

# Melbourne Metro Rail Project Business Impact

**Expert evidence of Terry Rawsley**

August 2016



**In the matter of the Melbourne Metro Rail Project**

**Planning Panels Victoria**

**Proponent: Melbourne Metro Rail Authority**

**Expert Witness Statement of  
Terry Rawsley**

**Expert of Melbourne Metro Rail Authority**

1991–2016  
**25** Independent  
years of insight.



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# 1 INTRODUCTION

This document sets out the expert evidence from Terry Rawnsley, National Leader of Economics and Social Analysis and a Principal and Partner at SGS Economics and Planning.

The overall conclusion is that the proposed EPRs as exhibited in the EES will likely manage the majority of business impacts for the Melbourne Metro Rail Project, however, they are relatively generic. By contrast, the types of businesses are not uniform and therefore the types of business impacts are not uniform. For example, the levels of dust could be the same in two locations but the impact would be different based on the type of business. To effectively manage the identified business impacts more nuance is required in the EPRs.

The document is structured as follows:

- **Chapter 2** presents preliminary information including the expert’s qualifications and experience; the reports and assumptions relied upon to prepare the evidence; and additional work that has been undertaken since the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)* was prepared.
- **Chapter 3** provides a critical assessment of the proposed EPRs presented in the exhibited EES. It begins with a discussion of the key issues raised in submissions for each precinct. All issues raised are then documented. In both cases a response to the issues raised is provided and any changes to the exhibited EPRs to effectively manage the issues are identified. A summary of the changes to the exhibited EPRs is then presented followed by a comprehensive, revised set of EPRs which would enable greater confidence that the business impacts can be appropriately managed.

## 2 PRELIMINARY INFORMATION

### 2.1 Name and address of the expert

1. My full name is Terry Rawnsley. I am a National Leader of Economics and Social Analysis and a Principal and Partner of SGS Economics & Planning Pty Ltd (SGS), based in the firm's Melbourne office at Level 14, 222 Exhibition Street, Melbourne, VIC, 3000.

### 2.2 The expert's qualifications and experience

2. I hold the following academic qualifications:  
Bachelor of Economics (Honours) (James Cook University)
3. I have experience in applying economic theories and models to urban and regional issues across Australia and internationally. I have provided advice to all tiers of government and the private sector, related to the dynamics of transport impacts, productivity, employment and the general economy.
4. Some of my relevant experience includes:
  - Valuing of the City of Melbourne's walking economy.
  - Analysing the economic prospects of the hospitality industry for the City of Melbourne.
  - Quantifying the agglomeration benefits of transport and land use projects.
  - Producing economic development strategies for a wider range of regions across Australia.
  - Developing new measures of the output for Australia's non-market sectors.
5. SGS Economics & Planning was responsible for the preparation of the technical report titled *Business Impact Assessment* which is included as Technical Appendix G to the EES.
6. I was the Project Director overseeing the preparation of the *Business Impact Assessment*. The key focus of the project was to understand potential business impacts and qualify the magnitude of these impacts.
7. I am able to provide evidence to Panel regarding the SGS report's preparation, findings and relevant and related technical matters surrounding the analysis.

### 2.3 Other significant contributors

8. SGS Economics and Planning colleagues were Chris Lill, Kate Blaylock and Andrea Ingham
9. Prior to joining SGS, Chris Lill held positions at the Reserve Bank of Australia (RBA), the Australian Industry Group (AIG), and the Centre for International Economics (CIE) where he undertook macroeconomic and microeconomic analysis. At the RBA, Chris was responsible for forecasting the Australian domestic residential and non-residential construction sectors. Chris was an economic advisor at the Australian Industry Group and investigated a wide range of

policy issues such as the adoption and diffusion of new technology in Australia and the impact of the carbon tax on the business sector.

10. Kate Blaylock is an experienced urban planner who has recently returned to SGS after eighteen months leave to complete her Masters in Regional and Urban Planning Studies at the London School of Economics. Kate has particular experience working on planning studies for major transport projects. This includes roles in the community and stakeholder engagement teams for East West Link and WestLink Planning Studies. Kate also led the social impact component of the Melbourne Airport Masterplan 2013 – Economic and Social Impact Assessment Study which analysed the impacts arising from Melbourne Airport’s current and proposed activities.
11. Andrea Ingham is a final-year student of the Masters of Urban Planning and Environment program at RMIT.

## 2.4 Instructions

12. I have been instructed by Herbert Smith Freehills on behalf of the Melbourne Metro Rail Authority to provide expert evidence in relation to the Business Impact Assessment for the Melbourne Metro Rail Project exhibited on the 25<sup>th</sup> of May 2016.
13. My specific instructions with regard to this statement were to:
  - Prepare a witness statement in accordance with Planning Panel Victoria’s *Guide to Expert Evidence* and which considers and responds to submissions relevant to the area of expertise.
  - Address each of the public submissions Herbert Smith Freehills forwarded in the witness statement.
  - Review the Melbourne Metro Rail Authority Technical Notes and consider whether they give rise to a need to modify proposed EPRs relevant to your area of expertise.
  - Consider whether the EPRs relevant to your area of expertise establish an appropriate framework to govern the construction and operation of the Project if it ultimately differs from the Concept Design.
  - In preparing the expert witness statement, critically evaluate the proposed Environmental Performance Requirements that are relevant to your area of expertise. In doing so you should consider whether the EPRs establish an appropriate framework to govern the construction and operation of the Project if it ultimately differs from the Concept Design (but is still situated primarily within the Project Boundary as shown in the EES Map Book). The expert evidence report should identify any modifications to the EPRs that you consider necessary.
  - Provide additional information to clarify questions on the method, data and findings contained in the business impact report.
  - Update the calculations in the business impact report to include 2015 Census of Land Use and Employment data.

## 2.5 Report and evidence preparation

### Background reports

14. The evidence prepared is primarily based on the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016) (Technical Appendix G)*. I was Project Director for this project. I was assisted in the preparation of the report by SGS staff members acting under my express instructions.
15. The preparation of the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)* relied on the findings of other studies undertaken for the Melbourne Metro Rail Project:

- *Melbourne Metro Rail Project Transport Impact Assessment (April 2016)* (Technical Appendix D).
- *Melbourne Metro Rail Project Air Quality Impact Assessment (April 2016)* (Technical Appendix H).
- *Melbourne Metro Rail Project Noise and Vibration Impact Assessment (April 2016)* (Technical Appendix I).
- *Melbourne Metro Rail Project Landscape and Visual Impact Assessment (April 2016)* (Technical Appendix L).
- *Melbourne Metro Rail Project EES Chapter 6 Project Description (April 2016)*
- *Melbourne Metro Business Case (February 2016)*
- *Agglomeration Benefits of the Melbourne Metro* (Department of Transport, 2012)

## Assumptions

16. The key assumptions made in the preparation of the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)* are described below.
17. The reports relied on to determine business impacts (detailed in Paragraph 12) are accurate.
18. The elasticity of foot-traffic to sales for different industries. These assumptions were largely based on SGS' previous experience in assessing the pedestrian economy in the City of Melbourne and information gained during the consultation process. The elasticities assumed were: 0.4 for retail and food services; 0.1 for accommodation; 0.0 for all other industries (i.e. an elasticity of 0.4 would indicate a 10 per cent fall in foot-traffic would lead to a 4 per cent fall in sales).
19. The time profile of impact for each precinct. Depending on the timing of acquisition and construction works the level of impact would likely vary over time. The business impact estimates are annual figures for what is assumed to be the peak level of impact.
20. The number, distribution across precincts and daily expenditure of construction workers.
21. Land acquired for construction works would be available for other uses after construction completed, in particular the Arden Station Precinct.
22. Census of Land Use and Employment (CLUE) data on the number of businesses and employees are based on data collected conducted in 2012 and 2014. These estimates were projected to 2015 based on projected growth rates of the relevant travel zones in the SGS small area land use database.
23. Estimates of economic output for each precinct were based on Australian Bureau of Statistics official measures economic activity and hours worked for Victoria which were then converted to of labour productivity for the relevant statistical local areas.
24. Where a precinct fell outside the City of Melbourne, the employment profile of businesses was assumed based on the employment profile of the relevant statistical local area.
25. Planning regimes do not change.
26. No additional new jobs would locate in Melbourne as a result of the Melbourne Metro.
27. Amenity impacts would lead to a reduction in foot traffic.

## Additional work undertaken since exhibition of EES

28. There was a typographical error in Table 10 of the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*. 'Numeric ranges used' should read: "The average profit margin for all businesses is 14.9 per cent. If the impact was to exceed this then, over average, half of all businesses would fail. If the impact was less than 5 per cent very few businesses would fail."
29. I have reviewed the Melbourne Metro Rail Authority Technical Notes 1-18 (provided on the 29 July 2016) and there are no pertinent issues relevant to the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*.
30. Since the preparation of the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*, the estimated baseline activity and the construction and operational impacts have been updated for precincts where 2015 Census of Land Use and Employment (CLUE) data is now available. During the preparation of the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*, the 2012 CLUE data was used to estimate the number of jobs in each precinct. Growth rates were applied to the 2012 CLUE to produce a 2015 estimate of the number of jobs in each precinct. The release of the 2015 CLUE provided more robust estimates of the number of jobs in each precinct.
31. Table 1 shows the differences between the impact identified from changes to passing trade in the *Business Impact Assessment (Old CLUE)* and the updated figures (*New CLUE*). CBD North and Domain are broadly consistent with the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016) (Technical Appendix G)*. For the Tunnels and CBD North Station precincts, the 2015 CLUE data showed there were more jobs in 2015 than previously projected, hence more jobs would be impacted and the decline in Gross Value Added in these precincts is higher than in the *Business Impact Assessment*.
32. The decline in Gross Value Added, in the Tunnels (-0.8%) and CBD North Station (-1.6%) precincts, is based solely on the increase in the overall number of jobs (as observed in the 2015 CLUE) located in the precincts and therefore likely to be impacted. For both the Tunnels and CBD North Station precincts, these jobs were predominantly retail, food and beverage jobs.

TABLE 1 SUMMARY OF ESTIMATED FOOT-TRAFFIC IMPACT

Precincts	Gross Value Added (\$m)		Explanation
	New CLUE (%)	Old CLUE (%)	
Tunnels	-19.8 (-0.8%)	-12.7 (-0.5%)	Rise in retail and food & beverage jobs
Western Portal	<i>No impact identified</i>		
Arden Station	<i>No change in CLUE data</i>		
Parkville Station	<i>No change in CLUE data</i>		
CBD North Station	-14.5 (-1.6%)	-10.6 (-1.1%)	Rise in food & beverage jobs
CBD South Station	-9.6 (-1.3%)	-11.2 (-1.5%)	Broadly unchanged across retail and food & beverage jobs
Domain Station	-1.0 (1.4%)	-1.2 (1.6%)	Broadly unchanged
Eastern Portal	<i>Not based on CLUE data</i>		
Western Turnback	<i>No impact identified</i>		

Source: SGS Economics and Planning

33. Despite these changes, the broad conclusions of the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)* remain unchanged.
34. I therefore consider the findings of the exhibited report to be accurate and complete.

