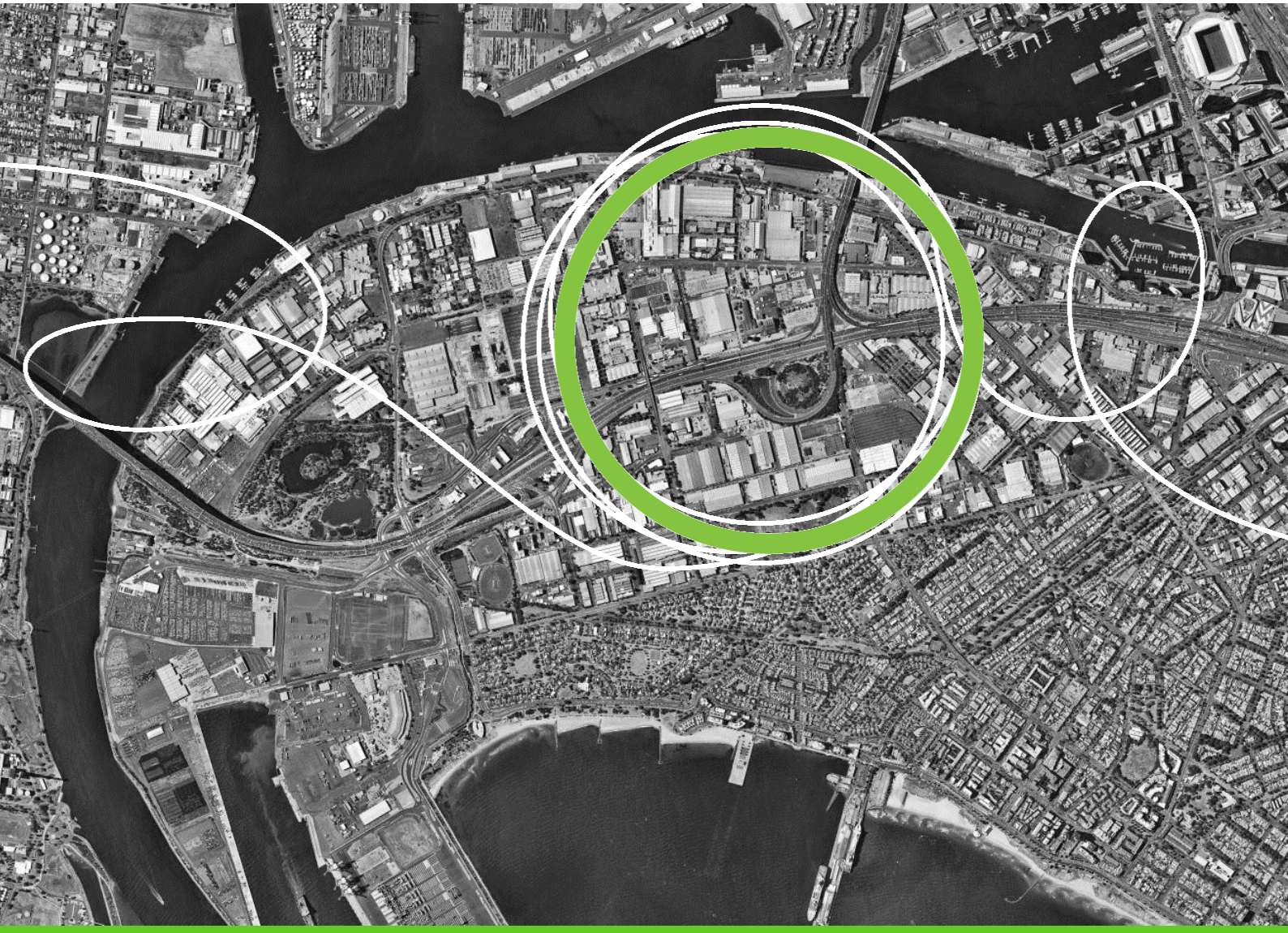
GTAconsultants



Fishermans Bend Planning Review Panel
Integrated Transport Plan Peer Review
Expert Witness Statement

Expert //	John Kiriakidis
Client //	Fishermans Bend Taskforce
Instructed by //	Kate Morris, Harwood Andrews
Reference //	V145740
Hearing Date //	March 2018
Report Date //	05/03/18

Fishermans Bend Planning Review Panel

Integrated Transport Plan Peer Review

Expert Witness Statement

Issue: A 05/03/18

Client: Fishermans Bend Taskforce
Reference: V145740
GTA Consultants Office: VIC

GTAconsultants

Melbourne | Sydney | Brisbane
Canberra | Adelaide | Perth

Table of Contents

1.	**Amendment Introduction**	**1**
1.1	Appreciation	1
1.2	Background	2
1.3	Advisory Committee Terms of Reference	4
1.4	Qualifications and Experience	4
1.5	Report Scope	4
1.6	References	4
1.7	Tests, Experiments & Assistance	4
2.	**Amendment Context**	**6**
2.1	Preamble	6
2.2	Historic Context	7
2.3	Fishermans Bend Precinct Boundaries	7
2.4	Existing Transport Conditions & Considerations	8
3.	**Policy & Planning Background**	**12**
3.1	Strategic Policy Setting	12
3.2	Statutory Policy Setting	12
3.3	Precinct Specific Planning Studies	16
4.	**ITP Planning Methodology**	**28**
4.1	Preamble	28
4.2	ITP Transport Targets	28
4.3	ITP Principles	29
4.4	Planning Synchronisation	30
5.	**ITP Transport System Recommendations**	**34**
5.1	Preamble	34
5.2	Recommended Transport Framework Solution	35
6.	**Transport Target Achievability**	**38**
6.1	Preamble	38
6.2	Strategic Model (Quantitative) Testing Methodology	38
6.3	Strategic Model Limitations	38
6.4	Strategic Model Outputs	39
6.5	Sustainable Travel Sensibility Review	41
6.6	Modelling – Is more work Required?	43
6.7	Active Travel Infrastructure Review	47
7.	**The Need for a Future Freight Corridor**	**57**
7.1	Freight Planning Context	57
7.2	Suitability of Freight Assessment Methodology	58

