the same reason, Marcellin was incorrect to assert that the Model Litigant Guidelines apply to this process. More importantly, however, Marcellin was wrong to assert that NELP has acted inconsistently with those guidelines even if they were to apply. To the contrary, NELP has made an attempt to put all relevant material before the IAC in a timely fashion, and to facilitate a flexible process that has allowed interested submitters to address those materials.

67. The assessment of major projects in Victoria necessarily involves a degree of time pressure and comes with the expectation that public hearings will be efficient and focus attention on key issues. The time and funding resources of submitters are not unlimited and it would be unfair to conduct the hearing as if all submitters had unlimited resources. This means that the productive and efficient use of time is important. It also means that there is an obligation upon submitters to be co-operative and to focus on key issues.

68. Repeat players such as experienced barristers and solicitors, as well as the members of this Committee, are accustomed to these expectations.

69. The oral hearing does not represent the totality of the information to be investigated. Nor does it follow that the absence of an oral submission on an issue absolves the IAC from considering it.

70. Experience shows that for major transport projects over the past decade planning barristers and other participants in the process have cooperated (despite their different views on the merits) to achieve an efficient process with a reasonable, but not unfettered, opportunity to be heard. That has again occurred during the course of this hearing.

71. Over time, inquiry and advisory committee panels have developed or encouraged means by which the hearing time can be used efficiently. Initiatives include:

\textsuperscript{34} Hearing document 91.
(a) expert witness conclaves (these are imperfect but offer the potential to narrow issues between those in attendance);

(b) the use of technical notes;

(c) grouping of evidence into themes;

(d) limiting question time and topics;

(e) limiting time for submissions;

(f) concurrent hearings; and

(g) independent technical advice.

72. The ultimate question will always be whether the IAC has sufficient information for its purposes. While it remains open for the IAC to report that it lacked information on an issue, it is NELP’s case that the IAC has been sufficiently informed about the potential environmental effects of the Project to make findings and recommendations to the Minister.

Content of the EES

Adequacy of information

73. The combined Councils have suggested that – despite their involvement in the TRG and their input into draft assessments – there was some kind of fundamental inadequacy in the amount of information and the level of documentation in the EES, such that the environmental effects of the Project cannot be assessed.\textsuperscript{35} They also raise the prospect of a supplementary EES, although they have made no detailed submissions about which matters require supplementary investigation.\textsuperscript{36}

74. NELP disagrees. No EES in Victoria has been informed by as many independent peer reviews as have informed this EES. As summarised in paragraph 136 of the Part A submission, independent peer reviews were conducted iteratively in relation to traffic and transport, transport modelling, air quality, ecology, surface noise and vibration, human health, groundwater and surface water. All peer review reports have been made public.

\textsuperscript{35} See for example the BBW Councils’ additional opening submissions tabled on 26 July 2019, hearing document 91.

\textsuperscript{36} Hearing document 374a, para 670.
Multiple peer reviewers have given evidence to the IAC and been subject to cross-examination.

75. Every EES process involves the provision of additional technical information and analysis following exhibition, whether at the instigation of the proponent or submitters or at the request of the Inquiry Panel. This is appropriate because it is the statutory role of the inquiry panel to inquire into the environmental effects of the relevant works, not to inquire into the adequacy of the EES.\(^{37}\)

76. To the extent that additional information has been provided to the IAC since exhibition of the EES (for example, the results of additional groundwater monitoring, revisions to the groundwater dependent ecosystem assessment, an updated Native Vegetation Removal Report and confirmation of the availability of native vegetation offsets), that information has assisted the IAC and expert witnesses to assess the potential environmental effects of the Project, but it was also broadly consistent with the material upon which the EES was based. To borrow a phrase from the BBW Councils, no “environmental show-stoppers” have been revealed.\(^{38}\)

77. To take one example, there was a particular emphasis by the BBW Councils on groundwater as an area where the EES was said to be inadequate. Yet the groundwater experts (Mr Middlemiss and Mr Smitt) agreed at their conclave that:

(a) many of the technical concerns and issues initially raised in peer reviews and expert statements in relation to the EES have largely been addressed by the additional information that has become available;

(b) the groundwater model that had been developed as a predictive tool is history-matched to 12 months of data from more than 100 bores; and

(c) overall, the modelling allowed informed appraisal of the Reference Project risks to the environment, and the planning for future deployment of monitoring and management strategies linked to EPRs.\(^{39}\)

78. Likewise, the IAC’s expert advisor, Mr Barker, concluded that the modelling met best practice for a major project, and that the groundwater assessment was fit for purpose.\(^{40}\)

\(^{37}\) *Environmental Effects Act 1978*, s 9(1).

\(^{38}\) Hearing document 91, para [12].

\(^{39}\) See hearing document 107.

\(^{40}\) Hearing document 351, p6.
79. In opening submissions, the BBW Councils posed the following rhetorical question:

Do we need this freeway alignment more than we need the Bolin Bolin Billabong, or the riparian environment of the Banyule Swamp?

80. The question was premised on the hyperbolic assumption that the Project will destroy the Bolin Bolin Billabong or the Banyule Swamp. Having regard to its propensity to alarm the public, the question should never have been posed. But more importantly, the evidence has demonstrated that the Project will not destroy the Bolin Bolin Billabong or the Banyule Swamp, and that the potential impacts upon those aquatic environments can be managed through detailed design and the application of the EPRs.

Risk assessment

81. The risk assessment approach was discussed and agreed with DELWP prior to being adopted for the EES assessments. It was also presented and discussed with the TRG.

82. A number of submitters and witnesses queried the descriptor “planned event” within the EES risk assessments and risk register (see EES Chapter 4 and Attachment III – Risk Report).

83. There appears to be a misunderstanding of the difference between a risk (something that may or may not happen) and an impact (the result of something happening). As explained in EES Chapter 4 (p4-11), risks are events that have a chance of occurring and outcomes that are consequently uncertain. Planned events are not risks, strictly speaking, because both the events and their outcomes are certain to occur.

84. Assigning an event as a “planned” event did not mean its consequence was not assessed, as demonstrated in the risk matrix below (from Table 4-5 of Chapter 4), where the same consequence ratings were assigned as other risks:

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Hearing document 91, para [13].
Assigning an event as a “planned” event also did not mean its impacts were not assessed. Indeed, any “planned event” with a consequence of “minor” or above was subjected to a more thorough impact assessment process, with options for additional or modified EPRs or design changes considered where practicable.

**Net community benefit**

NELP generally agrees with the position of the BBW Councils, as articulated in paragraphs 3 to 9 of their opening submissions, that the environmental effects of the Project need to be assessed through the prism of whether the Project delivers a net community benefit.

The overall benefits of the Project at a local, regional and State level, and the support for the Project by Infrastructure Victoria and in documents such as the metropolitan planning strategy *Plan Melbourne 2017-2050*, have been comprehensively set out in the Business Case, NELP’s Part A submissions and the expert evidence of Mr Barlow and Mr Kiriakidis. Rather than repeating it here, NELP urges the IAC to read that material closely and to give it great weight in making findings and recommendations about the Project.

The evidence of Mr Barlow and Mr Kiriakidis as to the benefits of, and strategic support for, the Project were not undermined by cross-examination. Indeed, multiple submitters including all affected Councils agreed that a north east link should go ahead in some form.

Submitters have focussed on the components of the Project of greatest concern to them, while the Councils have focussed on their own municipal boundaries. This is understandable, but it tends to overlook the fact that there are significant broader benefits of this Project – particularly for the residents of the City of Banyule, but also for the

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42 Hearing document 84.
residents of the north-eastern suburbs generally, for metropolitan Melbourne and for the State – and that the ultimate decision must be made in net terms.

90. The IAC’s task is to assist the Minister to make an integrated assessment, balancing multiple and sometimes competing objectives in order to achieve a net community benefit. It would be an artificial exercise for the IAC or the Minister to attempt to weigh up the negative and positive environmental effects of the Project by reference to municipal boundaries. Those boundaries are administrative, but they bear no relationship to the way in which the Project’s impacts will be experienced, whether by the environment or the people within it.

91. It is a feature of any major road infrastructure project that there will be broad-scale benefits and localised disbenefits. Localised disbenefits are unavoidable, particularly within an established urban setting that does not have the benefit of a road reservation. The test of overall net community benefit cannot be expressed in terms of whether local benefits will exceed local costs.43

92. But the localised nature of disbenefits does not mean there will be no local benefits of the Project. The residents of the City of Banyule in particular will experience significant benefits, not only in the form of improved connectivity (a benefit shared by residents of all affected municipalities) but also in removing vehicle and particularly freight traffic from the local arterial network. There was no acknowledgment of these benefits in the combined Councils’ submissions at all, an omission that should be of great concern to local ratepayers, who have long lobbied for improvements to their local arterial road network, and whose distress at the current situation, particularly on Rosanna Road, featured strongly in individual submissions to the IAC.

93. The Greensborough Road/Rosanna Road corridor is the second most congested road corridor in Melbourne in the AM peak, and the first most congested in the PM peak, as depicted below together with the associated costs of that congestion:

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43 Cf the combined Councils’ submission, hearing document 374a, para 103(b).
Figure 1: Table 18 of the Australian Infrastructure Audit 2019 Supplementary Report, hearing document 237

94. Importantly, net community benefit needs to be assessed against the relevant comparator, which is not existing conditions but the “no Project” scenario in 2036. Compared with the “no Project” scenario, the Project will remove significant car and truck traffic from this congested corridor, as depicted below.

Table 2-1: Traffic Volumes (No-Project) and Reductions as at 2036 if the Project is Developed

<table>
<thead>
<tr>
<th>Location</th>
<th>All Vehicles</th>
<th>Trucks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No-Project Volume</td>
<td>Reduction</td>
</tr>
<tr>
<td>Rosanna Road – Brown St to Reid St</td>
<td>41,000 - 54,000</td>
<td>11,600</td>
</tr>
<tr>
<td>Greensborough Road – Yallambie Rd to Watsonia Rd</td>
<td>63,000 - 81,000</td>
<td>19,000</td>
</tr>
<tr>
<td>Manningham Road/Banksia Street – At Yarra River</td>
<td>75,000 - 96,000</td>
<td>13,300</td>
</tr>
<tr>
<td>Fitzsimons Lane – At Yarra River</td>
<td>64,000 - 83,000</td>
<td>16,600</td>
</tr>
</tbody>
</table>

Figure 2: Hearing document 188, p12

95. Compared with the “no Project” scenario, the Project will result in significant travel time savings. An example is depicted below.
Figure 3: Time travel savings for car based trips from Epping, AM peak, Project scenario 2036, hearing document 188 p6

96. Compared with the “no Project” scenario, the Project will result in increased access to jobs by car, as depicted below.
97. Submissions raising concerns about the impacts of the Project upon land uses adjacent to the Project need to be viewed in light of the likely amenity and character of that land in the “no Project” 2036 scenario, rather than in light of the existing situation.

98. Below are excerpts from Technical Report A, depicting traffic speeds for the Eastern Freeway in the PM peak in the “no Project” 2036 scenario:
99. Below are excerpts from Technical Report A depicting levels of service on the Eastern Freeway in the PM peak in the “no Project” 2036 scenario:
Figure 7: TTIA, figure 8-39

Figure 8: TTIA, figure 8-41
100. These images show that the Eastern Freeway is anticipated to operate poorly in the “no Project” 2036 scenario, in terms of both traffic speeds and levels of service in the peak hours.

101. Similar observations may be made of the performance of the M80 interchange in the “no Project” 2036 scenario.\(^{44}\)

102. Traffic speeds below 45km/h and a level of service of F on a freeway – as predicted for the Eastern Freeway in the “no Project” 2036 scenario - strongly suggest that widening of the Eastern Freeway would be considered by 2036 if not earlier, absent the Project. Recently, the Monash and Tullamarine Freeways have been widened to deal with additional traffic and congestion.

103. Indeed, as depicted above, the Bulleen Road/Eastern Freeway and Bulleen Road/Manningham Road interchanges would operate at level of service E in the second hour of the PM peak. Coupled with overall daily traffic volumes of up to 26,000 southbound and 30,000 northbound between the Eastern Freeway and Manningham Road,\(^{45}\) there is a likelihood that Bulleen Road would also require widening in the “no Project” 2036 scenario.

104. The Project has attempted to avoid, mitigate and offset negative environmental effects to the extent that is reasonable and practicable. The clearest evidence of that proposition is the tunnel: the Project includes a 6km tunnel component in order to avoid the most sensitive part of the Project alignment, namely, the Yarra River, the Bolin Bolin Billabong, the Banyule Flats, the Warringal Parklands, and the Heide Museum of Modern Art and its landscape setting. The tunnel also avoids the requirement to acquire a large number of residential properties.

105. The lack of acknowledgment, by submitters and particularly the combined Councils, of this as an avoidance measure – the longest road tunnel in Victorian history – was startling.

106. NELP has avoided residential acquisition to the extent possible. The heartfelt submissions of a number of individual submitters suggest that it was right to do so, because people have a particular attachment to their homes and acquisition can cause residents great distress.

107. Along the Eastern Freeway in particular, the Project utilises the existing road reserve to the maximum extent possible. This has both positive and negative environmental effects. It

\(^{44}\) See Technical Report A, sections 8.3.3 and 8.3.4.

\(^{45}\) See Technical Report A, Table 8-4, p201.
avoids property acquisition and develops land in accordance with its planning purpose, but it results in the removal of vegetation and a limitation on the extent to which a landscaped buffer can be established.

108. North of Lower Plenty Road, the Project follows the existing alignment of Greensborough Road/Highway. Again, this has both positive and negative environmental effects. It avoids property acquisition, but it results in the removal of vegetation, particularly at Simpson Barracks. While multiple submitters sought the continuation of a tunnel north of Lower Plenty Road, the need for the Lower Plenty Road interchange was not seriously disputed, meaning the loss of native vegetation and impacts to adjacent residents could not be avoided.

109. It is apt here to recall the comments of the Inquiry Panel in the Eastern Arterial Road Report, when discussing the impacts to the Koonung Creek and Mullum Mullum Creek Valleys of what ultimately became the Eastern Freeway extension:

> If the preservation, protection and retention of the creek valleys were the only issue the Panel had to consider, it would have been strongly persuaded that the valleys should be protected, preserved and retained. However, this is only one factor in the Panel's deliberations and has to be weighed up with other important considerations and with measures to be used by the construction authority to minimise the impact on the Valleys.46

110. The trenched section of road north of Simpson Barracks should not be viewed in pejorative terms, because it has positive effects when compared with the existing context of a six-lane at-grade arterial road accommodating significant traffic, such as reducing noise and the perception of traffic, and improving safety, as acknowledged by Mr Czarny under cross-examination and by Mr Axford in his final report.47

111. Mr O’Brien’s alternative road design did not include a tunnel north of Lower Plenty Road, and included a similar length of trenched road.

112. It is important to note that NELP’s case is not predicated on an argument that the footprint of the Project as exhibited in the EES is the minimum required footprint to deliver the Project objectives. Indeed, multiple EPRs require the minimisation of the footprint of the Project, and it may well be that the final design incorporates a lesser footprint following the tender process.

46 Proposed Eastern Arterial Road, Doncaster to Ringwood and Ringwood Bypass, February 1989, p35.
47 Hearing document 354.
113. Significantly, no expert witness called to give evidence for any submitter concluded that the Project should not go ahead in any form. A number expressly supported it. For example, Mr Rawnsley was called by the BBW Councils under the apparent premise of contesting elements of the Business Case. While NELP does not accept Mr Rawnsley’s evidence for the reasons canvassed in cross-examination, ultimately the most telling aspect of Mr Rawnsley’s evidence was his admission that he supports the Project notwithstanding his reservations about the Business Case. Accordingly, even taken at its highest, Mr Rawnsley’s evidence does not stand for the proposition that the Project lacks strategic justification and should not proceed.

114. Having regard to the range of environmental effects discussed in the balance of these submissions, in overall terms the Project will achieve a substantial net community benefit by 2036 (and beyond, given its 100-year design life) compared with the no-project scenario, particularly in relation to:

(a) improvements to Melbourne’s economic prosperity by:
   
   (i) better connecting population growth to jobs, including in the La Trobe NEIC and the Metropolitan Activity Centres of Dandenong, Ringwood and Box Hill; and

   (ii) significantly reducing travel times;

(b) improvements to Melbourne’s freight network;

(c) improvements to liveability and community wellbeing, particularly for residents of Rosanna Road and Greensborough Road;

(d) improvements to the public transport network, including:
   
   (i) substantial upgrades to bus capacity through delivery of the Doncaster Busway;

   (ii) reduction in travel times for buses and trams;

(e) improvements to the active transport network; and

(f) improvements to the operation and performance of the Eastern Freeway.

115. The IAC should find that the Project, if delivered in accordance with the EMS including the EPRs and the UDS, will result in a net community benefit.
Strategic transport model

116. The strategic transport modelling undertaken in respect of the Project is important in informing much of the assessment of the Project’s environmental effects.

117. Mr Veitch and Dr Willumsen provided expert support for the basis upon which the strategic transport modelling was undertaken. Both witnesses can claim to be industry leaders in strategic transport modelling. Both witnesses readily acknowledged the strengths and weaknesses of the strategic transport model and identified the subtleties that exist in different modelling approaches.

118. While there is always scope for competent professionals to differ about discrete aspects of the modelling approach, the IAC should have no difficulty in concluding that the strategic model supporting the EES adopted an appropriate methodology and that it is fit for purpose. Furthermore, consistent with the independent review of Dr Willumsen, the IAC should be satisfied that the different preferences expressed by the witnesses in respect of aspects of the modelling approach are unlikely to result in materially different outputs.

119. As NELP understands it, a key contention in the cross-examination of Mr Veitch (albeit not one that carried through to the Councils’ closing submissions) was that a project of this scale warranted further analysis and data collection. As Mr Veitch explained, however, the data collected to inform the modelling was substantial and should be considered adequate for the purposes of the EES, and that to update the model in the manner called for in cross-examination (that is, to have regard to updated VISTA data) would take in the order of one year (or possibly longer) to complete without necessarily improving the accuracy of the predictions.

120. Furthermore, for the reasons given by Mr Veitch and Dr Willumsen, the IAC should be satisfied that the modelling was adequately validated. Indeed, as Mr Veitch indicated in response to a question posed by the IAC, even in the absence of any practical constraints (in terms of time or cost), any additional analysis that might be undertaken would likely be investigatory in nature and would not necessarily result in improved outcomes.48 Mr McDougall conceded in cross-examination that the matters that he raised in respect of model validation should be considered “lower-order issues”.49

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48 Evidence given orally on Day 5 of the hearing in response to a question posed by Mr Edwards.
49 Evidence given orally on Day 18 of the hearing in response to a question posed by Mr Morris.
121. Dr Willumsen’s independent peer review of the strategic transport modelling provides considerable assurance in respect of the legitimacy of the adopted modelling approach. Dr Willumsen is a leading international expert in strategic transport modelling and his assessment was thorough and even-handed. The preparation of an independent peer review of this type and pedigree clearly supports the modelling undertaken in respect of this EES and distinguishes it from that undertaken in respect of any other road project assessed within Victoria.50

122. The suggestion by the combined Councils that the “best peer reviews” are those conducted by experts appointed by other parties,51 or the apparent insinuation that Dr Willumsen’s review was not undertaken from “outside the project team”;52 fails to recognise that Dr Willumsen was engaged on an arm’s length basis to complete an independent peer review and that an opportunity was provided (but not ultimately taken up) by the Councils to test his expert opinions in this respect.

123. The endorsement of the Zenith model by Infrastructure Australia in its Supplementary Report to the Australian Infrastructure Audit 2019 adds further credence to the modelling approach adopted in the EES.53

124. NELP relies on the detailed evidence provided by Mr Veitch and Dr Willumsen in respect of the technical issues that remained in dispute between the traffic modelling witnesses following the conclave. These matters are properly characterised as being of intellectual interest among traffic modellers. They do not, however, compromise the integrity of the modelling undertaken in respect of the EES, nor do they warrant further traffic modelling being undertaken as part of this process.

125. It is noted in this respect that both Mr Dunn and Mr McDougall identified elements of the modelling that they contend have the potential to overstate future demand (though neither was prepared to indicate by what extent). These relevantly include the adoption of the dampened single loop distribution approach and the performance of the Zenith Model relative to the VISTA based estimates. Even taken at their highest, however, these positions fail properly to acknowledge the counter-veiling factors identified by both Mr Veitch and Dr Willumsen that equally suggest that the modelling may understate demand. Foremost among these factors are the current predictions in respect of future rates of

50 And responds directly to observations made in this respect by the IAC appointed in respect of the West Gate Tunnel Project (at section 4.3.2 of the IAC’s report).
51 Hearing document 374a at para 142(b).
52 Ibid at para 144.
53 See, in particular, Chapter 11 of hearing document 239.
population growth\textsuperscript{54} and the treatment of the public transport network in the model as unconstrained.

126. The suggestion that inadequate attention was given in the modelling to other significant metropolitan planning initiatives should be rejected. The modelling had regard to all strategic initiatives recognised in the Victorian Government’s Transport Modelling Reference Case. Furthermore, following the Government’s stated commitment to deliver the Suburban Rail Loop, supplementary modelling was undertaken to determine the impact of that project on the North East Link.

127. Technical Note 53 addresses the other technical issues identified by Mr McDougall in evidence.\textsuperscript{55} NELP relies on that technical note as a record of its position in these respects.

128. NELP notes finally that the BBW Councils’ complaints about the adequacy of the conclave attended by the expert traffic modelling witnesses were misplaced. The conclave was conducted over two full days and proved to be a particularly useful process in defining and narrowing the issues that were in dispute. The experts should be commended for their cooperative approach to this process.

129. It is important to keep in mind that it is not a reasonable expectation that any strategic model will predict the future with certainty. The purpose of the model is to provide an insight as to what may happen, based on well-reasoned assumptions, to support investment decisions and assess likely environmental impacts. In this case many of the assumptions can be understood without visiting the model. For example, there is a sound basis in strategic planning to understand connections to activity areas and growth areas and freight routes.

130. Importantly for the IAC, the strategic model has been prepared by a well-respected firm and was able to be tested. Significantly, the modelling techniques were peer reviewed by an independent expert with sound international experience. This should give the IAC a sufficient basis to rely on the model for the purposes of the assessment of environmental effects.

\textsuperscript{54} As documented in the Victoria in Future 2019 future population projections.

\textsuperscript{55} Hearing document 347.
Findings and recommendations

131. The IAC should accordingly find that the strategic model is fit for purpose and that it provided an appropriate basis upon which to assess the environmental effects of the Project.

Traffic and transport

Overview

132. The relevant evaluation objective requires the Project to “increase transport capacity and improve connectivity to, from and through the northeast of Melbourne, particularly freight movement via the freeway network instead of local and arterial roads” (emphasis added).

133. Based on the submissions and evidence, there is little debate that the Project responds well to that evaluation objective. This should not be lost in the IAC’s assessment of environmental effects. The lack of time spent contesting the traffic and transport benefits does not reduce the weight to be given to these benefits in the ultimate assessment. To the contrary, it serves as a reminder that much of the case has dealt with the localised effects of the Project, rather than with the merits of the Project as a whole.

134. There is also little debate about the substantial benefits to the local road network derived from redistribution of vehicles, including freight, from arterial roads to the Project. Perhaps a key reason for the lack of debate on this topic is that the historical vehicle and freight distribution problems are well understood by the relevant stakeholders and affected communities.

135. The forecast redistribution of traffic predicted in the EES was barely, if at all, referenced by submitters or experts, except when put by NELP to relevant experts.

136. In many respects the supportive traffic and transport case is sufficiently stated in the traffic comparisons depicted in the diagrams below:
Figure 9: Consolidated traffic volumes, hearing document 85 p7

Figure 10: TTIA figure 9-97
137. When pressed, most (if not all) traffic engineering experts either supported or were “not against” the Project:

(a) Mr Kiriakidis supported the strategic basis for the Project and his assessment of the overall benefits of the Project was largely unchallenged through cross-examination;

(b) Ms Marshall described the Project as being a “worthy project with clear benefits to Manningham” and noted that the Project was supported by the City of Manningham;

(c) Mr O’Brien, when questioned, recognised that the benefits of traffic redistribution would flow to the municipalities he represented including, in particular, the City of Banyule (rather, he complained that the Reference Project was a “gold plated Rolls Royce”);

(d) Ms Dunstan said that she was not opposed to the Project and was focussed only on impacts on Marcellin;

(e) Mr Young agreed that his approach was consistent with Ms Dunstan’s and was limited to impacts on Carey;

(f) Mr Gnanakone agreed that he was not arguing against the merits of the Project, and that his client’s landholding would benefit from access to the Project; and

(g) Despite not mentioning the relevant evaluation objective in his evidence, when asked, Mr Tivendale agreed that the Reference Project met the evaluation objective with “flying colours”.
138. There was little, if any, dispute that the Project will deliver the type or extent of traffic and transport related benefits described in the EES and summarised in NELP’s Part A submissions, being benefits that will accrue to the local and regional transport networks,\textsuperscript{56} as well as the resultant benefits that will arise in respect of:

(a) business access and growth in Melbourne’s north, east and south east;

(b) household access to employment and education in Melbourne’s north, east and south east;

(c) freight and supply chain efficiency and industrial growth across the north, east and south east; and

(d) access, amenity and safety for communities in the north east.

139. The overall quality, scope and substance of the TTIA was also not seriously contested.

140. Based on the preceding remarks, and consistent with the findings of the independent peer review documented in the EES,\textsuperscript{57} the IAC is in a position to conclude that the TTIA was competently prepared and that it provides a sound basis upon which to assess the traffic and transport impacts of the Project.

141. It should also be noted that, with the exception of Mr Kiriakidis, no traffic and transport experts appearing before the IAC were either instructed, or independently considered it necessary, to weigh the potentially negative traffic implications of the Project against beneficial traffic implications in a State, metropolitan or local context.

142. This is understandable for experts called for private submitters but it is more curious when assessing the evidence called by affected Councils and, in particular, the evidence of Mr O’Brien. No submitter purporting to argue overall net disbenefit can properly do so without a reasoned engagement with, or acknowledgement of, the overall (and very substantive) traffic merits of the Project.

143. Rather than deal with the traffic benefits, the BBW Councils preferred to treat the benefits as a “given” and then purported to redesign aspects of the Reference Project. This approach fell short in the absence of a multi-disciplinary assessment that could be demonstrated to have considered and preserved the Project benefits.

\textsuperscript{56} See, in particular, Part 2 of that submission.

\textsuperscript{57} The peer review is Appendix A to Technical Report A. As Mr Kiriakidis explained in evidence, all outstanding issues identified in the peer review have been addressed during the course of this process.
144. While NELP recognises Mr O’Brien’s general and lengthy experience as a traffic engineer, it does not accept that Mr O’Brien is a recognised freeway designer in this State. Further, Mr O’Brien was not supported in the exercise by experts in other disciplines. Nor can it be contended that Mr O’Brien can speak for the attitudes of the statutory authorities responsible for road safety and design in this State.

145. It is not entirely clear to NELP why the BBW Councils put the case this way. It is understood that those Councils hope for changes to the design of the Project that will minimise its footprint, particularly along the Eastern Freeway reservation. However, this design aspiration is supported by NELP, and is expressly embedded in the exhibited EPRs.

**Level of service**

146. There is no reason to debate that a road of this scale, investment and function should be designed with high standards of performance and safety. Given its Terms of Reference, it is not necessary for the IAC to make final recommendations on the actual design of the freeway, or on the required surface area. Moreover, it would be premature, if not reckless, to mandate a specific reduction in the Project’s footprint, prior to an approved final design that adheres to high standards of road safety and performance.

147. It follows from the above that the EES and the Reference Project properly assume that the State will expect a performance target of LoS D and that the Reference Project will include design features that best support productivity and safety.

148. Curiously, the closing submissions on behalf of the combined Councils question how “enduring” the traffic benefits of the Project will be. A primary reason for setting a performance target, and for including freeway lane separation, is to build resilience, improved network performance and endurance into the road system. An example of the contradiction in the Councils’ case is evident in Councils’ apparent criticism that segments of the Project would achieve LOS C in the design year.

149. On closer examination, it may be that the case on behalf of the Councils does not ultimately criticise the performance target *per se* given that Mr O’Brien purported to maintain a LoS D as a stated assumption for his alternative design. Perhaps the more likely explanation for the “challenge” to a LoS D is an acknowledgement that this may be a necessary trade off if a reduced freeway footprint is mandated.

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58 Hearing document 374a, para 111.
150. It would be perverse for the Government to advance a $15.8 billion project on the premise that it will perform poorly in the design year. This, however, would be precisely the outcome were LoS E to be adopted for design purposes. Indeed, as demonstrated by Figure 3 of the Motorway Design Volume Guide, as performance moves from LoS D to LoS E, the likelihood of flow breakdown increases exponentially while traffic flow decreases significantly.

![Figure 3: Motorway Design Volume Guide](image)

**Figure 12: Hearing document 178, p12**

151. As Mr Kirakidis explained, designing to LoS D constitutes a “responsible planning approach” and is “extraordinarily common”. It has been adopted in the design of all recent major road projects undertaken within this State, including the West Gate Tunnel, EastLink, Peninsula Link, and the M80. It is an appropriate design standard to adopt in the context of this Project.