35. The preparation and opinions in this expert evidence statement are my own.
36. I adopt the findings in the exhibited *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*.

## 2.6 Declaration

37. I have made all enquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.



Principal and Partner  
National Leader – Economic & Social Analysis  
SGS Economics and Planning Pty Ltd  
11 August 2016

# 3 PROPOSED EPRS

38. The *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)* was prepared to address the following evaluation objective:
  - Social, community, land use and business: To manage the effects on the social fabric of the community in the area of the project, including with regard to land use changes, community cohesion, business functionality and access to services and facilities, especially during the construction phase.
39. The *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)* was then exhibited as part of the Melbourne Metro Environment Effects Statement.
40. The key issues raised in the submissions to the EES are presented first, with my opinion on the adequacy of the EPRS as exhibited in the EES to manage these issues. A table then follows which identifies all relevant business issues raised during the submission process by precinct.

## 3.1 Key issues raised in submissions

41. This sub-section addresses the key issues raised in the submissions to the exhibited EES by precinct. Section 3.2 then documents and responds to all submissions.
42. In this section of my evidence, I comment on selected questions and themes raised in relevant submissions (deemed to be relevant to the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*) to the exhibited EES. These are matters which I judge to be within the scope of my expertise.
43. Overall, the issues (in terms of access, amenity, sensitive equipment and acquisition impact) related to business impacts raised by the submissions align with the analysis, findings and EPRS contained within the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*. That is, the type and scale of impacts raised in the submissions align with findings in the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*.
44. The submissions reinforced the need for early and active engagement with businesses as the project progresses to understand their specific operational requirements and how the impacts of the project would be managed.
45. The EPR “Prepare a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction” is vital to ensure the impacts are managed.
46. A number of submissions raised the issue that businesses could not develop a complete understanding of the potential impacts of the project. It is my opinion that this is in part due to the information not being easily accessible for businesses unfamiliar with complex planning documents such as the EES. Also some submissions raised the issue of the Project Description is not currently detailed enough (for example the length of construction at each precinct) to fully understand the potential impacts on their businesses. The difficulty in accessing information is creating uncertainty for business and impacting on their operations and investment decisions.

47. I provide a brief summary of the main issues raised in the submissions for each precinct and, if relevant, I then present my opinion on the adequacy of the EPRs as exhibited in the EES to manage these issues.

## Western Portal

48. The Concept Design involves the temporary occupation of commercial land next to the intersection of the rail corridor and Kensington Road and some of the industrial and office properties in the 50 Lloyd Street Business Estate. The acquisition of businesses includes 13 businesses from the 50 Lloyd Street Business Estate. This would force some businesses in the precinct to relocate.
49. Tenants of the 50 Lloyd Street Business Estate who use large freight vehicles require access via the Lloyd Street entrance. The alternative entrance in the east of the estate cannot be used by large vehicles due to the low height of the rail bridges over Lloyd Street. This was raised as an issue for a number of businesses in the 50 Lloyd Street Business Estate. EPR T1 includes for provision of alternative routes for trucks accessing the 50 Lloyd Street Business Estate.
50. The current EES EPRs should be able to manage these impacts. No modification is required.

## Arden Station

51. The construction phase would generate truck movements in the proposed Arden Station precinct related to construction activity as well as traffic movements from construction worker vehicles. However, this activity is not anticipated to increase traffic congestion in the precinct as traffic movements are anticipated to be lower than those currently generated by displaced businesses.
52. Concerns about access have been raised by businesses located on, or requiring access to, Arden Street, Laurens Street and Barwise Street.
53. The large number of workers located in the proposed Arden Station precinct during the construction phase has raised concerns from business regarding impact to off street parking from workforce vehicles have also been raised by businesses in the Arden Station Precinct.
54. The changed accessibility in the precinct could impact on business operations. These impacts would be managed via the following EPRs proposed in the exhibited EES:
  - Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction (EPR B2).
  - Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction) to manage traffic issues across the project (EPR T1).
  - These EPRs should be able to manage these impacts. No modification is required.
55. The construction at Arden Station would include the displacement of industrial businesses currently located on the publicly owned (VicTrack) land that is to be occupied during the construction of the project. These business are not entitled to compensation under the *Land Acquisition and Compensation Act 1986*.
56. Two of the displaced businesses are concrete batching plants. The delivery of concrete from batching plants is an important component of most major construction projects. The proximity of the batching plants to central city construction work sites is crucial; it minimises costs associated with transport of concrete and the delivery of concrete once batched is time

sensitive. Given the scale of current and projected growth in Melbourne's central city, there would be demand for significant quantities of concrete. Construction of the Melbourne Metro would also require significant quantities of concrete.

57. There is also a weighbridge facility (used for measuring bulk goods) on the VicTrack land which is used by a local business, which would not be easily relocated in a nearby location.
58. The impacts identified above could be managed via the EPR proposed in the exhibited EES:
  - Reduce the disruption to businesses from direct acquisition or temporary occupation of land, and work with business and land owners to endeavour to reach agreement on the terms for possession of the land (EPR B1).
  - The EPR, however, is quite generic and there is a risk that the impacts for these highly affected businesses will not be adequately managed. Additional detail on how to support these displaced businesses should be provided in the EPRs (see Table 2 for more detail of proposed changes).
59. Industrial businesses in the precinct expressed concern about their long term operation in the area considering the new station and changing land uses that are anticipated to follow. These changes could lead to conflict between new residents' amenity concerns and business operations.
60. The relevant EPR proposed in the exhibited EES is:
  - Design and construction of Arden Station must consider the ongoing strategic planning of the Arden-Macaulay Urban Renewal Area and include consultation with the Metropolitan Planning Authority, City of Melbourne and any other relevant agencies (EPR LU3).
  - Some businesses that may be affected are located outside of the Arden-Macaulay Urban Renewal Area and therefore are not captured by this EPR.
  - The EPR should be modified to: Design and construction of Arden Station must consider the ongoing strategic planning of the Arden-Macaulay Urban Renewal Area **and surrounds** and include consultation with the Metropolitan Planning Authority, City of Melbourne and any other relevant agencies

## Parkville Station

61. A range of submissions highlighted concerns regarding business access during the construction of the Parkville Station. These concerns are in line with the access issues analysed in Section 11.5 of the *Melbourne Metro Rail Project: Business Impact Assessment (2016)*. Most significant would be the closure of Grattan Street between Royal Parade and Leicester Street to vehicles with Barry Street also closed between Grattan Street and Pelham Street. Closure of Grattan Street may present risks to patient, visitors and workers. In addition, there would be truck movements and construction workforce vehicle movements.
62. The business disruption to the hospitals, university and research institutions has been based estimated based on the cost of shielding sensitive equipment, internal administration to deal with Melbourne Metro, cost of repeating testing due to unexpected disruption, cost of research activities being delayed / disrupted, cost of research activities being lost from the precinct and cost of day to day operations being changed due to Melbourne Metro. These concerns are raised and discussed in Section 11.5 of the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*.
63. There were also concerns that construction impacts may lead to loss of research including interruption to existing research projects for the Parkville Campus. This is a complex issue which is discussed in Section 11.5 of the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*.

64. These impacts would be managed via the following EPRs proposed in the exhibited EES:
- Maintain vehicular and pedestrian access to hospital emergency departments at all times during construction and to other key health and medical facilities where practicable (EPR B4).
  - Following consultation with potentially affected businesses and prior to main works or shaft construction commencing, prepare management plans to minimise dust, noise and vibration impacts during construction, as per EPRs for air quality and noise and vibration (EPR AQ1 and EPR NV1).
65. However, the related noise and vibration guidelines discussed in the EES (EPR NV10) are generic rather than manufacturer defined limits for sensitive equipment. However, NV10 does state “The proponent may undertake consultation with the users and agree alternative Guideline Targets”. This EPR also does not specifically address electromagnetic interference during construction. This EPR should be amend to include this aspect.
66. Submissions from business in Parkville raised concerns regarding the impact on amenity during construction of the Parkville Station. This concern was analysed in Section 11.5 of the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*.
67. Whilst identified as a possible risk, the *Melbourne Metro Rail Project Air Quality Impact Assessment (April 2016) (Technical Appendix H)* indicates that, with mitigation, air quality could be contained within relevant standards. The *Melbourne Metro Rail Project Noise and Vibration Impact Assessment (April 2016) (Technical Appendix I)* identifies there would likely be some impact from vibration and ground borne noise in the precinct, even after mitigation. No impacts are anticipated from airborne noise.
68. Amenity impacts would be managed via the following EPR proposed in the exhibited EES:
- Prepare a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction (EPR B2).
69. Cumulative impacts are also possible with construction works potentially occurring at the Royal Melbourne Hospital and the University of Melbourne during the project’s construction period. This could result in greater impacts to businesses in the area than those discussed. At the time of the preparation of the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*, there was precise detail on the scope of the proposed works, therefore a detailed understanding of the extent of the cumulative impacts was not possible.
70. The current EES EPRs should be able to manage any cumulative impacts. No changes are proposed.

## **CBD North Station**

71. A range of submissions highlighted concerns regarding business access during the construction at CBD North. These concerns are in in line with the access issue raised and analysed in Section 12.5 of the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*. There would be changes to road and pedestrian networks during the construction phase with Franklin Street closed to pedestrians between Swanston Street and Victoria Street and A’Beckett Street closed between Swanston Street and Stewart Street.
72. The changed accessibility in the precinct could impact on business operations. These impacts would be managed via the following EPRs in the exhibited EES:
- Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction (EPR B2). Particular actions within this EPRs include “Develop way finding programs to establish pedestrian access patterns”.