7.3 Freight Study Scope Limitations 59
7.4 Suitability of Alignment Assessment Process 59
7.5 Suitability of Analytic Assumptions used for Freight Forecasting 59
7.6 Suitability of Distribution Assumptions 60
7.7 Freight Route Rapid Assessment 60
7.8 Multi Criteria Assessment of Options 61
7.9 Preferred Alignment Option 62
7.10 Freight Infrastructure Staging 62

8. Transport Infrastructure Delivery & Sequencing 63

9. Summary of Submissions 66

9.1 Preamble 66
9.2 Summary of Issues Raised in Submissions 66
9.3 Major Stakeholder Submissions 67
9.4 Individuals and Organisations 91

10. Review of Planning Scheme Controls 94

10.1 Preamble 94
10.2 City of Melbourne 94
10.3 City of Port Phillip 95

Appendices

A: Curriculum Vitae

Figures

Figure 1.1: Planning History Timeline 3
Figure 2.1: Planning Phases – Relationship between Framework and ITP 6
Figure 2.2: Fishermans Bend Precinct Map 8
Figure 2.3: Existing Transport Conditions – Fishermans Bend 9
Figure 2.4: Existing Constraints to Transport – Fishermans Bend 10
Figure 3.1: Option 3C – Preferred Alignment (as identified in Jacobs study) 19
Figure 3.2: Identified Rail Alignments (Source: page 24) 20
Figure 3.3: Option 2, Plummer Street with a station in the Wirraway and Sandridge precincts 21
Figure 3.4: Option 5/5A Sandridge/GM Holden or Sandridge Employment with a station in the Employment and Sandridge precincts 21
Figure 3.5: Preferred Cycling Corridor Routes (GTA, 2013) 27
Figure 4.1: Planning Phases – Relationship between Framework and ITP 31
Figure 4.2: Relationship between Framework and ITP 31
Figure 5.1: Key ITP Recommendations (Indicative Only) 34
Figure 5.2: Fishermans Bend Framework – Proposed Transport Network 36

Figure 6.1: Summary of Travel Behaviours (PC6) 40
Figure 6.2: Summary of Travel Behaviours (PC7) 40
Figure 6.3: AM Peak Tram Load 40
Figure 6.4: Project Case 1 – AM Peak Tram V/C 40
Figure 6.5: AM Peak PT Mode Share by Selected Destination Precinct 41
Figure 6.6: Current Mode Share for Similarly-Located Suburbs – Method of Travel to Work (ABS 2016) 42
Figure 6.7: Modelled Network – Number of Lanes 44
Figure 6.8: Modelled Network – Posted Speed 44
Figure 6.9: Road V/C Plots – AM Peak 44
Figure 6.10: Road V/C Plots – PM Peak 44
Figure 6.11: Comparative Walk Distance – Melbourne CBD Examples 46
Figure 6.12: Proposed cycling network (from ITP) 48
Figure 6.13: Proposed Cycling Network (ITP) 49
Figure 6.14: Cycling infrastructure (draft Framework) 50
Figure 6.15: VicRoads Strategic Cycling Corridors 51
Figure 6.16: Proposed walking plan (from ITP) 52
Figure 8.1: Infrastructure Delivery Phasing (Framework) 63

Tables

Table 1.1: Evidence Report Support Staff (GTA Consultants) 5
Table 2.1: Fishermans Bend Physical, Transport Infrastructure & Connectivity Constraints 11
Table 3.1: Car Parking Spaces (Maximum)[2] 13
Table 3.2: Current Planning Controls Relevant to Transport[10] 15
Table 3.3: Summary of Transport-Relevant Precinct Specific Planning Studies 16
Table 3.4: Transport Project Scenarios Modelled (VITM Model Scenarios) 22
Table 4.1: Relationship between ITP Objectives and Framework Strategies 32
Table 5.1: Key Transport Recommendations within the ITP Report 34
Table 5.2: Key Public Transport and Active Travel Recommendations from Framework Report 36
Table 6.1: Estimated Transport Usage (VITM Modal) Travel Patterns @ Full Build 39
Table 6.2: Current Mode Share for selected Inner-City Suburbs – Method of Travel to Work (ABS 2016) 43
Table 6.3: Comparison of sustainable transport initiatives against key best practice measures 53
Table 6.4: Comments and Opportunities on Selected items from the Draft Framework 56
Table 8.1: Infrastructure Delivery Phasing 64
Table 9.1: Current Maximum Car Parking Rates for Nearby Areas 70

1. Amendment Introduction

1.1 Appreciation

Fishermans Bend is an "Inner-City Suburb"

Fishermans Bend is contains convenient geographic proximity to Melbourne's employment and activity core in the Central Business District and its strategic positioning between the Yarra River, Port Phillip Bay and the city. The urban renewal area is well-positioned as a key link between Melbourne's booming west and growing inner-urban areas, including Docklands, Southbank, North Melbourne and the CBD. This presents an opportunity to strengthen and integrate transport connections to surrounding areas, including those within the City of Port Phillip, areas west of the Yarra River and the central city, as well as gateways to broader metropolitan Melbourne and regional Victoria.