**Lane separation**

152. Another example of the conflict within the combined Councils’ case is the argument concerning lane separation barriers, referred to in the hearing as ‘collector distributors’ or ‘CDs’. Mr O’Brien agreed that, depending on the distances between exits, CD lanes may be more or less appropriate with the key objective being to reduce turbulence and weaving. The Reference Project includes CD lanes for this purpose, supported by the modelling of the performance of the Reference Project. There is an evident performance and safety rationale for the proposed CD lanes in the Reference Project because there are multiple lanes within sections of the freeway with short distances between exits.

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59 Hearing document 178.
153. The analysis undertaken by VicRoads, and as documented in the *Motorway Design Volume Guide 2017*, demonstrates that a configuration of this type has greater capacity and is safer than an undivided configuration of comparable size. In closing their case, the combined Councils contended that the analysis outlined within the *Guide* was not based upon empirical evidence. This is not the case, however, as is evident in the materials referenced within the guidelines themselves. It is certainly the case that no contradictory technical evidence has been put before the IAC contesting these propositions.

154. The Department of Transport explained why it favours the introduction of a collector-distributor configuration along the Eastern Freeway (as well as along other parts of the Project). NELP concurs with and adopts that assessment.

**Microsimulation modelling**

155. Mr O’Brien was critical of the extent and adequacy of the microsimulation modelling undertaken to inform the TTIA. This criticism was tempered when it was appreciated that the model extent exceeded the study area. Mr O’Brien’s principal focus then moved to the absence of specific microsimulation modelling having been undertaken at the intersections of Springfield Road with Springvale Road, Blackburn Road, and Middleborough Road.

156. The microsimulation model was developed to assess the performance of the Project and the closest adjacent interchanges/intersections. The extent of the model has been developed in consultation with VicRoads and extends beyond the Project area defined pursuant to the Scoping Requirements, as depicted below.
157. The microsimulation modelling did not extend to intersections as far south of the Eastern Freeway as those identified along Springfield Road. This road is approximately 1km south of the Project. Multiple local roads are situated between it and the Eastern Freeway and will impact on traffic flows.

158. The information within Appendix D to the TTIA, which presents the forecast peak period traffic volumes for key roads within the study area, shows that the predicted peak period increases in traffic volumes are modest. This extent of increase is likely to be capable of being accommodated by changes in traffic signal phasing and will not result in the type of impacts described by Mr O’Brien. NELP relies, in this respect, on the evidence given by Mr Kiriakidis.

159. It is also noted that the broader network impacts of the Project are captured by the strategic transport modelling undertaken by VLC. This model covers all of Melbourne (as well as Victoria) and considers changes in route selection, mode choice and destination at a whole-of-network level. This means that a strategic model will better account for the ‘broader’ impacts of a project (that is, impacts felt further away) than a microsimulation model.

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64 TTIA Appendix D, page D-12/27 (Middleborough Road), D-14/29 (Surrey Road).
65 See hearing document 135, slides 36 and 37.
Reference Project

160. The majority of submissions made in respect of traffic and transport issues are targeted to discrete aspects of the Reference Project as they affect particular areas. While many of those matters are addressed below, NELP also directs the IAC’s attention to the detailed assessment of submissions contained within Mr Kiriakidis’ witness statement, which NELP adopts as a comprehensive record of its position in these respects. As observed in NELP’s opening remarks, Mr Kiriakidis’ assessment was both comprehensive and highly competent, and NELP considers it to be a valuable resource to the IAC. The submissions that follow seek to address the key or prevalent matters raised in submissions.

Extension of the Busway further west

161. The City of Yarra contended that the busway should be extended to facilitate movements into its municipality more directly.67

162. The busway featured in the Reference Project has been developed in accordance with the requirements and specifications provided by the Department of Transport. Those specifications have been informed by strategic network planning completed by the Department, which did not identify a need for a connection of this type.

163. Nothing in the Reference Project precludes the provision of direct connections between the western end of the Eastern Freeway and the CBD. Accordingly, if that type of connection is deemed desirable at some point in the future, there is capacity for that connection to be delivered as a separate project.

City bound queues at Hoddle Street

164. Hoddle Street and Alexandra Parade constitute constraints on the western end of the Eastern Freeway that result in queuing back along the Eastern Freeway towards Chandler Highway.

165. Mr O’Brien raised concerns in respect of the implications of that queuing on the Project, as well as queuing occurring further to the east at and around the Chandler Highway interchange.68

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66 Hearing document 121.
67 Hearing document 94.
68 See, for instance, hearing document 245, slides 37 – 41.
166. Analysis documented by the Department of Transport shows that the queue from Hoddle Street and Alexandra Parade fluctuates from day to day, but that it is typically confined to the western side of the Yarra River, such that it does not impact the operation of the Chandler Highway interchange.  

167. Further analysis documented by the Department of Transport shows that the further queue that is created back from the Chandler Highway inbound exit ramp, presently extends onto the Eastern Freeway, and that it can impact traffic flow in the left lane towards Burke Road. The recent duplication of the Chandler Highway bridge over the Yarra River has improved this queuing issue and reduced the likelihood of the queue extending back to Burke Road.

168. The typical confinement of the queue from Hoddle Street to the west of the Yarra River aligns with the extent of the microsimulation modelling undertaken for the Eastern Freeway. This means that the modelling presents a reasonable assessment of how the Project is predicted to operate and confirms that no additional widening in the vicinity of Chandler Highway is required to manage this queue.

169. The upgrade of the inbound exit to Chandler Highway, combined with the forecast reductions in traffic volumes on Chandler Highway, will assist in managing the queue that can extend back onto the freeway mainline towards Burke Road.

**Hoddle Street**

170. The City of Yarra questioned the extent to which the Project would result in traffic growth in and around Hoddle Street and the resultant impacts of that growth on network performance.

171. The modelling reported in the TTIA predicts that the changes in traffic volumes on Hoddle Street as a consequence of the Project would be minimal and would fall within the day to day fluctuations of general traffic. This is because the Project does not attract additional traffic to the inner suburbs. It instead will redistribute traffic bound for these suburbs to the freeway network and free up capacity on the arterial road network.

172. The Project is accordingly unlikely to have a material effect on future traffic conditions on Hoddle Street.

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69 Hearing document 233.
70 Hearing document 234.
71 Hearing document 94.
72 See page 291 of Technical Report A.
Road Safety

173. Mr O’Brien identified potential safety issues associated with the Reference Project without identifying relevant standards. In cross-examination he agreed that his approach was to give his personal opinion about what he considered to be best practice, rather than to assess the Reference Project against relevant standards.

174. NELP relies, in response, on the following matters identified in Technical Note 51, in addition to the rebuttal of nearly every “non-compliance” identified by Mr O’Brien:73

The Reference Design was the subject of review by an Independent Road Safety Auditor.

The Road Safety Audit is an iterative process. Using a risk based approach, the auditor provides comments and the design team responds as the detailed road design evolves.

As the Road Safety Audit is concerned with a finer level of detail than is published for the purposes of the EES the process is continuing. The independent Road Safety Audit is now in its fifth version.

In addition to the road safety audit process, the reference design was the subject of a Safe System Assessment pursuant to VicRoads Safe System Assessment Guidelines. This is designed to ensure that the design aligns with safe system principles, and the ultimate objective of eliminating fatal and serious injuries from crashes on the road network. Assessments must be conducted for projects over $5M. In accordance with the Safe System Assessment Guidelines, an independent Safe System Reviewer, with VicRoads guidance, assessed the reference design and evaluated the alignment of the project with Safe System principles using the AP-R509-16 Austroads Safe System Assessment Framework.

When the Project is open to tender, tenderers will have access to the reference design together with further information that has been compiled, including for example information from ongoing geotechnical studies, groundwater reports, and the latest road safety audit report and Safe System Assessment report. This will ensure that tenderers have access to the most relevant and recent information to inform the preparation of their tender submissions. A highly informed tender submission assists in reducing development costs and risks to the State in the procurement of the project.

175. Despite the “request” on behalf of the Councils, the IAC did not request that the audit information be produced for the hearing. Nor should it. The audit is in its fifth cycle and descends to a level of detail that is not necessary for the purposes of the assessment of environmental effects. This is particularly apparent given that the Councils argue that the freeway is over designed, meaning that the environmental effects are presented as a worse case than it would contend for. The Councils’ request amounts to no more than an unnecessary fishing expedition. Further, the Councils have neither the expertise, nor the authority, to interrogate the RSA, even if that were of value to the IAC.

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Mullum Mullum Tunnels

176. A number of submitters assert that the Mullum Mullum Tunnels will not have the capacity to accommodate additional demand attributable to the Project. Mr O’Brien, in giving evidence before the IAC, specifically queried how the Project would control eastbound demand into the tunnels.\textsuperscript{74}

177. The performance of the EastLink tunnels was specifically assessed in the TTIA. 2036 ‘no Project’ performance is presented in Section 8.3.3 and 2036 ‘with Project’ performance is presented in Section 9.3.2. Additional analysis is presented in Appendix E to the TTIA\textsuperscript{75} and in a memorandum prepared for GTA by SmedTech dated 11 July 2019.\textsuperscript{76} That analysis demonstrates that the EastLink tunnels and surrounding interchanges are anticipated to perform successfully in both peak periods.

178. The TTIA identifies that the current performance of the tunnels is influenced by merging outside of the tunnel, such as the Springvale Road inbound merge, that does have the potential to impact the performance of the tunnels.

\textsuperscript{74} Hearing document 245, slide 36.
\textsuperscript{75} At p. E-30 to E37.
\textsuperscript{76} Hearing document 24n, Appendix D in part.

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Figure 14: Existing congestion in EastLink tunnels, hearing document 24n, Appendix D

179. In the Reference Project, this entry ramp is upgraded so as to prevent flow breakdown from occurring within the Eastern Freeway main line, thereby mitigating any consequential effect on the tunnels’ performance.
180. The installation of ramp metering in the Reference Project would also assist in ameliorating this risk.\textsuperscript{77}

\textit{Characterisation of Bulleen Road}

181. Bulleen Road is currently classified as a GT2 road by VicRoads.\textsuperscript{78} The Department of Transport define roads of this type as catering for “[s]ignificant movement[s] of people by private vehicle on routes connecting multiple municipalities or providing primary access to Regional level places”. The Department of Transport proposes to alter the classification of Bulleen Road to a GT3 road following the implementation of the Project. A road of this type caters for “[m]oderate movement[s] of people by private vehicle on routes connecting municipalities or providing primary access to Municipal level places”.

182. The change in classification does not alter the ownership or function of the road. The change is designed to recognise that the primary function of Bulleen Road in the Project scenario would be to provide local access rather than primarily facilitating through-traffic. This is ultimately a matter for the Department of Transport.

\textit{Bulleen Road South}

183. Figure 9-10 of the TTIA summarises the predicted changes in daily traffic volumes in 2036. It shows that Bulleen Road south of the Eastern Freeway is predicted to carry an additional 4,900 vehicles per day due to the Project. This increase is due to the redistribution of traffic from other north-south routes (such as Burke Road) to make use of the available capacity on Bulleen Road north of the Eastern Freeway and also to access North East Link via the Manningham interchange.

184. The Project does not seek to alter the existing character of this section of Bulleen Road. The analysis provided with the TTIA\textsuperscript{79} shows that the bulk of the traffic increases are predicted to occur outside of the peak periods during which there is spare capacity.

185. NELP recognises the need for this road to be monitored and managed as part of the broader network.

186. A number of submissions have been made regarding the existing bus stop on the Bulleen Road inbound entry ramp to the Eastern Freeway. The layout of the Reference Project at

\textsuperscript{77}This is shown on sheet 42 of 42 of the map book.
\textsuperscript{78}See TTIA figure 6-13.
\textsuperscript{79}TTIA figure 9-29.
the Bulleen Road inbound entry ramp is presented within sheet 31 of the Map Book. This shows that there are no works proposed in the vicinity of the existing bus stop.

187. The future use and operation of the bus stop will accordingly be a matter for the Department of Transport once the Project is constructed.

Future Access to the Former Bulleen Industrial Park Land

188. It is anticipated that the land surrounding the Manningham interchange will be suitable for redevelopment once construction works associated with the Project are complete.

189. The highest and best use of that land has not yet been determined, however NELP agrees that the ultimate design of the Project should make appropriate provision for future access to that land. One option may be the provision of left in/left out access along Bulleen Road and Manningham Road. Future access is appropriately addressed pursuant to EPR T1.

Feasible modifications

190. NELP will address the IAC on the direction contained within its Terms of Reference that its final report contain “recommendations as to any feasible modifications to the alignment or design of the Project that would offer beneficial outcomes” later in these submissions. It is convenient for present purposes, however, to address both the transport and traffic and consequential effects of a number of the design alternatives that have been proposed.

191. NELP refers the IAC to paragraphs 27-32 of NELP’s Part A submissions as a record of the approach that it has adopted in respect of this aspect of the IAC’s task.

Eastern Freeway cross section

192. A common refrain in submissions has been that the Reference Project, and in particular the Eastern Freeway component, is “land hungry” and “over-designed”. This criticism is ultimately well intended, but too simplistic.

193. The design of the Reference Project was undertaken having regard to forecast traffic volumes and the number of lanes required to accommodate the predicted demand. It also had regard to specified levels of performance (as addressed above), safety considerations, and has been prepared in accordance with the *Austroads Guide to Road Design Part 3 –*
Geometric Design Table A1 (including in respect of the dimensions of the shoulders and barriers separating different lanes).  

194. The submission prepared by the Department of Transport contains useful commentary in respect of other factors that have informed the design of the Reference Project, such as the need to provide infrastructure to facilitate the delivery of a managed motorway system, the need for (and benefits associated with) the adoption of braided ramps, the need to accommodate sufficient lanes to address the complexity of vehicle movements between Bulleen Road and Doncaster Road and between Tram Road and Middleborough Road, and the implications associated with the tight bend between Bulleen Road and Doncaster Road.  

195. NELP concurs with and adopts this assessment.  

196. Ultimately, while there may be some scope for narrowing in the final design for the Eastern Freeway it is unlikely that there will be a marked overall reduction. It would not be responsible to submit otherwise. That said, NELP agrees that all components of the Project should be efficiently designed. EPR LP1 specifically directs that the design and construction footprints of the Project be minimised.  

197. Importantly, given the footprint of the Reference Project and the conservative assessment of environmental effects within it, the prospect of a greater land-take across substantial portions of the Project is remote.  

Busway  

198. The alternate layout as produced by Mr O’Brien provides the busway down the central median. NELP produced a response to this alternate design which raised safety concerns with this configuration.  

199. Chapter 6 of the EES provides details on the Project’s development. Section 6.4.4 specifically relates to the Doncaster Busway and the options investigated in its development. Option A summarises the investigations of the central median option from Hoddle to Burke Road. This option was discounted for the purposes of the reference project for various reasons including the challenges associated with emergency services  

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80 Hearing document 252.  
81 Hearing document 177.  
82 Hearing document 134, item 11b.  
83 See EES Chapter 6, page 6-53.
accessing the busway and the potential safety implications for passengers and other traffic in the event of a bus breakdown.

200. The Busway is to be understood as a route for express services down the freeway connecting with park and ride facilities. It is not intended to stop services on the freeway nor, at the direction of DoT, is it intended to directly link through the Project tunnels. While NELP would not necessarily discount the option it could not, for the reasons set out above, be mandated.

Lower Plenty Interchange

201. An alternative design for the Lower Plenty Interchange is discussed in TNR33\(^{84}\) and depicted below.

\(^{84}\) Hearing document 101.
202. It appears to be common ground that this interchange should not include ramps on the southern side of Lower Plenty Road given the sheer impact on housing, the environmental and amenity values of the Banyule Creek and the River Gum Walk south of Lower Plenty Road, as well as sites of potential aboriginal cultural heritage value in this location.  

203. The alternative design has much to commend it given the concerns expressed by locals as to the impacts of the Reference Project on Borlase Reserve. There is also a material benefit by the reduction in traffic using Erskine Road.

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85 See Technical Note 48 (Hearing document 193).
Bulleen Precinct

204. Both Ms Dunstan and Mr Young raised concerns regarding the forecast traffic volumes for Carey and Marcellin. Ms Dunstan was concerned that the volumes in the AM peak period were too low, while Mr Young was concerned that the traffic analysis did not assess the weekend periods when the demands at Carey are at their highest.

205. The participants in the conclave agreed that additional analysis should be undertaken to assess the performance of the intersections during their respective peak periods. It was also agreed that the intersections should be designed to perform at a level of service D during those peak periods. No expert suggests that this could not be achieved. This would be addressed in EPR T1 which requires that interchanges and intersections need to be designed to meet the requirements of the relevant road and transport authorities.

206. Ms Marshall raised concerns regarding the spacing in the Reference Project of the intersections on Bulleen Road for the Marcellin College access and the Carey/Veneto Club access, with the intersections proposed to be approximately 150m apart. These intersections can be coordinated in their operation to minimise impacts to through movements, with vehicles turning from both intersections at the same time. This operating principle was also stated by Mr O’Brien during the Bulleen Precinct Conclave on 7 August 2019.86

207. It was agreed by all relevant experts that a signalised intersection at Bulleen Road would bring safety benefits to all users. The existing conditions are known to be problematic. It makes sense to direct as much movement through the signalised intersection as possible.

208. The Reference Project does not show a shared access between these two land uses, however the potential Bulleen Road modification87 does make allowance for this.

209. Further detail was provided during the Bulleen Precinct Conclave with an updated layout produced as requested by GTA88 and depicted below. That layout would provide a public service road shared access for Marcellin College, the Manningham Club, and the Bulleen Park and Ride. The IAC should recognise the suitability of this option to concentrate Bulleen Road access through a controlled intersection.

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86 Hearing document 217.
87 Described in hearing document 102.
88 See hearing document 217.
Figure 16: Hearing document 217

210. However, to avoid a roadway between Marcellin College and the Manningham Club (and Park and Ride), Ms Dunstan proposed a new signalised intersection at Thompsons Road and Sandra Street including a right turn out. Without a right turn out it would otherwise be inconvenient for return trips from the Park and Ride for users living south of the Freeway. Ms Dunstan’s proposal faces immediate problems:

(a) It would require the alteration of the Project boundary (which NELP accepts is not, in and of itself, determinative) and the acquisition of the BWS training centre in circumstances opposed by the owner;

(b) It would create a signalised intersection in close proximity to an important intersection accessing the freeway;
(c) It would introduce a right turn where VicRoads has already banned the movement based on the priority to be given to freeway access;

(d) It would require signal phasing presumably giving the lowest priority to the right turn out (causing delay);

(e) It would require users heading north to perform a right turn through the intersection of Bulleen and Thompsons Roads;

(f) It has not been designed or tested for performance; and

(g) It could not be guaranteed to survive in the longer term or for all movements to be available during critical peaks.

211. Further to (b) above, this proposed intersection would be in the order of 30-40 metres away from the signalised intersection for the Thompsons Road entry ramp. The traffic analysis provided within Appendix E of the TTIA shows the predicted performance of this intersection and the associated queuing, with the results presented on pages E-83 and E-84. That analysis relevantly shows that the queues from the Thompsons Road entry ramp are predicted to be between 35-45m to 85-120m during peak periods. This would extend beyond the proposed Sandra Street intersection, impacting upon its performance.

212. Furthermore, the Bulleen Road interchange with the Eastern Freeway controls the operation of the roads within this area. This intersection is predicted to operate close to its capacity in both peak periods. It is not feasible to alter the operation of a major freeway interchange to accommodate a much smaller intersection facilitating access to Sandra Street and the surrounding land uses.

213. This supports the conclusion that an alternative access to Bulleen Road is to be preferred than to impose an outcome whereby a right turn phase must be introduced into the Thompson Road access points. This is the case even if a right turn is considered because the alternative access to Bulleen Road builds resilience into the system.

214. The most benefits accrue if the properties on the east of Bulleen Road, including the Park and Ride, have access to the signals on Bulleen Road, even in the unlikely event that a right turn out onto Thompsons Road is facilitated.

215. To the extent that Marcellin is concerned about the use of land to its immediate south, this is not a matter caused by the Project but is an existing situation. All uses in the precinct
are permissible uses given the land zoning and do not present inherent access conflicts that would prevent the use of a common road system. The IAC should avoid moral judgements and focus on road network and safety considerations. This extends to the question of signage bearing in mind that permission is required under the provisions of the planning scheme.

216. During cross-examination, Ms Dunstan stated that she would not oppose the shared access on traffic engineering grounds, provided that it was provided via a dedicated public road.

217. Finally it is noted that no expert stated that the Reference Design for the Bulleen Interchange would not function appropriately. To the contrary not one expert supported Mr O’Brien’s alternative, which is depicted below.

Figure 17: Hearing document 28c
Watsonia alternative

218. The Elder Street connection to Watsonia Station was presented as part of the Watsonia alternate design,\(^8^9\) which is depicted below.

![Diagram of the Elder Street connection to Watsonia Station.](image)

**Figure 18: TNR32, hearing document 100, Attachment B**

219. There are multiple traffic and transport benefits of this layout which include direct connections between Elder Street and Watsonia Station, reduced travel distances, reduced delays to vehicles at intersections, and an improved layout of the Watsonia Road and Greensborough Road intersection. The alternate design also improves pedestrian connectivity throughout the area and maintains the Watsonia Station access on Greensborough Road.

220. The benefits of the most recent alternative were competently addressed in the submission of Ms James, noting that NELP acknowledges that both Mr Kiriakidis and Ms James support a dedicated grade separated pedestrian crossing in this location.

\(^8^9\) Hearing document 100.
Manningham interchange

221. Ms Marshall prepared an indicative alternative concept for the Manningham interchange, which is depicted below.

![Diagram of Ms Marshall's Manningham Road interchange concept]

Figure 19: Ms Marshall's Manningham Road interchange concept, fig 5-13, hearing document 29b

222. The intention of Ms Marshall’s alternative is to include a connection from Manningham Road (east) and Templestowe Road onto the south-bound on ramp (noting that the reference design does include a connection from Manningham Road (west) to the south-bound entry ramp). NELP does not necessarily consider that an on ramp is required at this interchange because of the convenience of Bulleen Road, the insignificant catchment, and the toll. NELP does not agree that the U-turn to the west would be used much, if at all. Ms
Marshall’s estimates of this usage were shown to be incorrectly premised on modelled west-bound movements.

223. Nonetheless, NELP sees no reason at this point to rule out consideration of a south-bound on-ramp, noting that the challenges are likely to be better understood in the detailed design phase having regard to grades, ramp configuration and local network performance.

Avon Street

224. The Reference Project would result in the truncation of Avon Street at its western end to prevent rat-running vehicles accessing North East Link. The proposed treatment and likely impacts are discussed in Section 9.2.4 of the TTIA.\textsuperscript{90} Specific consultation was conducted with residents of Avon Street in this regard (with the Avon Street Residents Committee expressing their appreciation to NELP in this regard\textsuperscript{91}).

225. The Avon Street Residents Committee support the truncation of Avon Street along with a landscape solution that provides for substantial landscaping to mark the intervening area between the \textit{cul de sac} and Bulleen Road.

226. The GTA peer review of the TTIA suggested a left in/left out arrangement for Avon Street at Bulleen Road. A memorandum prepared by SmedTech to GTA dated 13 June 2019 addresses this issue.\textsuperscript{92}

227. The provision of a left in/left out arrangement is ultimately not favoured on the basis that the provision of an uncontrolled intersection within a signalised intersection may result in non-compliance and would create safety and operational issues.

The Duplication of Templestowe Road

228. The City of Manningham, supported by the evidence of Ms Marshall, contends that Templestowe Road should be duplicated as part of the Project.

229. The State Government Reference Case assumes the duplication of Templestowe Road (between Bridge Street and Thompsons Road) by 2031.\textsuperscript{93} The modelling conducted in respect of the Project has accordingly proceeded on this basis.

\textsuperscript{90} At p. 334.
\textsuperscript{91} Oral submissions on day 32, 12 September 2019.
\textsuperscript{92} See Appendix D to Mr Kirakidis’ witness statement, hearing document 24n.
\textsuperscript{93} See, for instance, Table C.10 of Appendix B to the TTIA.
230. The existing and forecast traffic volumes for Templestowe Road are set out in Appendix D to the TTIA. This analysis shows that Templestowe Road is currently carrying 15,000 - 21,000 vehicles per day which would be close to its capacity (and justify, in and of itself, the duplication of the road). Tellingly, however, it also shows that anticipated future traffic volumes on Templestowe Road are greater in the no project scenario than in the project scenario.

231. No coherent assertion can accordingly be advanced that the duplication is required as a consequence of the Project such that it should form part of the proposed program of works.

Other matters

Placarded Loads

232. Dangerous goods vehicles, otherwise known as placarded loads, are prohibited from entering other road tunnels pursuant to the following legislative instruments:

(a) The *Road Transport (Dangerous Goods) Act 1995* prohibits the transport of dangerous goods through the CityLink Tunnels;

(b) The *Dangerous Goods (Explosives) Regulations 2000* restrict vehicles with a class label issued pursuant to the *Australian Dangerous Goods Code* from entering the CityLink tunnels; and

(c) The *Dangerous Goods (Explosives) Regulations 2000* restrict vehicles with a class label as per the *Australian Dangerous Goods Code* from entering the Eastlink tunnels.

233. NELP anticipates that the Project will be subject to comparable restrictions. It is for this reason that it has been assumed that placarded loads along with over-dimensioned vehicles will not be able to access the Project, including at the Lower Plenty Road interchange which includes tunnelled sections leading to the trench components extending further north.

234. It should be noted, however, that placarded vehicles can take a variety of forms, and are not always large petrol tankers. Small trucks or utility vehicles can be classified as placarded vehicles depending on the type and quantity of material that they are carrying. Placarded loads use the broader road network on a daily basis.
Rosanna Road

235. Residents and businesses situated along Rosanna Road, and other local road users, should be considered among the largest beneficiaries of the Project.

236. Traffic volumes on Rosanna Road are predicted to decrease by 11,600 vehicles per day (or by approximately 25%) in the 2036 Project scenario as compared to the no Project scenario. A reduction of this magnitude would materially improve the operation of Rosanna Road, reducing congestion and delays.

237. The issues associated with truck movements on and around Rosanna Road are well documented.

238. Rosanna Road currently carries between 2,800 to 3,600 heavy commercial vehicles (HCV) a day. These volumes are predicted to increase to between 3,800 to 4,900 HCVs a day in 2036 under the no Project scenario. With North East Link, however, HCV volumes are predicted to reduce substantially to between 1,250 to 1,750 vehicles per day. These HCVs would either service local needs or are vehicles that cannot access the tunnels due to over-dimensional or placarded loads.

239. The ongoing concerns about the use of Rosanna Road deserve some context:

(a) Rosanna Road is a Category 1 Road in the network and is comparable to numerous roads on the network that support a traffic function consistent with that designation;

(b) Rosanna Road forms part of VicRoads Over Dimensional route network as presented in Figure 6-62 of Technical Report A;

(c) The concern about over dimensional vehicles ought not be overstated. The proportion of OD trucks as part of the broader truck fleet is low and such trucks use other similar roads;

(d) The concern about placarded loads must also be properly considered. Placarded loads are common on the network and in many cases deal with conventional household items. They are not necessarily trucks. In number they form a small fraction of vehicles on the network;

(e) The main benefit of the Project will be derived from the reduction in truck conflict on Rosanna Road;

94 TTIA Section 9.2.2.
(f) The Project enables future consideration of Rosanna Road improvements or other road management measures. However, these are not impacts of the Project that should be addressed as part of the Project.

*Kingsbury Drive*

240. The La Trobe University indicated that it supports the Project. This is consistent with the substantial improvement that the Project will deliver in terms of accessibility to and from the university and the broader La Trobe NEIC.\(^95\)

241. The focus of the submission made by La Trobe University, and of the evidence of Mr Tivendale, was that Kingsbury Drive should be upgraded as part of this Project, and that other upgrades to the public transport network should be provided.

242. Neither of these matters are within the scope of this assessment:

(a) It is clear, based on the TTIA, that the Project will not generate traffic volumes that warrant the upgrade of Kingsbury Drive (a matter that was seemingly accepted by Mr Tivendale);\(^96\) and

(b) Whether additional public transport services should be provided as a consequence of the Project is properly a matter for the Department of Transport.

*Watsonia precinct*

243. Figure 9-9 of the TTIA identifies a forecast increase of 4,000 vehicles a day on Watsonia Road. This increase is due to a redistribution of traffic accessing North East Link via the Grimshaw or Lower Plenty Road interchanges. The analysis provided in Figure 9-24 of the TTIA shows that the bulk of the increase is occurring outside of the peak periods during which time there is spare capacity along Watsonia Road.

244. Additional analysis of the sensitivity of this increase in traffic on Watsonia Road was requested by GTA in the development of the expert witness statement. This analysis was provided by SmedTech in a memorandum dated 13 June 2019\(^97\) which showed that:

(a) the increase on Watsonia Road was highly sensitive to changes in traffic signals at Grimshaw Street and Greensborough Road; and

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\(^95\) See NELP’s Part A Submissions at pp. 28 - 30.


\(^97\) As part of Annexure D to Mr Kiriakidis’ witness statement.
(b) changes in the phasing of signals at these locations could be used to mitigate the impacts identified within the TTIA.