- Following consultation with potentially affected businesses and prior to main works or shaft construction commencing, prepare management plans to minimise dust, noise and vibration impacts during construction, as per EPRs for air quality and noise and vibration (EPR AQ1 and EPR NV1).
73. However, these EPRs would not be detailed enough to manage the impacts in parts of CBD North. Businesses along A'Beckett Street, particularly those that rely on passing trade accessing their premises from Swanston Street, are likely to be impacted even with the existing EPRs. The *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)* assumed that foot traffic would fall by 80 per cent due to footpath closure on A'Beckett Street. A number of businesses in this area have made submissions.
74. There is a risk that the impacts at these highly affected locations will not be adequately managed sufficiently by the relevant EPRs. Additional detail on how to manage this impact should be provided in the EPRs. Please see Table 2 for more details of proposed changes to EPRs.
75. There is potential impact on sensitive equipment located at the RMIT of noise and vibration. These concerns are raised and discussed in Section 12.5 of the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)*. The University has facilities, operates equipment and runs experiments that are highly susceptible to construction impacts, particularly from noise and vibration. The *Melbourne Metro Rail Project Noise and Vibration Impact Assessment (April 2016) (Technical Appendix I)* shows that, even with mitigation, construction activity would impact the operation of sensitive equipment, meaning they may not be able to be used, or their use would be limited during the construction period.
76. This impact could be managed via the following EPR proposed in the exhibited EES:
- Following consultation with potentially affected businesses and prior to main works or shaft construction commencing, prepare management plans to minimise dust, noise and vibration impacts during construction, as per EPRs for air quality and noise and vibration (EPR AQ1, EPR NV1 and EPR 10).
77. Submissions from business in the CBD North Station precinct raised concerns regarding the impact on amenity during construction of the Parkville Station. This concern was raised and analysed in Section 11.5 of the *Melbourne Metro Rail Project: Business Impact Assessment (April, 2016)*.
78. Amenity impacts are expected to particularly impact the operation of food and beverage businesses, especially those with outdoor seating, and service businesses where the customer experience is crucial to attracting customers. This includes retail and accommodation businesses, particularly those in close proximity to the proposed construction work sites on Franklin Street, A'Beckett Street and the corner of LaTrobe and Swanston Streets.
79. These impacts would be managed via the following EPRs proposed in the exhibited EES:
- Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction (EPR B2).
  - Following consultation with potentially affected businesses and prior to main works or shaft construction commencing, prepare management plans to minimise dust, noise and vibration impacts during construction, as per EPRs for air quality and noise and vibration (EPR AQ1 and EPR NV1).
80. Despite these measures, however, it is anticipated that there would be a resulting decline in passing trade along some streets in the precinct (in particular A'Beckett Street) from the

decreased amenity. This would affect the trade of some businesses, particularly in the food and retail industries.

81. With the current EPRs there is a risk that the impacts at these highly affected locations will not be adequately managed. Additional detail on how to manage this impact should be provided in the EPRs. Please see Table 2 for more detail of proposed changes to the EPRs.

## **CBD South Station**

82. A range of submissions highlighted concerns regarding business access during the construction in the CBD South Station precinct. These concerns are in line with the access issue raised and analysed in Section 13.5 of the *Melbourne Metro Rail Project: Business Impact Assessment (April, 2016)*.
83. Potential impacts in the proposed CBD South Station precinct would come from construction impacts (loss of amenity, truck movements, noise and vibration, and changes to pedestrian and vehicle access) and customers perceptions about the how the different areas would function during the construction phase.
84. If customers have perceptions that the precinct is 'closed for business' they may not travel to the CBD South Station precinct at all. For example, while not likely to be significantly impacted by the project, customer perceptions around Federation Square would have to be managed.
85. The temporary occupation of the City Square would be likely to have a significant impact on businesses located within City Square and immediate surrounds. This includes a number of cafes, bars and other retail outlets. The contribution of these businesses to activity within the precinct would be expected to be either lost entirely or significantly reduced during the temporary occupation of the Square. This is especially due to the location of the construction work site directly in front of their businesses, and the associated visual and other amenity impacts; changes to access; and the importance of passing trade to the operation of these businesses.
86. The City Square has hosted a number of public events over recent years that have helped to attract local people and tourists to the precinct. These include the Christmas Square, Melbourne Spring Fashion Week events and the Very Big Laugh Out. These events help attract people and spending to businesses within the station precinct, not only those located around the square, but those businesses located along the length of Swanston Street.
87. These access and amenity impacts would be managed via the following EPRs proposed in the exhibited EES:
  - Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction (EPR B2). Particular actions within this EPRs include "Develop way finding programs to establish pedestrian access patterns".
  - Following consultation with potentially affected businesses and prior to main works or shaft construction commencing, prepare management plans to minimise dust, noise and vibration impacts during construction, as per EPRs for air quality and noise and vibration (EPR AQ1 and EPR NV1).
88. The impacts due to acquisition and temporary occupation would be managed via the following EPR proposed in the exhibited EES:
  - Reduce the disruption to businesses from direct acquisition or temporary occupation of land, and work with business and land owners to endeavour to reach agreement on the terms for possession of the land (EPR B1).

89. However, these acquisitions and temporary occupation would also have significant impacts for some non-acquired business.
90. The proposed acquisition of Port Phillip Arcade would create a dead end at Scott Alley for the duration of the construction period. This was raised by a number of submissions. Pedestrians who can currently walk from Flinders Street to Flinders Lane through the connection of Port Phillip Arcade and Scott Alley, would only be able to access Scott Alley from Flinders Lane. The businesses in Scott Alley rely heavily on passing trade.
91. The contribution of these businesses to activity within the proposed CBD South Station precinct is expected to be significantly reduced during the construction period, although this may be able to be mitigated to some extent with increased advertising and signage.
92. Young and Jackson Hotel on the corner of Swanston and Flinders Street would be surrounded by the construction work site with its trade also likely to be significantly impacted during the construction phase.
93. Businesses in the vicinity the construction work sites are not being proposed for acquisition and they are not entitled to compensation under the *Land Acquisition and Compensation Act 1986*.
94. The current EPRs are relatively generic and there is a risk that the impacts at these highly affected locations will not be adequately managed. Additional detail on how to manage this impact should be provided in the EPRs. Please see Table 2 for more detail of proposed changes to the EPRs.

## Domain Station

95. A number of submissions raised concerns that the construction phase would be expected to affect traffic congestion through the reduction of St Kilda Road to one lane in each direction for vehicles and the use of trucks and vehicles related to construction work. This would create some challenges for access to education, professional services and accommodation business in the precinct. Businesses operating outside of standard operating hours are also concerned about access.
96. This impact would be managed via the following EPRs proposed in the exhibited EES:
  - Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction) to manage traffic issues across the project (EPR T1).
  - The current EES EPRs should be able to manage any impacts. No changes are proposed.
97. It was identified that the rerouting of the number 8 tram would impact on accessibility to businesses on Domain Road for customers. The new route, however, still provides a tram stop in relatively close proximity to businesses that are destination businesses. Nevertheless, based on their characteristics many of these businesses service a largely local population.
98. There is an EPR in the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)* to develop a business disruption plan for non-acquired businesses (EPR B2). The current EES EPRs should be able to manage any impacts. No changes are proposed.
99. Impacts on public events utilising the Shrine of Remembrance and surrounding parkland was raised as a concern. The *Melbourne Metro Rail Project Air Quality Impact Assessment (April 2016) (Technical Appendix H)* and *Melbourne Metro Rail Project Noise and Vibration Impact Assessment (April 2016) (Technical Appendix I)* did not identify noise, vibration and dust from construction works at levels above relevant standards.

100. Amenity impacts from the TBM launch site at Fawkner Park were raised as having the potential to cause a loss of trade as people avoid the area.

101. The current EES EPRs should be able to manage these impacts. No changes are proposed.

102. Amenity impacts were also identified as having a detrimental impact on the operation on the Fawkner Park Children's Centre and Kindergarten. However, Fawkner Park is no longer required for the TBM southern launch site.

### **Eastern Portal**

103. Submissions raised concerns that amenity impacts (noise and visual amenity were identified) would affect business productivity, property values and levels of trade if people avoid the area.

104. Much of the works in this precinct are located behind the commercial strips of Toorak Road and Chapel Street and truck movements on surrounding streets are not identified as having a material impact on traffic volumes or congestion.

105. Mitigation measures for noise are identified in the *Melbourne Metro Rail Project Noise and Vibration Impact Assessment (April 2016) (Technical Appendix I)* and an Urban Design Strategy for the Project has been drafted and has been on exhibition as part of the EES documentation.

106. The current EES EPRs should be able to manage any impacts. No changes are proposed.

### **Western Turnback**

107. There was concern that the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016) (Technical Appendix G)* did not fully understand the businesses in and surrounding the precinct.

108. Works are contained within the existing rail reserve and the *Melbourne Metro Rail Project Transport Impact Assessment (April 2016) (Technical Appendix D)*, *Melbourne Metro Rail Project Air Quality Impact Assessment (April 2016) (Technical Appendix H)* and *Melbourne Metro Rail Project Noise and Vibration Impact Assessment (April 2016) (Technical Appendix I)* do not identify any impacts that would affect businesses beyond the project boundary.

109. The current EES EPRs should be able to manage any impacts. No changes are proposed.

### 3.2 Response to Submissions

The following table provides a response to each submission relevant to business impacts and includes recommended modifications to the current EPRs.

#### Western Portal

Issue	Submission No	Response	Recommended Modifications to the current Environmental Performance Requirement contained within the EES
Business acquisition in the Concept Design	MM030, MM101, MM106, MM120, MM122, MM124, MM130, MM131, MM132, MM160, MM167, MM179, MM223, MM238, MM239, MM243, MM248, MM293, MM323, MM365	<i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) assessed both the Concept Design and Alternative Design Option and determined there was less impact to businesses in the precinct under the Alternative Design Option as there would be 13 commercial properties acquired in the Concept Design and none in the Alternative Design Option.	No
Maintenance of access for large vehicles to the 50 Lloyd Street Business Estate	MM076	<p><i>Melbourne Metro Rail Project: Transport Impact Assessment (April 2016)</i> (Technical Appendix D) identified that access for large vehicles would be maintained to the 50 Lloyd Street Business Estate therefore the <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) assessed impacts on this basis.</p> <p>EPR T1 includes for provision of alternative routes for trucks accessing the 50 Lloyd Street Business Estate.</p> <p>EPR B2 requires development of a business disruption plan for non-acquired businesses which is to include measures to ensure access to businesses is maintained for customers, delivery and waste removal unless there has been prior engagement with affected businesses (including mutually agreed mitigation measures as required). This could include the installation of directional and business signage to assist customers.</p>	No
The western end of the 50 Lloyd Street Business Estate is subject to flooding	MM076	The <i>Melbourne Metro Rail Project: Transport Impact Assessment (April 2016)</i> (Technical Appendix D) identified	No