Fishermans Bend is envisaged as an extension of the central city, with aspirations for comparable density of land use and transport modality. Residents will live close to jobs, services and transport, with active transport networks making walking and cycling a safe, convenient and preferred mode of travel.

In light of this, and given the significant urban renewal envisaged for the area, there is a material opportunity for Fishermans Bend to establish new benchmarks for sustainable transport in inner-Melbourne and place itself among the most sustainable transport cities in the world. The context in Fishermans Bend, and the Framework's response, is explored in both this ITP Peer Review Report and the Framework Peer Review Report prepared by Mr Will Fooks of GTA Consultants.

A significant body of work has been done to provide confidence in planning to date

The Framework (and supporting Planning Controls) have evolved over the greater part of the last decade, including revised aspirations for employment, land use and transport outcomes for the urban renewal area.

The current Integrated Transport Plan (2017) prepared Transport for Victoria (DEDJTR) has built upon the foundations established under the prior vision of 2012-2013 and has been informed by a dedicated suite of recent technical reports and studies which underpin the findings and recommendations. In turn, the Integrated Transport Plan, in conjunction with various planning outputs for other disciplines, has informed the development of the Fishermans Bend Framework.

The transport planning supporting this evolving body of work is extensive and provides confidence that planning outcomes have been founded on a suitable evidence base. The completeness and validity of this evidence base is examined in this ITP Peer Review Report.

There is more planning to come

In establishing the context of this report, it is important to recognise that the planning and review process will extend beyond this Amendment. The work completed to date establishes the framework and high-level strategic direction for the development of the precinct over the next 30-35 years but recognises that further detail and planning will be required at subsequent stages.

It should be recognised that the Framework is an overarching guidance document, and that it will be followed by a series of Precinct Structure Plans and other investigative reports which set out a pathway for the precincts growth and development. Finer grain details such as road cross-sections, transport plans and assessment reports, development staging plans and spatial detail

(such as housing, community facilities, open space, activity centres and heritage plans) will be provided in the Precinct Structure Planning process. These plans give rise to an opportunity to refine infrastructure staging targets, such as transport and freight infrastructure phasing. Alternatively, separate planning reviews will need to be undertaken to more specifically consider infrastructure timing outcomes.

It should also be recognised that given the significant period-of-time between now and the horizon year of 2050, various elements of planning for the precinct will likely change. For this reason, the development of the precinct will need to be monitored and reviewed, so that the planning framework is implemented in accordance with the various objectives and strategies.

It is reasonable to expect that not all challenges will be resolved at this stage of planning. However, it is important that the high-level strategic framework is sufficiently developed to support and deliver the preferred vision for the precinct. The robustness and adequacy of the vision and collective objectives and strategies (as it relates to transport) is examined in greater detail within the Strategic Transport Peer Review Report prepared by Mr Will Fooks of GTA Consultants.

1.2 Background

An Advisory Committee has been appointed pursuant to Part 7, section 151 of the Planning and Environment Act 1987 to report on the proposed Planning Scheme Amendment GC81 for Fishermans Bend.

The Review Panel has been appointed to advise the Minister for Planning on the appropriateness of the proposed Planning Scheme Amendment GC81.

The Planning Review Panel's Terms of Reference provide a background on the planned Fishermans Bend urban renewal project. It states that:

"Fishermans Bend is Australia's largest urban renewal project covering approximately 480 hectares of mainly industrial land (nearly three times the size of the Central Business District). The area spans two councils – the City of Melbourne and the City of Port Phillip. Fishermans Bend is one of several priority precincts identified in Plan Melbourne as playing a central role in accommodating significant growth.

In 2012, the former Minister for Planning declared Fishermans Bend a project of State significance and approved Melbourne Planning Scheme Amendment C170 and Port Phillip Planning Scheme Amendment C102 with exemption under section 20(4) of the Act.

The Fishermans Bend Urban Renewal Area Draft Vision was released in September 2013 by Places Victoria, in collaboration with the State Government, City of Port Phillip, City of Melbourne and the Office of the Victorian Government Architect. The draft vision underwent six weeks of consultation.

In 2014, Amendment GC7 was approved by the former Minister, which introduced the Fishermans Bend Strategic Framework Plan (July 2014) as an incorporated document to the Melbourne and Port Phillip Planning Schemes using his powers of exemption under section 20(4) of the Act.

In April 2015, The Minister for Planning, under section 20(4) of the Act, approved planning scheme Amendment GC29, which introduced interim planning controls and updated the Framework to the Fishermans Bend Strategic Framework Plan (July 2014, amended April 2015). At the same time the Minister for Planning committed to "recast the development of Fishermans Bend into a series of distinct neighbourhoods, allowing Victorian planners to showcase best practice renewal".

In June 2015, Government established an independent Ministerial Advisory Committee (MAC) to provide community and expert advice for Fishermans Bend.

The Fishermans Bend Taskforce (the Taskforce) was subsequently created in February 2016 as a dedicated unit within DELWP to carry out strategic planning work for Fishermans Bend in response to one of the MAC's recommendations.