**Nell Street Truncation**

245. The Nell Street truncation is required due to the limited space available to reinstate Greensborough Road between Watsonia Road and Grimshaw Street and to provide shared user path connections in these locations.

246. Additional analysis of the proposed Nell Street truncation was requested by Mr Kiriakidis in the development of his expert witness statement. That analysis was provided by SmedTech in a memo dated 11 June 2019.98

247. This analysis showed that there was a westbound bias in traffic volumes on Nell Street, with vehicles using Nell Street to avoid the congestion along Grimshaw Street. This congestion on Grimshaw Street is predicted to ease with the opening on North East Link, and as such, the rat-running along Nell Street is predicted to ease. The truncation of Nell Street is predicted to result in a redistribution of traffic across multiple roads in the vicinity of Nell Street, depending on their specific origin/destination. The redistributed traffic is less likely to use the lower-capacity neighbouring streets (such as Santon Street, Teresa Street and Doris Street), and is more likely to use higher capacity collector roads such as Elder Street and McDowell Street. These roads are best suited to servicing these local movements.

**Diamond Creek Road**

248. The Nillumbik Shire Council addressed the IAC on Day 2 of the hearing concerning the need to upgrade the interchange between Diamond Creek Road, Civic Road, and Greensborough Bypass. That need exists under current traffic conditions and would be exacerbated under both the Project and No Project scenarios.

249. The need for future upgrade works at this location was addressed in a memorandum prepared by Smedtech to GTA dated 11 July 2019 (as attached to Mr Kiriakidis’ witness statement)99 and was identified as a complementary project in the Business Case. In short, NELP supports the future upgrade of the intersection, and will work with the relevant road authorities to ensure that the design of the Project responds appropriately to future design initiatives pursued by those authorities at this location.

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98 As part of Annexure D to Mr Kiriakidis’ witness statement.
99 As part of Annexure D to Mr Kiriakidis’ witness statement.
EPRs

250. NELP’s position in respect of the suite of traffic and transport EPRs is recorded within Version 5.\(^{100}\)

251. Modifications have been made in response to the evidence given by Mr Kiriakidis and the submissions made by the Councils and other institutional submitters (such as Carey Baptist Grammar School) in respect of these EPRs.

252. NELP relies on its responses contained within Tables 2 and 3 of hearing document 411 as a record of its position in response to the EPRs otherwise proposed by the other parties.

Findings and recommendations

253. It is submitted that the IAC should make the following findings:

(a) The Traffic and Transport Impact Assessment documented in Technical Report A to the EES was comprehensive and competent, and subject to independent peer review, such that it provides a sound basis to assess the transport and traffic impacts of the Project;

(b) The Project will deliver a range of very substantial benefits to the road, freight, public transport, and active travel networks, and will respond positively to the evaluation objective specified for transport and traffic;

(c) Further, as a consequence of the above, the Project will deliver the range of resultant social, economic, and environmental benefits described in detail in NELP’s Part A submission (as well as within the EES and Business Case) that flow from improved connectivity and a better-functioning transport system.

254. The IAC should recommend that the EPRs specified in Version 5 be implemented in respect of this element of the Project.

Ecology, arboriculture and tree canopy

Overview

255. It has been suggested by submitters and by Dr Lorimer that the ecological impacts of the Project have been understated. While understatement should be avoided, so should overstatement.

\(^{100}\) Hearing document 411.
256. These submissions will deal in greater detail below with the ecological impacts of the Project and the proposed mitigation measures, but it is important at the outset to emphasise:

(a) The urban environment through which the Project traverses; and

(b) The comparability of the ecological impacts of this Project with other major road projects.

257. The land affected by the Project is within established, largely residential, suburbs originally developed for agricultural purposes, followed by a long period of intense urban development, where most vegetation is now in moderate to poor condition. Aquatic ecosystems impacted by the Project are degraded, with limited or no native fish present in areas where the waterways will be covered. While there are key remnant areas of vegetation, even those areas were significantly cleared at least by 1945, and have largely been revegetated since that time.

258. Technical Reports G and Q make it clear that much of the vegetation within the Project boundary is planted vegetation, the vast majority of which was planted within the last twenty years.

259. Tree removal should be viewed in light of the fact that 67% of amenity trees to be removed or potentially impacted by the Project are within a road zone. The road zone affects land:

(a) either side of the Eastern Freeway;

(b) either side of Greensborough Road/Greensborough Highway north of Wattle Drive;

(c) at the intersection of Greensborough Highway and the M80 (depicted below); and

(d) either side of the M80.

102 Hearing document 154, pp13 and 15.
Figure 20: Road zone within Project boundary depicted in yellow

260. It must be assumed that land within a road zone will be developed in accordance with the purpose of that zone, namely, to identify significant existing roads and to identify land which has been acquired for a significant proposed road. This is quite different to land within the Public Park and Recreation Zone, the relevant purposes of which are to recognise areas for public recreation and open space and to protect and conserve areas of significance where appropriate.

261. As noted above, the relevant comparator is the “no Project” 2036 scenario, in which some widening of the Eastern Freeway, Bulleen Road and the M80 interchange is likely to be required, resulting in losses of native vegetation and amenity plantings, particularly within the road zone.

262. The amenity trees to be removed cannot all be replaced within the Project boundary because that would require an expansion of the Project boundary, effectively to replicate the landscape buffer that will be taken up with road surface, with consequentially greater impacts to adjacent uses (largely, people’s homes).

263. The strategic biodiversity values within and surrounding the Project alignment are depicted below, as mapped by DELWP:
In ecological terms, the Project avoids the area of greatest strategic biodiversity value by tunnelling under the Yarra River floodplain. Its values are recognised in the strategies and policies cited by the combined Councils in paragraphs 237-249 of their submissions\(^\text{104}\) - hence the tunnel. Contrary to the submissions of the combined Councils, \(^\text{105}\) NELP’s witnesses gave evidence that this was a significant avoidance measure. \(^\text{106}\) Many submitters appeared oblivious to this avoidance measure, while the combined Councils effectively submitted that this significant avoidance measure should be disregarded. \(^\text{107}\) Submitters cannot demand avoidance by the Project, but then choose to ignore avoidance measures that the Project has taken.

Another avoidance measure has been taken by designating as “no-go zones” ecologically sensitive sites such as the Banyule Flats, Warringal Parklands, the Bolin Bolin Billabong.

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\(^\text{104}\) Hearing document 374a.  
\(^\text{105}\) Hearing document 374a, paras 253 and 254(b).  
\(^\text{106}\) Hearing document 154.  
\(^\text{107}\) Hearing document 91, para 5; hearing document 374a, para 254(b).
and the offset site adjacent to the M80. The combined Councils have ignored this avoidance measure altogether.

266. While the ecological significance of the Simpson Barracks is acknowledged, that land is not a pristine environment but an enclosed Australian Army base established in 1943 that can accommodate many hundreds of Defence personnel. Much of the canopy present today was absent in 1945, with the front of the site formerly a 9-hole golf course and infrastructure set back from the road in recognition of the potential widening of Greensborough Road.108

267. As can be seen in Figure 2 above (and interactively using the hyperlink and selecting the relevant parcel of land), Simpson Barracks has been given a strategic biodiversity value, but it is in a value range that is much lower than the value ascribed to the Yarra River corridor (20 to 22 compared with 90 to 98).

268. Neither Mr O’Brien’s alternative design nor the BabEng tunnel extension would avoid impacts to the Simpson Barracks native vegetation, while the Buono “SMART” design merely puts off the Lower Plenty Road interchange to a later date.

269. Dr Lorimer emphasised the quantity of native vegetation within the Project boundary that is (conservatively) assumed to be lost, namely, 52.109ha overall and some 10ha within the Simpson Barracks. But this is not unprecedented for a major road project.

270. Compare, for example, Peninsula Link, a 25km freeway from EastLink in Carrum Downs to Moorooduc originally known as the Frankston Bypass. The EES for Peninsula Link assumed a loss of 55.28ha of native vegetation, including 9.15ha in the Pines Flora and Fauna Reserve, which was acknowledged to be a significant impact at State level. Native vegetation offsets were unlikely to be available. That project also involved the realignment of the Tamarisk Creek over a length of approximately 500m, which was assessed to have a significant ecological impact on the associated aquatic ecological values.

271. Notwithstanding those impacts, the Inquiry Panel concluded that:

(a) There was no reasonable or practical option to avoid the Pines Flora and Fauna Reserve, partly because tunnelling under it was prohibitively expensive; and

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

108 See hearing document 302.
272. The Inquiry Panel made the following recommendations:

(a) Reduce the footprint of the Bypass throughout the Pines Flora and Fauna Reserve by the use of retaining walls in place of batters; and

(b) Carry out substantial works within the Pines Flora and Fauna Reserve, well in excess of those minimum requirements associated with improving certain species habitat, to gain a positive outcome for the environment in the context of allowing the Bypass to proceed.¹⁰⁹

273. Like Peninsula Link, this Project requires the balancing of competing considerations. Dr Lorimer suggested that the works should be shifted to the west to avoid native vegetation clearing.¹¹⁰ NELP has prioritised people over trees in this instance, preferring to include the Simpson Barracks within the Project boundary rather than acquire in the order of 100 or more houses to the west of Greensborough Road. This is in recognition of the clear distress caused to residents by impacts to their homes, which (as noted above) was evident through the submissions of multiple individual submitters during the course of the hearing.

Adequacy of assessment

274. Mr Lane, Mr Maiden, Mr Miller and Mr Mueck all considered that there was sufficient information available to assess the impact and offset requirements of the Reference Project.¹¹¹ Mr Galbraith had no substantive issues with Technical Report G.

275. Mr Mueck and Dr Lorimer were dissatisfied with the way in which DELWP has dealt with the mapping of native vegetation and the determination of required offsets, while Dr Lorimer sought a mitigation response that went beyond DELWP requirements under the Guidelines for the removal or lopping of native vegetation (Guidelines).

276. To the extent that this evidence amounts to a criticism of DELWP standard practice or the Guidelines, as the West Gate Tunnel IAC concluded, this IAC “is not in a position to arbitrarily establish new standards; its role is to assess the environment effects of the Project within the existing legislative and policy context.”¹¹² This is consistent with the IAC’s Terms of Reference. Mr Mueck and Dr Lorimer (together with Mr Lane, Mr Maiden and Mr Miller) were clear in their evidence that the Project complies with the Guidelines as administered by DELWP. (Professor Bekessy made no mention of the

¹¹⁰ Hearing document 28f, para 135.
¹¹¹ Hearing document 154 p3; hearing document 29e para 86.
¹¹² West Gate Tunnel Project IAC Report, 23 October 2017, p142.
Guidelines in her written evidence, and appeared to be unaware of them when cross-examined on the topic.)

277. To the extent that Dr Lorimer called for mitigation that went beyond the requirements of the Guidelines, EPR AR3 does this, a fact Dr Lorimer fairly acknowledged. As has been clarified throughout the hearing, EPR AR3 requires a net gain in canopy cover, regardless of whether the canopy is native, exotic or planted. The Studley Park Gum Management Framework also goes beyond legislative requirements.

278. The combined Councils have invited the IAC to recommend an EPR that requires species-specific offsets, on the basis of the Assessors Handbook. That document is not “relevant policy” – the Guidelines are the relevant policy. The application of the Guidelines, and the administration of offset requirements under the Guidelines, are properly matters for DELWP.

279. Dr Lorimer sought assessment of indirect impacts as a result of ancillary works, for example, changes to the Freeway Golf Course and future works within the Simpson Barracks. Such works are uncertain at this stage, and in any event would not be exempt from requiring standard permissions under the applicable planning schemes, or under the EPBC Act in the case of the Simpson Barracks.

Matted Flax-lily

280. It appears there is a degree of confusion around the evidence about translocation of the Matted Flax-lily, with senior counsel for the combined Councils submitting that the “only surviving translocated Matted Flax-lily was in a pot in Mr Goddard’s house” (submitter number 518). Mr Goddard’s submission (which was not evidence capable of being tested) related to a specific translocation project. There have been many hundreds – if not thousands – of successfully translocated Matted Flax-lily plants in Victoria, according to both Mr Miller and Mr Mueck.

281. By the end of Mr Mueck’s evidence, it was clear that his concern was not with the content of the draft salvage and translocation plan itself or with the notion of translocating this taxon, but with the absence of offsets in conjunction with salvage and translocation. Mr

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113 Hearing document 374a, para 295 and 296.
114 Oral submissions on day 33, 13 September 2019.
115 TN40, hearing document 133.
Mueck clearly supports the salvage and translocation of Matted Flax-lily, having prepared or peer-reviewed a number of them over the past decade or so.\footnote{For example, Mr Mueck prepared the salvage and translocation plan for Matted Flax-lily at O’Hearns Road in Epping in 2017, which he agreed had similar objectives and benchmarks as the draft provided in TN40; he peer-reviewed the salvage and translocation plan for Matted Flax-lily in respect of the Mernda Rail Extension Project in 2016, which related to the translocation of 129 plants.}

282. DELWP does not require offsets in respect of the Matted Flax-lily. Whether offsets are required under the EPBC Act remains to be seen, but that is not a matter for this process.

283. NELP maintains that the well-managed salvage and translocation of 95 Matted Flax-lily will go a long way towards mitigating the Project’s impact on the current population at Simpson Barracks and on its gene pool, and will reduce the residual impact of the Project on this species.

284. The combined Councils seek the designation of the Simpson Barracks as a “no go zone”.\footnote{Hearing document 374a, para 266(a).} This must be premised on:

(a) removal of the Lower Plenty Road interchange altogether (noting that no expert recommended the removal of this interchange, and Banyule Council has studiously avoided stating its position on the topic); or

(b) a conventional diamond interchange (again, no expert recommended this option, which would have the effects described in TN48); or

(c) moving the Project further to the west (which Dr Lorimer suggested, without having considered the impacts on the residential land to the west).

285. NELP does not support any of these options.

**Studley Park Gum**

286. The Studley Park Gum is not listed as threatened under the EPBC Act or the *Flora and Fauna Guarantee Act 1988*. Dr Lorimer’s view is that it “cannot truly be regarded as threatened with extinction because both parent species [the River Red Gum and the Swamp Gum] are abundant and the hybrid could arise sporadically or from deliberate cross-pollination even if every existing one were to die”.\footnote{Hearing document 28f, para 201.}
287. It is included on DELWP’s Advisory List, and it is included within the assessment of native vegetation (whether within a patch or as scattered trees), so will be offset in accordance with the Guidelines.

288. There is now more known about this hybrid than ever before, due to efforts made by NELP to understand the Project’s impacts upon it.

289. The Studley Park Gum seems to have increased in importance as the hearing has gone on. Mr Mueck’s and Professor Bekessy’s written evidence did not refer to the hybrid at all,\textsuperscript{119} while Dr Lorimer devoted only four paragraphs to it.\textsuperscript{120} Yet it appears to have taken up some time in the ecology conclave,\textsuperscript{121} resulting in numerous agreed points that reference the hybrid, and Dr Lorimer and Mr Mueck discussed it in some detail during their oral evidence.

290. As noted above, the mitigation measures proposed in the Studley Park Gum Management Framework go beyond legislative requirements and will reduce the residual impacts of the Project on this species.

Waterways and groundwater dependent ecosystems

291. The waterways potentially impacted by the Project were discussed in Mr Maiden’s evidence and are summarised below:

(a) The Bolin Bolin Billabong deep pool contains no threatened species, is dominated by exotic species, and the native fish present are limited to widespread and common species that are not reliant on the Billabong habitat;

(b) The Koonung Creek aquatic ecosystem is highly modified and in poor to very poor condition, and fails to meet most ecological objectives under SEPP (Waters);

(c) The impact of changes to Koonung Creek resulting from the Project would be localised, with fauna habitat expected to return as the waterway is naturalised;

(d) The loss of habitat for covered sections of Koonung Creek is not expected to reduce the biodiversity, and the sections that will be diverted provide an opportunity to improve the waterway condition;

\textsuperscript{119} Hearing documents 29e and 32.
\textsuperscript{120} Hearing document 28f, paras 201-204.
\textsuperscript{121} Documented in hearing document 128.
The reach of Banyule Creek to be modified is an artificially constructed channel with poor instream habitat, which does not support native or exotic fish and has very low ecological values, already failing to meet SEPP (Waters) criteria;

Any addition of surface water treatment to the Project drainage design that results in water quality improvements and/or peak flow retention for Banyule Creek would assist in preventing further impacts to an already degraded aquatic ecosystem;

The aquatic ecosystem of Banyule Flats wetlands is dominated by exotic fish and native short-finned eels with very poor water quality and habitat;

Direct impacts to Banyule Flats wetlands are avoided, and indirect impacts are not indicated by groundwater modelling, with ground movement impacts to be managed by EPRs and unlikely in any event to have a major impact to the aquatic ecosystem; and

The surface water EPRs will protect the aquatic ecology of the Yarra River from water quality impacts.122

Mr Maiden’s evidence was not challenged in cross-examination and no other evidence was called in the area of aquatic ecology to rebut his evidence. It should therefore be accepted by the IAC.

Impacts to groundwater dependent ecosystems can be assessed in light of the groundwater modelling that has been undertaken, which has been validated by additional monitoring data, and can be managed through EPR FF6, which has been revised in light of the ecology conclave. The first priority is to minimise groundwater drawdown. If necessary, mitigation measures such as supplementary watering can be implemented.

The combined Councils’ case seems to be that the impacts upon groundwater dependent ecosystems are not certain and thus they cannot be assessed. Forecast modelling based on any amount of data will never provide certainty. That is why the EPRs prescribe a monitoring regime, to ensure that mitigation measures are implemented in a timely way. Further, as Mr Smitt expressly acknowledged in response to a question of the IAC, there is adequate time for the additional monitoring and modelling called up by the EPRs to adequately inform subsequent stages in the Project’s evolution, including in respect of the Project’s impact on environmentally sensitive areas.

122 Hearing documents 24w and 154.
Canopy replacement

295. The EES assumed the loss of all vegetation within the Project boundary. This makes it a conservative assessment of environmental effects, but it does not mean that all vegetation will be lost.

296. NELP does not accept the criticisms of its classification of amenity plantings set out in the combined Councils’ submissions. In particular:

(a) The process of classification was described clearly in Attachment 3: Scattered Tree Assessment in Mr Lane’s peer review, at Appendix M to Technical Report Q.

(b) No example was put to Mr Lane in cross-examination whereby the classification was said to have been wrongly made.

(c) Mr Mueck’s evidence does not support the combined Councils’ submissions, while Dr Lorimer only had minor criticisms of the classification that had been done, which were so minor he chose not to outline them in his written evidence.

(d) Both Mr Mueck and Dr Lorimer gave evidence that the Guidelines had been followed in relation to the clearing of native vegetation.

297. Minimisation of native vegetation removal is required by the EPRs. However, NELP acknowledges that tree removal – whether native vegetation or amenity plantings – represents a significant environmental effect of the Project. This is why it engaged Ms Caffin to assist in developing an EPR to mitigate that loss. By requiring a net gain in tree canopy cover by 2045 – both from native vegetation and amenity trees – the Project is going beyond legislative requirements, and demonstrates best practice in tree canopy replacement for major infrastructure projects.

298. Both Ms Caffin and Mr Galbraith were cautious about the use of tree replacement ratios on the basis that they have the propensity to deliver poor long-term outcomes. For example, five small trees could produce the same canopy cover as three large trees. Ratios can also encourage contractors to do bulk plantings without sufficient regard for the space requirements of the trees. In Mr Galbraith’s words, “you don’t want to be a slave to a ratio”.

123 Hearing document 374a, para 279 and 281.
124 Hearing document 29e, para 25.
125 Hearing document 28f, paras 186-187.
299. For this reason, the 2:1 replacement ratio has been included within EPR AR3 as a tool to achieve the overall goal of a net gain in canopy cover.

300. The IAC has suggested using the 5:1 tree replacement ratio that was adopted in relation to the West Gate Tunnel Project. That ratio was adopted by the proponent, rather than recommended by the IAC, in circumstances where that project necessitated the removal of fewer than 3,400 trees because the project area mostly constituted industrial land devoid of established landscaping.

301. Ms Caffin’s evidence is that an EPR requiring a net gain in canopy cover is a superior measure. It was supported by all relevant witnesses.

302. Dr Lorimer was critical of the absence of assessment of understorey and recommended the inclusion of understorey as a component of the canopy replacement plan. Understorey has been included in the assessment where it constitutes part of a patch of native vegetation, and will be required to be offset in those circumstances under the Guidelines.

303. Understorey cannot readily be mapped using aerial imagery, where it occurs under canopy. Further, as Ms Caffin noted, understorey planting is not always appropriate, for example in street or shared path settings. The UDS has multiple objectives and design requirements relevant to a considered approach to understorey plantings. Dr Lorimer’s images of planted understorey are good examples of the kind of understorey planting that should be expected as a result of the application of the UDS in the final design.

304. Finally, there is some confusion in the combined Councils’ submissions around the total number of amenity trees planned for removal or potentially impacted, and the application of a 2:1 replanting ratio. The combined Councils’ submission suggests that 27,273 amenity trees are planned for removal. That is incorrect and is the result of adding to the total number of medium and long term viability (MLTV) and non-MLTV trees the number of trees within a road zone. Rather, the number of trees within a road zone is a proportion of the total number of trees. The total number of amenity trees planned for removal is 15,814 (which includes 11,459 trees within a road zone), as depicted below:

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126 See, for example, Objective 4.5 and Design requirements 17.5 and 17.10.
127 Hearing document 265b, slides 10-12.
128 Hearing document 374a, para 287(d).
Likewise, the total number of amenity trees potentially impacted by the Project is 10,133, which includes trees within a road zone as a proportion of that number, as depicted below:

<table>
<thead>
<tr>
<th></th>
<th>MLTV</th>
<th>Non-MLTV</th>
<th>Total</th>
<th>Within road zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>10,624</td>
<td>5,190</td>
<td>15,814</td>
<td>11,459</td>
</tr>
</tbody>
</table>

The total number of amenity trees planned for removal and potentially impacted by the Project is 25,947 (the sum of 15,814 and 10,133), not 43,268 as suggested by the combined Councils.\(^{129}\)

NELP has committed to replanting at least 30,000 trees, which is the result of applying the 2:1 ratio to the total number of amenity trees planned for removal. Ms Caffin made it clear, in answer to a question from Counsel assisting, that the 30,000 figure was not her calculation.\(^{130}\) That figure is not a component of EPR AR3, which requires a net gain in tree canopy by 2045 using the 2:1 amenity trees ratio as a tool to achieve that net gain.

**Compensation**

Dr Lorimer and Professor Bekessy considered that compensation should be paid (presumably by NELP to relevant local Councils) for the loss of trees. This same issue was raised in the context of the Melbourne Metro Rail Project, with the IAC coming to the following conclusions:

> The Committee understands the submissions put forward by both the City of Melbourne and City of Port Phillip in regard to the desire for monetary compensation to be paid to these Councils for tree loss. However, it considers that such a matter is of local Council policy and should be left for negotiation between the relevant Councils and the MMRA.

\(^{129}\) *Ibid.*

\(^{130}\) Cf Councils’ submissions, *ibid.*
To make good the tree loss, EPR AR3 states that trees will replace loss of canopy and achieve canopy size equivalent (or greater than) healthy, mature examples of the species in Melbourne. EPR AR5 requires a bank guarantee or bond.

The Committee considers that retention and replacement strategies within the EPR provide adequate non-monetary compensation for tree loss, notwithstanding the loss of heritage and landscape value, which is a separate matter and discussed elsewhere.\(^{131}\)

309. The Minister ultimately agreed with the IAC.\(^ {132}\) This IAC should take the same approach.

310. The figures put forward by Professor Bekessy have no basis in reality and would not form the basis of any discussions on this topic.\(^ {133}\) The canopy replacement that is proposed – much of which will occur within the affected municipalities - is a form of compensation that is not otherwise required by legislation.

**EPRs**

311. EPRs FF1 and FF2 have been amended specifically to require avoidance as well as minimisation measures in relation to the impacts on flora, fauna and native vegetation.

312. NELP’s response to the amendments sought to the arboricultural and flora and fauna EPRs by various parties is otherwise contained in hearing document 411.

**Findings and recommendations**

313. The IAC should make findings to the following effect:

   (a) There is sufficient information before the IAC to assess the environmental effects of the Project on the ecological communities likely to be impacted;

   (b) The Project has been designed to avoid the area of highest strategic biodiversity value, namely, the Yarra River corridor;

   (c) The EPRs require further minimisation of ecological impacts, such that the ultimate environmental effects of the Project on ecological communities is likely to be less than that assessed in the EES;

   (d) The Guidelines can be complied with by the Project;

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\(^{131}\) Melbourne Metro Rail Project Inquiry and Advisory Committee Report, 21 November 2016, p262.


\(^{133}\) Hearing document 380.
(e) The tree canopy replacement program and the draft Studley Park Gum Management Framework go beyond legislative requirements and will reduce the residual ecological impacts of the Project in relation to native vegetation;

(f) The draft Matted Flax-lily Salvage and Translocation Plan is fit for purpose and will reduce the residual ecological impacts of the Project on the existing population;

(g) Whether offsets are required for the Matted Flax-lily is a matter to be determined by DELWP or under the EPBC Act and is not a matter for the IAC; and

(h) There is sufficient material before the IAC to conclude that potential impacts on groundwater dependent ecosystems will be prevented and mitigated by the proposed groundwater monitoring regime in the groundwater suite of EPRs and EPR FF6.

314. The IAC should make the following recommendations:

(a) The EPRs should be amended to incorporate NELP’s revisions in hearing document 411;

(b) An understorey replacement plan is not required as it is appropriately addressed in the UDS;

(c) Native vegetation offsets greater than would be required under the Guidelines are not required;

(d) The issue of compensation is not a matter for the IAC and in any event is provided for under EPR AR3; and

(e) No additional EPR is required relating to biodiversity sensitive urban design,\(^\text{134}\) as there are already multiple requirements related to this in the UDS.\(^\text{135}\)

**Groundwater**

**Overview**

315. The clear consensus in expert opinion is that the groundwater modelling undertaken to inform the EES, and as supplemented following the completion of the EES, constitutes a sound basis upon which to assess the potential environmental effects of the Project.

\(^{134}\) As suggested by Professor Bekessy in hearing document 380c.

\(^{135}\) For example, objective 4.3, detailed requirements 3.2, 17.5, 17.10 and multiple place-specific requirements.
316. The participants in the groundwater conclave expressly agreed in this respect that: \(^{136}\) 

... the combination of the EES groundwater assessment with the above reports has been used to develop a groundwater model predictive tool that is history-matched to 12 months of data from more than 100 bores. Although Mr Smitt notes that the majority of these bores are in the bedrock aquifer and Mr Middlemis notes that tunnel is excavated mostly through the bedrock aquifer. A long term transient validation of the model calibration was achieved via the 53-year baseline scenario 1965-2018 (described in section 6.2.1 of the EES Technical Report N, Appendix C). This scenario formed the basis for assessing short term and long climate change effects, consistent with DELWP 2016 guidelines. Scenario modelling has provided quantitative estimates of construction and operational project impacts in terms of the spatial and temporal distributions of the key criteria of tunnel inflows, groundwater levels, drawdown and mounding, and riverwetland-aquifer flux exchanges. The uncertainty analysis was conducted consistent with best practice to provide the probability associated with the range of predicted impacts. Overall, this allowed informed appraisal of the Reference Project risks to the environment, and the planning for future deployment of monitoring and management strategies linked to EPRs.

(Emphasis added)

317. While Mr Smitt commented on various aspects of the modelling in giving evidence to the IAC on Day 21 of the hearing, he expressly confirmed in cross-examination that he remained of this view having reviewed the further materials produced in response to the Councils’ request for further information, subject to his observations concerning the potential for additional alluvial aquifers to exist along the Banyule Creek corridor (a matter addressed in greater detail below).

318. For the combined Councils to suggest that there is inadequate information to assess the potential effects of the Project on groundwater, and that this constitutes one of three evidentiary deficiencies that warrant the adjournment of the hearing or the preparation of a Supplementary EES, is accordingly to misrepresent the evidence presented to the IAC (including from their own witness).

319. Indeed, the combined Councils’ position in this respect stands in conflict with the evidence given by Mr Smitt (let alone that of Mr Middlemis). Tellingly, in response to a question posed by the IAC, Mr Smitt expressly indicated that he was satisfied that there would be sufficient time for the monitoring regime proposed under the EPRs to be successfully implemented, such that further investigations of the type identified by him as being required can be completed prior to the commencement of the construction of major project components. The combined Councils’ closing position makes no reference to this position (nor, for that matter, to the key conclusions reached within the conclave).