Issue	Submission No	Response	Recommended Modifications to the current Environmental Performance Requirement contained within the EES
blocking access to the Lloyd Street entrance.		that access for large vehicles would be maintained to the 50 Lloyd Street Business Estate therefore the <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) assessed impacts on this basis.  EPR B2 requires the development of a business disruption plan for non-acquired businesses which is to include measures to ensure access to businesses is maintained for customers, delivery and waste removal unless there has been prior engagement with affected businesses (including mutually agreed mitigation measures as required). This could include the installation of directional and business signage to assist customers. (EPR B2)	
Acquisition of businesses leading to productivity decline during relocation.	MM130, MM131, MM132	Compensation for acquired businesses is managed through the <i>Land Acquisition and Compensation Act 1986</i> .	No
Loss of car parking under the Concept Design affecting operation of childcare centre.	MM271	Parking management covered in the <i>Melbourne Metro Rail Project: Transport Impact Assessment (April 2016)</i> (Technical Appendix D).	No
Noise and dust from construction works and disruption to JJ Holland Park affecting operation of childcare centre.	MM271	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise and dust from construction works at levels above relevant standards considering the sensitivity of receivers in the precinct.	No

## Arden Station

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
The amount of time between being informed that leases on VicTrack land would	MM022, MM237	EPR B2 requires the development of a business disruption plan for non-acquired businesses.	EPR B2 could include additional measures: Where the program allows, businesses are given

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
be terminated and the time required to vacate.			a minimum of six months notice of displacement, but preferably at least twelve months. Facilitate business relocation through providing assistance in finding sites for relocation, the logistics of relocation, and advertising and other requirements arising from changed location.
Undisrupted access for customers, staff, deliveries, waste collection and business vehicles maintained to businesses (Barwise Street, Arden Street and Laurens Street identified in various submissions)	MM022, MM037, MM038, MM157, MM357	The <i>Melbourne Metro Rail Project: Transport Impact Assessment (April 2016)</i> (Technical Appendix D) identifies no changes access on these streets.  EPR B2 requires the development of a business disruption plan for non-acquired businesses which is to include measures to ensure access to businesses is maintained for customers, delivery and waste removal unless there has been prior engagement with affected businesses (including mutually agreed mitigation measures as required). This could include the installation of directional and business signage to assist customers.	No
Impact of Melbourne Metro works and workers on parking availability in the area	MM037, MM038 MM084, MM085, MM157, MM170, MM237	Parking management covered in the <i>Melbourne Metro Rail Project: Transport Impact Assessment (April 2016)</i> (Technical Appendix D). EPR T1 requires the development and implementation of a transport management plan to address the provision of car parking for construction workers where possible.	No
Dust and vibration impacting staff, buildings and equipment	MM037, MM038	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise and dust from construction works at levels above relevant standards considering the sensitivity of receivers in the precinct.	No
Compensation required if any part of property acquired (including below ground acquisition from tunnel alignment)	M084	Compensation for acquired businesses is managed through the <i>Land Acquisition and Compensation Act 1986</i> .	No
Business cannot operate without power	MM157	No disruption to power identified in the Project Description. The impact of any disruption during early works or construction is discussed in the <i>Melbourne Metro</i>	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
		<i>Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G).	
The requirement of part of the site (on VicTrack land) renders the business unviable. Suggest Langford Street site is more appropriate for the upgraded substation.	MM163	Because it is VicTrack land, the <i>Land Acquisition and Compensation Act 1986</i> does not apply.  EPR B2 requires the development of a business disruption plan for non-acquired businesses.	EPR B2 could include an additional mitigation measure: – Allow the termination of leases on VicTrack land with no penalty for businesses that wish to relocate
Relocation due to displacement may mean the business cannot retain staff and therefore are subject to additional costs for training new staff.	MM163	EPR B2 requires the development of a business disruption plan for non-acquired businesses.	EPR B2 could include additional mitigation measures: – Where the program allows, businesses are given a minimum of six months notice of displacement, but preferably at least twelve months – Facilitate business relocation through providing assistance in finding sites for relocation, the logistics of relocation, and advertising and other requirements arising from changed location.
Concern regarding the impact of vibration and particulate matter affecting the Victorian Archives Centre which includes art storage and has strict environmental requirements.	M166	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise and dust from construction works at levels above relevant standards considering the sensitivity of receivers in the precinct.	No
Not enough detail on a number of issues particularly the number of workers onsite and the type, number, time of vehicle movements and entry and exit points and the impact to traffic, pedestrian and car parking	MM170, MM277	The <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) assesses the project as described in the Project Description and the transport impacts as identified in the <i>Melbourne Metro Rail Project: Transport Impact Assessment (April 2016)</i> (Technical Appendix D).	No
No information on the impact of the construction and operation of the substation.	MM170	The <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) assesses the project as described in the Project Description.	No
Dust affecting business operation (cleanliness important for operation).	MM237, MM357	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) did not	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
		identify dust from construction works at levels above relevant standards considering the sensitivity of receivers in the precinct.	
Concerned additional traffic would cause delays in accessing premises jeopardising financial viability where timeliness of service is critical	MM277, MM357	The <i>Melbourne Metro Rail Project: Transport Impact Assessment (April 2016)</i> (Technical Appendix D) identifies no significant changes to congestion in the precinct. EPR T1 requires the development and implementation of a transport management plan which includes monitoring.	No
Risk of damage to highly sensitive equipment due to vibration	MM357	The <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify vibration from construction works at levels affecting sensitive equipment in the precinct.	No
To ensure long term operation of business in the area, adequate planning controls need to be put in place now.	MM357	<p>The <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) identifies that displacement of some businesses is possible as land prices change due to the increased connectivity of the precinct from the Melbourne Metro Station.</p> <p>Any changes to zoning are for the City of Melbourne (or state government if it is consider state significant) to consider.</p>	The EPR should be modified to: Design and construction of Arden Station must consider the ongoing strategic planning of the Arden-Macaulay Urban Renewal Area <b>and surrounds</b> and include consultation with the Metropolitan Planning Authority, City of Melbourne and any other relevant agencies.
Displaced businesses provide services that are crucial to the operation of a business that is not displaced.	MM357	<p>The <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) identifies that linkages between businesses are possible in this precinct.</p> <p>EPR B2 requires the development of a business disruption plan for non-acquired businesses.</p>	No

## Parkville Station

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Re-location due to acquisition.	MM318	Compensation for acquired businesses is managed through the <i>Land Acquisition and Compensation Act 1986</i> .	No
Service disruption to Royal Melbourne Hospital as a result of cumulative construction impacts.	MM308, MM191	EPR B2 requires the development of a business disruption plan for non-acquired businesses.	A proposed management measure to “Establish consultation group including all major health care and research institutions to meet at regular intervals as jointly agreed” should be added to EPR B2 which should help address this issue.  It should be noted that the Parkville Reference Group has already has its first meeting.
Ensuring emergency access to the Royal Melbourne Hospital as the designated provider of emergency and trauma services. Impacted by reduction in lanes to Grattan St between Flemington Road and Parkville Parade.	MM308, MM191	EPR B4 requires vehicular and pedestrian access to hospital emergency departments to be maintained at all times during construction and to other key health and medical facilities where practicable.	No
Major risks for patients in terms of service provision and business continuity brought about by noise dust and vibration impacts and tunnelling.	MM308, MM373	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise and dust from construction works at levels above relevant standards.	No
Impact to operation of the VCCC facility carpark entrance in Flemington Road and logistics delivery off Royal Parade.	MM191	There is an EPR proposed in the exhibited EES to maintain vehicular and pedestrian access to hospital emergency departments at all times during construction and to other key health and medical facilities where practicable. (EPR B4)	No
Construction Layout area could have adverse impacts for patients sleeping at the RMH and Melbourne Private hospital in Royal Parade.	MM191	The <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify the impact from construction works at high levels.	No
Proposed location of the station entrance/exit on the VCCC south west corner of Grattan Street/Royal Parade has the potential to adversely impact emergency, non-emergency and pedestrian access to RMH.	MM191	There is an EPR proposed in the exhibited EES to maintain vehicular and pedestrian access to hospital emergency departments at all times during construction and to other key health and medical facilities where practicable. (EPR B4)	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Impact to high sensitivity resources including medical and research equipment at RMH.	MM308	This impact would be managed via the following EPR proposed in the exhibited EES: Following consultation with potentially affected businesses and prior to main works or shaft construction commencing, prepare management plans to minimise dust, noise and vibration impacts during construction, as per EPRs for air quality and noise and vibration. (EPR B3)	<p>The related noise and vibration guidelines discussed in the EES are generic rather than manufacturer defined limits for sensitive equipment. However, NV10 does state “The proponent may undertake consultation with the users and agree alternative Guideline Targets”.</p> <p>The EPR does not specifically address electromagnetic interference. EPR NV10 should be amended to include this aspect.</p>
Construction and engineering impacts to patient (immunocompromised) and staff safety.	MM308	This is addressed by EPR B3 which requires: “Following consultation with potentially affected businesses and prior to main works or shaft construction commencing, prepare management plans to minimise dust, noise and vibration impacts during construction, as per Environmental Performance Requirements for air quality and noise and vibration”.	No
Closure of Grattan Street may present patient and user risk. Taxi drop offs/ patient drop off facilities to VCCC.	MM308	EPR B4 requires that vehicular and pedestrian access to hospital emergency departments be maintained at all times during construction and to other key health and medical facilities where practicable. (EPR B4)	No
Location of station box to east Grattan St/Royal Parade intersections. Long exit tunnel from station box to VCCC escalators. Safety and security for users.	MM191	The Concept Design provides increased access to the VCCC via the new station.	No
Business impacts due to amenity concerns in the form of loss of outdoor space with the temporary occupation of University Square	MM003	EPR B2 requires the preparation of a business disruption plan for non-acquired businesses.	No
Financial loss due to loss of patronage during construction as a result of noise, dust and vibration.	MM003	EPR B2 requires the preparation of a business disruption plan for non-acquired businesses.	No
Business impacts due to loss of accessibility and therefore passing trade.	MM003	<p>EPR T1 requires the development and implementation of a transport management plan to address the provision of car parking for construction workers where possible.</p> <p>EPR T4 requires in advance of construction works, MMRA to develop and implement a travel demand management</p>	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
		<p>strategy and appropriate tools to promote specific transport behaviour changes in response to road, bicycle and pedestrian paths closures/modifications and to reduce traffic congestion around construction sites, particularly in the vicinity of the Parkville and Domain precincts where road closures and restrictions are proposed.</p> <p>EPR B2 requires the preparation of a business disruption plan for non-acquired businesses.</p>	
Business impacts for (delivery of supplies etc.) due to closure of Grattan and Barry Street to vehicular traffic.	MM003	EPR B2 requires the preparation of a business disruption plan for non-acquired businesses.	No
Under the concept plan entire northern portion of square would significantly impact visual and physical links between the University of Melbourne Campus and Facilities South of Grattan St.	MM365	EPR B2 requires the preparation of a business disruption plan for non-acquired businesses.	No
Pedestrian Access across the Parkville precinct impacting student movements.	MM191, MM308, MM318-01	There is a proposed management measure to “Develop way finding programs to establish pedestrian access patterns” within EPR B2.	No
Impacted by increased volumes of vehicular traffic.	MM308, MM318, MM335	<p>EPR B4 requires that vehicular and pedestrian access to hospital emergency departments be maintained at all times during construction and to other key health and medical facilities where practicable.</p> <p>EPR T1 requires the development and implementation of a transport management plan to address the provision of car parking for construction workers where possible.</p> <p>EPR T4 requires in advance of construction works, MMRA to develop and implement a travel demand management strategy and appropriate tools to promote specific transport behaviour changes in response to road, bicycle and pedestrian paths closures/modifications and to reduce traffic congestion around construction sites, particularly in the vicinity of the Parkville and Domain precincts where road closures and restrictions are proposed.</p>	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Construction impacts leading to loss of research including interruption to existing research projects (unquantifiable effects on medical advancement) for the Parkville Campus.	MM318	<p>This is a complex issues which is discussed in Section 11.5 of the <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G).</p> <p>EPR B2 requires the preparation of a business disruption plan for non-acquired businesses.</p>	<p>A proposed management measure to “Establish consultation group including all major health care and research institutions to meet at regular intervals as jointly agreed” should be added to EPR B2 which should help address this issue.</p> <p>It should be noted that the Parkville Reference Group has already has its first meeting.</p>
Sensitive equipment and spaces (highly specialised research laboratory, bio-sciences and teaching facilities) across the Parkville campus.	MM318	<p>This impact would be managed via EPR B3 which requires that following consultation with potentially affected businesses and prior to main works or shaft construction commencing, prepare management plans to minimise dust, noise and vibration impacts during construction, as per EPR AQ1, NV1 and NV4 are prepared.</p>	<p>The related noise and vibration guidelines discussed in the EES are generic rather than manufacturer defined limits for sensitive equipment. However, NV10 does state “The proponent may undertake consultation with the users and agree alternative Guideline Targets”.</p> <p>The EPR NV10 does not specifically address electromagnetic interference. This EPR should be amend to include this aspect.</p>
Operation impacted by electromagnetic interference. Risk to bio-resources in University’s Faculty of Medicine Building, Peter Doherty Institute and other facilities	MM318	<p>This impact would be managed via EPR B3.</p>	<p>The related noise and vibration guidelines discussed in the EES are generic rather than manufacturer defined limits for sensitive equipment. However, NV10 does state “The proponent may undertake consultation with the users and agree alternative Guideline Targets”.</p> <p>The EPR NV10 does not specifically address electromagnetic interference. This EPR should be amend to include this aspect.</p>
Reputational and financial impacts resulting in loss of student demand, enrolments and ability to attract staff.	MM318	<p>This issue is discussed in Section 11.5 of the <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) and was not considered a major issue given all the factors in university operations.</p>	<p>No</p>