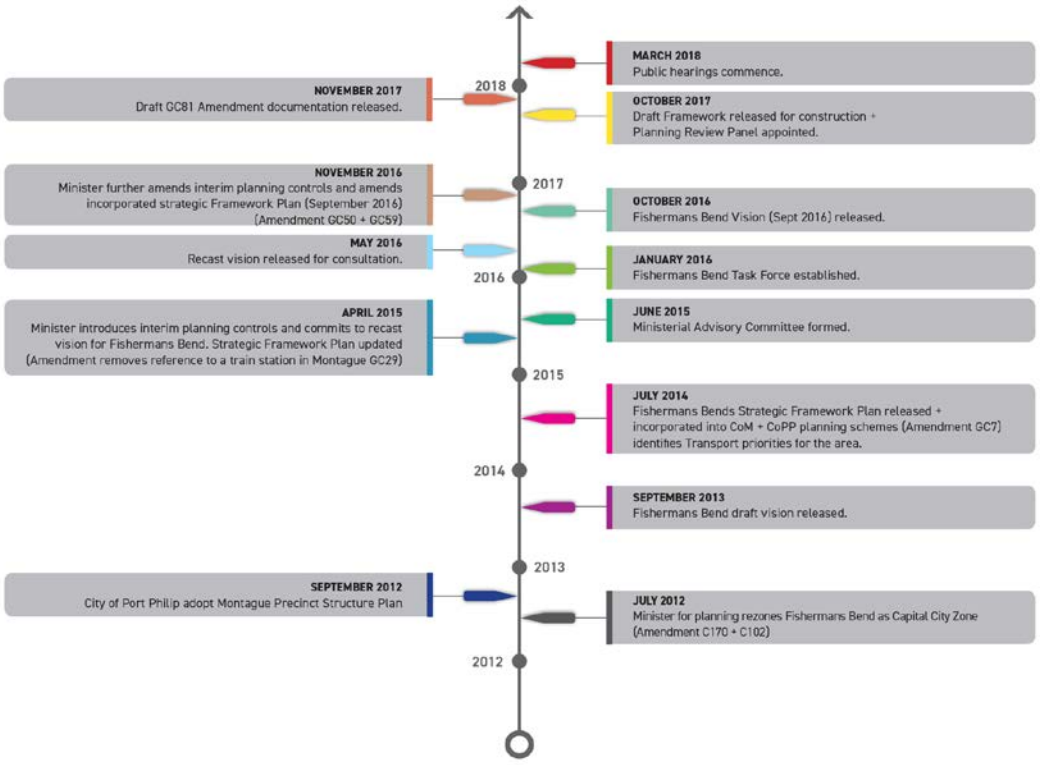
On 3 October 2016, following extensive community consultation, the Minister for Planning released the Fishermans Bend Vision – The next chapter in Melbourne's growth story, September 2016.

In November 2016, while the Fishermans Bend Framework and permanent planning controls were being developed, Government introduced interim planning controls as part of Planning Scheme Amendment GC50 (updated by GC59).

Planning Scheme Amendment GC81 has been prepared to implement the Vision for Fishermans Bend through a suite of permanent controls including amendments to the Melbourne and Port Phillip Planning Scheme and a new Fishermans Bend Framework."

The below figure illustrates this timeline.

Figure 1.1: Planning History Timeline



I was engaged in February 2018 on behalf of the Fishermans Bend Taskforce to peer review the integrated transport planning work undertaken in support of Planning Scheme Amendment GC81 for Fishermans Bend. This has been done by considering the extent to which the planning and proposed changes align with strategic policy and allow for the delivery of the Fishermans Bend Vision, September 2016 (Vision).

1.3 Advisory Committee Terms of Reference

To the extent that it has a bearing on my review, I acknowledge the Advisory Committee's '*Terms of Reference'* in relation the Amendment. In determining the appropriateness of the proposed Planning Scheme Amendment, the Advisory Committee must consider:

- *The State policy context of the Fishermans Bend area.*
- *The extent to which the proposed changes to the Capital City Zone Schedule 1 (Port Phillip Planning Scheme) and Capital City Zone Schedule 4 (Melbourne Planning Scheme) allows for the Fishermans Bend Vision, September 2016 to be achieved.*
- *The extent to which all other proposed changes sought by GC81 allows for the Fishermans Bend Vision, September 2016 to be achieved.*
- *All relevant submissions made in regard to the proposed changes to the Port Phillip and Melbourne Planning Schemes.*
- *An assessment of whether the proposed planning provisions make proper use of the Victoria Planning Provisions and are prepared and presented in accordance with the Ministerial Direction on The Form and Content of Planning Schemes.*

1.4 Qualifications and Experience

Appendix A contains a statement setting out my qualifications and experience.

1.5 Report Scope

The scope of this report includes consideration of the following:

- Have regard to the Fishermans Bend draft Framework Plan but review the adequacy of the various background reports relied upon to support the Amendment including the Fishermans Bend Integrated Transport Plan October 2017 prepared by DEDJTR;
- Review and comment on the drafted Planning Scheme controls proposed for inclusion into the City of Port Phillip and City of Melbourne Planning Schemes;
- Identify any recommended changes to the draft Framework or Amendment in response to the referred submissions; and
- Address the relevant submissions as far as they relate to transport planning.

1.6 References

The report relies on the material set out in the Fishermans Bend Integrated Transport Plan (referred herein as the 'Fishermans Bend ITP' or the 'Integrated Transport Plan'), prepared by Transport for Victoria in October 2017 and the draft Fishermans Bend Framework (referred herein as 'the Framework').

This report also relies on technical reports and studies which underpin the Fishermans Bend ITP, as outlined in Section 3.3 or otherwise referenced throughout this report.

Other references relied upon in compiling this assessment are set out in the body of the report.