\(^{136}\) Hearing document 107, paragraph 2.7.
320. It is noted, furthermore, that the combined Councils’ submissions in this respect are at odds with the views expressed by Mr Barker in his reports to the IAC:

(a) In his interim report to the IAC Mr Barker observed that:\(^{137}\)

*The hydrogeological and numerical modelling (groundwater) assessment for the NELP generally meets Best Practice criteria for a Major Project such as this;*

*The groundwater assessment is generally fit for purpose, in regard to achieving the EES scoping objectives, where it sets up a suitably detailed Site Conceptual Model for groundwater and surface water interactions across a suitably defined Study Area, which not only includes the project area, but a significant zone beyond;*

*The groundwater assessment allows the NELP designers and Reference Project license issuers/reviewers to establish key environmental aspects for consideration across the project alignment, suitable EPRs for the protection of such aspects and the planning for future deployment of monitoring and management strategies linked to EPRs;*

*The regional numerical groundwater model is extensive and well designed, working to the guidance provided across more recent Best Practice methods (which include use of sensitivity analysis, uncertainty analysis and the impacts from short and long term climate change effects on both the Study Area and the Reference Project’s impact to the Study Area;*

*Quantitative impact estimates have been provided on the projects impact to the Study Area across both construction and operational stages, where groundwater system inflows into the tunnel void, changes to groundwater levels and stream flow to aquifer exchange flux has been estimated. Modelling predictions across these outputs has importantly considered modelling uncertainty, where matched probability of occurrence is provided for these parameters. This has allowed a suitable appraisal of project risk to the environment to then be conducted using well informed estimates of ‘likelihood’ of a risk event, where ‘consequence’ of a risk event can also be more accurately appraised from the modelling outputs;*

(b) In his final report to the IAC, Mr Barker confirmed that he remained of this view, and supplemented his summary position with the following additional observations:\(^{138}\)

*Ongoing groundwater monitoring and groundwater model refinement is required as project investigations continue to proceed with more detailed project design; and*

*The EPRs as suggested are expected to suitably allow for the final design, construction and establishment of operational methods to minimise groundwater inflows into the tunnelling project and matched changes to*

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\(^{137}\) Hearing document 77, p. 6 of 57.
\(^{138}\) Hearing document 351, p. 6 and 8 of 56.
groundwater levels and base flows to rivers/creeks and sensitive surface water features.

321. Counsel for the City of Manningham, in support of the suggestion that the hearing might be adjourned, suggested that an adjournment could facilitate a response to matters identified in Mr Barker’s report (without specifying what those matters were). As Mr Barker expressly states in his final report, however, ‘[t]he list of outstanding requested items that were shown within “Table 1 – Summary of Outstanding Information Requests” from my previous Interim Statement have been provided and have been suitably reviewed and addressed, where my opinions have not altered’ (emphasis added).139 It is accordingly clear that Mr Barker would not support the adjournment of the hearing on this basis.

322. NELP supports ongoing groundwater monitoring and groundwater model refinement. This will allow for a better understanding of the likely extent of groundwater drawdown along the alignment and of the nature and extent of associated environmental impacts (including to groundwater dependent ecosystems). As Mr Barker notes, both matters are expressly required by the EPRs, and constitute important components of the environmental management framework to be established in respect of the Project.140

323. The IAC should accordingly be satisfied that the EES properly identifies potential impacts associated with groundwater drawdown and associated effects and that the EMF will provide a comprehensive regime to ensure that resultant impacts are appropriately managed.

The accuracy of the groundwater model

324. Mr Smitt, in giving evidence before the IAC, raised a number of technical issues in respect of the modelling undertaken in respect of the Project.

325. Mr Anderson, who was the principal author of Technical Report N, prepared a response to those matters (as documented in Technical Note 52)141 upon which NELP relies.

326. In light of assertions contained within the Councils’ closing submissions concerning the manner in which the groundwater model should be interpreted, however, it is worthwhile reproducing the following element of that response below:142

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139 Ibid p 8 of 56.
140 See, in particular, EPRs GW1 and GW2.
141 Hearing document 330.
142 Ibid, at section 4.
The Accuracy of the Model

It is understood that Mr Smitt indicated that he reviewed the numerical model calibration statistics (e.g. root mean square or RMS error) and suggested that the error bounds within the modelling (e.g. +/- 0.91m) should be added to the interpreted drawdown predictions. For example, a 0.1m to 0.5m drawdown at Bolin Bolin Billabong, should include the RMS error. Mr Smitt also identified the VicMap datum (which is accurate to +/- 5m) as adding uncertainty to the drawdown predictions.

This analysis fails to appreciate the difference between absolute levels in the groundwater model and the relative levels associated with a predicted response to an applied stress. The RMS is a measure of how well the model predicts a water level compared to an observed water level. In some areas, the model closely matches observed water levels, and in other areas less so. However, regardless of the accuracy of the absolute level of the prediction, where there is an offset the form of the modelled response tends to match the form of the observed response (as is evident in the hydrograph plots). In other words, errors in the absolute heads are not the same as the errors in changes in heads that occur in response to applied stresses, and should not be applied to drawdown predictions.

... The correct way to quantify uncertainty in drawdown predictions is to consider the influence of a wide range of parameter combinations such as hydraulic conductivities, storage coefficients and recharge on the prediction of heads as well as drawdown. This has been achieved using the Null-Space Monte Carlo uncertainty analysis, consistent with the best practice guidelines.

327. It is accordingly incorrect to assert, as did the Councils in cross-examination, that the RMS error margin should be applied to modelling conducted in respect of predicted levels of drawdown. Instead, as Mr Middlemis explained, any such assertion is far “too specific” and the correct way to account for the uncertainty associated with this component of the modelling is to have regard to the range of outputs generated by the uncertainty analysis (which all experts agree has been undertaken in accordance with best practice).

328. The Councils contend that the investigations undertaken to inform the EES were too highly skewed toward the bedrock aquifer. This submission fails to account properly for the fact that this is the formation through which the majority of the alignment passes (such that it will almost certainly be the case that this features prominently in the regional groundwater model). The desirability for further testing within the alluvial aquifer is recognised and will be addressed in the ongoing development of the Project and the model.

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143 Hearing document 374a at [314].
Impacts on Bolin Bolin Billabong

329. The understanding of the hydrology and hydrogeology in and around the Bolin Bolin Billabong has improved since the preparation of the EES.

330. In particular, the studies and ongoing monitoring commissioned by Melbourne Water in partnership with the City of Manningham as part of the rehabilitation program presently being implemented by those organisations, and as summarised within the GHD memorandum dated 11 July 2019, provide additional detail concerning floodplain processes and the interaction between groundwater and surface water levels at the billabong.

331. The updated information includes additional data collected from the two Melbourne Water bores situated a short distance south of the billabong such that 12 months of monitoring data has now been collected from these locations. It also includes the information obtained from the detailed monitoring undertaken in respect of the planned and unplanned recharge events within the billabong in 2018. This further data informed the updated groundwater modelling (in which the floodplain aquifer model parameters were adjusted to specifically reflect the observed data).

332. The IAC is accordingly armed with a relatively comprehensive body of information upon which to assess the potential impacts of the Project on the billabong. The modelled drawdown prepared in respect of the Reference Project suggests that impacts from the Project may extend into (or at least close to) the easternmost portion of the Billabong (but would be unlikely to extend further west into other parts of the billabong). As Mr Middlemis explained, the anticipated drawdown of between 0.1 – 0.5 metres should be considered relatively “small” and within the seasonal range of levels.

333. Furthermore, for the reasons given by Mr Middlemis and as separately addressed in Technical Note 52, a drawdown of this extent would not compromise the hydrological or hydrogeological systems of the billabong or result in the permanent pool drying out (although it may, all other things being equal, have a modest impact upon the bathymetry of the permanent pool). The detailed modelling which underpins these assessments should

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144 Hearing document 151.
145 It is noted that, given the environmental and cultural values of the billabong, NELP was unable to locate any bores directly within the billabong itself. The Melbourne Water bores were located adjacent to the billabong for the same reason.
146 Mr Middlemis’ witness statement at p10 of 19.
147 Ibid.
148 Hearing document 330 (section 1).
be preferred to the high-level theoretical assessment that appears to have informed Mr Smitt’s observations about the potential impacts of the Project on the billabong in giving evidence before the IAC on Day 21 of the hearing.\textsuperscript{149}

334. The rehabilitation program being undertaken by Melbourne Water and its partners in respect of the billabong has the clear potential to substantially enhance its ecological and environmental values. Melbourne Water confirmed that the Project will not preclude or compromise the implementation of that program.

335. The investigations undertaken in respect of the planned and unplanned environmental watering events that occurred in 2018 clearly demonstrate the potential for water levels within the permanent pool (and elsewhere within the billabong) to be successfully managed. This may be secured by a number of means, including by the lowering of inlet structures at the billabong or by planned watering events. The ultimate program to be implemented at the billabong properly rests with Melbourne Water and the other organisations participating in that rehabilitation program.

\textbf{Impacts on other sensitive environmental receptors}

336. The impact of the Project upon Groundwater Dependent Ecosystems has already been addressed in these submissions.

337. The potential presence of additional alluvial sediments in and around the Banyule Creek (as raised by Mr Smitt in evidence) was addressed in Technical Note 52.\textsuperscript{150} In short, while NELP agrees that this may be the case, the precise scope and extent of any such sediments will be determined as part of geotechnical investigations to support the detailed design, and the ongoing refinement of the modelling. Of the four bore holes identified by Mr Smitt, for instance, it would appear that only one would properly be characterised intersecting the alluvial formation.

338. It is noted, furthermore, that simply because alluvial sediments may be present in these locations, does not necessarily mean that the modelling is inaccurate. This is because the sediments may not be saturated (as was the case in two of the four boreholes identified by Mr Smitt), because the parameters adopted in the model in respect of these locations are comparable to those of the alluvial formation, and because they may intersect part of the Project that is to be constructed by means of tunnel boring machine (which would generate

\textsuperscript{149} Ibid.
\textsuperscript{150} Hearing document 330, Section 3.
relatively little disturbance to groundwater levels, resulting in minimal groundwater impacts).

339. The combined Councils’ submission conspicuously fails to mention that, in response to a question posed by the IAC, Mr Smitt expressly acknowledged that sufficient time exists before the commencement of major Project works to obtain and analyse further data at potentially sensitive locations (as is specifically required by the EPRs).

Mr Barker’s recommendations

340. Mr Barker’s final report contains recommendations in respect of:

(a) the tanking of the open section trench of the Project within Reach 2 to the extent that it interacts with groundwater;

(b) the adoption of parallel groundwater predictive models in combination with the regional numerical groundwater model; and

(c) the constitution of the independent environmental auditor as a statutory environmental auditor.

341. NELP’s response to those matters is as follows:

(a) First, based on the modelling undertaken to date, NELP does not consider it necessary to mandate the tanking of the trench section in the manner identified. The impact on Groundwater Dependent Ecosystems within this part of the Project can be appropriately managed pursuant to the EPRs. The groundwater within this area otherwise has a relatively low environmental value. Ultimately, while tanking may be considered as part of detailed design, it should not be required at this stage in the process;

(b) Second, the preparation of more specific modelling may be appropriate at specified locations along the alignment, but this should be determined pursuant to EPR GW1 and as the detailed design of the Project advances;

(c) Third, NELP agrees that there is merit in the IEA being constituted by a statutory environmental auditor in respect of relevant disciplines, and recommends that the EMF be amended to give effect to this recommendation.
EPRs

342. EPR GW1 has been amended in the Version 5 EPRs to address the substance of the recommendations made by Mr Middlemis and Mr Smitt in the conclave.

343. In particular, EPR GW1 has been updated from the previous draft to require that the groundwater model be:

(a) of a standard that is at least comparable to that of the updated GHD modelling documented in the July 2019 memorandum; and

(b) developed in a process that would involve ongoing review by the independent environmental auditor and in a manner that is consistent with the Australian Groundwater Modelling Guidelines (June 2019).

344. Because the independent environmental auditor will possess hydrogeological expertise, NELP does not consider it necessary or desirable to make provision for a further independent hydrogeological reviewer to be appointed pursuant to EPR GW1. Similarly, because NELP agrees that it is appropriate that the independent environmental auditor include an accredited or statutory environmental auditor for relevant disciplines, NELP does not consider it necessary or desirable to separately require that EPR GW1 contain a further and distinct requirement in this respect.

345. Both Mr Middlemis and Mr Smitt otherwise indicated that they were satisfied with the proposed suite of groundwater EPRs. Mr Barker similarly observed in his interim report that:

The EPRs as suggested are expected to suitably allow for the final design, construction and establishment of operation methods to minimise groundwater inflows into the tunnelling project and matched changes to groundwater levels and base flows to rivers/creeks and sensitive surface water features.

346. As addressed further below, EPR GW2 has been modified in response to the EPA’s request that contaminated groundwater plumes impacted by the Project be delineated.

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151 Hearing document 107, p. 6 of 57.
Findings and recommendations

347. The IAC should make findings that are consistent with those made by Mr Barker in his final report, and as set out in paragraph 320 above, noting the consistency between those opinions and the report prepared by the expert witness conclave.

348. The IAC should recommend that the EPRs be amended to incorporate NELP’s revisions in hearing document 411.

Surface Water

Overview

349. As was explained during the evidence of Mr Dunn on Day 21 of the hearing, with the exception of the Watsonia Station drain, Melbourne Water is the drainage authority in respect of the various catchments through which the alignment passes.

350. Given its statutory role, Melbourne Water’s submission to the IAC must carry considerable weight in the IAC’s assessment of the adequacy of the surface water impact assessment undertaken as part of the EES, the acceptability of modelled impacts, and the adequacy of the governance regime proposed to be established pursuant to the EPRs.

351. Notably, consistent with the evidence of Mr Fuller, Melbourne Water’s position in each of these respects is in summary that:

(a) it is satisfied that the level of detail contained within the EES is adequate for this stage of the assessment process;

(b) it expects and will require that further analysis is undertaken as part of the detailed design process; and

(c) it is satisfied that the Project’s impacts can be managed acceptably (or, put differently, and to use the language of Mr Fitzgibbon, that the Project does not present any “deal breakers”);

(d) Melbourne Water is keen to work with NELP to achieve positive outcomes for the catchments and, in some circumstances, by means of offset options.

352. Melbourne Water’s position in these respects was informed by the dedication of considerable resources to the Project (with over 20 staff having played a role in the

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152 Being the smallest of the six affected catchments.
assessment of the Project) and with Melbourne Water having played an active role in the assessment of the EES through the TRG process.

353. The IAC should also have appropriate regard to the position of the EPA as it concerns the water quality and environmental dimensions of this discipline. Again, subject to a number of relatively minor modifications to the EPRs (all of which have been addressed in hearing document 411), the EPA has indicated that it is satisfied with the analysis recorded within the EES and the regime proposed to be implemented pursuant to the EPRs.

354. The conclave conducted between the surface water experts was productive and resulted in a clear consensus concerning the matters that should be addressed in the EPRs.\textsuperscript{153} As discussed in greater detail below, the Version 5 EPRs have sought to give effect to the substantive recommendations of the experts, and have ensured that those EPRs sit within an appropriate governance regime.

355. As is necessarily the case in projects of this type, the resolution of the precise flood mitigation measures and water sensitive urban design features to be introduced as part of the Project will be determined as part of detailed design.

356. NELP recognises the key role that the relevant drainage authorities will play in this process and has ensured that active and ongoing consultation is required in respect of decisions made in respect of drainage and WSUD outcomes.

357. NELP also recognises the environmental and cultural significance of the Yarra River corridor. The decision to tunnel beneath the river and to otherwise situate the Project within or adjacent to existing road alignments is an important component of the Project’s response to these values. The application of the \textit{Yarra River Protection (Wilip-gin Birrarung murrron) Act 2017} to projects declared under the MTPFA, and NELP’s approach to implementing the objectives and principles specified in that Act, were addressed in NELP’s Part A submission.\textsuperscript{154}

Key issues

The adequacy of the assessment

358. The principal criticism of the surface water technical report advanced in submissions and in evidence concerns the extent to which flood mitigation and water sensitive urban design

\textsuperscript{153} Hearing document 119.
\textsuperscript{154} Hearing document 34a at [186] – [197].
features have been fully resolved in respect of the Reference Project. Indeed, this is the exclusive focus of the combined Councils’ submission on this topic, 155 and constituted one of the three evidentiary bases upon which an adjournment to the hearing was sought (or at least raised) by the Councils.

359. NELP readily acknowledges that that the EES has not sought to fully resolve these issues. The analysis has instead sought to identify:

(a) the nature and extent of potential surface water impacts associated with the Project (including in respect of flooding, water quality, and geomorphology);

(b) the scope for those impacts to be resolved; and

(c) the appropriate benchmarks against which future Project outcomes should be measured.

360. Mr Fuller, in giving evidence to the IAC, methodically identified:

(a) the nature and extent of the flooding and water quality issues that arise within each catchment; and

(b) the range of potential mitigation measures that exist within each catchment to achieve compliance with the relevant EPRs.

361. Notably, neither Mr Bishop nor Mr Dunn sought to conduct an assessment on these terms, nor did they seek to challenge Mr Fuller’s analysis in these respects. Indeed, while both witnesses indicated a preference for additional analysis to have been undertaken as part of this process, neither gave evidence to the effect that there was not scope to address these matters as part of detailed design. Mr Cawood, appearing on behalf of Carey on Day 11 of the hearing, went further and expressed confidence that acceptable outcomes could be achieved subject to appropriate oversight from Melbourne Water. Melbourne Water’s position in these respects, which ultimately should carry the greatest weight on these issues, was as outlined above.

362. That the ultimate resolution of surface water measures will be determined during detailed design is not unique to the Project. Indeed, as the following extracts demonstrate, previous assessments of major infrastructure projects routinely recognise this as being necessary:

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155 Hearing document 374a at [325] – [346].
(a) As observed by the IAC appointed in respect of the Mordialloc Bypass: \(^{156}\)

There are outstanding issues in relation to flood afflux that will need to be resolved in the detailed design. The IAC notes Melbourne Water’s assurance that it will continue to work with MRPV to ensure a satisfactory outcome in regard to flood impacts and recommends that EPR W2 be amended to require that Melbourne Water’s requirements in relation to flooding must be met ‘to the satisfaction of Melbourne Water’.

(b) As observed by the IAC appointed in respect of the Westgate Tunnel: \(^{157}\)

The IAC is satisfied that the current design incorporates a number of elements that will result in stormwater quality improvements, for example, integrating stormwater treatment in stormwater management systems such as the retention ponds near the northern portal. The IAC considers further WSUD elements can and will be incorporated through detailed design and implementation and such is required by EPR SWP2 – Water sensitive road design.

The IAC is satisfied on the material before it that subject to detailed design and approvals and effective management, the impact on flood levels and flooding will be able to be managed to an acceptable level. In this regard, the IAC accepts that EPR SWP11 – Flood levels, flows and velocities is adequately scoped.

(c) As observed by the IAC appointed in respect of the Melbourne Metro Rail Project: \(^{158}\)

Further investigation, monitoring and modelling for surface water needs to be undertaken in detailed design, in consultation with relevant stakeholders to ensure that all key risks are identified, understood and suitably managed.

…

The potential range of surface water management issues that have been identified from the EES and through the Hearing for the Project’s Concept Design are not unusual for this type of major urban tunnelling project. Generally, there are suitable and available mitigation treatments to address the identified risks. ...

The Committee considers that some of the suggested changes to the EPR as provided in Appendix F should provide a robust, yet flexible set of environmental controls (capable of including innovation) relating to surface water protection for all Project stages.

(d) As observed by the Assessment Committee appointed in respect of the East West Link: \(^{159}\)

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\(^{156}\) At p 104.
\(^{157}\) At p 170.
\(^{158}\) At p 208 and at pp. 211-212.
\(^{159}\) At p 284.
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.

(e) As observed by the advisory committee appointed in respect of Peninsula Link.\(^\text{160}\)

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

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

...\(^\text{161}\)

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

363. The combined Councils’ assertion that the approach adopted in the EES should be “considered unacceptable”,\(^\text{161}\) or that the hearing should be adjourned or a supplementary EES be required to further analyse surface water impacts, should accordingly be rejected.

\(^{160}\) At pp. 90 – 91.

\(^{161}\) See Hearing document 374a at [326].
The conclave

364. In addition to making detailed recommendations concerning the EPRs, the surface water conclave identified four “whole of project” issues to be considered in respect of the Project.

365. NELP’s responses to those issues are set out below:

(a) “Changes in Guidelines”:

(i) The conclave participants indicated that they were aware of a number of guidelines that are in draft form and that may come into force during the course of the Project.

(ii) As noted in NELP’s Part A Submission, it is anticipated that over the duration of the Project, a number of different standards and guidelines will be issued that will have the potential to bear upon different aspects of the Project.

(iii) Because it is not possible to pre-empt the content of those guidelines or standards the EPRs have been framed having regard to the current statutory context and with reference to current standards and guidelines. However, the incorporated document specifically includes scope to amend the EPRs from time to time, ensuring that there is scope for the Minister to require that the EPRs reflect contemporary standards and guidelines where appropriate.

(b) “Asset Design, Maintenance and Transfer”:

(i) It is proposed, consistent with past practice, that arrangements concerning the design, maintenance and transfer of particular drainage and WSUD assets will be addressed under the contract entered with the successful tenderer.

(ii) More specifically, where existing third party drainage assets or WSUD treatments are to be modified, or where new assets are constructed that are intended to be transferred to and maintained by other authorities, provision will be made for the returned asset owner to specify the requirements and standards to be adopted in the design and construction of those assets.

(iii) These standards are to be comparable to the “usual” standards adopted by that asset owner; that is, the standards that the asset owner would adopt in designing and constructing assets of the relevant type. The independent
reviewer appointed pursuant to the contract would be responsible for verifying that the standards are in fact in line with the relevant authority’s usual requirements, and that the design and construction is carried out in accordance with those standards and relevant approvals.

(iv) Typically, the maintenance of assets situated within the road reservation will be the responsibility of the company operating the facility, whereas the maintenance of assets situated outside of the road reservation will be the ultimate responsibility of the returned asset owner.

(v) To ensure that these matters are properly factored into the EMF, NELP has proposed EPR SWNEW1 that would require the preparation of a strategy identifying WSUD assets to be transferred to public authorities that covers the relevant design and maintenance standards to be met.

(c) “Monitoring and Review of Assets”:

(i) The participants in the conclave indicated that they were unclear as to the intended arrangements for on-going monitoring and review of project performance during operation.

(ii) The EMF makes clear that the monitoring procedures and internal and external audit programs are to be established in accordance with AS/NZS ISO 14001.\(^{162}\) EPR SW3 specifically requires that monitoring of water quality occur during the design, construction and operational phases of the Project.

(d) “Integrated Water Resource Management”:

(i) The conclave participants emphasised the need for decision making in respect of water sensitive urban design measures to be integrated with other urban design, amenity and environmental considerations.

(ii) In giving evidence, Mr Fuller was directed to section 18.1 of the Urban Design Strategy, and confirmed that in his opinion this directive adequately addressed the matters raised in the conclave in this respect. It is noted, furthermore, that in addition to section 18.1, the UDS includes a number of other references to the design of water sensitive urban design features.\(^ {163}\)

\(^ {162}\) See, for instance, at section 27.5.1.

\(^ {163}\) At pp. 35, 37, 39, 45, 53, 55, 57, 73, 95, and 104.
The impact of the Project on Koonung and Banyule Creeks

366. A number of submitters raised concerns in respect of the likely impacts of the Project on the Koonung and Banyule Creeks.

367. The location and extent of the proposed channelisation of the Koonung Creek is described in section 8.1.6 of Technical Report P and is represented diagrammatically in Figure 22 of Technical Report Q.

368. It is important, in assessing this aspect of the Project, to recognise that the previous construction of the Eastern Freeway significantly altered Koonung Creek; resulting in substantial sections of the creek being realigned, a number of culverts being installed, and the modification of many of the creek banks. Accordingly, while impacts associated with the additional channelisation will need to be carefully managed, the highly modified nature of the existing environment means that there is scope for this to occur without substantial impacts on the hydrological or ecological values of the creek.

369. The channelisation of the Banyule Creek will occur entirely to the north of Lower Plenty Road and is represented diagrammatically in Figure 23 of Technical Report Q. This part of the creek constitutes the northernmost extent of the waterway and is ephemeral in character, largely constructed and highly modified, with sections of active erosion and generally poor aquatic habitat values. Within Simpsons Barracks the main waterway currently receives minimal flow with almost half of its catchment diverted by a man-made drain running parallel with Greensborough Road.

370. The diversion proposed would facilitate the creek running to the east and west of the roadway and would feed into the more established parts of the waterway situated to the south of Lower Plenty Road (alongside the River Gum Walk).

371. As noted in the EES, there is the possibility for these types of works to result in flooding and downstream water quality impacts.\textsuperscript{164} Consistent with the evidence of Mr Fuller, however, these risks can be mitigated through careful design informed by hydraulic modelling of flood levels, flows and velocities,\textsuperscript{165} and the integration of water sensitive urban design.\textsuperscript{166}

\textsuperscript{164} At p. 24-47.
\textsuperscript{165} As called for under EPR SW6.
\textsuperscript{166} As called for under EPR SW11.
372. Furthermore, as noted by Melbourne Water, while the channelisation of waterways is not a preferred outcome, it is recognised that it may not practically be avoided. Melbourne Water informed the IAC that in circumstances such as this it has a list of available works as suitable offsets.

373. The environmental impacts associated with works along these waterways were addressed previously in these submissions.

**EPRs**

374. The Version 5 EPRs have generally incorporated the substantive recommendations made by the experts in conclave and to some (but not all) of the recommendations made by the Friends of Banyule.

375. The EPRs have not been modified to give effect to all of the governance requirements proposed by at the expert witness conclave (which would generally require that Melbourne Water, as the principal drainage authority, approve various matters called up under the EPRs). NELP observes, in this respect, that as matters stand Melbourne Water has not sought to perform this function under the EPRs. NELP is mindful, also, of the submissions made by EPA on the penultimate day of the hearing, and of the administrative burden (and potential liability) that obligations of this type impose upon administrative bodies. As with the case of the air quality suite of EPRs, NELP contends that the various requirements contained within the EPRs to consult with relevant authorities strikes the appropriate balance, and ensures that the views of the relevant stakeholders are taken into account in the development of the Project and the implementation of the EPRs.

376. NELP otherwise notes that:

   (a) It opposes the modification of the EPRs to require that the Project enhance or improve existing conditions along the alignment. As both Mr Fuller and Mr Bishop explained, while this may constitute a worthy aspiration, it is not the role of this Project to enhance existing conditions. The EPRs have accordingly been modified to require that the prospect for practical enhancement be considered where practicable.167

   (b) The suggestion that the Project should achieve better than best practice outcomes (as defined in the Best Practice Environment Management Guidelines) should be treated

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167 See, in particular, EPR SW14.
with caution. BPEM requirements have been specified by EPA and provide a coherent benchmark against which to assess project performance.

Findings and recommendations

377. The IAC should make findings that:

(a) The analysis documented within the EES demonstrates the nature and extent of flooding and water quality issues that will need to be addressed by the Project;

(b) The ultimate location and configuration of the flood and WSUD mitigation measures associated with the Project will necessarily be determined as part of detailed design;

(c) Consistent with the evidence of Mr Fuller, and with the position of Melbourne Water, a range of measures can be implemented within each of the affected catchments to achieve acceptable outcomes in terms of flooding and WSUD;

(d) The EPRs formulated in respect of the Project are robust, contain appropriate requirements in respect of ongoing consultation with relevant authorities, and will ensure that appropriate measures will be implemented and that appropriate outcomes will be achieved.

(e) The IAC should recommend that the EPRs be amended to incorporate NELP’s revisions in hearing document 411.

Noise and vibration

Overview

378. The Project will improve acoustic conditions along many parts of the corridor as a consequence of the redistribution of passenger and commercial vehicles from lower order local roads (on which noise amelioration is difficult to implement) to higher order roads and freeways (on which noise amelioration will be required to be implemented in accordance with established standards).

379. The truck curfews that are presently in place on key arterial routes throughout the region, such as Rosanna Road, Lower Plenty Road, Waterdale Road, Waiora Road and Bolton Street, are indicative of the nature and extent of the traffic-related acoustic impacts presently experienced along the corridor, and of the nature of the benefits that will accrue as a consequence of the substantial redistribution of commercial vehicles onto the Project.
NELP recognises the genuine concerns that many submitters expressed in respect of potential noise related impacts. The demonstrated capacity for the Project to implement new or upgraded amelioration measures along large sections of the alignment, coupled with the design criteria specified for the Project, provides adequate assurance that acceptable outcomes will be achieved. The relative distribution of total traffic noise at noise sensitive buildings, as modelled in respect of the existing, project and no-project scenarios, demonstrates this proposition well.\footnote{See Figure 9-2 of Technical Report C.}

There was a relatively high degree of consensus in expert opinion concerning the adequacy of the analysis recorded within Technical Report C. For instance, with the exception of the discrete matters raised by Mr Butera, it was agreed that the modelling undertaken to inform that assessment was adequate. The witnesses also agreed that, subject to some relatively minor modifications, the standards adopted in the EPRs were appropriate and that the management regime proposed pursuant to the EMF was comprehensive and robust.

These submissions focus primarily on impacts arising from airborne noise during the construction and operation phases of the Project.

The impacts of the Project arising from vibration and groundborne noise have received considerably less attention during the course of the hearing. NELP relies on the evidence of Mr Heilig in these respects.

**Noise during construction**

As noted in NELP’s opening remarks, Technical Report C evaluated the potential noise impacts associated with surface construction works, including (but not limited to) construction scenarios associated with different components of the Project.

While there are inherent challenges in modelling noise attributable to construction activities, the experts agreed that the analysis documented in the EES was appropriately conservative, and that it provides a measure of the potential extent of airborne noise impacts associated with the construction phase of the Project.