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Pedestrian Access across the University Campus	MM318	There is a proposed management measure to “Develop way finding programs to establish pedestrian access patterns” in EPR B4	No
Impact to University of Melbourne Future Development plans/strategic objectives.  And  Interference with development initiatives over next 5-10 years. (Concerns with the Overlay).	MM318	<p>Cumulative impacts are also possible with construction works potentially occurring at the University of Melbourne during the project’s construction period. This could result in greater impacts to businesses in the area than those discussed. At the time of the preparation of <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) there was no precise detail on the scope of the proposed works, therefore a detailed understanding of the extent of the cumulative impacts was not possible.</p> <p>This issue would be managed via EPR B2 which requires the preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. A proposed management measure within this EPR is to establish a consultation group including all major health care and research institutions to meet at regular intervals as jointly agreed where this issue can be managed effectively.</p>	No

### CBD North Station

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Undisrupted access for customers, staff, deliveries, waste collection and business	MM117, MM184, MM321, MM263	The change accessibility in the precinct would impact on business operations. These impacts would be	Modify the EPR to read: Preparation of a business disruption plan to manage

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
vehicles maintained to businesses. Multiple submissions refer to closure of A'Beckett, Lt Latrobe, Franklin St.		<p>managed via the following EPR proposed in the exhibited EES:</p> <p>Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. (EPR B2)</p> <p>Particular actions within this EPR include “Develop way finding programs to establish pedestrian access patterns” and “Establish consultation group including all major health care and research institutions to meet at regular intervals as jointly agreed”.</p> <p>Following consultation with potentially affected businesses and prior to main works or shaft construction commencing, prepare management plans to minimise dust, noise and vibration impacts during construction, as per EPR for air quality and noise and vibration. (EPR B3)</p>	impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. <b>This is to include assistance to businesses that can demonstrate they have been impacted by the project.</b>
Emergency Vehicle Access (Ambulance, police, fire) to RMIT university may be impacted by construction activity and increased traffic congestion.	MM180	This impact would be managed via the following EPR proposed in the exhibited EES “Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction”. (EPR T1)	No
Potential disruption to Swanston and La Trobe tram services impacting business operation staff and patrons.	MM231	This impact would be managed via the following EPR proposed in the exhibited EES “Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction. (EPR T1)	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Additional truck and construction traffic impacting business operation.	MM231	This impact would be managed via the following EPR proposed in the exhibited EES: "Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction. (EPR T1)	No
Reduced visibility for business leading to reduced productivity.	MM184, MM321, MM263	There is an EPR proposed in the exhibited EES to develop a business disruption plan for non-acquired businesses. (EPR B2)	No
Reputational risk to business leading to reduced productivity.	MM184	There is an EPR proposed in the exhibited EES to develop a business disruption plan for non-acquired businesses. (EPR B2)	No
Endangering of small business community hub with the decision to close A'Beckett and Lt La Trobe.	MM117, MM184	There is an EPR proposed in the exhibited EES to develop a business disruption plan for non-acquired businesses. (EPR B2)	No
Safety concerns for staff (isolated laneways) Literature Lane.	MM184	There is an EPR proposed in the exhibited EES to develop a business disruption plan for non-acquired businesses. (EPR B2)	No
Pedestrian safety concerns. Safe crossing points and thoroughfares with traffic control measures.	MM180, MM365	Covered by a mitigation measure in EPR B2 proposed in the exhibited EES "Develop way finding programs to establish pedestrian access patterns".	No
Construction disrupting to 24 hour/ 7 day a week access required on RMIT Campus. Inter-building and intercampus pedestrian transfers impacted.	MM180	This impact would be managed via the following EPR proposed in the exhibited EES: "Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction. (EPR T1)	No
Cumulative impacts from construction works impacting on service delivery for RMIT.	MM180	EPR T1 requires that traffic management plan(s) must be developed recognising other projects operating concurrently, where relevant.	No
Impact on loading and unloading of goods for businesses throughout precinct.	MM222, MM263, MM273	This impact would be managed via the following EPR proposed in the exhibited EES "Develop and implement a transport management	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
		plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction. (EPR T1)	
Store conditions for staff as a result of noise and vibration resulting from construction.	MM263	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise and dust from construction works at levels above relevant standards.	No
Rubbish, recyclable (oil product) collection impacted across the precinct.	MM222, MM263	This impact would be managed via EPR T1.	No
Pollution and traffic management impacting on business operation, reduced amenity.	MM272	This impact would be managed via the following EPR proposed in the exhibited EES "Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction". (EPR T1)	No
Reduced Amenity (Noise, Dust and Vibration)	MM231	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise and dust from construction works at levels above relevant standards. EPR B2 requires the development of a business disruption plan for non-acquired businesses.	No
Business operation impacted for Franklin St Carpark ingress and egress at Ansett Towers (5,000 people movements daily) 24 hour access required.	MM272	This impact would be managed via EPR T1.	No
Proposed location of service infrastructure in the centre of A'Beckett St under the concept design impacts for RMIT university peak class times.	MM365	Covered by mitigation measures in EPR B2 proposed in the exhibited EES including "Develop way finding programs to establish pedestrian access patterns".	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Construction impact to RMIT buildings, environs and land sensitive land uses.	MM180	Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. (EPR B2)	No
Impact on public events held on the RMIT Campus.	MM180	Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. (EPR B2)	No

### CBD South Station

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Re-location due to acquisition	MM186-02, MM195, MM121, MM236, MM379, MM338, MM359,	Compensation for acquired businesses is managed through the <i>Land Acquisition and Compensation Act 1986</i> .	No
Acquisition of businesses leading to productivity decline during relocation.	MM186	Compensation for acquired businesses is managed through the <i>Land Acquisition and Compensation Act 1986</i>	No
Impacts to business due to noise, dust and vibration. Multiple submissions refer to the EntEPRrise Quarter/Bible House Entrance and Young & Jackson Hotel.	MM186, MM224, MM236, MM281, MM297, MM317, MM365	EPR B2 requires the development of a business disruption plan for non-acquired businesses.	Modify the EPR to read: Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. <b>This is to include assistance to businesses that can demonstrate they have been impacted by the project.</b>
Impacts to business due to loss of amenity in terms of open space in City Square and Fed Square	MM317, MM178, MM372, MM310, MM365	EPR B2 requires the development of a business disruption plan for non-acquired businesses.	No
Impacts to the provision of short stay accommodation incurring financial costs. Information required on impact to entrances	MM020	Access to this address would not be impacted during construction.	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
to building 238 Flinders St during construction.			
Impacts to provision of accommodation services due to noise and vibration. Already incurring loss of staff and sub-tenants seeking to relocate.	MM058	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise, vibration and dust from construction works at levels above relevant standards.	No
Uncertainty surrounding acquisition resulting in loss of staff and sub-tenants for accommodation services business.	MM058	Compensation for acquired businesses is managed through the <i>Land Acquisition and Compensation Act 1986</i>	No
Australian Visitors Centre operating under a sub-lease arrangement at Federation Square. Seeking compensation due to acquisition.	MM121	Compensation for acquired businesses is managed through the <i>Land Acquisition and Compensation Act 1986</i> .	No
Commercial properties Scott Alley, Flinders Lane. Loss of Port Phillip Arcade main thoroughfare would result in loss of pivotal foot traffic. Anticipated to result in loss of tenants, financial compensation sought.	MM147	EPR B2 requires the development of a business disruption plan for non-acquired businesses.	Modify EPR B2 to read: Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. <b>This is to include assistance to businesses that can demonstrate they have been impacted by the project.</b>
Upper floor tenants at Nicholas Building noise, dust and vibration disruption to their businesses.	MM186	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise, vibration and dust from construction works at levels above relevant standards.	No
Interdependent systems and services 27 Swanston St including utilities, sprinkler systems. Impacts on basement would make businesses unviable and result in loss of tenants.	MM186	Compensation for acquired businesses is managed through the <i>Land Acquisition and Compensation Act 1986</i> .  This type of issue is addressed by the EPR proposed in the exhibited EES: "Prepare a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
		community throughout construction". (EPR B2)	
Over-site development impacting amenity resulting in loss of commercial tenants and difficulty in securing replacement tenants.	MM186, MM178, MM326	Over site development is outside of the Concept Design assessed by the Business Impact Assessment.	No
The acquisition of adjoining properties between Young & Jackson Hotel and Nicholas building result in a vacant site & would severely impact established pedestrian traffic and patterns impacting retail tenants businesses and ability to meet rental commitments.	MM186	EPR B2 requires the development of a business disruption plan for non-acquired businesses.	Modify EPR B2 to read: Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. <b>This is to include assistance to businesses that can demonstrate they have been impacted by the project.</b>
Impacts to business operation in terms of compromised outdoor eating area.	MM224	EPR B2 requires the development of a business disruption plan for non-acquired businesses.	Modify EPR B2 to read: Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. <b>This is to include assistance to businesses that can demonstrate they have been impacted by the project.</b>
Impacts to business operation (Accommodation services) leading to a decline in productivity and inability to retain staff.	MM058, MM020, MM338	EPR B2 requires the development of a business disruption plan for non-acquired businesses.	Modify EPR B2 to read: Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. <b>This is to include assistance to businesses that can demonstrate they have been impacted by the project.</b>
Business impacts to Melbourne Visitor Centre as a result of relocation.	MM365.	This is addressed by the EPR proposed in the exhibited EES: "Prepare a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction". (EPR B2)	No
Reduced Foot Traffic/ Pedestrian Access/ Flows impacting business revenue.	MM178, MM147, MM166, MM182, MM186, MM221, MM195, MM224, MM326, MM372	This is addressed by the EPR proposed in the exhibited EES: "Prepare a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction" and "Develop and	Modify the EPR to read: Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. <b>This is to include assistance to</b>