1.7 Tests, Experiments & Assistance

In preparing this report, a project team of specialists was assembled to review specific disciplines that sit within the broader expertise of transport planning. Under my instruction, these specialists

have contributed to the compilation of advice and commentary set out in the body of this report.

These specialists are identified in Table 1.1.

Table 1.1: Evidence Report Support Staff (GTA Consultants)

Name	Organisational Position
Transport Analytics & Planning	
Christian Bodé	Associate Director
Matthew Raisbeck	Associate
Strategic Planning	
Saskia Noakes	Senior Consultant
Tom Kennedy	Consultant
Jordan Smith	Consultant
Active Travel	
Phil Gray	Associate
Freight & Logistics	
Paul Mantella	Director
Strategic Transport Planning	
Will Fooks	Director

2. Amendment Context

2.1 Preamble

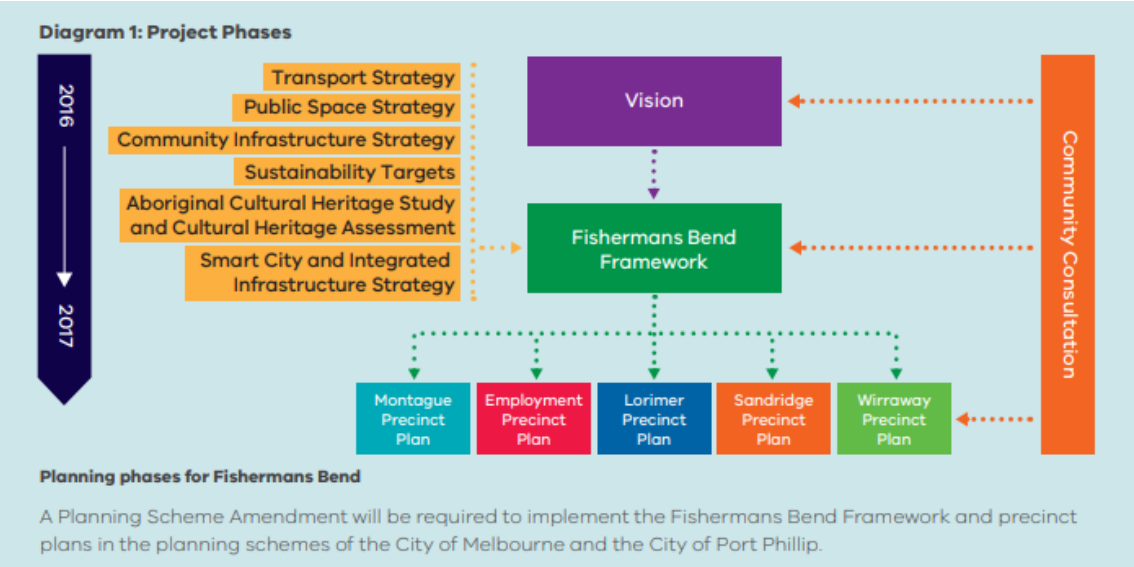
The Fishermans Bend Integrated Transport Plan (ITP) is a background document that supports the Fishermans Bend Framework Plan and the overarching Fishermans Bend Strategic Vision.

The ITP was developed by Transport for Victoria (TFV), working in partnership with the Department of Environment, Land, Water and Planning (DELWP), the Fishermans Bend Taskforce and the Fishermans Bend Transport Working Group, including the City of Melbourne, City of Port Phillip and Port of Melbourne Corporation.

The ITP supports the 2050 goals and objectives identified in the Fishermans Bend Vision and provides recommendations on the likely transport requirements to achieve this Vision. This includes providing an assessment of potential transport options and their justification, with reference to the relevant technical documents and studies. These documents and studies are outlined in greater detail in Section 3.3.

The ITP underpins the overarching transport vision for Fishermans Bend and how it integrates with the surrounding transport network. As Fishermans Bend is divided into five distinct precincts, the next stage of planning will involve developing individual Structure Plans for each precinct. These are scheduled to be realised in mid-2018.[1]

Figure 2.1: Planning Phases – Relationship between Framework and ITP[2]



To inform these Structure Plans, I expect that further detailed transport planning work will be required. This will determine the finer grain network attributes and ensure the five precincts integrate and have sustainable transport options to support the mode split targets identified in the Framework. More detail on requirements for this work are set out later in this Evidence Report.

[1] Draft Fishermans Bend Framework, 2017

[2] *Fishermans Bend Vision*, September 2016, State Government, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0027/29763/Final_Vision_LR_single_page.pdf, accessed 21/02/18

2.2 Historic Context

Fishermans Bend is currently occupied by low-density industrial and warehousing land uses. The existing transport network has been designed to support these land uses and, as a result, the area is highly car-dependent, with limited pedestrian, cycling and public transport facilities.

In July 2012, (under previous government) the Minster for Planning identified the Fishermans Bend Urban Renewal area as an urban renewal project of State significance and rezoned the area as a Capital City Zone (CCZ). The rezoning expanded the CCZ by more than 50 percent. The initial renewal area was 248 hectares in size.

As identified in the draft *Framework*, comprehensive planning did not occur prior to the rezoning of the area. Due to the lack of strategic direction and planning controls, land prices were inflated as speculation and substantial development activity occurred with no cohesive direction to support the sustainable development of Fishermans Bend. Rezoning to the Capital City Zone was intended to facilitate the transition of the area from a primarily industrial precinct to a mixed-use area with a residential and commercial focus. The planning permits received as part of this process were primarily for high-density residential buildings, with limited commercial uses, generally clustered in the Montague and Lorimer precincts.