NELP recognises that modelling was not specifically undertaken in respect of the construction compounds located within and in close proximity to Marcellin College and the Carey Grammar Sports Complex. Modelling of this type will, however, be required to
be undertaken as part of the preparation of the Construction Noise and Vibration Management Plan pursuant to EPR NV4.

387. Each of the witnesses appearing before the IAC also agreed that:

(a) the construction noise and vibration thresholds specified in EPR NV3, which are based upon applicable EPA Guidelines (1254 and 480) and which have been supplemented by reference to guidelines operating within other jurisdictions (including, most relevantly, by the NSW Interim Construction Noise Guideline), are appropriate; and

(b) the requirement to prepare a CNVMP pursuant to EPR NV4 is an appropriate means by which to regulate noise and vibration generated by construction.

388. The Version 5 EPRs have been amended to give effect to Mr Evans’ recommendation that the CNVMP be updated on a six-monthly basis.

389. NELP recognises the considerable challenges associated with completing project works within what is a highly-urbanised environment. This notwithstanding, consistent with the evidence of each of the experts appearing before it, the IAC should be satisfied that the proposed management regime is robust and that it contains appropriate safeguards to protect against unacceptable outcomes. This is not to suggest that the Project will not generate impacts, or that at times, those impacts will not be significant. It is instead to recognise that the regime that will be established in respect of the Project provides an appropriate means by which to manage those impacts.

390. The EPRs also provide adequate flexibility to facilitate the efficient completion of works. It is undesirable that the EPRs unduly restrict work being undertaken as this would arise in prolonged disruption and increased cost.

391. It is noted, in this respect, that the proposed regime is comparable to those that have been implemented in respect of the Melbourne Metro and West Gate Tunnel Projects. The Councils contended, in their closing submissions, that Mr Evans gave evidence to the effect that “he had (at least initially) found dealing with the contractor [appointed in respect of the Melbourne Metro Rail Project] difficult, notwithstanding the existence of EPRs aimed at dealing specifically with issues faced by his client, the University of Melbourne”. As Mr Evans made quite clear, however, the “difficulties” of which he

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169 Hearing document 374a at [74(a)].
spoke, concerned the impacts of construction activities on the hyper-sensitive medical and imaging equipment located within the Parkville Precinct. He otherwise described the regime established in respect of that project as being effective (and the contractor responsive) in managing the types of impacts that are likely to arise along this alignment.

392. NELP notes that some submitters, such as Marcellin College, sought to limit the type of construction activities that could occur within particular construction compounds on account of potential noise impacts.\(^{170}\) Recent experience in other major construction projects, such as that being undertaken in the Melbourne Metro Domain and Parkville Precincts, demonstrates that major construction works can be undertaken in close proximity to educational institutions (including those containing highly-sensitive equipment) provided that appropriate management and oversight measures are put in place. It is presumably for this reason that Mr Evans candidly agreed that he would not support limitations of this type being imposed upon these compounds.

**Noise during operation**

393. The design criteria specified in respect of the Project at EPR NV1 are derived from the VicRoads’ Traffic Noise Reduction Policy (TNRP). It should be recognised, however, that unlike in the case of the recently approved Mordialloc Bypass Project,\(^{171}\) the TNRP has been applied conservatively to the Project. Upon a strict application of the TNRP, noise levels of 68 dBA L\(_{10}\) (18 hours) would apply to those components of the Project that are proposed to be upgraded (which would include the Eastern Freeway and M80 components of the Project). In the case of this Project, however, the more stringent criteria applicable to new roads will be applied to all Project components (that is, new and upgraded roads).

394. Somewhat curiously, despite each of the expert witnesses supporting the adoption of the design criteria specified in EPR NV1, and despite these criteria routinely having been applied to road projects within this state, the Councils’ closing submission seemingly queried the application of these criteria to the Project.\(^{172}\) The Councils did not, however, identify any alternative criteria to those specified in EPR NV1, and their observations in this respect contribute little to the task at hand.

\(^{170}\) Hearing document 223 at [65].
\(^{171}\) See, in particular, EPR NV1 specified for that project as recommended by the Mordialloc Bypass IAC which applies the higher design criterion to elements of that Project. It is acknowledged, however, that the more stringent approach adopted in respect of this Project was also adopted in respect of the West Gate Tunnel Project.
\(^{172}\) Hearing document 374a at [520].
395. While there is general agreement that the design criteria specified in EPR NV1 are appropriately applied to the Project, a range of additional design criteria have been proposed throughout the course of the hearing to address different types of potential impact including in respect of impacts during the night period, impacts on public open space, and impacts to upper level habitable rooms.

396. These types of suggestions are not unique to this Project. They have been canvassed in the context of other major road projects assessed in recent times and, for the most part, have been rejected. The disparity in the views of the experts appearing before the IAC on these matters is testament to the range of opinions that exist concerning the need for (or preferred terms of) any such additional criteria. This being the case, the IAC should be wary of adopting the approach taken by Mr Butera to this task, wherein he described his motivation as being to “bring Victoria into the 21st Century”.

397. The first point to note in this respect is that it is incorrect to contend that Victoria is out of step with the majority of other Australian jurisdictions in its treatment of these issues. Indeed, with the exception of NSW, none of the witnesses identified any comparable design criteria applying within other states or territories. Instead, as both Mr Tadio and Mr Evans explained, Victoria’s approach in these respects is generally in keeping with that implemented within the majority of other states in which they had worked. Furthermore, while NSW does specify noise assessment criteria in respect of night time noise and public open spaces, those criteria need to be understood in the context of the entirety of the NSW Road Noise Policy (the implementation of which relies heavily on the concepts of reasonable and feasible amelioration measures).

398. The second point to note is that it is not the role of the IAC to act as a policy-maker. The IAC’s task is instead defined by the Terms of Reference and must properly focus on the assessment of the environmental effects of the Project and the acceptability of the proposed mitigation measures. This latter task should be informed, principally, by those regulations, standards and guidelines that are presently in force within Victoria and that bear upon the Project.

Night time design criteria

399. Night time design criteria have not been applied to any road project within Victoria.

173 See, for instance, section 3.3 of that policy.
400. Neither Mr Tardio nor Mr Evans supported their application to this Project. As Mr Evans explained, the criteria should not be deemed necessary, given the *de facto* protection provided by the attenuation that would be implemented to achieve compliance with the 18 hour design criteria specified in EPR NV1.

401. Even Mr Butera stopped short of recommending the application of criteria of this type. He instead indicated that he would have liked the matter to have been considered as part of the EES. Mr Butera’s position in this respect failed to acknowledge that night time noise from the operation of the Project was considered in Section 9.8 of Technical Report C and separately as part of the Health Impact Assessment documented in Technical Report J.

402. NELP notes that, while not called as an expert witness, Mr Munro did formulate night time noise criteria in making a submission to the IAC.  

403. While night time noise limits were recommended by the IAC appointed in respect of the West Gate Tunnel Project, they were specifically rejected by the Minister for Planning in his subsequent assessment of that Project:

> It may seem logical to set a night-time traffic noise target level, whether for the period of midnight to 6 am, which is not explicitly covered in the TNRP, or for a longer night period of 10 pm to 7 am as adopted in SEPP N-1. Sleep disturbance is a primary driver for the policy imperative to address traffic noise and, for most of the community, night-time is sleep time. However, in practical terms most measures that can be taken to reduce noise from traffic rely on engineering. Once installed, road pavements and noise barriers function in the same way at all times of the day and night. On many (but not all) major roads, traffic volumes are lower, often substantially lower, during the night, and therefore engineering measures designed to achieve 63 dBA(L10 during the day can in practice deliver a correspondingly lower noise outcome at night.

> A further consequence of the characteristically lower traffic volumes at night is that individual noisy vehicles can potentially contribute more to annoyance for receptors than the overall ‘hum’ of the main traffic flow. The occasional passage of noisy vehicles is poorly controlled by noise target levels, because the total period for which they are audible is generally very short.

> Management of such annoyance therefore requires measures other than those designed to address noise from general traffic. A better approach to individual vehicles that exceed prescribed standards is targeted compliance monitoring and enforcement of the statutory standards regulating noise from individual vehicles. The IAC recommended that a night-time noise limit should be set through the project-specific EPRs. I do not consider that this is necessary or appropriate here. I am satisfied that noise level specified in respect of day time periods in EPR NV1 will provide adequate protection during the night time period. However, I commend

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174 Hearing document 386a.
175 Minister’s Assessment at p. 33.
the IAC’s analysis to the attention of policy-makers and regulators in the future revision of traffic noise policy for the State.

404. This reasoning applies with equal force to the current Project.

405. It is noted furthermore that neither the IAC appointed in respect of the Mordialloc Bypass, nor the Minister in assessing the environmental effects of that Project, recommended the application of night time noise criteria in respect of that Project.

406. No coherent position has been advanced as to why this Project should be treated any differently to those projects in this respect.

Upper level habitable rooms

407. The VicRoads’ Traffic Noise Measurement Requirements for Acoustic Consultants, September 2011 specify that, for the purposes of the TNRP, noise is to be measured at the ground level of relevant premises. The suggestion that the design criteria should instead be measured at all habitable levels of a building accordingly stands in conflict with this directive.

408. It was for this reason that Mr Tardio recommended that the design criteria not be applied at the upper habitable levels of an affected dwelling.

409. NELP recognises that differing approaches have been adopted in this respect in recent assessments of major road projects. The IAC appointed in respect of the West Gate Tunnel Project recommended that the requirement be applied to that project whereas the IAC appointed in respect of the Mordialloc Bypass did not. In neither case, however, was the requirement ultimately applied to those projects.

410. It is important to recognise that the implementation of the requirement would not be without consequence. It would likely result in taller noise walls along parts of the alignment, with consequential visual and shadowing impacts. The Councils, in proposing that this requirement apply to the Project, have not sought to assess these consequences in any coherent way.

411. Ultimately, while this is clearly a matter in respect of which informed opinion may differ, the case has not adequately been made to justify a departure from the clear terms of the guidelines, or from the established practice that has been adopted in accordance with those
guidelines (including the practice adopted for other major road projects that have been approved in the recent past).

*Open space noise criteria*

412. It is again the case that design criteria applicable to open spaces have not been specified in respect of any other road projects in Victoria.

413. The practice adopted in the context of recent projects has been that, where noise amelioration has been proposed to specifically address noise impacts on open spaces, the provision of those measures has been secured by means of an EPR.

414. Accordingly, in the West Gate Tunnel Project, amelioration proposed in respect of Precinct 15 and Crofts Reserve (amongst other open spaces) was secured by means of an EPR.\(^{176}\) Similarly, in the case of the Mordialloc Bypass, amelioration proposed to protect birdlife in and around the Braeside Park Wetlands and Woodlands Wetlands, but which would also provide noise attenuation to those spaces, was secured pursuant to a specific EPR.\(^{177}\)

415. In the present case, however, noise amelioration prepared for the purposes of the Reference Project was designed in response to the criteria specified in EPR NV1 (that is, those applicable to Category A Buildings (residential dwellings, aged persons homes, hospitals, motels, caravan parks and other buildings of a residential nature) and Category B Buildings (schools, kindergartens, libraries and other noise-sensitive community buildings)). Amelioration was not designed to protect open spaces specifically.

416. This notwithstanding, the modelling undertaken in respect of the Reference Project demonstrates that attenuation designed on this basis to protect Category A and B buildings, would also generally improve the acoustic environment within open spaces along the alignment. Indeed, none of the witnesses appearing before the IAC identified any open spaces wherein the modelled levels would result in unacceptable consequences.

417. The question for the IAC then becomes what requirements, if any, should be included within the EPRs in these respects.

418. NELP’s primary position is that no additional requirements are necessary given the outcomes that can be anticipated to occur within open spaces along this alignment as a

\(^{176}\) EPR NVP2.  
\(^{177}\) EPR B1.
consequence of the design criteria that are proposed to be put in place pursuant to EPR NV1.

419. Mr Evans’ suggestion that the EPRs require that the ultimate design maintain the height of noise walls modelled in respect of the Reference Project as a means of securing the outcomes recorded within the EES is problematic given that:

(a) This requirement may be difficult to implement in the event that the ultimate design of the Project differs from that of the reference design; and

(b) It would potentially compromise the potential to optimise the design of the attenuation measures during the course of detailed design, being a process which may result in some barriers increasing in height and others decreasing in height, as well as the potential to implement the objective enshrined in EPR LP4 to minimise overshadowing and associated impacts from noise walls.

420. Further, as Mr Evans expressly conceded, the noise levels modelled in respect of the Project’s impact on key areas of open space (such as those modelled in respect of the Marcellin College and Carey Grammar sports fields), could be considerably higher than those modelled and still be considered acceptable in the context of the uses in question.\(^{178}\) The imperative to require the maintenance of the precise amelioration measures formulated in respect of the Project as a mandatory requirement in detailed design is accordingly less pressing than might be the case in other projects.

421. Mr Delaire recommended an alternate approach wherein the project be required to achieve noise levels that are no greater than 2 decibels above existing noise levels (though he conceded that this position was not informed by any relevant standards). Dr Wright, when pressed, suggested that from a health perspective any such increment should be 5 dB. Ultimately, these approaches are susceptible to the same critique as Mr Evans’s approach, and are conceptually flawed in that they adopt existing conditions as opposed to the no-project scenario as the relevant comparator.

422. While noting that frustration has been expressed at VicRoads’ progress in reviewing the TNRP, it must be borne in mind that the direction contained therein remains operative to the assessment of projects of this type within Victoria.

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\(^{178}\) That is, having regard to the relevant design criteria specified in section 2.3.2 of the *NSW Road Noise Policy*. 
Other matters

423. It is noted that Mr Butera raised discrete criticisms in respect of elements of the noise modelling undertaken in respect of the operation of the Project (including in respect of the calibration of the modelling). He ultimately expressed the view, however, that the “level of traffic noise modelling/calculations is adequate for an EES assessment at the planning and approvals stages of the project”. Accordingly, while NELP takes issue with elements of Mr Butera’s critique of the modelling (for the reasons addressed during cross-examination), it does not propose to address those matters in detail in these closing submissions. It notes, in this respect, that each of Mr Tardio, Mr Evans, and Mr Delaire indicated that they were satisfied with the nature and extent of modelling undertaken in respect of this aspect of the Project and that the technical memorandum prepared in response to Mr Butera’s comments demonstrated that the matters raised were inconsequential.  

424. NELP accepts the submission that the Carey Sports Complex is utilised for educational (in addition to sporting) purposes. EPR NV1 has accordingly been updated to specifically recognise that buildings within the complex should be classified as Category B Buildings.

EPRs

425. NELPs final position in respect of the suite of noise and vibration EPRs is recorded within Version 5.

Findings and recommendations

426. The IAC should find that Technical Report C properly assesses the noise and vibration impacts of the Project during both construction and operation and that the regime that is proposed to be implemented pursuant to the EPRs is both robust and in keeping with those that have been implemented for projects of this type within Victoria.

427. The IAC should recommend that the EPRs be amended to incorporate NELP’s revisions in hearing document 411.

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179 Mr Butera’s witness statement at [1.8.2].
180 See Hearing document 195.
Ground movement

428. NELP relies on its opening remarks,¹⁸¹ and on the expert witness statement of Mr Macklin,¹⁸² as a record of its position in respect of the potential for the Project to result in ground movement impacts.

429. It notes that Mr Barker undertook a comprehensive independent assessment of these components of the EES and that his assessment was broadly supportive of NELP’s position in these respects:

(a) In his interim report to the IAC Mr Barker observed that “ground movements can be managed by strict adherence to the objectives, care in exceeding those objectives and the implementation of measures (through the EMF and EPRs) to review and audit for compliance in working to objectives”;¹⁸³

(b) In his final report to the IAC Mr Barker confirmed that he remained of this opinion.¹⁸⁴

430. It is noted, furthermore, that in giving evidence before the IAC on Day 20 of the hearing, Mr Babendererde indicated that:

(a) he had reviewed the relevant components of the EES (including Technical Report M);

(b) he considered that the alignment (as it concerned the Reference Project) had been “well-documented”;¹⁸⁵

(c) the EES (as it concerned the Reference Project) allowed a “proper basis for understanding the effects of tunnel construction”;¹⁸⁶ and

(d) based on his calculations of likely volume loss attributable to tunnel boring operations, the potential extent of ground movement documented in the EES should be considered conservative (that is, that it is likely to have been overstated in Technical Report M).

¹⁸¹ Hearing document 144.
¹⁸² Hearing document 24y.
¹⁸³ Hearing document 76, p. 5 of 47.
¹⁸⁴ Hearing document 350 at p. 5 of 56 and p. 8 of 56.
¹⁸⁵ See, for instance, hearing document 253.
¹⁸⁶ Ibid.
431. The EPRs specified in respect of the Project are comparable to those implemented in respect of other major tunnelling projects undertaken in recent years. Importantly, they contain requirements to:

(a) establish a suitable conceptual site model;\(^{187}\)

(b) predict ground movement for the detailed design, based upon the construction methodology;\(^{188}\)

(c) assess the effects of ground movements on building and other structures, and whether these effects are acceptable (with key stakeholder consultation);\(^{189}\)

(d) identify trigger levels for implementing risk mitigation measures tailored to the various geological and groundwater conditions to be encountered along the alignment;\(^{190}\)

(e) establish existing conditions for the Project (pre-construction), including the state of buildings and structures, ground movement and hydrogeology;\(^{191}\)

(f) monitor for ground movement as construction proceeds, with comparison of ground movement performance to original predictive models (detailed design);\(^{192}\)

(g) instigate corrective actions, if such monitoring indicates responses outside of original model predictions;\(^{193}\) and

(h) provide repairs to damage caused by construction.\(^{194}\)

432. Ultimately, the IAC should be satisfied that the potential range of ground movement and instability issues identified in respect of the Project are not unusual for this type of major urban tunnelling project, and that the framework proposed to manage potential impacts properly addresses the risks that have been identified.

\(^{187}\) EPR GM1.
\(^{188}\) Ibid.
\(^{189}\) Ibid.
\(^{190}\) Ibid.
\(^{191}\) EPR GM3.
\(^{192}\) EPR GM2.
\(^{193}\) Ibid.
\(^{194}\) EPR GM4.
EPRs

433. A minor modification has been made to GM4 in response to the expert witness statement of Mr Macklin and the Councils’ proposed amendment. Other than a recommendation made by the Friends of Banyule that NELP does not support, NELP notes that no other recommendations were made in respect of this suite of EPRs.

Findings and recommendations

434. The IAC should make findings that:

(a) the analysis recorded within Technical Report M in respect of ground movement is fit for purpose;
(b) the regime to be implemented pursuant to the EMF and EPRs to address the risks posed by ground movement is both comprehensive and appropriate.

435. The IAC should recommend that the EPRs be amended to incorporate NELP’s revisions in hearing document 411.

Contaminated Land

Overview

436. An appropriate starting point in assessing this topic is again to note the degree of consistency between the evidence of Dr Nadebaum and the independent assessments undertaken by Mr Barker in respect of this topic:

(a) In his interim report to the IAC Mr Barker observed that:

There has been, generally, a suitable process of planning, stakeholder engagement and cross referrals to controlling legislation and guidance in addressing the objectives;

There has been a suitable construction of a Site Conceptual Model across the project area and surrounds, where it recognised that the EES is framed around a set of preliminary and as-available information, where project EPRs will continue to address uncertainties and data-gaps;

The intrusive investigations (soil, groundwater, soil vapour, landfill ground gas, acid forming materials) placed across the project area to-date have helped to better inform the EES;

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195 For the reasons identified in Table 1 of hearing document 411.
196 Hearing document 78, pp 6 and 7 of 60.
Further, targeted and extensive intrusive investigations of subsurface media (soil, groundwater soil vapour or ground gas) will be required particularly around:

- All former landfills as identified through the project area (LFG, asbestos and odour exposure risk);
- Areas of either previous or current underground fuel storage (i.e., petroleum hydrocarbons);
- Areas related to past or existing dry-cleaning facilities, or those industries dealing with chemical solvents (i.e., vehicle spray painting); and
- For Bulleen Drive-in site and general Bullen Industrial Precinct (particularly with respect to petroleum hydrocarbons and PAFS);

The Risk Assessment process as adopted has been generally suitable;

Studies across the potential of acid-form waste materials with tunnelling spoil has been suitably assessed at this preliminary project stage;

The strategy for handling tunnel spoil is suitable and works to EPA key guidance and requirements:

- It provides for some flexibility for the future project constructor to build in innovation; and
- It brings in active involvement with EPA’s Major Projects Group.

There is the need linked to this topic, to improve upon the current understanding of industry landfill capacity across the project’s construction cycle, considering the significant number of other parallel Major Projects occurring in Melbourne across the next five to 10 years; and

The proposed Environmental Management Framework, including the proposed environmental performance requirements and environmental management measures contained in the EES appear to generally well thought-out and are relatively sound. The IAC should consider bolstering the involvement of the ‘Independent Environmental Auditor’ for the project, to one who is a Statutory EPA Appointed Auditor within the State of Victoria.

(b) In his final report to the IAC Mr Barker confirmed that he remained of this opinion.\(^{197}\)

437. Dr Nadebaum’s expert witness statement contains detailed responses to each of the submissions made in respect of this topic. NELP generally relies on those responses and limits these submissions to the following three issues raised during the course of the hearing:

\(^{197}\) Hearing document 352, p. 9 of 63.
(a) the risk posed by former landfill sites and other known sources of contamination and the role of an accredited environmental auditor in managing that risk;

(b) the management of spoil and contaminated spoil associated with the Project; and

(c) the delineation of contaminated groundwater plumes.

Former landfills, other sources of contamination, and the role of an accredited environmental auditor

438. As Dr Nadebaum explained, Technical Report O to the EES identified and characterised potential sources of contamination along the alignment, and completed preliminary assessments in respect of these locations. Further investigations documented in Dr Nadebaum’s statement have been completed after the preparation of the EES and provide additional information in respect of contamination in and around particular areas of interest, including the Borlase Reserve, Bulleen Oval, the Former Bulleen Drive-in, and the Eastern Freeway/M80 Interchange.

439. While there is clearly need for further assessment to occur prior to the commencement of works, the investigations that have been undertaken to date provide adequate information to allow:

(a) an assessment of the risk posed by contamination along the Project alignment; and

(b) the adequacy of the regime that is proposed to address those risks during both construction and operation.

440. In short, while the challenges of managing spoil and contaminated materials are considerable in a project of this scale, the IAC should be satisfied that the analysis undertaken to date, along with the various measures to be secured pursuant to the EPRs (which include but are not limited to the preparation of a detailed spoil management plan),198 will ensure that the Project responds appropriately to those challenges.

441. As addressed in Technical Note 49,199 and as explained by Dr Nadebaum in giving evidence, a series of more specific investigations are presently being undertaken in respect of particular locations along the alignment that may contain prescribed industrial waste due to their historic use, or that are otherwise known or suspected to be contaminated.

198 EPR CL1.
199 Hearing document 194.
442. The further investigations will allow for a more detailed characterisation of the nature and extent of contamination to be encountered along the alignment. They will be completed prior to the completion of, and will inform, the procurement process as well as the implementation of the EPRs moving forward.

443. Mr Oxnam gave evidence about the potential for works on and around the site of the former Bulleen Landfill to impact upon Carey Baptist Grammar School. His principal contention was that the investigations undertaken to date were insufficient to precisely define the risk posed by:

(a) the potential mobilisation of contaminated groundwater onto the site during and following NELP dewatering activities; and

(b) the potential mobilisation of friable asbestos, odours and landfill gases during construction.

444. Mr Oxnam was not aware at the time of giving his evidence of the further investigations that have been undertaken at this location since the completion of the EES. It is not clear whether he had regard to these investigations in preparing his supplementary statement.

445. Mr Oxnam also accepted when giving evidence that the groundwater modelling undertaken to date suggests that the potential for groundwater mobilisation to extend as far south as the Carey Sports Complex was low.

446. Mr Oxnam ultimately contended in his initial statement that additional groundwater bores should be completed in and around the former landfill site to better understand the risks posed by groundwater mobilisation, and that further investigations should be undertaken of the former landfill site to better understand the nature of the prescribed industrial waste at this locality.

447. NELP agrees that this work should be undertaken as part of the ongoing investigations to be completed in respect of the Project and notes that each of these issues has been specifically addressed in the proposed EPRs:

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200 As documented within Dr Nabebaum’s witness statement.
201 Hearing document 278.
202 See, in this respect, Figures 8-5 and 8-10 of Technical Report N.
203 See p. 5 of the report referenced within Mr Oxnam’s witness statement (as attached to Carey’s written submission to the IAC).
204 Ibid, p. 6.
(a) EPR GW2 requires that additional groundwater monitoring be undertaken both before and after construction, and that it be sufficient to establish baseline water level and water quality conditions throughout the study area;

(b) EPR CL1 requires the implementation of a spoil management plan, which includes requirements for detailed site investigations prior to the commencement of excavation within any potentially contaminated areas;

(c) EPR CL3 is specifically directed toward minimising impacts associated with odour during spoil management (which includes during excavation, stockpiling and transportation);

(d) EPR CL4 specifically requires that the Project be designed and constructed to address risks posed by landfill gases; and

(e) EPR CL5 includes measures directed toward the disposal of hazardous materials, including asbestos.

448. By letter dated 28 August 2019, Carey advised the IAC that Mr Oxnam had made two additional recommendations to the IAC:

(a) The appointment of a statutory environmental auditor under section 53S of the Environment Protection Act 1970; and

(b) That the statutory environmental auditor conduct a section 53V audit during NELP construction activities adjacent to Carey's Bulleen campus.

449. Consistent with Dr Nadebaum’s evidence, and the recommendation of Mr Barker, NELP agrees that it would be appropriate that the independent environmental auditor appointed in respect of the Project be constituted by an accredited (or statutory) environmental auditor under the Environment Protection Act in appropriate disciplines. Consequential changes are proposed in the EMF in this respect.

450. It is otherwise not appropriate, however, to pre-empt the nature or extent of any statutory audit process to be undertaken along the alignment. Any such requirement should be determined by the EPA in accordance with the terms of the Environment Protection Act.

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205 Hearing documents 278 and 278a.
Spoil management

451. As noted in NELP’s opening remarks on this topic, the cumulative effects of simultaneously undertaking multiple major transport projects within the State have been considered.

452. Investigations have been undertaken in respect of landfills situated within and around the metropolitan region, demonstrating that adequate capacity exists to accommodate fill and prescribed industrial waste associated with this project, as well as the other major transport infrastructure projects that are being constructed or that will commence construction in the short to medium term.206

453. NELP will continue to engage with landfill and beneficial reuse entities to monitor market capacity for soil management.

Contaminated groundwater plumes

454. The EPA contends that EPR GW2 should be amended to specifically require that the baseline water quality investigations require the delineation of groundwater plumes impacted upon by the Project. NELP agrees that this is a sensible modification, subject to the scope of delineation being limited to those portions of any contaminated plumes that have the potential to be affected by the Project.

EPRs

455. NELP’s final position in respect of the contaminated land suite of EPRs is recorded in hearing document 411.

Findings and recommendations

456. The IAC should make findings that:

   (a) the analysis recorded within Technical Report O, and as supplemented by the material presented by Dr Nadebaum, adequately identifies the potential sources of and locations at which potential sources of contaminated land or groundwater may be encountered;

   (b) the regime to be implemented pursuant to the EMF and EPRs to address the risks posed by these potential sources of contamination, which will include further testing

206 Appendix C to Dr Nadebaum’s expert witness statement.
and investigations as the design of the Project advances, is both comprehensive and appropriate.

457. The IAC should recommend that the EPRs be amended to incorporate NELP’s revisions in hearing document 411.

**Air quality**

**Overview**

458. The IAC heard evidence from Mr Fleer, Ms Lawrence, Mr Sichlau and Dr Cowan in respect of the air quality impacts of the Project. The IAC also has the benefit of the preliminary, interim and final reports prepared by Ms Wilson on the topic.  

459. The evidence before the IAC has generally focussed upon discrete aspects of the modelling and assessment recorded within Technical Report B. It should be recognised at the outset, however, that the majority of the analysis undertaken in respect of the Project (both as documented within Technical Report B and as supplemented during the course of this hearing) was unchallenged, such that the IAC should readily conclude that it constitutes an appropriate basis upon which to assess the air quality impacts of the Project.

460. NELP submits, more particularly, that:

(a) The nature and extent of air quality modelling undertaken in respect of the Project is comparable to that undertaken in respect of the West Gate Tunnel Project (which was described in that process as being the “most comprehensive ever done for a road project in Victoria”) and should be considered best practice for environmental assessments of this type;

(b) The air quality modelling adopted a number of conservative assumptions which, as Ms Wilson correctly identified, are likely to overstate the level of impact associated with the Project;

(c) Comprehensive scenario analyses were undertaken as part of the assessment, having regard to future air emission factors and the adoption of electric vehicles (amongst other variables), providing both “conservative” and “more realistic” emissions estimates;

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207 Hearing documents 6, 74 and 349 respectively.
208 Documented as annexures to the expert witness statement of Mr Fleer (Hearing document 24f).
209 West Gate IAC Report, p.128.
210 Hearing document 74, p.3.
(d) The air quality modelling undertaken in respect of the Project demonstrates a high level of compliance with applicable standards. To the extent that there was modelled non-compliance, this was overwhelmingly attributable to elevated background concentrations, and in circumstances where the contribution from the Project was marginal; and

(e) The suite of air quality EPRs should be considered robust and comprehensive and will ensure that the air quality impacts of the Project are appropriately managed during both construction and operation.