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
		implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction". (EPR B2 and EPR T1)	<b>businesses that can demonstrate they have been impacted by the project.</b>
Construction Traffic	MM166, MM365	This impact would be managed via the following EPR proposed in the exhibited EES: "Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction". (EPR T1)	No
Truck Routes impacting business operation.	MM365	This impact would be managed via the following EPR proposed in the exhibited EES: "Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction". (EPR T1)	No
Cumulative impacts on commercial tenants resulting in financial loss including reduced access, loss of views, ventilation, and loss of open space.	MM182, MM186, MM317, MM372, MM221, MM37, MM326	This is addressed by the EPR proposed in the exhibited EES: "Prepare a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction". (EPR B2)	No
Access for disability sector, vision impaired, mobility issues during construction.	MM178, MM310	This impact would be managed via the following EPR proposed in the exhibited EES: "Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction". (EPR T1)	No
Access for the disability sector, vision impaired and mobility issues impacting the operation of Ross House Association.	MM182	This impact would be managed via the following EPR proposed in the exhibited EES: "Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
		traffic, car parking, pedestrian and bicycle movements during construction". (EPR T1)	
Over-site development due to amenity impacting business operation during construction and into the future.	MM182, MM178, MM326	Over site development is outside of the Concept Design assessed by the <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G.	No
Construction impacting waste removal, collection, recycling across the precinct particularly in Cockers Alley, Flinders Lane and Scott Alley.	MM182, MM236, MM281, MM297 MM326, MM365	The potential impacts on City of Melbourne's planned waste initiatives not considered.	Modify the EPR to read: Preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. <b>This should include identification of potential disruptions to existing waste management practices and implement measures in advance of works to ensure businesses can continue to manage their waste appropriately.</b>
Reduced access (24 hour access required) impacting on hotel business operation.	MM326	This impact would be managed via the following EPR proposed in the exhibited EES: "Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction". (EPR T1)	No
Concerns with the acquisition of the Dangerfield building and associated walls creating confusion and reducing the MMRA'S ability to minimise business disruption.	MM326	Compensation for acquired businesses is managed through the <i>Land Acquisition and Compensation Act 1986</i> .	No
Access and Egress to Federation Square impacting operation.	MM178, MM166, MM326	This impact would be managed via the following EPR proposed in the exhibited EES: "Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction". (EPR T1)	No
Public perception of Federation Square	MM178	This is addressed by EPR B2.	No
Impact of site operations in and around	MM178	This is addressed by EPR B2.	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Federation Square.			
Loss of revenue, Federation Square Car Park	MM178	This is addressed by EPR B2.	No
Impact on Public Events. Including adjustment to allow bump-in and bump out vehicle access to areas surrounding city square.	MM178, MM365	Public events can be managed during the course of construction. EPR LU1 requires the development and implementation of measures that aim to minimise impacts to the operation of existing land uses including Federation Square.	No
Impacts to commercial operations within and surrounding Federation Square. 1,700 commercial and community events. Potential loss of revenue associated with reduced hireable space.	MM178	Public events can be managed during the course of construction.	
Compulsory Acquisition leading to loss of large number of jobs, loss of goodwill, substantial loss of revenue. Opportunity costs associated with the prime location of the Site.	MM195	Compensation for acquired businesses is managed through the <i>Land Acquisition and Compensation Act 1986</i> .	No
Accessibility to NGV Venues impacting business operation.	MM166	This impact would be managed via the following EPR proposed in the exhibited EES: "Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction". (EPR T1)	No
Vibration Impacts on the State collection of works (NGV) Dust and particle matter from spoil Tunnel Boring Machines. Particle matter.	MM166	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise and dust from construction works at levels above relevant standards.	No
Risk to iconic heritage buildings in terms of structural and exterior damage.	MM166, MM326, MM186, MM310, MM365	EPR NV6 includes vibration guideline targets for structures that have a particular sensitivity to vibration including heritage buildings.  EPR GM3 Develop and implement a ground movement plan for construction and operational	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
		<p>phases of the project.</p> <p>This potential costs of any damage would be addressed by the EPR B2.</p>	

## Domain Station

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Relocation due to acquisition	MM105, MM362	Compensation for acquired businesses is managed through the <i>Land Acquisition and Compensation Act 1986</i> .	No
Traffic flow increases impacting the operation of secondary schools in the area.	MM061, MM260, MM367	This impact would be managed via the following EPR T1 which requires the development and implementation of a transport management plan to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction.	No
Increased noise and vibration impacting the operation on a secondary school.	MM260, MM367, MM358	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise, vibration and dust from construction works at levels above relevant standards.	No
Impacts to service provision for secondary school reliant on utilities (water gas, electricity, sewage, internet and phone lines)	MM260, MM358	Utilities are essential for business operations and if works unexpectedly cause any interruption to services this may suspend business activity until services are returned. It is assumed that any disruption would be short-term in nature and therefore would have a negligible impact on businesses. This risk could be mitigated by informing businesses of the timing and duration of works.	No
Impact on public events, the staging on	MM367	Public events can be managed during the	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Moomba		construction of the project via EPR T4 In advance of construction works, MMRA to develop and implement a travel demand management strategy and EPR SC 5 Work with relevant local councils to plan for and coordinate with key stakeholders during major public events.	
Impact to operation of Synagogue. Noise and vibration during services and special events.	MM135	The <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise and/or vibration from construction works at levels above relevant standards.	No
Impact to the operation of Synagogue for congregation with the re-routing of Tram 8.	MM135	This impact would be managed via the following EPR T1 which requires the development and implementation of a transport management plan to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction.	No
Impact of the temporary diversion of No.8 Tram from Domain Rd to Toorak Road. For students of Melbourne Girls Grammar closure of the tram stop on the corner of Domain Rd and Park St will double the distance for students & increase travel times.	MM358	This impact would be managed via the following EPR T1 which requires the development and implementation of a transport management plan to minimise disruption to traffic, car parking, pedestrian and bicycle movements during construction.	No
Impacts to café located directly across from Fawkner Park. Concerned with loss of passing trade and lack of car parking for patrons leading to decline in productivity.	MM246	Fawkner Park TBM southern launch site no longer being considered.	No
Impacts to café due to amenity with noise, dust and vibration from tunnelling and Fawkner park construction.	MM246	Fawkner Park TBM southern launch site is no longer being considered.	No
Construction impacting public (ceremonial) events held at the Shrine of Remembrance. Due to disturbance from noise dust and vibration and accessibility of car parks.	MM249, MM260, MM290	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise, vibration and dust from	No.

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
		construction works at levels above relevant standards.	
There would be less impact to businesses to have all TBM's launched from Fawkner Park and to use cavern construction for Domain. Concern for overall economic loss to the precinct.	MM276, MM265	Fawkner Park TBM southern launch site no longer being considered.	No
Accessibility impacts resulting from construction to Hotel located on St Kilda Road. Including loss of on street parking for guests, compromised drop off points and loading dock area, access for emergency vehicles.	MM283	This impact would be managed via the following EPR T1.	No
Impacts on the operation of a hospital on Albert Road. Service disruption due to noise, dust, vibration impacting patients.	MM295	The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise, vibration and dust from construction works at levels above relevant standards.	No
Heavy vehicle movements affecting hospital operations due to disrupted pedestrian access and risk to safety Main pedestrian access via Albert Road and Bowen Lane.	MM295	This impact would be managed via the following EPR T1.	No
Emergency access via Albert Road and access for ambulances via Bowen Lane (lift access) may be compromised.	MM295	The traffic changes could result in congestion impacting emergency vehicle and patient access to the Alfred Hospital.	The EPR for Parkville (Maintain vehicular and pedestrian access to hospital emergency departments at all times during construction and to other key health and medical facilities where practicable) may also be applied in this precinct to manage this issue.
Impacts to hospital operation due to reduction of street parking and disability parking.	MM295	This impact would be managed via the following EPR T1.	No
Loss of rental income for Royal Domain Plaza Owners Corporation due to construction impacts, noise, vibration and	MM298	If impacted, EPR B2 requires the development of a business disruption plan for non-acquired businesses.	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
construction.			
Inability to retain tenants due to compromised access and amenity impacts for New Market capital building tenants.	MM362	If impacted, EPR B2 requires the development of a business disruption plan for non-acquired businesses.	No
Noise, dust, gases and fumes, traffic from construction vehicles removing spoil , unacceptable impact on residents, buildings and community	MM313	This property should not be impacted based on the Noise and the <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I).	No
Local shops, newsagents, convenience stores and medical and pharmaceutical businesses forced to close due to reduced business.	MM333	If impacted, EPR B2 requires the development of a business disruption plan for non-acquired businesses.	No
Reliability of services 5 Bowen Crescent. Critical systems and key network services operating 24 hour, 7 day a week basis.	MM368	EPR B2 requires the development of a business disruption plan for non-acquired businesses. The plan shall include: <ul style="list-style-type: none"> <li>– Timely information on key project milestones.</li> <li>– A project construction schedule developed in coordination with transport authorities and local councils and in consultation with businesses to minimise cumulative impacts of this and other projects</li> <li>– Measures to ensure access to businesses is maintained for customers, delivery and waste removal unless there has been prior engagement with affected businesses (including mutually agreed mitigation measures as required).</li> </ul>	No
Accessibility to site impacting business operation at 5 Bowen Crescent. Bowen Lane basement carpark into the Tabcorp buildings.	MM368	There is an EPR proposed in the exhibited EES to Develop and implement a transport management plan(s) in consultation with the relevant road management authorities to minimise disruption to traffic, car parking, pedestrian and bicycle	No