The Minister's Response to the draft Planning Scheme Amendment GC81 flags that:

"Fishermans Bend is a unique urban renewal area, being 90% privately owned and already rezoned with only interim planning in place. No other urban precinct in Australia has faced these challenges."

Planning for the precinct has been an iterative process. The complexity of developing a strategic vision for the area was further complicated by the change of state government in 2014.

In response to the need for planning direction in the development process, the following interim planning controls were applied to the area.

- July 2014: Guidance in the form of a range of discretionary height limits and non-mandatory design guidelines.
- April 2015: Mandatory height limits were introduced.
- November 2016: Revised set of interim design guidelines were introduced, focusing on improving building and street amenity and improving the delivery of affordable and diverse housing. They included mandatory street wall heights, tower setback and separation distances.[3]

The draft *Framework* is based on the Fishermans Bend Vision and seeks to provide strategic direction to the redevelopment of the area.

2.3 Fishermans Bend Precinct Boundaries

The Framework identifies five distinct urban renewal precincts which together comprise the Fishermans Bend Urban Renewal Area.

- Montague
- Lorimer
- Sandridge
- Wirraway
- Employment Precinct

[3] Draft Fishermans Bend Framework, 2017,

The precinct locations are illustrated in Figure 2.2.

Figure 2.2: Fishermans Bend Precinct Map

2.4 Existing Transport Conditions & Considerations

The historic land use patterns within Fishermans Bend have influenced the nature and make-up of existing transport infrastructure. The current environment supports land use which is geared towards road-based travel and as such it creates a range of challenges for the redevelopment of the area into a sustainable mixed-use community.

Sustainable Transport

The bicycle network in the area is limited, with shared paths near the perimeter and a range of isolated on-road bicycle lanes. The road environment for cyclists is characterised by wide roads and industrial vehicle movements. The constraints posed by the West Gate Freeway also severely constrain north-south bicycle access.

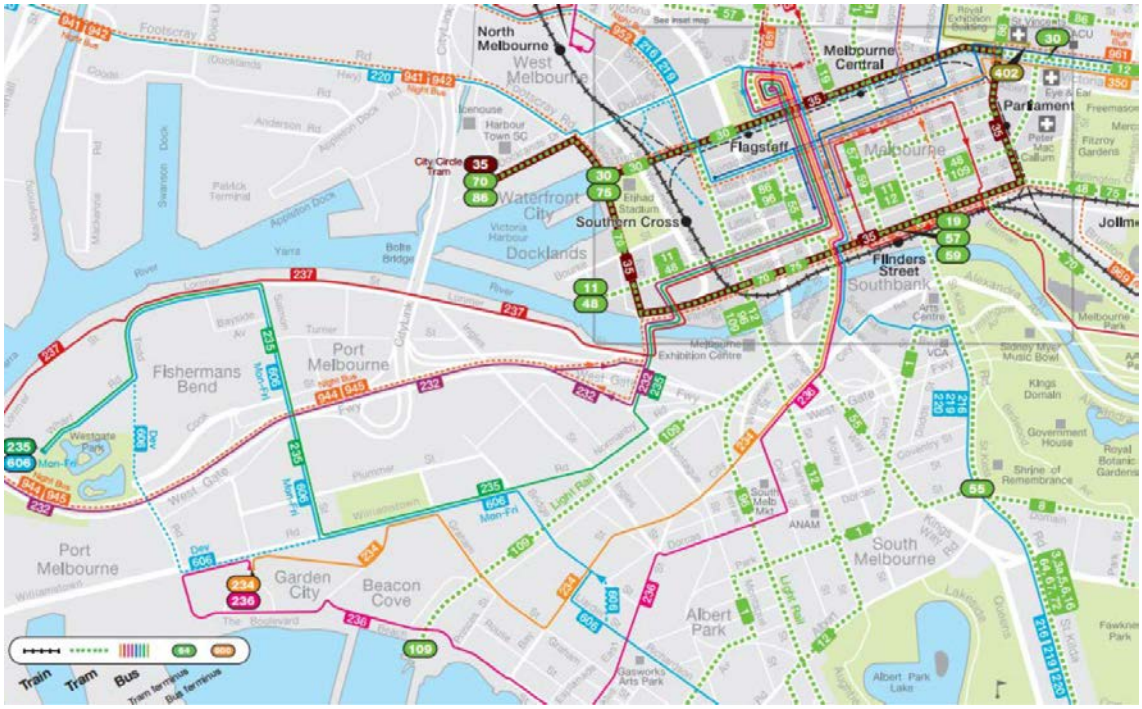
The existing walking environment presents several challenges that reduce the attractiveness of walking. This includes high vehicle speeds, wide industrial roads (with intermittent crossing opportunities) and very large block sizes that increase walking distances and neighbourhood permeability. Large parcels of industrial land create visual barriers and reduced active frontages which contribute to reduced levels of perceived personal safety.

The area is poorly connected with public transport, with the exception of the Montague Precinct, which is currently serviced by tram routes 96 and 109.

The closest train station to Fishermans Bend is Southern Cross, this is approximately a 25 min walk from the city side of the Lorimer precinct. This station serves as a central city 'gateway' for both metropolitan and regional transport access. This train station is, however, difficult to access from most of Fishermans Bend, given the lack of connecting transport infrastructure and the access barriers imposed by the Yarra River and West Gate Freeway (for precincts to the south).

The *Fishermans Bend ITP* identifies that the area is *"at most 6km from the existing Melbourne CBD, enabling a significant number of activities for residents and workers to be accessible by short trips undertaken by walking, cycling and public transport"*. Ideally, the area is set amongst a flat topography, potentially facilitating walking and cycling for a broader range of users.