461. NELP generally relies on the evidence of Mr Fleer in response of the issues raised in evidence and in submissions. It notes that the weight of expert opinion generally supports Mr Fleer’s evidence in these respects:

(a) Ms Lawrence undertook an independent peer review of the EES (including Technical Report B), the subsequent investigations undertaken by Mr Fleer, and the matters raised in submissions and in expert evidence. Her review is supportive of the assessment undertaken in respect of the Project and should be accorded due weight by the IAC;

(b) Mr Sichlau (appearing on behalf of Carey Baptist Grammar School) similarly reviewed the air quality impact assessment and was generally satisfied with the adequacy of the modelling undertaken to date; and

(c) Ms Wilson, in her final report, reiterated the view expressed in her interim report that the “Project’s air quality impacts have been thorough and conservative” and that it has “used the best available models and data to determine the NELP’s air quality impacts”.

462. The technical issues raised by Dr Cowan in respect of the modelling and assessment are relatively confined. While those matters are addressed further below, it is important to recognise that Dr Cowan adopted an “exceptions based” approach in preparing his evidence; that is, he focussed only on those aspects of the modelling and assessment with which he took issue. Accordingly, in assessing Dr Cowan’s evidence, the IAC must be equally aware of the matters that were not raised (and that are implicitly supported by Dr

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211 Hearing document 349, p. 5 of 12.
212 Ibid at p. 6 of 12.
Cowan) as those that were raised. When viewed in this light it is apparent that the scope of the residual dispute is relatively narrow.

463. The Councils contend that the approach adopted in the EES has focussed too much upon compliance with relevant standards.\(^{213}\)

**Issues raised in respect of the adequacy of the modelling**

**The Design Criteria Adopted for Surface Road Emissions**

464. Dr Cowan indicated a preference that the design criteria specified in Schedule A of SEPP (AQM) be adopted for the purposes of assessing the impacts of surface road emissions of NO\(_2\), CO and air toxics along the alignment. In doing so, however, Dr Cowan recognised that these criteria do not strictly apply to emissions of this type.

465. As noted in the conclave report, in the absence of any applicable criteria, “the assessment criteria/methodology used in the Air Quality Report were selected to meet the requirements of EPA Victoria”.\(^{214}\) Indeed, Mr Torre who attended the conclave on behalf of the EPA, is recorded as having advised that “the method adopted for assessing the surface roads[’] incremental impacts was appropriate”.\(^{215}\)

466. The Schedule A design criteria have not previously been applied in the manner proposed by Dr Cowan to an assessment of surface road emissions within this state. The approach adopted in the EES, which focussed on the incremental emissions attributable to the Project vs no-Project scenarios, constitutes a coherent basis to assess the impact of this component of the Project.

**The Accuracy of COPERT Australia**

467. Dr Cowan expressed reservations in respect of the accuracy of COPERT Australia in modelling air emissions. In particular, Dr Cowan asserted that COPERT Australia underestimates real world conditions and does not include road dust resuspension. This notwithstanding, Dr Cowan explicitly recognised that COPERT Australia constitutes the best available method to calculate air pollutant emissions from road transport, and that it was appropriately applied to the Project.

\(^{213}\) Hearing document 374a at [500].  
\(^{214}\) Hearing document 131, item 13(a).  
\(^{215}\) Ibid.
NELP accepts that there are inherent limitations in modelling emissions generated by projects of this type.

It is the case, for instance, that COPERT Australia does not consider the resuspension of particulate matter. As Mr Fleer explained, however, this limitation applies to all assessment methodologies worldwide, and will continue to do so until such time as emission estimates based on real-world driving are available.

Further, as Dr Cowan correctly observed in this respect, the extent of re-entrained dust will, all other things being equal, be lower on freeways than on local roads. The redistribution of heavy vehicles from local roads to higher order roads accordingly has the potential to result in a net reduction in emissions of this type. The monitoring regime proposed pursuant to EPR AQ5 will ensure that particulate matter emissions arising from this source are detected within the proposed tunnel structures, and that measures are put in place to demonstrate compliance with all applicable in-tunnel performance standards.

These matters notwithstanding, NELP does take issue with Dr Cowan’s assertions in respect of the extent to which COPERT Australia is likely to underestimate real-world emissions. It does so on the bases that:

(a) the evidence of real-world emissions provided by Mr Fleer suggests that Dr Cowan’s analysis is overstated; and

(b) the evidence relied upon by Dr Cowan is inconclusive.

It is noted, in this latter respect, that the assessment undertaken by ABMARC on behalf of the Australian Automobile Association, upon which Dr Cowan relied in support of his contentions, was undertaken in respect of only 30 vehicles. Furthermore, while that assessment noted that diesel emissions of NO\textsubscript{x} from certain vehicle types were substantially higher than the laboratory limits, the assessment also indicated that real world driving emissions for petrol fuelled vehicles were on average below the laboratory limits.

Ultimately, notwithstanding these issues, the IAC should be satisfied – consistent with the weight of expert opinion – that COPERT Australia remains the best available means to assess vehicle emissions, and that it constitutes a reasonable basis to assess environmental effects.

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216 Hearing document 212.
The Conversion of NO to NO₂

474. Dr Cowan criticised the modelling on the basis that it did not account for the conversion of NO to NO₂.

475. For the reasons given by Mr Fleer, and as summarised below, Dr Cowan’s concerns in this respect were overstated:

(a) Firstly, as explained by Mr Fleer, all available methods for predicting the secondary generation of NO₂ resulting from the reaction of NO with ozone are simplistic. The method proposed by Dr Cowan (being the Ozone Limiting Method), for instance, dates back to 1979 and unrealistically assumes that all possible NO is immediately converted to NO₂ upon exposure to ozone. This, however, is inconsistent with real world observations, wherein NO and ozone are frequently observed;

(b) Second, EPA does not specify the use of the OLM (or any alternate method such as the Partial Volume Molar Ratio Method (PVMRM)) in its modelling guidance, instead requiring that specific approval be sought should either of these approaches be adopted;

(c) Third, the EPA has not directed that NO to NO₂ conversion be assessed as part of this process, or in respect of the works approval application; and

(d) Fourth, modelling of this type is not typically undertaken in respect of projects of this type, and was not undertaken (for instance) in respect of the assessment of the West Gate Tunnel.

476. It is noted, furthermore, that observations undertaken in respect of the West Gate Tunnel Project demonstrate the scope for Projects of this type to comply with all applicable criteria. Indeed, NO₂ data collected from the ambient air quality monitoring stations located immediately adjacent to the West Gate Freeway in Primula Avenue (all of which is publicly available), supports the contention that the interaction of NO emissions and ozone does not materially affect compliance.

477. Finally, as Ms Wilson specifically observed in the context of her final report to the IAC:

(a) the modelling undertaken in respect of NO₂ predicts compliance with the applicable standards in the ambient air and at road side locations; and

219 Hearing document 349, pp. 7 and 8 of 12.
there will be a reduction in NO$_2$ emissions in the future due to increased penetration of vehicles that meet more stringent emission standards (a fact that was also recognised by both Mr Fleer and Dr Cowan).

478. The IAC should accordingly be satisfied that the relevant standards concerning NO$_2$ can be met (noting, also, that this will be a matter that is further explored by the EPA in the context of determining the works approval application).

**The capacity to retrofit pollution control equipment**

479. It appears to be common ground, at least in expert opinion, that pollution control equipment should not presently be required in respect of the proposed tunnel ventilation system. As Mr Fleer explained, equipment of this type is both costly and relatively inefficient, and would not result in any material change in predicted ground level concentrations (owing to the minimal contributions made to modelled GLCs by the tunnel ventilation system).

480. The principal debate before the IAC in this respect concerns whether provision should be made in the design of the tunnel ventilation system to retrofit the pollution control equipment in the future if ultimately considered desirable.

481. While this approach has some superficial appeal, the IAC should ultimately conclude on the evidence before it, that the prospect of retrofitting pollution control equipment of the type described is so remote as to not warrant the costs and other consequences associated with retaining retrofitting capacity.

482. It is important to recognise, in this respect, that the capacity to introduce pollution control equipment would have implications in respect of the design of the ventilation structure. On current estimates, NELP anticipates that in the order of an additional 100 square metres of floor space would be required in each structure, impacting project cost (by in the order of $6 million in total) and resulting in further and unnecessary visual and urban design impacts.

483. The minimal contribution that emissions from the ventilation structures are predicted to make to ambient concentrations also needs to be considered in this regard. Indeed, even if pollution control equipment does at some point in the future become more effective and efficient, its application to the ventilation structure will have no appreciable impact on the predicted maximum ground level concentrations of the various air quality indicators.
484. As was repeatedly recognised throughout the course of the hearing, there are many other more efficient means by which ambient concentrations of the relevant pollutants could be reduced. That these other means are not within the IAC’s purview does not justify the IAC pursuing the one inefficient means that is.

485. Finally, it remains the case that there are presently no effective filtration systems operating on tunnelling projects within Victoria or Australia (and very few worldwide). While technology may improve over time, the very strong likelihood is that the introduction of technology of this type will never be required, and that any resources directed to its future provision as part of this Project will be wasted.

Ms Wilson’s final report

486. NELP notes that Ms Wilson’s final report to the IAC contained recommendations concerning how acoustic barriers and vegetation screening might influence air quality outcomes and that the monitoring results obtained in respect of the Project should be assessed against the Environmental Quality Objectives specified in SEPP (AAQ).

487. The first of these matters was addressed in section 13.2.1 of Technical Report B wherein it was recognised that:

(a) “there is … clear evidence that acoustic barriers can effectively reduce pollutant concentrations downwind of the barrier in the near field, principally due to the upward deflection of air increasing vertical mixing and creating a recirculation cavity in the lee to the barrier, extending between three and 12 barrier heights downwind”;

(b) “the minimum thickness of a vegetation barrier, and the time taken for it to establish, are major disadvantages against their use for air quality purposes in an urban environment”.

488. Accordingly, while NELP agrees that these forms of measures may have beneficial outcomes in terms of air quality, those benefits should not be overstated.

489. NELP notes, in respect of the second matter, that SEPP (AAQ) requires that “[f]or the purpose of evaluating performance against the environmental quality objectives the concentration of environmental indicators in the air … is to be measured at performance

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221 Ibid. at p 275.
monitoring stations” and that “to the extent practicable, performance monitoring stations should be sited in accordance with the requirements for Australian Standard AS/NZS 2922-1987”.222

490. For the reasons given in the memorandum attached to Mr Fleer’s expert witness statement, the air quality monitoring stations to be established for the Project will not accord with these requirements, and are accordingly not properly assessed pursuant to the SEPP(AAQ) Environmental Quality Objectives.

EPRs

The EPA’s recommendations

491. The EPA has requested that a number of modifications be made to the EPRs.223

492. The Version 5 EPRs incorporate the EPA’s proposed modifications to:

(a) EPR AQ1 (which concern the terms upon which the Dust Management Plan must be prepared);

(b) AQ5 (concerning the monitoring of in-tunnel air quality and ventilation structure emissions) and

(c) EPR AQ4 in part (as those modifications concern the number of locations at which ambient air quality monitoring must occur).

493. NELP opposes the remainder of the EPA’s proposed modifications on the following bases:

(a) The proposed modification to EPR AQ2, to include a requirement that the design include provision for retrofitting of tunnel ventilation pollution control equipment, is opposed for the reasons set out above;

(b) The proposed modification to EPR AQ4, to specify the precise locations of the monitoring stations, is opposed as it may not be practical to maintain all of the current monitoring stations given *inter alia* there is no certainty that those locations will remain available during construction and operation;

(c) The proposed modification to EPR AQ4, to require that the air quality monitoring results be assessed against SEPP (AAQ), is opposed for the reasons addressed above.

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222 See, in particular, SEPP (AAQ) at cl 12 and 14.
223 Hearing document 168.
The works approval application

494. Ms Wilson’s interim report identified matters to be addressed in the context of the works approval application. Consistent with Ms Wilson’s final report, the IAC should be satisfied that these matters have now been addressed, such that the material before the IAC constitutes an “adequate basis for the air quality component of the Works Approval Application”.224

495. NELP otherwise relies on the material contained within Attachment VI to the EES, as well as the expert evidence of Mr Fleer and Ms Lawrence, in respect of the suitability of the works approval application and the terms upon which the works approval should be issued.

Findings and recommendations

496. The IAC should make findings that:

(a) The nature and extent of air quality modelling undertaken in respect of the Project is comprehensive and appropriately conservative;

(b) The Project should be expected to achieve a high level of compliance with applicable standards;

(c) The tunnel ventilation system should not be required to provide capacity for air filtration to be retrofitted; and

(d) The suite of air quality EPRs should be considered robust and comprehensive and will ensure that the air quality impacts of the Project are appropriately managed during both construction and operation.

497. The IAC should recommend that the EPRs be amended to incorporate NELP’s revisions in hearing document 411.

Human health

498. The Health Impact Assessment conducted in respect of the Project is documented in Technical Report J to the EES. It was prepared by Dr Wright adopting the same methodology that she applied to the Health Impact Assessment completed for the West Gate Tunnel Project.

224 Hearing document 349, p. 9 of 12.
499. In keeping with the assessment conducted by the West Gate Tunnel IAC, this Committee should conclude that:

(a) the impact assessment undertaken for the Project is “reasonable and provides an acceptable base from which to consider the health effects of the Project”; and

(b) subject to the implementation of NELP’s Version 5 EPRs, the health effects of the Project can be managed to an acceptable level.

500. Dr Wright’s assessment focussed on the potential health impacts associated with changes in air quality, changes in noise and vibration, and changes in social aspects during construction. It is important to recognise, in each of these respects, that the Project will deliver a range of positive outcomes for the region, principally as a consequence of the redistribution of traffic to higher order roads and the better functioning of the road network. These impacts should be considered alongside the potential for the Project to result in localised negative impacts.

501. It is noted, in this latter respect, that Dr Wright’s analysis demonstrates:

(a) In respect of each of the air pollutants modelled, including those of greatest concern (such as NO₂ and particulates):

(i) The cumulative impacts associated with emissions from the Project are not considered to be of concern in relation to community health;

(ii) The population health impacts from the tunnel ventilation structures and the redistribution of traffic on surface roads are considered to be low and acceptable; and

(iii) Localised maximum increases in health risk from emissions arising from the tunnel ventilation structures, and the redistribution of traffic on surface roads, are not considered to be elevated;

(b) In respect of noise and vibration, that:

(i) The implementation of a comprehensive regime of control measures (as provided under EPR NV4) will ensure that the potential for noise impacts during construction to result in significant health impacts in the community is low, whilst the implementation of a notification and complaints system (as provided by EPR SC2) will constitute an important response to individuals experiencing annoyance during construction; and

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See the West Gate Tunnel IAC Report at p. 118.
(ii) The implementation of suitable mitigation measures as part of the Project’s design will ensure that the Project will not result in measurable health impacts within the community;

(c) In respect of social impacts:

(i) The construction of the Project, including the acquisition of residential and commercial properties to facilitate construction and the occupation of open spaces, can be expected to result in stress, anxiety and disruption to segments of the community (such that there is a need for careful management of impacts in accordance with EPRs SC1 - SC5 and AR1 - AR3); and

(ii) The operation of the Project provides opportunities for health benefits associated with the improved performance of the transport network.

502. The Councils’ assertion, made in the context of health impacts attributable to changes in air quality indicators, that a “data gathering exercise” should be undertaken in respect of the “affected population” should be rejected by the IAC as being unnecessary. The approach adopted by Dr Wright is comprehensive and provides an objective and evidence-based measure of the likely extent and nature of health impacts that can be expected to arise along the alignment. The collection of additional data in respect of the “affected population”, however that population would be determined, would not materially advance the assessment of the environmental effects of the Project.

503. While not a matter that was specifically considered by Dr Wright, it is noted that the analysis recorded within the TTIA demonstrates the extent to which the redistribution of traffic from lower order (relatively dangerous) local roads, to higher order (relatively safe) arterial roads and freeways, will result in a net reduction in casualty crashes relative to the no project scenario (notwithstanding an overall increase in vehicle kilometres travelled).

504. Dr Thompson’s assertion that the Project would result in more crashes and injuries lacked rigour and should not be preferred to the evidence-based analysis recorded within the TTIA. Similarly, Dr Thompson’s assertion that there is a causal relationship between the location of freeways and the health indicators attributable to residents of middle and outer ring suburbs, was tenuous and should be attributed less weight than the systematic analysis conducted by Dr Wright.

226 See, in particular, section 9.2.7 of Technical Report A.
Findings and recommendations

505. The IAC should find that the Health Impact Assessment conducted by Dr Wright adopts appropriate benchmarks and demonstrates that the health impacts of the Project will comply with applicable domestic and international standards subject to the implementation of the EPRs documented in hearing document 411.

Business, social and amenity impacts

Overview

506. There was considerable agreement between the relevant experts called in the areas of business and social impacts, demonstrated through:

(a) The conclave of business and economic experts; 228

(b) Ms Stubbs’ general agreement with Mr Weston’s approach to assessing social impacts.

507. As noted above, there can be no suggestion that NELP or its experts have attempted to downplay the significant impacts of the Project on residents, businesses and community facilities within and adjacent to the Project boundary. NELP agrees with submitters that those impacts should be avoided, minimised or mitigated to the extent possible, through the next phase of the Project’s design and through application of the EPRs during construction and operation.

Impact on Bulleen Industrial Precinct

508. There is general agreement with the extent of impact of the Project on the Bulleen Industrial Precinct, although NELP does not consider it useful to compare that impact with the closure of major single employers such as Ford or Queensland Nickel, particularly where those closures affected a regional town. 229 This is because closures of that kind have a concentrated effect on one industry in one town, compared with the Bulleen Industrial Precinct which accommodates multiple commercial and industrial businesses within a suburb of metropolitan Melbourne.

228 Hearing document 108.
229 As the combined Councils do in hearing document 374a, para 543.
509. Similarly, it is not right to assume that the impacts to the Bulleen Industrial Precinct are unprecedented, when regard is had to the significant impacts on industrial land from the creation of the West Gate Freeway.  

510. Having said that, NELP takes the impact on Bulleen Industrial Precinct seriously and has, for that reason, undertaken significant work to understand and mitigate that impact through:

(a) Engaging the services of an expert business consultant, Ms Stoettrup, to investigate the nature of the existing businesses and their particular needs;

(b) Examining potential relocation sites; and

(c) Examining the future highest and best uses of the land currently occupied by the Bulleen Industrial Precinct.

511. NELP established the Bulleen Industrial Zone (BIZ) Liaison Group in April 2019 to strengthen communications and consultation with business representatives. The Liaison Group provides an avenue to explore issues, business impacts and opportunities through the planning and approvals phase of the Project. This will be an ongoing group as required by EPR B6. An administrative resource has also been funded by NELP since June 2018 to assist and support the Bulleen Industrial Zone Group (BIZ group) as established by businesses. The businesses are also represented on the Community Liaison Groups.

512. A NELP office was also opened in the Bulleen industrial zone in April 2019 to provide information and support to all businesses. NELP understands this is a difficult time for affected businesses and continues to talk to them every day to offer support where possible.

513. Mr Haratsis agreed with Mr Barlow and Ms Stoettrup that, if possible, the relocation of the Bulleen Industrial Precinct businesses to the Websters Road site and the residual land at the Manningham Interchange would be a good result for the City of Manningham.

514. NELP, the City of Manningham and Counsel assisting the IAC have provided a joint written submission on the potential to rezone the Websters Road land and bring it within the UGB, which is desirable if that land is determined to be an appropriate relocation site in the long term. NELP and the City of Manningham (assisted by Ms Stoettrup’s

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230 See hearing document 283.
231 Hearing document 243.
ongoing engagement with individual businesses) have subsequently established regular meetings to progress assessment of the site’s feasibility and to determine the preferred planning approval pathway for this proposal.

515. Mr Barlow has suggested two new EPRs related to business impacts, the substance of which NELP accepts and which are preferable to the combined Councils’ more prescriptive suggestions.

516. NELP agrees that the future use of the residual Manningham Interchange land will be considered as part of the Yarra River – Bulleen Precinct Land Use Framework Plan Advisory Committee process, the Terms of Reference for which require consideration of the outcomes of this IAC process. Place-specific requirement 4A for Map Y1 in the UDS (p53) requires the Project design to have regard to relevant State and local government strategic land use plans, which would include the ultimate Framework Plan for this precinct.

517. Place-specific requirement 4A also includes a further opportunity (in italics) to:

*Consider enabling future land use opportunities by:
  • Seeking opportunities to consolidate land parcels and minimise the fragmentation of land parcels
  • Designing the road network to accommodate vehicle and pedestrian access to residual land parcels.

518. Given the importance of enabling viable future land use at Manningham interchange, NELP would support the above wording becoming a requirement (no longer in italics).

519. EPR LP1 also requires an integrated response to the residual land at the Manningham Interchange, including maximising the developable area at surface level to the extent practicable, to support viable future land uses. This integrated response could be informed by the City of Manningham to ensure their views will be considered. Therefore, it is proposed to amend EPR LP1 to include the words ‘informed by consultation with Manningham Council’.

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232 Hearing document 329.
233 Hearing document 355a.
234 See hearing documents 23 and 23a.
Impact on Watsonia shopping centre

520. *Picture Watsonia* is a strategic vision that was adopted by the City of Banyule five years ago but has not been through a planning scheme amendment process and has not been incorporated or referenced in the Banyule Planning Scheme. Council has delivered a limited number of the short-term opportunities identified while many other opportunities included reflect significant aspirations such as undergrounding transmission lines and decking over the rail line. The recommendations and objectives of *Picture Watsonia* have been considered and embedded where relevant in the UDS place-specific requirements.

521. In response to Council’s request for this vision be reconsidered in the context of the project, NELP agreed to fund 50% of the cost of a new report with Council which resulted in the Watsonia Neighbourhood Centre Concept Plan prepared by Ethos Urban/Cardno.\(^{235}\) Council has not adopted that plan, and has not put it out for public consultation (as recommended by NELP). It was tabled by NELP at the hearings at the request of the IAC.

522. Given the state of flux that Council is in regarding future strategic planning for Watsonia Neighbourhood Activity Centre, it is unclear what else NELP can or should do in relation to Council’s aspirations, some of which are not within the scope of the Project, for example upgrading the Watsonia Train Station and decking over the rail line. The UDS, through its principles and objectives, key directions and place specific requirements, gives clear guidance on the design response required at Watsonia through a set of performance based requirements.

523. The Business and Traffic and Transport suites of EPRs sufficiently manage and mitigate the construction impacts of the Project on Watsonia NAC. Specifically, the Business EPRs have been revised to provide more support to traders.

524. NELP opened a community information hub in Watsonia in December 2018. This will operate right through planning and construction to keep the community, including local businesses, informed and involved.

525. In answer to City of Banyule’s question,\(^{236}\) Morwell Avenue has been included within the Project boundary to enable access to the transmission lines and towers. Any construction work in that area would be associated with work to the transmission lines and towers. Place-specific requirement 2G for Map R4 in the UDS (p38) also requires new

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\(^{235}\) Hearing document 364.

\(^{236}\) At hearing document 374a, para 577.
infrastructure to support the new off-road cycling connection parallel to Morwell Avenue (to be delivered by others), which will link the existing East-West Power Easement Trail to the west with the Watsonia Neighbourhood Centre.

Impact on open space

526. The amount of public open space to be temporarily and permanently occupied by the Project is set out in Mr Wyatt’s and Mr Barlow’s expert evidence. In Mr Wyatt’s evidence, the total amount of public open space and the proportion of that space to be occupied includes land within the road zone.\footnote{Hearing document 24a, Tables 1-3.} It was Mr Barlow’s recommendation that land within the road zone (22ha) be removed from the calculation, because the estimates within the EES overstated the impacts of the Project on public open space, with the recalculation subsequently shown in his presentation of evidence.\footnote{Hearing document 173.}

527. Rather than understating the impacts of the Project on public open space, the EES has overstated the impacts because of the inclusion of land within a road zone, land used for the purposes of car parking, and land no longer used for public open space.\footnote{See hearing document 173; cf combined Councils’ submission, hearing document 374a, para 582.}

528. Mr Barlow has recommended a new EPR related to the replacement of open space,\footnote{Hearing document 329.} which NELP accepts in substance.

529. Overall, Mr Simon’s evidence was largely supportive of the extensive work NELP has undertaken to date to ensure that sporting clubs and associations are relocated to suitable replacement facilities in reasonable locations and in a timely manner. His evidence certainly did not support the City of Boroondara’s submission that NELP has “flirtatiously” suggested possible future outcomes “that create nothing but uncertainty”.\footnote{Hearing document 373a, paragraph 42.} This is an intertemperate submission, not only in light of the significant amount of work and consultation NELP has undertaken to try to resolve these difficult issues, but in the face of the City of Boroondara’s steadfast refusal to engage with NELP – or with the City of Manningham – on finding solutions for its two priority facilities other than its ideal preferred outcome.

530. Unfortunately, Mr Simon did not approach his task as an expert witness with the requisite independence, defaulting to his clients’ position on any issue that remained in contention.
531. He was also limited by his instructions, not having been asked to comment on the potential to redevelop the Freeway Golf Course as a 9- or 12-hole course, or to consider the impacts of the City of Boroondara’s preferred option for relocation of the Boroondara Tennis Centre and redesign of an 18-hole golf course on City of Manningham, the aeromodellers club or the archery club. The only document he considered in relation to the Freeway Golf Club was the WellPlayed report commissioned by the City of Boroondara, which, despite containing considerable material supportive of a 9- or 12-hole golf course offer, and the changing trends in golf, did not actually consider that option in relation to the Freeway Golf Club.

532. When Mr Simon had the opportunity to consider – independently - a preliminary design concept for relocation of the Boroondara Tennis Centre to Musca Street Reserve, he was relatively supportive of the concept and agreed that it depicts a “significantly improved” level of functionality.

533. The difficulty NELP has encountered in resolving the issues that have arisen in relation to the Boroondara Tennis Centre and the Freeway Golf Course are amply demonstrated in the two competing submissions filed on this topic by the Cities of Manningham and Boroondara respectively. The IAC should prefer the submissions of the City of Manningham on this topic as being more balanced and evidence-based than those of the City of Boroondara. The IAC will also note the support of Golf Australia for reconfiguration of the Freeway Golf Course as a 9- or 12-hole course.

534. An update on the status of discussions with the various Councils and sporting facilities and associations is set out in Technical Note 57. NELP seeks a recommendation that Option 4 (with an updated layout provided in the attached document) be pursued, with the Musca Street Reserve option to be pursued as a secondary option.

535. Mr Weston made additional comments on the Social suite of EPRs following his evidence, which NELP has accepted in substance.

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242 Hearing document 247.
243 Hearing documents 373a and 375a.
244 Hearing document 378a.
245 Hearing document 225a.
Amenity impacts

536. Mr Barlow’s evidence about amenity impacts was not challenged in cross-examination. He has made recommendations for revisions to EPR LP4, the substance of which NELP accepts.

EPRs

537. The business EPRs have been revised in hearing document 411 to require preparation of:

(a) A business disruption mitigation plan;
(b) A business relocation strategy; and
(c) An employee assistance strategy.

538. The social and community EPRs have also been revised in response to evidence and submissions. As set out in hearing document 411, as well as requirements to reduce community disruption and minimise impacts to formal active recreational facilities, the social and community EPRs require:

(a) A case management approach to private land to be acquired or temporarily occupied;
(b) The preparation of a communications and community engagement plan, including the appointment of a dedicated liaison officer for stakeholders where appropriate;
(c) The preparation of a relocation plan; and
(d) A community liaison group.

539. A new land use and planning EPR has been included to require an open space replacement strategy, as recommended by Mr Barlow. His recommendations in relation to overshadowing have also been taken up in revisions to LP4.

Findings and recommendations

540. The IAC should make recommendations to the following effect:

(a) The IAC has before it sufficient information to assess the business, social and amenity impacts of the Project, the magnitude and significance of which are largely agreed between the relevant witnesses;

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246 Hearing document 329.
(b) NELP has demonstrated its commitment to supporting businesses and employees, and finding solutions for sporting clubs, that will be impacted by the Project through the significant and detailed work it has done to date;

(c) For businesses and sporting clubs that will be displaced by the Project, finding solutions will require co-operation between all affected stakeholders; and

(d) The business, social and amenity impacts of the Project are capable of mitigation and management through application of the EPRs.

541. The IAC should make the following recommendations:

(a) The EPRs should be amended to incorporate NELP’s revisions in hearing document 411;

(b) NELP and the City of Manningham should continue with their collaborative endeavours to provide suitable relocation options for businesses in the Bulleen Industrial Precinct that will be displaced by the Project;

(c) In relation to the Freeway Golf Course and the Boroondara Tennis Centre, Option 4 should be pursued;

(d) Amend place-specific requirement 4A in the UDS to remove the italics from the text outlined above;

(e) Amend EPR LP1 to include the words ‘informed by consultation with Manningham Council’.