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
		movements during construction. (EPR T1)	

### Domain to Eastern Portal (Tunnels)

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Loss of trade from amenity impacts from construction site in Fawkner Park	MM006, MM361	<p>The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise, vibration and dust from construction works at levels above relevant standards considering the sensitivity of receivers in the precinct.</p> <p>The <i>Melbourne Metro Rail Project: Transport Impact Assessment (April 2016)</i> (Technical Appendix D) identifies no significant impact of traffic volumes between the Eastern Portal and Domain Station.</p> <p>There is an EPR in the <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) to develop a business disruption plan for non-acquired businesses. (EPR B2)</p> <p>If dust, noise, vibration or traffic volumes were at levels that affected business operation then this would have an adverse impact on businesses beyond what was assessed in the <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G).</p>	No.

Access to businesses on Domain Road affected from rerouting of Route 8 tram	MM0059	There is an EPR proposed in the exhibited EES in the <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) to develop a business disruption plan for non-acquired businesses. (EPR B2)	No.
Impact to access to the Alfred Hospital for emergency vehicles and patients due to increased congestion particularly along St Kilda Road	MM082	Parking management covered in the <i>Melbourne Metro Rail Project: Transport Impact Assessment (April 2016)</i> (Technical Appendix D).  EPR B2 requires the development of a business disruption plan for non-acquired businesses.	No
Construction at Fawkner Park forcing child care centre to close/relocate	MM098, MM116, MM148, MM278	Fawkner Park TBM southern launch site is no longer being considered.	No
If childcare centre does not close, construction at Fawkner Park would affect its operation.	MM098, MM148, MM278	Fawkner Park TBM southern launch site is no longer being considered.	No
Vibration from tunnelling during construction and train movements during operation affecting business operation	MM361	The <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify vibration from construction and operation works at levels above relevant standards.  EPR B2 requires the development of a business disruption plan for non-acquired businesses.	No.

## Eastern Portal

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Noise disrupting work productivity	MM104, MM325	Consultation identified that productivity is not anticipated to affect professional services businesses.  There is an EPR proposed in the exhibited EES to develop a business disruption plan for non-acquired businesses. (EPR B2)	No
Vibration causing building damage and therefore financial costs for land owners	MM104, MM325, MM339	The <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical	No

		<p>Appendix I) did not identify vibration from construction and operation works at levels that would cause building damage.</p> <p>There is an EPR proposed in the exhibited EES to develop a business disruption plan for non-acquired businesses. (EPR B2)</p>	
Commercial property value declining from visual impact of ventilation structure.	MM104, MM325, MM264	An Urban Design Strategy has been developed to address design features for the project which is to be implemented via EPR LV1.	No
Amenity impacts resulting in loss of residential tenants and therefore economic losses.	MM339, MM264	This is addressed by EPR B2 which requires the preparation of a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction.	No
Amenity impacts resulting in less customers and therefore economic losses.	MM104, MM325	<p>The <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise, vibration and dust from construction works at levels above relevant standards considering the sensitivity of receivers in the precinct.</p> <p>The <i>Melbourne Metro Rail Project: Transport Impact Assessment (April 2016)</i> (Technical Appendix D) identifies no significant impact of traffic volumes in the precinct.</p> <p>EPR B2 requires the development of a business disruption plan for non-acquired businesses.</p>	No.

## Western Turnback

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
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Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Ensuring businesses are sufficiently protected from any additional noise with improved acoustic treatment along the rail corridor	MM314	<p>The <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify noise from construction works or operation at levels above relevant standards considering the sensitivity of receivers in the precinct.</p> <p>There is an EPR proposed in the exhibited EES to develop a business disruption plan for non-acquired businesses. (EPR B2).</p>	No
Concern the <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) does not have information on the businesses that surround the precinct	MM314	<p>Works are contained within the existing rail reserve and the <i>The Melbourne Metro Rail Project: Transport Impact Assessment (April 2016)</i> (Technical Appendix D), <i>Melbourne Metro Rail Project: Air Quality Impact Assessment (April 2016)</i> (Technical Appendix H) and <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) do not identify any impacts that would affect businesses beyond the project boundary.</p> <p>EPR B2 requires the development of a business disruption plan for non-acquired businesses.</p>	No.
The <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) is incorrect in identifying the precinct contains one business, there are none.	MM314	The <i>Melbourne Metro Rail Project: Business Impact Assessment (April 2016)</i> (Technical Appendix G) boundary is broader than the 'Western Turnback precinct'.	No
Acquisition of 26 car parks impacting the surrounding area	MM314	There are significant amounts of off street parking in the precinct, particularly at the Bunnings Warehouse.	No

## Other

Issue	Submission No	Response	Recommended New or Modification to the current Environmental Performance Requirement contained within the EES
Acquired properties can find it very hard to find a comparable property in the same area for a similar budget, particularly in inner city areas.	M371	Compensation for acquired businesses is managed through the <i>Land Acquisition and Compensation Act 1986</i> .	No
Concern about property damage from construction works and how disputes would be resolved.	M371	<p>The <i>Melbourne Metro Rail Project: Noise and Vibration Impact Assessment (April 2016)</i> (Technical Appendix I) did not identify vibration from construction and operation works at levels that would cause building damage.</p> <p>EPR B2 requires the development of a business disruption plan for non-acquired businesses. This includes a requirement for a process for registering and managing complaints from affected businesses.</p>	No

### 3.3 Proposed new EPRs

110. In preparing the expert witness statement, proposed EPRs that are relevant to the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)* have been critically evaluated.
111. The EPRs are generally considered to be adequate to manage the majority of impacts identified in the *Melbourne Metro Rail Project: Business Impact Assessment (April 2016)* and those identified in the submissions reviewed.
112. The EPRs proposed in the exhibited EES would likely manage the impacts from the Melbourne Metro Rail Project. However, they are generic and the business types and construction impacts varies across precincts.
113. Table 2 presents a revised set of proposed EPRs. These provide a greater level of detail to manage business impacts. They also establish an appropriate framework to govern the construction and operation of the Project if it ultimately differs from the Concept Design (but is still situated primarily within the Project Boundary as shown in the EES Map Book).
114. To show the difference between the exhibited EPRs and those presented below, new text is in bold, deleted text has a strikethrough.

TABLE 2. PROPOSED NEW ENVIRONMENTAL PERFORMANCE REQUIREMENTS

EES evaluation objective	Impact	Environmental performance requirements	Proposed management measure	Precinct	Timing	Risk no.
Social, community, land use and business: To manage the effects on the social fabric of the community in the area of the project, including with regard to land use changes, community cohesion, business functionality and access to services and facilities, especially during the construction phase.	Relocation causing a disruption to business activity	Reduce the disruption to businesses from <del>direct acquisition or temporary occupation of land,</del> and work with business and land owners to endeavour to reach agreement on the terms for possession of the land.	<ul style="list-style-type: none"> <li>— Early face-to-face engagement with acquired businesses (at least 6 to twelve months warning is preferable).</li> <li>— Businesses given a single point of contact including a contact name and direct phone number where they can direct all enquiries.</li> <li>— Where the program allows, businesses are given a minimum of six months’ notice of acquisition, but preferably at least twelve months.</li> <li>— Consider the early purchase of properties in consultation with businesses.</li> <li>— Facilitate business relocation through providing assistance in finding sites for relocation, the logistics of relocation, and advertising and other requirements arising from changed location.</li> <li>— Undertake business surveys before, during and after construction activity.</li> <li>— Trigger levels identified in the Traffic Impact Assessment, Noise and Vibration Impact Assessment and Air Quality Impact Assessment to be utilised to identify if there are impacts beyond those anticipated which could trigger assistance identified in the business disruption strategy.</li> </ul>	Tunnels, Western Portal, Arden, Parkville, CBD North and South	Construction	B006
	Relocation causing a disruption to business activity	Reduce the disruption to businesses from <del>direct acquisition or temporary occupation of land,</del> and <b>work displacement (from temporary occupation of land and displacement from VicTrack land), by working</b> with business and land owners to endeavour to reach agreement on the terms for possession of the land.	<ul style="list-style-type: none"> <li>— Early face-to-face engagement with businesses impacted by temporary occupation (at least 6 to twelve months warning is preferable).</li> <li>— Businesses given a single point of contact including a contact name and direct phone number where they can direct all enquiries.</li> <li>— Where the program allows, businesses are given a minimum of six months’ notice of occupation or displacement, but preferably at least twelve months.</li> <li>— Facilitate business relocation by providing assistance through the following measures;</li> <li>— Provide assistance to find new premises close to current location (including negotiation of leasing arrangements).</li> <li>— Cover moving costs to move to new premises.</li> </ul>	Tunnels, Western Portal, Arden, Parkville, CBD North and South	Construction	B006

EES evaluation objective	Impact	Environmental performance requirements	Proposed management measure	Precinct	Timing	Risk no.
			<ul style="list-style-type: none"> <li>– Cover fit out costs at new premises.</li> <li>– Assist with marketing material to promote the new location to existing customers.</li> <li>– Undertake business surveys before, during and after construction activity.</li> <li>– Trigger levels identified in the Traffic Impact Assessment, Noise and Vibration Impact Assessment and Air Quality Impact Assessment to be utilised to identify if there are impacts beyond those anticipated which could trigger assistance identified in the business disruption strategy.</li> </ul>			
	Construction activity impacting operations (i.e. from noise, dust, vibration, construction materials)	<p>Prepare <b>and implement</b> a business disruption plan to manage impacts to non-acquired businesses and to engage with business, property owners and the community throughout construction. The plan shall include:</p> <ul style="list-style-type: none"> <li>– Timely information on key project milestones</li> <li>– Changes to traffic conditions and duration of impact</li> <li>– A project construction schedule developed in coordination with transport authorities and local councils and in consultation with businesses to minimise cumulative impacts of this and other relevant projects</li> <li>– Plans for notifying customers of proposed changes to business operations, including the setting of suitable timeframes for notification prior to commencement of works</li> <li>– Measures to ensure access to businesses is maintained for customers, delivery and waste</li> </ul>	<ul style="list-style-type: none"> <li>– Conduct an audit of all businesses within the project boundary prior to construction commencing to understand their business operations, size and ownership structure.</li> <li>– Provide regular updates on the timing and duration of impacts to businesses in the project boundary and those in surrounding areas.</li> <li>– Mitigate against impacts in accordance with mitigation measures identified in Air Quality and Noise &amp; Vibration Impact Assessments.</li> <li>– Develop ‘way finding programs’<sup>1</sup> to establish pedestrian access patterns.</li> <li>– Establish a consultation group including all major health care and research institutions to meet at regular intervals as jointly agreed.</li> <li>– Where possible maintain utilities. If disruptions are unavoidable then compensation could be negotiated to impacted businesses.</li> </ul>	All	Construction	B001 B002 B004 B005 B007 B008 B009

<sup>1</sup> Pedestrian way finding programs used by Optus following their move from North Sydney to Macquarie Park could be an example of this type of mitigation program.