Figure 2.3: Existing Transport Conditions – Fishermans Bend



Road Network

The West Gate Freeway divides the Fishermans Bend area north-south through the centre of the precinct and presents a significant barrier to access and interconnectivity between precincts. The *Fishermans Bend ITP* also indicates that the precinct is *"well connected to the West Gate Freeway and arterial road network; however, there is congestion at peak periods"*.

In the west of the precinct, the road network predominantly services the existing industrial uses, with broad street cross-sections and low existing amenity for pedestrians and cyclists. The freight and industrial street widths are conducive to conversion for higher-amenity streets for pedestrians and cyclists. In other areas, however, the *Framework* identifies that road widening is required to accommodate the proposed road cross-sections; here, the high proportion of private land ownership presents a challenge in this respect.

Freight Planning

Fishermans Bend is adjacent to a growing port and freight activities at Webb Dock. Further to this, an increase in freight activity is expected which has been supported by recent government investments at the intersections of Todd Road and the West Gate Freeway. Integrating a major mixed-use redevelopment into an area with existing and growing freight demand presents a number of congestion, safety and amenity challenges.[4] This will require careful consideration and staging, particularly as the precinct develops.

[4] Fishermans Bend Integrated Transport Plan, Transport for Victoria, October 2017

Other Considerations

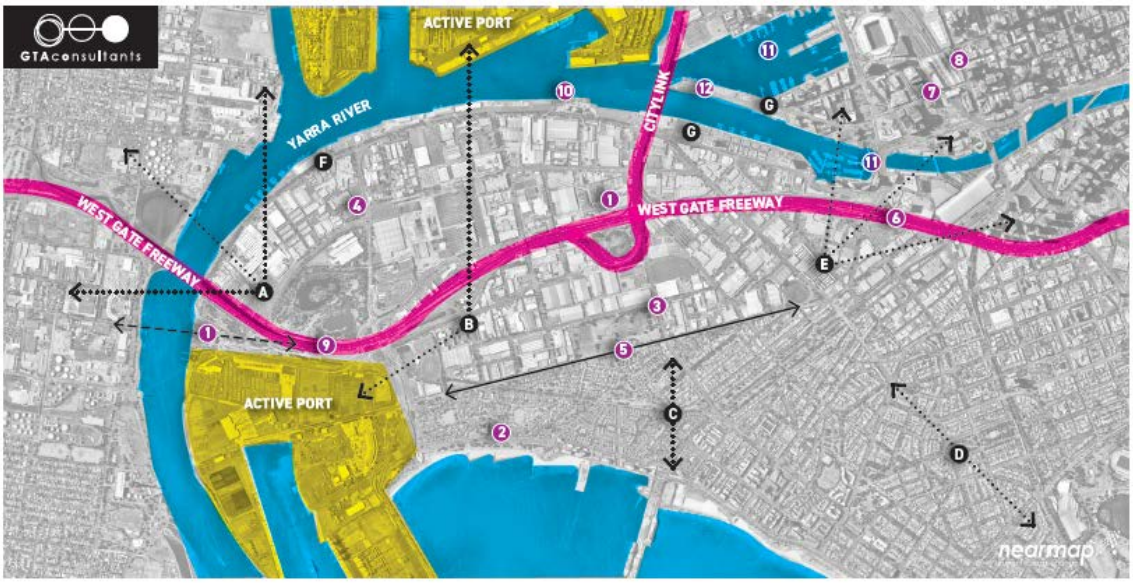
The Yarra River waterfront presents a particularly challenging interface, with existing waterfront development and marina areas, ongoing port operations and an existing freight rail line posing significant barriers to connectivity and constraining available alignment options to, and across, the river. Other sensitive interfaces also require careful consideration, including existing residential areas within the city of Port Phillip and the active Webb Dock port area.

A range of existing utilities (both above-ground and subterranean) and other infrastructure (such as existing piles) constrain potential alignments for the provision of transport infrastructure. There are also significant financial implications associated with Fishermans Bend being held primarily in (fragmented) private ownership.

More broadly, there are significant existing constraints to connectivity at the North Wharf (on the northern side of the Yarra River), including the requirement for significant wharf strengthening to cater for any tram extension. A crossing of the Yarra River in this location would also impact significantly on the Yarra's Edge development which is currently under construction (or constructed). Studies indicate that road connections through Yarra's Edge are narrow and it would be difficult to achieve the tram and active travel connections envisaged. Relocation of the tram bridge to the end of North Wharf would also not resolve the constraints imposed by the existing marina.[5]

The existing physical and connectivity constraints of the area are illustrated at Figure 2.4 and summarised at Table 2.1 on the following page.

Figure 2.4: Existing Constraints to Transport – Fishermans Bend



[5] *Fishermans Bend Public Transport and Active Mode Link, Background & Feasibility Report,* Jacobs, page 2

Table 2.1: Fishermans Bend Physical, Transport Infrastructure & Connectivity Constraints