Urban design and landscape and visual impact

Overview

542. Mr Begg was right to note, in answering questions under cross-examination, that urban design is not an “impact”. Rather, it is the collaborative and multi-disciplinary process of shaping the physical setting for life in urban settings; it is the art of making places.

543. This is reflected in the relevant Scoping Requirement:

*The EES should describe the approach that the project will adopt for the following aspects of the project, to the extent relevant and practicable:*

*the character of the existing and evolving urban environment;*
• the urban design features of the project’s components; and

• the preferred form, function, amenity, experience, appearance and aesthetics of the project’s design.

544. The UDS specifically responds to that Scoping Requirement.

545. At this point in the Project, the IAC is assessing the environmental effects of a Reference Project that has not yet been formulated as a design concept. This means that the likely effects set out in the EES are conservative, in that they are based on a functional design that, while having been influenced in some degree by urban design considerations in terms of the necessary spatial allocation, has not yet applied the requirements of the UDS or the EPRs.

546. Likewise the landscape and visual impacts of the Project – which are accepted as being impacts – are conservative, in that they assume the functional location of the infrastructure within a landscape setting, with an indicative application of elements of the UDS such as pedestrian bridges so as to assess landscape and visual impacts, without having had the benefit of an actual design from architects or landscape architects.

547. There is, of course, an element of uncertainty about the form of the final design. However, what is critical at this stage of the process is to set up a robust governance process to ensure the application of sound urban design principles, objectives and place specific requirements through the design concept and detailed design phases to come.

548. As was noted at the outset of these submissions, the governance arrangements proposed by NELP, using a UDS in combination with a UDAP to guide those design phases, is orthodox contemporary practice in relation to major infrastructure projects in Victoria.

549. Mr Czarny has recommended aspirational EPRs (drafted in obscure and impenetrable language). 247 This is premised on a misconception of the Environmental Management System, which comprises both the EPRs and the UDS on an equal footing. The UDS is replete with more meaningful, positive and pro-active aspirations that are required to be implemented under EPRs LV1 and LV2, and under the Incorporated Document.

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247 Hearing document 353a.
The UDS

550. As noted above, the UDS has been developed over an 18 month period with extensive collaboration and input from the Wurundjeri, UDAP (including the Office of the Victorian Government Architect), relevant agencies, local government and local communities. It adopts the same principles, format and performance-based approach as the UDS in the Melbourne Metro Rail Project and the UDF in the Level Crossings Removal Project. The worst that has been said about it through this hearing is that it is “generic” and high level, albeit based on principles that are “unarguable”.

551. As was outlined above, the UDS goes well beyond what was publicly available in relation to the urban design of “exemplar” projects such as the Eastern Freeway extension, EastLink, Craigieburn Bypass, Deer Park Bypass or Peninsula Link. Likewise, the requirement that the final design be in accordance with the UDS, in EPRs LV1 and LV2 and the Incorporated Document, exceeds the governance regimes applicable to those “exemplar” projects.

552. Contrary to Mr Czarny’s responses under cross-examination, there can be no suggestion that the Project is “more sensitive” than those projects, particularly given the landscape sensitivities of the Eastern Freeway extension, EastLink or Peninsula Link, the residential sensitivities of the Level Crossing Removal Project, or than the Melbourne Metro Rail Project, given the heritage and land use sensitivities in the central City, St Kilda Road and Parkville.

553. The structure and approach of the UDS was based on the LXRP Urban Design Framework, which won the 2018 National Urban Design Awards in the category of leadership, advocacy and research – city and regional scale.

554. The UDS is also similar to the Melbourne Metro Urban Design Strategy. It is worth remembering what the Melbourne Metro Inquiry and Advisory Committee had to say about that document in circumstances where it was assessing the impacts of a concept design:

The Committee recognises the work of the MMRA to ensure a high standard of landscape and urban design will be met by the Project. It commends the responsiveness shown by the MMRA in accepting many of the proposals arising from the urban design conclave. The Committee notes the high level of support given to the UDS by the expert witnesses. It further understands the importance of leaving a

248 Hearing documents 268 and 269.
high degree of flexibility for the contractor to decide how they are to meet these expectations. The Committee acknowledges the uncertainty expressed by some submitters about the final designs. The flexibility of process and an absence of drawings or plans is difficult for some to comprehend.  

555. The Melbourne Metro IAC was confident that the application of the Melbourne Metro UDS through the detailed design phase would ensure high quality urban design outcomes, particularly with oversight from the OVGA through a UDAP.

556. Subsequent to giving his evidence, Mr Czarny provided draft copies of the Urban Design Precinct Concepts for the Cheltenham, Mentone and Bayswater level crossing removal projects. NELP has taken advice from Mr Begg on this, who has advised that those projects were undertaken as a Project Alliance model rather than a D&C or PPP model, with concept design undertaken by the contractors and their teams.

557. The Cheltenham and Mentone Urban Design Precinct Concept documents that Mr Czarny has provided have never been released publicly before (indeed, NELP understands them to be confidential documents), and have certainly never been through a public consultation and assessment process, unlike the UDS for this Project.

558. The performance-based requirements in the Urban Design Precinct Concept documents and LXRA Urban Design Framework were accompanied by a functional design, and used an UDAP process. Section 3 of the documents is similar to the Key Directions in the UDS. Section 4 of the documents is a functional design rather than schematic designs. The design in the Mentone UDPC is similar to the Reference Project in terms of the level of detail, namely, functional rather than “schematic”, as depicted below.

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559. The level of detail is appropriate to the scale of the project. The final design is quite different to Section 4. For example, the station at Mentone is now in a completely different location and different platform configuration.

560. The Bayswater Reference Design Package provided by Mr Czarny is also similar to the UDS in structure, depicting functional and urban design concept plans accompanied by performance-based design recommendations (which is a looser concept than requirements). It is worth noting how significantly different the built outcome is compared to the urban design concept plans within that document, in that the station has been built in a completely different location with a different platform configuration.

561. Mr Czarny also provided the Urban Design Frameworks for Cheltenham and Mentone. Those documents were authored by the relevant Council to guide the development of the activity centres, similar to the Picture Watsonia document. That sort of document is used to inform the performance-based and place-specific requirements but is not a replacement for the UDS.

562. The combined Councils make the point that NELP did not produce an independent assessment of its approach to urban design. But Mr Czarny’s proposed amendments to the UDS comprised only four broad recommendations, while Mr Axford – entirely independent of NELP and submitters, and appointed by the IAC to assist it in its

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251 Hearing document 374a, para 371.
252 Summarised at para 361 of the combined Councils' submissions, hearing document 374a.
deliberations – supported the UDS in conjunction with the UDAP as an “appropriate structure to guide design development by the bid teams” subject to the inclusion of additional detail.253

563. Indeed, having heard the evidence and cross-examination of Mr Begg and Mr Czarny, Mr Axford formed the view that “although the reference design may well be described as not an ideal urban design outcome…, it provides an acceptable base upon which the performance based delivery approach can act upon and can be expected to improve, even if only at the margins in some locations”. He expressed confidence “that the performance based approach will deliver a high quality of design to the finishing elements of the project”.254

564. Mr Axford was ultimately of the view that in terms of urban design, adverse effects will be limited to visual impacts, loss of landscaping, loss of trees and interruptions to connectivity, all of which could be mitigated to an acceptable level through the use of initiatives such as land bridges, pedestrian bridges, creative and innovative design and artistic finishes.255

565. In particular, Mr Axford was satisfied that the narrow trenched road through Watsonia would provide an acceptable compromise when combined with the Elder Street land bridge, and provided examples of successful trenched roads with land bridges in his final report.256

566. In relation to Mr Axford’s final report, NELP has consulted with Mr Begg and provides the following responses:

(a) NELP generally agrees with Mr Axford’s overall findings and observations;

(b) To best influence the Project outcome, any recommended design issues should be addressed in the UDS, rather than amending the Reference Project. This is because the Reference Project is an illustrative document, whereas the UDS is the design brief which will be used in the evaluation and design guidance of the Project throughout the entire procurement process.

(c) NELP agrees that the Watsonia and Lower Plenty Interchange alternative designs provide an improved urban design outcome;

253 Hearing document 354, p5.
256 Ibid, p19 and Appendix 3.
(d) It agrees that, in the final design, the M80 intersection and the Bulleen Road/Eastern Freeway intersection should be refined to reduce the road area as far as possible. This issue is already addressed in Objective 3.4 of the UDS, but a place-based requirement could be included on maps R2 and Y3 to minimise the road area of the interchange as far as possible.

(e) In relation to the recommendation to locate land bridges to align with logical connections of activity, open space and habitat, this issue is already addressed in detailed requirements 3.2 but a place-based requirement could be included on map R5 to align the land bridges with logical connections of activity, open space and habitat. The final location of land bridges must remain flexible for tenderers to adjust, particularly as interface issues such as level differences have not been considered for the specific land bridge locations identified by Mr Axford.

(f) It is possible to consider a land bridge in place of an extended pedestrian overpass at Watsonia North, but this cannot be prescribed at this stage as the impacts of such an option have not been explored.

(g) Retaining or re-planting trees along the Koonung Creek would be addressed in the design as minimising tree loss and the replanting of areas are already addressed in Section 17 of Chapter 7 - Detailed Requirements of the UDS.

(h) The UDS calls for landscape to screen noise walls (Detailed requirements 9.1 and 17.6) and it is possible to review the design guidance for areas with minimal or no space for planting.

(i) NELP does not agree that the Reference Project should be cross-referenced within the UDS, as this elevates the Reference Project above a functional design and embeds it within the UDS as the means by which the Project should be designed. For example, through the design concept and detailed design phases, the location of noise walls or even the alignment of the road could change. The inclusion of the Reference Project on maps in the UDS would prioritise that possible design solution over others and discourage design teams from reviewing the requirements for that area objectively. At best, it would confuse bid teams; at worst, it would restrict innovation and choice. Showing four land bridges in the UDS means only four land bridges are likely to be put forward by bid teams.
NELP disagrees with the notion that the UDS does not provide adequate analysis of potential impacts. The UDS is not an impact assessment, and urban design is not an impact.

NELP does not agree that an EPR is required, setting out a design aspiration. That is the purpose of the UDS, which is also part of the EMF.

The Urban Design Advisory Panel

567. Mr Czarny agreed with the proposition that, in relation to major infrastructure projects in Victoria, the design community is a mature market, where expectations for urban design and architecture are high. In the road projects cited by Mr Czarny as “exemplars,” excellence in design emerged through the tender and contract process, rather than through mandatory requirements imposed at the planning stage.

568. A more recent trend has been to formalise a process whereby the proponent is assisted by specialised urban design advice. This was recommended by the East West Link Assessment Committee as a means of ensuring that the principles set out in the exhibited Urban Design Framework for that Project were applied in the final design:

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.257

569. It was a process adopted by the proponent during the Inquiry and Advisory Committee hearing in relation to the Melbourne Metro Rail Project, with the Melbourne Metro IAC concluding as follows:

The Committee commends the MMRA for responding to concerns raised in the conclave and in submissions, and committing to establishing an expert panel for urban design and architectural matters, and for recognising that “the oversight of the Office of the Victorian Government Architect (OVGA) is important”. The Committee notes that the audit process outlined in TN57 stresses the importance of the UDS, but the EPR make no mention of the oversight to be provided by the OVGA. However, the OVGA must be called upon to review the draft Development Plans under the Incorporated Document at 5.1.4.

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257 East West Link (Eastern Section) Project Assessment Committee Report, Volume 1, 30 May 2014, p203.
The Committee finds that elaborating the responsibilities of the independent reviewer would ensure a more thorough exploration of the design potential of the Project and engender more confidence in the design process. The Committee finds that the review process to be managed by the OVGA should be given further authority to test emerging proposals from the PPP contractor. Assessment of design proposals should include placemaking to ensure programmatic opportunities are incorporated.\(^{258}\)

570. As explained in the UDS and through Mr Begg’s evidence, a UDAP has already been established, including representation by the Office of the Victorian Government Architect, to assist NELP in preparing the UDS, assessing tender bids (together with the Wurundjeri) and - as a requirement of the Incorporated Document – assessing the Urban Design and Landscape Plans.

571. There can be no question that the Office of the Victorian Government Architect is a specialised body capable of assisting the UDAP and NELP in evaluating the design concept and detailed design phases of the Project. The same process has been used successfully in the Melbourne Metro Rail Project and the Level Crossings Removal Project, with trained personnel who are highly experienced in ensuring design excellence in major infrastructure projects having enormous influence over the final designs.

572. It was telling that Mr Czarny included no reference whatsoever to the UDAP or his apparently “grave concerns” about UDAP processes in his written evidence, which might lead the IAC to doubt whether he had appreciated at the time of writing his evidence that a UDAP process was proposed and was already being utilised by NELP. All of his commentary about UDAP processes emerged during his oral evidence and subsequently in his memorandum,\(^{259}\) which the IAC might regard as opportunistic.

573. Mr Czarny’s oral evidence and subsequent memorandum make it clear that:

(a) he has not been on any UDAPs for any MTIA projects over the last few years including LXRP – he only attended a small number of Cheltenham, Mentone and Ormond UDAP workshops on behalf of Council;

(b) the Bayswater level crossing removal project was administered by VicRoads prior to formation of the LXRA, and he also only attended a small number of Bayswater UDAP workshops on behalf of Council;

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\(^{259}\) Hearing document 353a.
(c) his recent experience on large-scale transport infrastructure projects in Victoria is limited to reviewing infrastructure projects for local government; and

(d) he has no direct experience on how UDAPs in the MTIA program operate or how influential they can be on the outcome.

574. The IAC should prefer the view of its own independent advisor, Mr Axford, that the combination of a UDS and the ongoing advice of a UDAP is international best practice for a major infrastructure project such as this.²⁶⁰

Landscape and visual impact

575. The potential landscape and visual impact of the Project needs to be understood in the context of a highly urbanised environment that is:

(a) already subject to continual change through land use and development, including urban consolidation; and

(b) largely characterised by arterial and freeway infrastructure, except for the Yarra River corridor, where the tunnel avoids any landscape or visual impact.

576. NELP readily acknowledges the difficulties in assessing the landscape and visual impact of a road that has not yet been developed as a design concept, let alone a final design. But the landscape and visual impact assessment has worked in tandem with the UDS to enable the NELP team to understand where visual impacts are likely to be greatest, and to inform the performance measures in the UDS that should guide the design response in order to mitigate those impacts. The LVIA clearly indicated that photomontages were indicative and, while informed by the UDS, were not intended to depict the final design.

577. Mr Schutt’s evidence was not of great assistance to the IAC in that, despite being qualified to do so, Mr Schutt failed to:

(a) Give a balanced assessment of the positives of the LVIA as well as the (perceived) negatives;

(b) Undertake his own assessment of landscape character, value and sensitivity;

(c) Explain how a different assessment of character, value and sensitivity would have led to a different impact assessment;

²⁶⁰ Hearing document 75, p4.
(d) Undertake his own assessment of visual impact based on a review of the photomontages (in contrast to the exercise he felt able to do in relation to the West Gate Tunnel Project); and

(e) Appreciate the place-specific and design-specific requirements contained in the UDS and their capacity to ameliorate visual impact.

578. Despite his criticisms of the selection of viewpoints, Mr Schutt only provided three viewpoints that had not (or not adequately) been considered, which, across an extensive road corridor, can only suggest that viewpoint selection has been sufficiently comprehensive.

579. NELP rejects the suggestion that landscape character statements included in the relevant planning schemes provide a more useful basis for assessment of the impacts of a major road project than the landscape character types developed through the UDS and LVIA. The statements within the planning schemes are designed to guide residential infill development. To the extent to which they refer to topographical features such as the Yarra River or the Koonung Creek, they are not inconsistent with the landscape character types used in the UDS and the LVIA.

580. Mr Axford found that, notwithstanding Mr Schutt’s criticisms, the LVIA contained sufficient information to allow a judgment reasonably to be made, and was generally adequate for its intended purpose.261

581. In relation to Mr Axford’s recommendation for two additional photomontages, NELP has consulted with Mr Wyatt and provides the following responses:

(a) VP39 – Freeway golf course (facing east): At the time of preparing the EES, consideration was given to providing a photomontage from viewpoint 39. However, as the design/layout for the golf course is yet to be determined, being considered as part of the Bulleen Sport and Recreation master plan, the final outcome for this area is unknown. Therefore, a photomontage could not be prepared.

(b) VP59 – Eastern Freeway (facing east): A photomontage was not prepared for this viewpoint because this location is on a bridge that would be removed as proposed in the Reference Project. A new pedestrian bridge would be constructed directly in

front of the viewpoint which would block any views of the Project from this location. Therefore it is considered unnecessary to prepare a photomontage for this viewpoint.

EPRs

582. EPRs LV1 and LV2 have been revised to require the design and landscape impacts to be in accordance with the UDS.

583. There is no need to create an EPR setting out design aspirations for the Project. These are already comprehensively set out in the UDS, which is required to be implemented through LV1 and LV2 and the Incorporated Document.

Findings and recommendations

584. The IAC should make findings to the following effect:

(a) The combination of a UDS and a UDAP process, delivered in partnership with the Wurundjeri Woi-wurrung Cultural Heritage Corporation, is international best practice and provides an appropriate governance framework to achieve design excellence;

(b) The UDS is fit for purpose, providing a suitable level of guidance while preserving flexibility and allowing for innovation from what is a mature design market; and

(c) The LVIA is adequate for an assessment of the potential landscape and visual impacts of the Reference Project.

585. The IAC should make the following recommendations:

(a) The EPRs should be amended to incorporate NELP’s revisions in hearing document 411;

(b) The UDS should be amended to incorporate:

(i) The change recommended by Mr Begg in section 6.2 at para (h)(vi) of his expert witness statement;\(^\text{262}\) and

(ii) The changes recommended by Ms Gray in Table 1 and page 10 of her response to IAC questions;\(^\text{263}\)

\(^{262}\) Hearing document 24q, p20.
\(^{263}\) Hearing document 255a.
The following are feasible modifications to the design of the Project that would offer improved urban design outcomes compared to the Reference Project:

(i) The Watsonia alternative described in TNR32, and

(ii) The Lower Plenty Road modification described in TNR33.

Historical and Aboriginal cultural heritage

586. Ms Gray was not called to give evidence in circumstances where no submitter challenged her assessment of heritage impacts or otherwise sought to cross-examine her. She responded comprehensively to a number of IAC’s questions in document 255a, which provides a useful ready-reckoner of the guidance contained in the UDS that is relevant to historical heritage. Ms Gray also confirmed her satisfaction that there are appropriate urban design requirements within the UDS, which will apply whether or not the Eastern Freeway heritage nomination is supported.

587. Mr Howell-Meurs was called chiefly to answer IAC’s questions, in circumstances where no submitter challenged his assessment of cultural heritage impacts or otherwise sought to cross-examine him. He responded to matters raised by the IAC in TN46 and TN50. The Project will need to implement and comply with the final version of the cultural heritage management plan approved under the Aboriginal Heritage Act 2006 under EPR AH1.

588. The National Trust of Australia (Victoria), the Birrarung Council and Mr Axford have all commended NELP’s partnership with the Wurundjeri Woi-wurrung Cultural Heritage Corporation and NELP is committed to building upon this strong partnership throughout the Project.

River Red Gum, Bulleen (Caltex Tree)

589. The values of the Caltex tree are best understood as cultural heritage values (noting that its social values are evident through submissions), and are set out in detail in Technical Reports K and L and in the further information provided by Ms Gray and Mr Howell-Meurs in their expert evidence, and supplemented by Mr Howell-Meurs in TN50.

590. The cultural values of the Caltex tree are being more fully explored and documented in the cultural biography of the tree that NELP has commissioned from Ms Gray, which is a

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264 Hearing document 100.
265 Hearing document 101.
266 Hearing documents 182 and 218 respectively.
267 Hearing documents 24o and 24p.
measure that is applauded by the National Trust of Australia (Victoria) as being innovative and going beyond legislative requirements.\textsuperscript{268}

591. NELP takes no issue with the evidence of Mr Galbraith in relation to the arboricultural values of the Caltex tree, although it submits that its ecological values have been overstated by Dr Lorimer and Professor Bekessy.

592. The UDS requires demonstration of efforts by contractors to retain the Caltex Tree.\textsuperscript{269}

Findings and recommendations

593. The IAC should make findings to the following effect:

(a) The evidence of Ms Gray and Mr Howell-Meurs is accepted in its entirety;

(b) The impacts of the Project on cultural heritage will be appropriately managed and mitigated through EPRs AH1 and HH1-5, as well as through application of the UDS; and

(c) The cultural biography of the Caltex Tree is a worthy project.

594. The IAC should make the following recommendations:

(a) The EPRs should be amended to incorporate NELP’s revisions in hearing document 411;

(b) The UDS should be amended to incorporate the changes recommended by Ms Gray in Table 1 and page 10 of her response to IAC questions;\textsuperscript{270} and

(c) A cutting propagation process should be undertaken in relation to the Caltex tree, in addition to seed collection, to grow a memorial tree should that be necessary, in accordance with Mr Galbraith’s evidence.\textsuperscript{271}

Greenhouse gas

595. NELP relies upon Technical Report R to the EES, and on the witness statement prepared by Mr Young, as a record of its position in respect of the issues raised concerning greenhouse gas emissions attributable to the Project.\textsuperscript{272}

\textsuperscript{268} Hearing document 344, para 11.
\textsuperscript{269} UDS, p53, requirement 1B.
\textsuperscript{270} Hearing document 255a.
\textsuperscript{271} Hearing document 29d, pp 21-22.
596. Mr Young’s evidence can be summarised by the following propositions:

- **Greenhouse gas emissions from construction are dominated by the embodied emissions associated with the use of construction materials and electricity consumption**
- **Operational greenhouse gas emissions are dominated by the consumption of electricity to run the tunnel ventilation system**
- **There is estimated to be a modest reduction in greenhouse gas emissions from vehicles on the Melbourne road network for the ‘Project’ scenario compared to the ‘no Project’ scenario. It is my view that the environmental performance requirements relevant to my area of expertise, being EPR SCC1, EPR SCC2 and EPR SCC3, in conjunction with the minimum sustainability objectives and targets which NELP has set for the Project, and which contractors will be required to achieve, are appropriate and will ensure that the environmental effects of the Project relevant to my area of expertise will be suitably managed to achieve acceptable outcomes.**

597. The sustainability objectives and targets to which Mr Young refers are set out in the document recently released by NELP and dated July 2019. NELP does not support those targets being specified as prescriptive requirements within EPR SCC1 for the reasons identified in Table 2 to hearing document 411.

598. NELP also notes that the following observations made by the IAC appointed in respect of the West Gate Tunnel are apposite to the present assessment:

The IAC considers the approach in-principle adopted in the EES in relation to GHG to be reasonable and the overall effect of the GHG emissions to be acceptable when compared to the no-project scenario. While building and operating a large infrastructure project such as this will inherently increase GHG emissions, the IAC is satisfied that in the work done to date and through the use of the EPR the increase in emissions can be kept to a reasonable level.

While no emissions increase or even an emissions decrease would be preferable, the IAC accepts that it is not a reasonable starting point for such a Project. The IAC also notes that while overall emissions from the road transport network across Melbourne will increase marginally with the Project, the GHG emissions intensity will decrease slightly.

The IAC also notes that other factors such as the increase in tree planting with the Project and a probable move to low emissions vehicles are other factors that should improve the overall net GHG emissions from the Project over time.

Findings and recommendations

599. The IAC should find that the methodology adopted in respect of the Greenhouse Gas Assessment documented in Technical Report R was appropriate and that the overall effect
of greenhouse gas emissions attributable to the Project are appropriate when compared to the no-project scenario.

Design alternatives

600. The IAC’s Terms of Reference require that the IAC’s report contain “recommendations as to any feasible modifications to the alignment or design of the Project that would offer beneficial outcomes”. 275

601. NELP’s approach to this element of the IAC’s inquiry was described in NELP’s Part A Submission. 276

602. It is important, when the IAC comes to address this aspect of its task, for it to consider a number of factors including the development of the Project over time, the basis upon which it was assessed in the Business Case, and the very deliberate terms upon which the Project was declared to be public works for the purposes of s 3(1) of the Environment Effects Act 1978 and assessed in the EES.

603. It is noted, in this latter respect, that most of the design alternatives considered during the course of the hearing fall within the scope of the declared works. These are addressed in the first section of the submissions that follow. Other design alternatives, however, fall outside the scope of the declared works, and should properly be considered proposed modifications to the relevant Project components as opposed to proposed modifications for the relevant Project components. These design alternatives, which include those concerning the longer tunnel options, are addressed in the second part of the submissions that follow.

604. This is not to suggest that the second category of design alternatives should be disregarded by the IAC. It is instead to recognise that the character of this category of design alternatives differs from that of the first category in important respects, and that this has ramifications concerning the manner in which the IAC should frame and qualify any recommendations that it ultimately makes in these respects.

605. NELP notes, more generally, that it is one thing for the IAC to recommend that a design alternative is generally open to be considered in the final design, and another thing to recommend that an alternative to the Reference Project is feasible and that it will offer beneficial outcomes.

275 At [31(c)].
276 Hearing document 34a at [23] – [32].
606. It is submitted that:

(a) In considering whether a design alternative is ‘feasible’, the IAC should consider *inter alia* whether the alternative has been shown to constitute sound engineering in the sense of it being fit for purpose, functional, structurally competent, safe, and provide value for money; and

(b) In considering whether a design alternative ‘would offer beneficial outcomes’, the IAC should recognise that the ‘benefits’ of the proposed design alternatives should be measured against the reference project, and in the broader context that benefits are to be determined following the balancing of competing objectives.

607. Further to the above, it is important to acknowledge that simply because one alternative might deliver ‘beneficial outcomes’ when compared to the Reference Project, does not render the Reference Project or other variants of it unacceptable. The principal object of the IAC’s analysis should accordingly be to identify potential design alternatives that should be considered in the procurement and detailed design phases of the Project, rather than prescribing any particular outcome that must be incorporated within the ultimate design. To approach the task differently would potentially stymy design innovation and the potential for superior outcomes to be developed during detailed design.

608. It is noted, finally, that decisions concerning the ultimate design and configuration of the Project must properly have regard to Project cost and delivery. While these are not matters that are properly canvassed in detail before the IAC, they are matters that can readily be understood as part of a comparative assessment, and that should inform the IAC’s response to this element of its Terms of Reference.

**Design Alternatives within the Declared Works**

609. The design alternatives that are before the IAC, and that fall within the scope of the public works declaration, generally fall within the following three categories:

(a) Those that were addressed in the EES, including the alternatives specified in respect of the Manningham Road interchange and TBM launch location;

(b) Those that were prepared by NELP following refinement of the reference project and in response to submissions, including those documented and assessed in the following technical notes:
(i) Technical Note R32 – Watsonia Alternative Design; 277
(ii) Technical Note R33 – Lower Plenty Road Alternative Design; 278 and
(iii) Technical Note R34 – Bulleen Road Alternative Design; 279

(c) Those that have been prepared by submitters, which relevantly include but are not necessarily limited to:

(i) The alternative design for the Project prepared by Mr O’Brien; 280 and

(ii) The alternative design for the Manningham Road interchange prepared by Ms Marshall; 281

(iii) The options identified at and around the Bulleen interchange.

610. NELP’s position in respect of the first and second categories of design alternatives are recorded in the EES and in paragraphs 190 - 231 of these submissions respectively.

611. NELP’s response to the third category of design alternatives are:

(a) In the case of Mr O’Brien’s proposed alternative design, recorded within the following technical notes:

(i) Technical Note 41 – Response to O’Brien Traffic Design; 282 and

(ii) Technical Note 51 – Response to O’Brien Material. 283

(b) In the case of Ms Marshall’s design alternative for the Manningham Road interchange, addressed in paragraphs 221 - 223 of these submissions.

(c) In the case of the various Bulleen Interchange alternatives, addressed in paragraphs 204 - 217 of these submissions.

Longer Tunnel Options

Relevant Materials

612. NELP has prepared the following materials in respect of the extended tunnel designs submitted to the IAC:

(a) Technical Note 30 – Northern Extension of Tunnelled Section: BabEng Option B; 284

277 Hearing document 100.
278 Hearing document 101.
279 Hearing document 102.
280 As documented in numerous documents including Hearing documents 28a, 250, and 372.
281 Hearing document 232.
282 Hearing document 134.
283 Hearing document 291.
(b) Technical Note 31 – Northern Extension of the Tunnelled Section: SMART Taxpayer Design;\(^{285}\)

c) Technical Note 47 – Rationale for Land Bridges;\(^{286}\)

d) Technical Note 48 – Tunnelling Beneath Simpson Barracks; Lower Plenty Road;\(^{287}\)

e) Technical Note 54 – Cost Estimate;\(^{288}\) and

(f) Technical Note 55 – SMART Taxpayer Design, Lower Plenty Road.\(^{289}\)

*BabEng Option B*

613. As explained in Technical Note 30;\(^{290}\)

Section 6.4 of the EES describes the process adopted by NELP in developing the reference project. This included consideration of a range of design alternatives including alternatives extending the tunnels further to the north of Lower Plenty Road.

One such option closely aligns to Option B as described by BabEng. A plan showing the vertical and horizontal alignment of that option is attached to this technical note. NELP also obtained advice from an external quantity surveying firm concerning the cost of the design relative to the reference project. The analysis undertaken by NELP in respect of this design partly informs the following observations concerning the feasibility of Option B.