EES evaluation objective	Impact	Environmental performance requirements	Proposed management measure	Precinct	Timing	Risk no.
		<p>removal unless there has been prior engagement with affected businesses (including mutually agreed mitigation measures as required). This could include the installation of directional and business signage to assist customers.</p> <ul style="list-style-type: none"> <li>Process for registering and management of complaints from affected businesses.</li> </ul>				
	Construction activity impacting operations (i.e. from reduced access, noise, dust, vibration, construction materials)	<b>Provide assistance to food and retail businesses that can demonstrate that they have been impacted by the project.</b>	<p>This could include:</p> <ul style="list-style-type: none"> <li>Assist with marketing material to promote the current location to potential customers.</li> <li>Buy out existing leases on premises.</li> <li>Provide assistance to find new premises close to current location.</li> <li>Cover moving costs to move to new premises.</li> <li>Cover fit out costs at new premises.</li> <li>Assist with marketing material to promote the new location to potential customers.</li> </ul>	All		
	Construction activity impacting operations (i.e. from reduced access, noise, dust, vibration, construction materials)	<b>Provide assistance to education and research institutions that can demonstrate that they have been impacted by the project.</b>	<p>This could include:</p> <ul style="list-style-type: none"> <li>If possible, buy out existing leases on premises.</li> <li>Provide assistance to find suitable premises (for research purposes and/or teaching) close to current location.</li> <li>Cover moving costs to move to new premises.</li> <li>Cover fit out costs at new premises.</li> <li>If required, cover moving costs to return to previous premises once construction is completed.</li> <li>If relocation is not feasible, negotiate compensation if research equipment is not able to be used during the construction period of the project.</li> </ul>	All		
	Construction activity impacting operations (i.e. from reduced access, noise, dust, vibration, construction materials)	<b>Provide assistance to accommodation business that can demonstrate that they have been impacted by the project.</b>	<p>This could include:</p> <ul style="list-style-type: none"> <li>Assist with marketing material to promote the location.</li> <li>Cover costs related to improved sound proofing of impacted rooms.</li> <li>If possible, lease/rent rooms and/or function spaces which can be demonstrated to be impacted by the project.</li> </ul>	All		

EES evaluation objective	Impact	Environmental performance requirements	Proposed management measure	Precinct	Timing	Risk no.
	Construction activity impacting operations (i.e. from reduced access, noise, dust, vibration, construction materials)	<b>Provide assistance to owners that can demonstrate that their rental income has been impacted by the project.</b>	This could include: <ul style="list-style-type: none"> <li>Assist with marketing material to promote the location to potential tenants.</li> <li>Providing assistance to cover any demonstrated short fall in rental income.</li> <li>Lease premises for duration of the construction impact.</li> </ul>	All		
	Construction activity impacting operations (i.e. from reduced access, noise, dust, vibration, construction materials)	<b>Where the program allows maintain telecommunications network and power supply for office based and other businesses operating outside of non-standard hours that could be impacted by the project.</b>	<ul style="list-style-type: none"> <li>Provide regular updates on the timing and duration of impacts to surrounding businesses.</li> <li>Where possible maintain telecommunications network and power supply during construction for office based business operating outside of non-standard hours.</li> <li>If telecommunications network and power supply disruptions are unavoidable then compensation could be negotiated to office based business operating outside of non-standard hours.</li> </ul>	All		
	Construction activity impacting operations.	<b>Provide assistance to hospitals councils, education and research institutions that can demonstrate a substantive impact (not covered by other EPRs) from the project via additional workload and costs. For example:</b> <ul style="list-style-type: none"> <li><b>Additional street cleaning</b></li> <li><b>Increased cost of waste collection</b></li> <li><b>Additional staff to manage interaction with MMRA and contractor</b></li> <li><b>Additional promotion of events</b></li> </ul>	Negotiate assistance with organisations to cover additional costs during the construction period of the project.			
	Construction activity causing a reduction in amenity (i.e. from noise, dust, vibration)	Following consultation with potentially affected businesses and prior to main works or shaft construction commencing, prepare management plans to minimise dust, noise and vibration impacts during construction, as per AQ1, NV1 and NV4.	<ul style="list-style-type: none"> <li>Provide regular updates on the timing and duration of impacts to surrounding businesses.</li> <li>Develop 'way finding programs' to establish pedestrian access patterns. Mitigate against impacts in accordance with mitigation measures identified in Air Quality and Noise &amp; Vibration Impact Assessments.</li> <li>Relocate the Fawkner Park Children's Centre and Kindergarten for the duration of the construction.</li> </ul>	All	Construction	B003
	The day to day medical services provided could	Maintain vehicular and pedestrian access to hospital emergency departments at all	<ul style="list-style-type: none"> <li>Consult with all major health care and research institutions.</li> </ul>	Parkville	Design and Construction	B001 B004

EES evaluation objective	Impact	Environmental performance requirements	Proposed management measure	Precinct	Timing	Risk no.
	be compromised.	times during construction and to other key health and medical facilities where practicable.				
	Their emergency response role in Class 1 emergencies <sup>2</sup> could be compromised.	Develop a stop work contingency plan for Class 1 emergencies (as defined in the Emergency Management Act 2013) in consultation with medical institutions in the Parkville precinct in the event that Melbourne Metro construction works are required to cease.	Consult with all major health care and research institutions.	Parkville	Design and Construction	B001 B004

Also refer to the following Environmental Performance Requirements for 'Business': T1, SC2, LU1, AQ1, NV1

<sup>2</sup>For more info see: <http://files.em.vic.gov.au/Doctrine/Found/Foundations-EMC1.pdf>

# APPENDIX A: CV

## Qualifications

115. I hold the following academic qualifications:  
Bachelor of Economics (Honours) (James Cook University)

## Career Overview

116. I am National Leader – Economic & Social Analysis at SGS Economics and Planning. I provide advice to all tiers of government, not for profit organisations and the private sector. My expertise includes the link between the urban productivity and the macroeconomy and I am a regular media commentator on the functioning of our cities and regions. I provide advice on economic development issues, land use and transport strategies and individual infrastructure projects.
117. Prior to joining SGS, Terry was employed at the Australian Bureau of Statistics in a number of roles. These included overseeing the compilation of the National Accounts where he gained invaluable experience relative to this project on the measurement of productivity statistics. Terry worked in the Analytical Services Branch where his research covered a wide range of topics. These included labour market economics, crime and justice research, wealth statistics and Indigenous issues.

## Career History

118. SGS Economics and Planning PTY LTD November 2007 – Present
119. Australian Bureau of Statistics January 2000 – November 2007

## Selected professional highlights

120. My experience includes public policy development, economic modelling, examining social exclusion, strategy development, detailed economic appraisal and statistical analysis. Some of the strategies I have helped develop include the acclaimed Eddington Review, Brunei Land Optimisation Strategy, Christchurch Central Recovery Plan, the Transport Plan for South Australia and the Jobs and Industry Strategy for Melbourne's West.
121. I have worked on the economic and land use aspects of many transport projects including Regional Rail Link, EastLink, Melbourne Metro, Auckland Rail Link, the Second Harbour Crossing, MAX Light Rail, Newcastle Light Rail and East West Link. I have assessed projects for Infrastructure Australia and has been involved in the review of the National Guidelines for Transport System Management.
122. Terry was an essential part of the team that delivered the report 'Productivity and Agglomeration Benefits in Australian Capital Cities'. This report addressed the information gap in the COAG Reform Council's study of empirical research on productivity and agglomeration benefits in capital cities

## Selected presentations and knowledge sharing

123. Walking to global competitiveness: A case study of Melbourne's CBD  
<http://www.sgsep.com.au/publications/walking-global-competitiveness-case-study-melbournes-cbd>
124. SGS Seminar - Is life in Melbourne getting better? <http://www.sgsep.com.au/publications/sgs-seminar-life-melbourne-getting-better>
125. Melbourne's economy: a stunning success or captured by complacency?  
<http://www.sgsep.com.au/publications/melbournes-economy-stunning-success-or-captured-complacency>
126. GDP by Major Capital City 2014-2015 <http://www.sgsep.com.au/publications/gdp-major-capital-city-2014-2015>

## Selected Publications

127. Economic and Land Use Impacts of Transport Projects  
[http://www.aitpm.com.au/ArticleDocuments/249/Transport\\_Planning\\_Session\\_8-Terry\\_Rawnsley\\_Economic\\_and\\_land\\_use\\_impacts\\_of\\_transport\\_projects.pdf.aspx?Embed=Y](http://www.aitpm.com.au/ArticleDocuments/249/Transport_Planning_Session_8-Terry_Rawnsley_Economic_and_land_use_impacts_of_transport_projects.pdf.aspx?Embed=Y)
128. Melbourne's transformation: Rustbelt to Renaissance  
<https://www.sgsep.com.au/publications/melbournes-transformation-rustbelt-renaissance>
129. Agglomeration and labour productivity in Australian cities  
<https://www.sgsep.com.au/publications/agglomeration-and-labour-productivity-australian-cities>
130. Experimental Output Measures for the Australian Justice Sector  
<http://www.abs.gov.au/ausstats/abs@.nsf/mf/1351.0.55.003>

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