614. The Banyule City Council was regularly informed of the status of NELP’s investigations in these respects. From early 2018 onwards, NELP met on a fortnightly basis with the affected councils, to ensure that the councils were briefed about project developments and timeframes (amongst a range of other matters relevant to the Project).

615. As part of this consultation, NELP specifically advised the Banyule City Council of design alternatives that had been considered to extend the tunnel further north, including a design that was very similar to that which was ultimately identified by BabEng as Option B/A2. This consultation addressed a range of matters including the capacity to construct the longer tunnel, the high-level environmental benefits and disbenefits of the longer tunnel, and the cost and programmatic consequences of the longer tunnel.\(^{291}\)

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\(^{284}\) Hearing document 98.

\(^{285}\) Hearing document 99.

\(^{286}\) Hearing document 192.

\(^{287}\) Hearing document 193.

\(^{288}\) Hearing document 388.

\(^{289}\) Hearing document 389.

\(^{290}\) Hearing document 98 at [6] and [7].

\(^{291}\) Hearing document 266, for instance, was a slide presentation made by NELP to Banyule City Council at a meeting conducted in June 2018. It was provided to Mr Babendererde as part of his initial brief and specifically discusses the feasibility of delivering a longer tunnel option that is comparable to Option B. It is noted, also, that the June 2018 meeting was held after two previous meetings conducted in April and May of 2018, in which the Council
616. For the combined Councils to contend, both during the hearing and then again as part of their closing submissions, that NELP first expressed its position in respect of the longer tunnel option by means of Technical Note 30 is accordingly incorrect. It wholly fails to acknowledge the extensive consultation undertaken with the Councils in this respect some 15 months prior to the commencement of this hearing, including the presentation that was made to the elected councillors in and around June 2018.

617. Banyule City Council, as it was entitled to do, engaged Mr Babendererde to independently investigate the capacity to extend the tunnel further north. Given the advice that Banyule had previously received from NELP, however, it can have come as no surprise to the Council that:

(a) Mr Babendererde identified Option B as being capable of being constructed by means of a TBM; and

(b) NELP does not support this option on account of a number of reasons including its cost and construction timing impacts, as well as the impacts that would arise at and around the relocated northern portal (including those associated with identifying a suitable location for a vent structure).

618. Indeed, NELP’s position in this respect is entirely consistent with the position that it has adopted and communicated to the relevant councils at all relevant times throughout the process.

619. Turning to the IAC’s Terms of Reference, it is noted that the councils have not sought to articulate the basis upon which they contend that the longer tunnel option would result in beneficial outcomes when compared to the reference project. The sum total of the councils’ analysis in this respect is to reference the Banyule City Council Agenda of April 2019 and to repeat commentary contained within Technical Note 30.

620. The Councils’ submission fails to acknowledge that:

(a) the BabEng Option B would not result in any reduction in impact upon the Simpson Barracks south of Blamey Road or within the Borlase Reserve;

(b) the extension of the tunnel further north would result in considerable disruption at and around the location of the northern tunnel portal, including very substantial

was specifically advised about the cost implications of extending the tunnels further north in the manner ultimately proposed by BabEng.

Hearing document 374a at [426].

Ibid at [431].
impacts upon the Watsonia Primary School and Concord School Watsonia Campus for an extended period during construction;

(c) the various complexities associated with construction at and around the relocated northern portal (including those associated with the interaction with the railway line); and

(d) a longer tunnel would result in a different design and configuration of the tunnel ventilation system and associated structures (resulting, all other things being equal, in taller ventilation structures at both the southern and relocated northern portals).

621. The consequences of replacing the trench and land bridge components of the Project with an additional tunnelled section also warrants careful consideration. While it is evident that a longer tunnelled section would result in different (and in many respects lesser) impacts along this part of the alignment, NELP notes that the impacts of the trench and land bridges should not be overstated:

(a) First, because the trench and land bridge component of the Project is located principally within the existing road reservation, its construction would result in relatively minor ecological impacts;

(b) Second, and as noted previously, the trenched section of road north of Simpson Barracks should not be viewed in pejorative terms from an urban design perspective. Indeed, as was acknowledged by Mr Czarny under cross-examination and by Mr Axford in his final report, the trenched section will have a number of positive effects when compared with the existing context of a six-lane at-grade arterial road accommodating significant traffic, including in respect of a reduction in noise along this corridor, a reduced perception of traffic, and improved safety; and

(c) Third, the transport and traffic analysis demonstrates that the local road network will function effectively under this configuration, and that there are means of maintaining and in some respects improving connectivity across the alignment (including by the provision of appropriately located land bridges).

622. It is noted, further, that the Council’s analysis of Option B appears to have misconstrued Mr Babendererde’s advice in respect of the cost differential between the two options. As Mr Babendererde frankly acknowledged in this respect, his cost estimates were highly qualified, were not intended to represent an estimate of actual project costs, and did not represent (as the Council purported in the April 2018 Agenda) “known tunnelling costs …

294 See Attachment A to Technical Note 30 (Hearing document 98).
adjusted … to living costs in Australia”. Furthermore, no explanation has been provided by Banyule as to the basis upon which its stated cost differential of $350 million was prepared. It is readily apparent, however, that in the context of a $15.8 billion project, the Council’s cost estimate is unsupportable.

623. NELP’s analysis of the cost differential between the longer tunnel option and the reference project was informed by advice received from an independent quantity surveying consultant. For the same reasons that the parts of the Business Case concerning project costs were redacted, NELP is not in a position to disclose the precise terms upon which the cost estimate was prepared. It notes, however, that Technical Note 54 has been prepared in response to a query of the IAC to provide additional detail in this respect, including a description of the basis upon which the estimate was prepared and the project components that were taken into account.

624. While project cost and delivery are ultimately matters for the State, the very significant differences in cost between the two options, the substantial extension in the duration of construction, and the nature and extent of impacts that would arise at the relocated northern portal, justify the State’s deliberate decision to declare and assess the Project on the terms that it did. The IAC should reject the Councils’ submission that further analysis should be undertaken in respect of the longer tunnel option.

625. It is noted finally that the Councils, in their closing submission, suggest that the Simpson Barracks should be considered a ‘no-go’ zone. Notwithstanding that the land forms part of a Commonwealth defence facility, and that it is accordingly not suited to declarations of this type, it should be noted for present purposes that the Councils’ recommendations in this respect would preclude the delivery of the BabEng Option B design that they contend should be the subject of further assessment.

*SMART Taxpayer Design*

626. Mr Buono’s commitment and engagement in the EES process, and his participation in the Northern Community Liaison Group, should be commended.

627. NELP sought to involve Mr Buono in a variety of ways, including through the provision of technical advice in respect of different iterations of Mr Buono’s design, funding over 40 hours of graphic design expertise to assist Mr Buono document his various designs, and conducting a number of one-on-one meetings with Mr Buono to discuss his proposal.

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295 See, in particular, Section 9.4 of the Business Case.
296 Hearing document 374 at [258].
Those meetings have been attended, at different times, by NELP’s CEO and by a number of NELP’s technical staff (amongst other NELP representatives). The feedback provided to Mr Buono has taken the form of written and oral comments.

628. The SMART Taxpayer Design has changed substantially over time. Earlier iterations did not include the extension of the tunnel further north and instead focussed on design alternatives in and around the Watsonia Precinct and Lower Plenty Road.

629. For the reasons identified in Technical Note 31, NELP does not consider the iteration of the SMART Taxpayer Design that is before the IAC to be feasible.

630. The Lower Plenty Road interchange performs a critical traffic function and is key to the Project functioning as a connected freeway link. The consequences of not providing the interchange, as is Mr Buono’s principal position, are described in Technical Note 31. To do so would substantially compromise the strategic transport benefits of the Project and the performance of the localised road network.

631. NELP notes further that:

(a) the complexity and feasibility of providing the Lower Plenty Road interchange at a later time are addressed in Technical Note 31;\textsuperscript{297}

(b) the functionality of the SMART Lower Plenty Road interchange is addressed in Technical Note 55;\textsuperscript{298}

(c) the feasibility of locating the ventilation structure in a location remote from the northern portal is addressed in Technical Note 31;\textsuperscript{299}

(d) the nature of the impacts associated with surface components of the SMART Taxpayer Design at and around the northern portal are addressed in Technical Note 31;\textsuperscript{300} and

(e) the cost and delivery implications of the SMART Taxpayer Design would be at least as great as those attributable to Babeng Option B.

632. A primary motivation in the preparation of the SMART Taxpayer Design was to reduce impacts on the Simpson Barracks. For the reasons explained in Technical Note 48, however, it is not possible to provide the Lower Plenty Road interchange (even at a later


\textsuperscript{298} Hearing document 389.

\textsuperscript{299} Hearing document 99, [7] – [8].

\textsuperscript{300} Ibid.
date) and not impact upon the Simpson Barracks without reconfiguring the interchange to include components to the south of Lower Plenty Road.

633. The Councils’ have seemingly misunderstood this analysis, insofar as they assert in their closing submissions that: 301

_It is apparent from Technical Note 48 that there are options available to reduce or remove the surface impact of construction at Simpson Barracks and that the retention and design of the Lower Plenty Road Interchange has been given precedence over the environmental significance of Simpson Barracks on the basis of ‘project functionality’ and ‘requisite road design standards’._

634. To be clear, NELP’s position is that:

(a) Other than by locating part of the interchange to the south of Lower Plenty Road, there are _no_ alternative functional Lower Plenty Road designs that would reduce the impact of the Project on the Simpson Barracks;

(b) No submitter has contended that a traditional diamond interchange should be pursued in this location given the very substantial impacts that would occur to the south of Lower Plenty Road;

(c) The provision of the Lower Plenty Road interchange is a core component of the Project and is integral to its operation.

635. In making oral submissions closing their case, the combined councils went so far as to suggest that a diamond interchange should in fact be further explored in this location. They did so notwithstanding that they had not addressed this at all in the running of their own case (including in the evidence of their own witnesses) or in the questioning of NELP’s witnesses.

636. The assertion that the only trade-off of this option would be private land acquisition was also incorrect. As described in Technical Note 48, in addition to the acquisition of approximately 140 residences, a configuration of this type would result in marked impacts on the Banyule Creek corridor to the south of Lower Plenty Road, and to the potential aboriginal cultural heritage values identified in respect of this location. 302

Findings and Recommendations

637. For the reasons set out above NELP submits that the IAC should recommend:

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301 Hearing document 374a at [259].
302 Hearing document 193 at para [4].
(a) The design alternatives documented in technical notes 32 – 34, and as prepared by Ms Marshall in respect of the Manningham Road interchange, constitute design alternatives that should be considered in the development of the ultimate project design;

(b) Neither the BabEng Option B Design, nor the SMART Taxpayer Design, have been demonstrated to constitute feasible design alternatives for the purposes of the Terms of Reference, and that neither warrants further examination in practice.

**Response to submissions**

638. NELP has largely responded to submissions through its discussion on the various types of impacts above. It has also provided a comprehensive response to submissions that were made through the exhibition process, upon which it relies.  

639. Below are responses to specific submissions made during the course of the hearing that are not otherwise dealt with above.

**Councils, Government departments and agencies**

640. NELP’s responses to the combined Councils’ submissions are set out above in relation to general matters and specific environmental effects.

641. NELP’s response to the submissions of Government departments and agencies are set out above in relation to specific environmental effects.

**Schools**

642. NELP has worked closely with each of the schools fronting Bulleen Road to mitigate the impacts of the Project.

**Trinity Grammar**

643. Trinity’s submission positively responded to the solutions that NELP and Trinity have identified in collaboration.

644. NELP appreciates the co-operation of Trinity.

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303 Hearing document 34c.
304 Hearing documents 319a and b.
Marcellin College

645. Following recent discussions between NELP and Marcellin, NELP has identified that Marcellin land more than 60 metres from Bulleen Road will not be needed for a laydown area and can be retained as playing fields. NELP is progressing plans to reconfigure the Lyons Oval (moving it to the east) so that this oval can continue to fulfil its current functions for Australian Rules football and cricket. To facilitate this outcome, NELP has agreed to work with Marcellin to investigate provision of off-site car parking for teachers on nearby land. Moreover, NELP will fund upgrades to provide for a soccer pitch and rugby field on the Gartner Fields. NELP will also provide lighting to the Bray Oval, the soccer pitch and the rugby field.

646. The opportunity for allocations at Bulleen Park for the Old Collegians Football Club will assist to ensure that all clubs and programs can continue during this period.

647. With a change to timetabling, it seems achievable that the college will be able to continue with their programs.

648. Depending on the final design of the Project, the extent of land required for the Project, or required to be occupied for the Project, may be reduced further.

649. NELP maintains that both the Reference Project and the alternate plan (the Bulleen switch) will achieve acceptable access outcomes for Marcellin. Importantly, the Project is very likely to deliver a controlled intersection that provides access to the school. This is a substantial benefit, in terms of both traffic convenience and traffic safety, as acknowledged under cross-examination by Ms Dunstan.

650. NELP does not accept that a service road, generally along the frontage of the Lyons Oval to the Manningham Hotel and the proposed Park and Ride facility, will be of substantial disbenefit to Marcellin. Whether a service road is provided, and the design of any such road, will depend on the final design of the Bulleen connections.

651. Moreover, depending on the final design, it should be possible to maintain a visual connection between Marcellin and Bulleen Road.

Carey Baptist Grammar

652. NELP accepts that it would be undesirable if the project prevented use of the Carey circulation road around its main oval, other than for short periods.
653. Currently Carey relies on its own car parking facilities and on public facilities in Bulleen Park. The loss of car parking in Carey’s ground could be mitigated by the provision of additional car parking in Bulleen Park, for example at the northern end of the aero modellers area.

654. Carey has also raised several issues in relation to surface water, contaminated land, air quality and noise. NELP relies on its submissions in relation to these topics.

**National Trust of Australia (Victoria)**

655. While the National Trust maintained its concerns regarding the impacts of the Project on, for example, the Caltex tree and existing vegetation, it gave a balanced and thoughtful presentation that was supportive of the work NELP and Ms Gray had undertaken in understanding the potential impacts of the Project on historical heritage, and focussed on the appropriateness of management and mitigation measures.

**Yarra Riverkeeper Association and Birrarung Council**

656. Both the Yarra Riverkeeper Association and the Birrarung Council claimed to be the “voice of the Yarra River”.

657. The Yarra Riverkeeper Association’s submissions are largely dealt with in relation to the discussion of relevant issues above, such as ecology, tree canopy and groundwater.

658. NELP notes the amendments to the *Flora and Fauna Guarantee Act 1988*. NELP and its contractors will be obliged to comply with that Act, and the requirement to comply has been assumed as part of the assessment of environmental effects in Technical Report Q. The Yarra Riverkeeper Association has not indicated how the amendments to that Act would change any of the impacts associated with the Project, or how they were assessed as part of the EES. Neither did any of the ecology witnesses.

659. Professor Bekessy’s evidence contained such a high level of commentary as to be of little use to the IAC in its deliberations. It was largely aspirational, rather than an independent assessment of the impacts of the Project and how they could be managed or mitigated.

660. Similarly, the Birrarung Council’s presentation contained a high level of commentary, largely relating to examples of where “rivers have given way to freeways” in the past. Ironically, while EastLink and the Melbourne Metro Rail Project were cited as examples of

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305 Referred to in paragraphs 61-70 of the Yarra Riverkeeper Association’s presentation, hearing document 380a.
the “beginning of change” whereby “freeways give way to rivers,” there was not one slide recognising the fact that the Project tunnels under the Yarra River – and thereby “gives way” to it as advocated by the Birrarung Council. This was a disappointing omission.306

661. It was also disappointing that it was only in answer to a question from the IAC that Mr Chesterfield, on behalf of the Birrarung Council, acknowledged and applauded NELP’s partnership with the Wurundjeri Woi-wurrung Cultural Heritage Association.

Australian Institute of Landscape Architects

662. Given the professionals it represents, and the eminence and experience of its presenters, the presentation by the Australian Institute of Landscape Architects was singularly unhelpful to the IAC in its deliberations. Rather than undertake a critical examination of the UDS and the EPRs and provide the IAC with the benefit of their professional views from a landscape architectural perspective, the AILA instead chose to argue against the Project being designed to meet its objectives, and to argue for its replacement with an entirely different project.307

663. The AILA purported to compare the Project with the Madrid Rio project. Contrary to the AILA’s figure of 290 million Euros over a construction period of 2013-2018,308 the Madrid Rio project cost 6 billion euros to build between 2006-2011.309

664. Interestingly, the AILA favours a new design brief to be developed by the Office of the Victorian Government Architect, apparently unaware of the OVGA’s input into the UDS and role on the UDAP to date and throughout the design phase. The AILA noted that it was difficult to get feedback on the Project from the landscape architect professionals it represents. This bodes well for a competitive tender process that no doubt will involve highly qualified and experienced landscape architects.

Yarra Junior Football League

665. NELP’s response to the submissions of the Yarra Junior Football League is set out in TN56.310

666. NELP notes that Parks Victoria does not support the nomination of the Henderson Seed Farm site as a relocation option.311

306 See hearing document 184.
307 Hearing documents 343a and b.
308 Ibid.
309 See https://archello.com/project/madrid-rio.
310 Hearing document 390.
Michelle Giovas

667. Ms Giovas has engaged comprehensively with the Project in its exhibited form, and has made a very useful contribution to the IAC’s task of assessing its environmental effects. The majority of her concerns have been addressed in relation to specific issues above.

668. Ms Giovas expressed a number of concerns about the exhibited planning scheme amendments. The exhibited Design and Development Overlays do not prohibit the construction of swimming pools, but require permission to be obtained where excavation is required below 2.5m in depth. More detail about the planning scheme amendment documents was provided to the IAC in hearing document 346.

669. Information about the construction site layouts was provided in hearing document 166. All required works and facilities (including a water treatment plant and plant required to facilitate the tunnel boring machine launch) are expected to be able to be accommodated within the Project boundary, including at Borlase Reserve.

Sanctum Studio

670. Mr Lachlan Plain spoke enthusiastically about the capacity for public art to enhance the experience of freeway users, to integrate infrastructure into context, and to celebrate local artists. NELP agrees.

671. The question is whether a public art response should be prescribed at this stage of the Project. One of the initiatives of the Peninsula Link public-private partnership is a 25-year partnership with the McClelland Sculpture Park and Gallery, involving an ongoing program of new sculptures that alternates every two years between sites at Cranbourne Road and Skye Road interchanges. This initiative was not prescribed in the incorporated document or recommended by the EES Inquiry Panel. It emerged through the subsequent tender and design process.

672. The UDS for this Project recognises the proximity of the Heide Museum of Modern Art and its potential influence on the design of the Project as follows:

The proximity of this cultural institution to the project presents an exciting opportunity for potential collaboration, inspiration, innovation and creative thinking in the design of North East Link. (Page 18)

311 Hearing document 400.
673. Key Direction 4 in the UDS is to “provide a great experience for road users” and clearly provides scope for public art initiatives similar to Peninsula Link.

674. The UDS provides the following guidance in relation to managing construction impacts:

   Innovative initiatives should be used in adopting a beyond business-as-usual approach. For example the integration of emerging practice, design competitions (for temporary uses, art installations etc.) and initiatives developed in collaboration with the local community. (Page 108)

675. The UDS identifies art and interpretation as a project specific cultural theme that can be brought to life through design (page 18).

676. There is no reason to assume that, absent prescriptive requirements, the Project will not include public art initiatives in its final design, through application of the UDS. A new section on integrated art could be added to Chapter 7 of the UDS, to guide this issue, addressing the nature and quality of integrated art, the involvement of artists and the role of integrated art in wayfinding.

**The Draft Planning Scheme Amendment and the EPRs**

NELP’s approach to EPR modifications

677. The draft practice note prepared by MTIA contains useful principles to be applied in drafting EPRs for projects of this type. NELP has had regard to these principles in preparing the EPRs and in revising their content throughout the course of the hearing and commends them to the IAC.

678. The combined Councils, in closing their case on the penultimate day of the hearing, contended that it was “impossible to set out in EPRs matters necessary to assess environmental effects” on account of the fact that the Project has been assessed as a reference project. This, of course, is not the case:

   (a) The EPRs in this case are as comprehensive as any other set of environmental performance requirements prepared for any other project within Victoria;

   (b) They address the full extent of environmental effects identified within the scoping requirements and have been based upon, and made appropriate reference to, best practice and applicable standards;

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312 Hearing document 411, tab 6.
(c) They have been derived following the thorough assessment of the Reference Project, which has allowed for:

(i) the effective identification of potential environmental effects;

(ii) the identification of the nature and scope for mitigation measures to be implemented to achieve acceptable environmental outcomes; and

(iii) the determination of specific requirements and management measures to ensure that appropriate mitigation measures are implemented as part of the Project;

(d) They are properly a combination of prescriptive requirements (requiring compliance, for instance, with relevant standards and guidelines) and more flexible controls;

(e) They comprehensively provide for consultation with, and where appropriate the approval of, other relevant authorities; and

(f) They must properly be understood within the context of the framework to be established pursuant to the EMF, as well as the broader statutory context in which they will be given effect.

679. Manningham City Council, in commenting on the Version 5 EPRs, contended that there should be an inverse relationship between the extent to which the design of a project is settled at the time of assessment and the requisite specificity of the EPRs formulated in respect of that Project. NELP contends that the proper nature of the relationship should instead be that the EPRs formulated in respect of a project of this type must comprehensively address the range of potential environmental effects that may arise, and in doing so, identify and secure the environmental outcomes to be achieved without unnecessarily prescribing or limiting the means by which those outcomes should be achieved. The EPRs specified in respect of the Project are clearly comprehensive and, in NELP’s submission, strike the appropriate balance in these respects.

680. The IAC has many (and in some cases conflicting) recommendations concerning drafting changes to the EPRs (as consolidated in Tables 1 and 2 of hearing document 411). Care needs to be taken in evaluating these recommendations to ensure that the EPRs do not simply reflect a wish-list of the interested parties.

681. The EPA’s submission to the IAC on the penultimate day of the hearing, for instance, recognises the administrative burden that is placed on authorities charged with the
responsibility of assessing and approving elements of the EMF. It is noted, also, that a more prescriptive set of controls will not necessarily achieve better outcomes. Indeed, the introduction of unnecessary prescription and specificity in the controls has the potential to unduly constrain design innovation, or lead to unforeseen conflict with other environmental objectives.

682. NELP’s final position in relation to the content of the EPRs, and its response to submissions seeking specific amendments, are set out in hearing document 411.

The VAGO report

683. The Victorian Auditor General’s report into the Melbourne Metro Tunnel Project Phase 1 Early Works (VAGO report) included the following recommendation:

Require proponents of public infrastructure projects subject to an Environment Effects Statement process to publicly publish any environmental audit reports that an independent environmental auditor or equivalent undertakes and delivers as part of the environment management framework for the project.313

684. In making that recommendation, the Victorian Auditor General commented favourably on the West Gate Tunnel EMF, and specifically EPR EMP3,314 which provides as follows:

Appoint an Independent Reviewer and Environmental Auditor to review and approve the CEMP and OEMP to ensure compliance with the Environmental Management Strategy and EPRs and to undertake environmental audits of compliance with the approved Environmental Management Strategy, CEMP, WEMPs and OEMP. The IREA must produce six monthly audit reports which Western Distributor Authority must forward to the Minister for Planning during construction and other approval authorities as appropriate. Audit reports must be made publicly available.

(Emphasis added.)

685. EPR EMF3 as specified in respect of this Project provides as follows:

Audit and report on environmental compliance Appoint an Independent Environmental Auditor (IEA) to:

• Review the Environmental Strategy, CEMP, WEMPs, OEMP and other plans required by the EPRs for compliance with the EMF and the EPRs
• Undertake environmental audits of compliance with and implementation of the EPRs and the Environmental Strategy, CEMP, WEMPs, OEMP and other plans required by the EPRs.

Audits must occur during construction and for two years after opening of North East Link, or as otherwise agreed with the Minister for Planning. A six monthly summary report must be provided to the Minister for Planning that summarises the findings of audits carried out during the reporting period. A close-out report must be provided to the Minister for Planning at the conclusion of the auditing and reporting period. The summary reports must be made publicly available on a project website for the period of construction and five years after opening of North East Link. (Emphasis added.)

686. The key difference between the West Gate Tunnel EMP3 and NELP’s proposed EMF3 is that summary reports are required to be made public, as opposed to the full audit report. This is consistent with the VAGO recommendation, and results in a more digestible report being made available to the public.

The EMF

687. NELP proposes that two modifications be made to the EMF:

(a) The first is to amend section 27.5.2 to insert the following words (as proposed by the EPA as a means of recognising the implementation of the Environment Protection (Amendment) Act 2018 (Vic)):

In order to ensure it remains current, the EMF will need to be updated after commencement of the Environment Protection (Amendment) Act 2018. The Incorporated Document requires an updated EMF to be prepared in consultation with EPA and submitted to the Minister for Planning within 12 months of the commencement of the amendment Act.

(b) The second is to amend section 27.6.2 to specify that the independent environmental auditor should be constituted by a statutory environmental auditor for appropriate disciplines, including those in respect of contamination and contaminated groundwater.

688. The IAC should otherwise be satisfied that the proposed EMF:

(a) is comprehensive and that it has been prepared in accordance with best practice;

(b) is adequately referenced within the incorporated document; and

(c) will provide an effective means by which the environmental effects of the Project will be regulated.
The Incorporated Document

689. NELP has revised the incorporated document\textsuperscript{315} to address:

\begin{enumerate}[\item]
\item the EPA’s preferred approach to the upcoming implementation of the legislative regime pursuant to the \textit{Environment Protection (Amendment) Act 1970} (Vic);
\item some (but not all) of the changes proposed by Marcellin College; and
\item the need for preparatory works to include the works required in respect of the electricity transmission towers.\textsuperscript{316}
\end{enumerate}

690. The combined Councils, in making closing submissions, prepared an annotated version of the incorporated document.\textsuperscript{317} NELP makes the following observations in response to those annotations:

\begin{enumerate}[\item]
\item It is appropriate that clause 4.2 be drafted in an inclusive fashion so as to ensure that the planning control covers all elements of the Project. The wording proposed is consistent with that of other comparable planning controls;
\item Clause 4.2(h) concerns utilities associated with the Project, including their installation and relocation. No further amendment is considered necessary;
\item It is appropriate that clause 4.5.2 direct that the EMF contain provisions in respect of consultation with relevant councils and other authorities. Numerous requirements are contained within the EPRs in this respect (which will, in turn, form part of the EMF);
\item It is appropriate that clause 4.5.3 provide for the preparation and approval of the EMF in stages (reflecting the broader mechanism contained within the incorporated document that the Project may be developed in stages);
\item The Councils’ comments in respect of clause 4.5.5 do not properly characterise the scope or application of the EPRs. Because the EMF and EPRs must be approved by the Minister for Planning (cl 4.5.1), and because any variation between the EPRs submitted for approval and the EPRs recommended by the Minister as part of this assessment process must be accounted for (cl 4.5.2), the Councils’ suggestion that
\end{enumerate}

\textsuperscript{315} Hearing document 411, tab 5.
\textsuperscript{316} As addressed Technical Note 4 (hearing document 38).
\textsuperscript{317} Hearing document 424.
the incorporated document should prescriptively provide for the content of the EPRs is both unnecessary and undesirable;

(f) It is appropriate that clause 4.7.6 provide for the preparation and approval of the UDLP in stages;

(g) NELP does not support the proposed amendments to clause 4.8:

(i) NELP’s position in respect of the merit of requirements concerning understory planting have been addressed previously in these submissions;

(ii) Further, as senior counsel for the combined Councils indicated, the proposed provisions concerning the preparation of a RATYPP occurred more “by accident” than as a coherent approach to the drafting of the incorporated document, and would not be appropriately addressed in the manner proposed even if the IAC was minded to recommend that specific measures be introduced in respect of understory planting;

(h) NELP opposes the Councils’ recommendation that clause 4.9 of the incorporated document specify elements of project design. The UDLPs to be prepared pursuant to clause 4.7, which must be approved by the Minister for Planning and which must have been prepared in accordance with the process established pursuant to clauses 4.7.3 and 4.7.4, will identify all elements of the Project for the purposes of the planning control; and

(i) NELP does not agree that it is necessary to qualify clause 4.9.1(a)(i) in the same way that clause 4.9.1(b) is qualified in respect of native vegetation (given the differences in the applicable legislative regimes concerning native and exotic vegetation).

691. Relatively few other submissions were made in respect of the incorporated document.

692. The IAC should ultimately find that the incorporated document is appropriately drafted and that it will prove effective in facilitating the use and development of the Project while ensuring the effective implementation of the proposed EMF and EPRs.

The application of the SCO

693. No submitter has contested the adoption of the SCO as a means of facilitating the implementation of the proposed planning controls.
694. For the reasons given on the penultimate day of the hearing, NELP proposes that the application of the SCO control align with the ultimate delineation of the project boundary.

**Conclusion**

695. For the above reasons, NELP commends the Project, the EES and version 5 of the EPRs to the IAC. The North East Link will fulfil a vital role in connecting communities to one another within the north, east and south-east of Melbourne. Its potential environmental effects, while significant, are comprehensively understood and capable of appropriate management within what is a robust and orthodox environmental management framework.

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