No.	Physical & Transport Infrastructure Constraints
1	Existing utility constraints (subterranean water and gas mains and sewers)
2	Space-constrained peninsula location
3	Internal road network/width constraints, existing block sizes, private land ownership with multiple landowners
4	Limited existing public transport infrastructure
5	Sensitive interface with existing residential areas
6	Existing road network congestion
7	Existing public transport congestion
8	'Gateway' interchange constraints
9	West Gate Freeway – access barrier, physical constraint (piling and structure), amenity constraint (noise, pollution, visual)
10	Yarra River – access barrier, expensive to traverse, need to maintain amenity, environmental constraints
11	Harbour & Marina – bridge clearance requirements
12	North Wharf/Northbank
No.	**Connectivity Constraints**
A	Limited connectivity to the north, west or northwest, with one additional connection (rail) proposed
B	Need to protect (and strengthen) movement between Webb Dock and Swanson/Appleton Docks/rail yard
C	Need to maintain connectivity to Station Pier
D	Need to maintain (and strengthen) connectivity to the south and southeast, including the City of Port Phillip and St Kilda
E	Need to maintain (and strengthen) connectivity to the CBD, Docklands and Southbank
F	Port of Melbourne operations
G	Building (planned, under construction or complete) along the Yarra River edge, limiting access

The ITP recognises that in order to address these issues and redevelop Fisherman's Bend in a manner consistent with the overarching Vision, a new planning approach is required. A business-as-usual (BAU) approach to the development of transport networks Fishermans Bend is likely to produce unsustainable outcomes for the community, industry and adjoining areas, given the target population and employment densities contained with the draft Framework Plan.[6]

As an alternate to the BAU *'predict-and-provide'* transport planning approach, the ITP establishes a number of transport targets for mode share. While the ITP technical review studies rely on traditional modelling analytics tools, a more contemporary mode target methodology has been adopted to test the transport system proposed for the precinct. This alternate methodology relies on scenario testing for sustainable transit infrastructure, iterative in nature until target modal outcomes or thereabouts are achieved.

The ITP highlights that the most sustainable outcome for Fishermans Bend is to allocate new trips generated by growth to public transport, walking and cycling, especially for those bound for the central city. [7]

[6] Fishermans Bend Strategic Transport Peer Review, GTA, 2016

[7] Fishermans Bend Integrated Transport Plan, Transport for Victoria, October 2017

3. Policy & Planning Background

3.1 Strategic Policy Setting

The following strategic material has informed the preparation of, and is referenced in, the *Fishermans Bend ITP.* These documents are explored within the Framework Peer Review Report.

- Plan Melbourne
- Victorian Cycling Strategy
- CoM Transport Strategies & Plans
- CoPP Transport Strategies & Plans
- Metropolitan Waste Strategy

3.2 Statutory Policy Setting

3.2.1 Amendment C102 to the Port Phillip Planning Scheme & Amendment C170 to the Melbourne Planning Scheme – July 2012

Amendment C102 to the Port Phillip Planning Scheme and Amendment C170 to the Melbourne Planning Scheme were approved by the Minister for Planning in July 2012. The Amendments *"rezoned land within the Fishermans Bend Urban Renewal Area to the Capital City Zone... revised the Development Contributions Plan Overlay, removed the Design and Development Overlay and introduced the Parking Overlay".*[8] The Amendments also update the Local Planning Policy Framework (LPPF) to reflect changes to the strategic direction.

Maximum Car Parking Rates

The planning scheme amendments introduced the Parking Overlay and associated schedule to the Fishermans Bend Urban Renewal Area. The Parking Overlays affect land within the Lorimer, Wirraway, Sandridge and Montague precincts but do not affect the Employment Precinct.

Schedule 1 to the Parking Overlay (PO1) in the City of Port Phillip and Schedule 13 to the Parking Overlay (PO13) in the City of Melbourne outline maximum car parking rates in Fishermans Bend, as reproduced below.

"The maximum number of car parking spaces to be provided for the uses listed in Table 1 [Table 3.1] below is the product of the rate and the measure. Car parking rates in Table 1 [Table 3.1] are based on a maximum rather than minimum provision of car parking spaces for each land use category".[9]

[8] Tapper, P, Department of Environment, Land, Water and Planning, *Draft Planning Controls – Planning Scheme Amendment GC81,* https://engage.vic.gov.au/application/files/2015/1720/4613/Document_5_-_Planning_Controls_Presentation_-_Taskforce.pdf, accessed 21/02/18

[9] *Schedule 1 to the Parking Overlay*, Port Phillip Planning Scheme, Department of Environment, Land, Water and Planning, http://planning-schemes.delwp.vic.gov.au/schemes/portphillip/ordinance/45_09s01_port.pdf, accessed 21/02/18

Table 3.1: Car Parking Spaces (Maximum)[2]

Use	Rate	Measure
Dwelling	1	To each dwelling
Industry	1	To each 150sqm of GFA
Office	1	To each 100sqm of GFA
Place of Assembly	1	To each 100sqm of GFA
Restricted Retail Premises	1	To each 100sqm of GFA
Retail Premises	1	To each 100sqm of GFA
Supermarket	2	To each 100sqm of GFA

A permit is required to provide car parking spaces in excess of the car parking rates specified in Table 3.3.

Minimum Motorcycle Parking Rates

PO1 (Port Phillip) and PO13 (Melbourne) also outline minimum rates for the provision of motorcycle parking, as follows.

"All buildings that provide on-site car parking must provide motor-cycle parking for the use of occupants and visitors, at a minimum rate of one motor-cycle parking space for every 100 car parking spaces, unless the responsible authority is satisfied that a lesser number is sufficient".[10]

Ineligibility for Resident Priority Parking Permits

PO13 (Melbourne) also notes that:

"Occupiers of any dwellings approved by permit subject to the provisions of this schedule may not be eligible for Resident Priority Parking Permits."[11]

3.2.2 Amendment GC7 to the Melbourne and Port Phillip Planning Schemes – July 2014

Amendment GC7 was approved by the Minister for Planning in July 2014. The Amendment introduced the *Fishermans Bend Strategic Framework Plan (July 2014)* as an incorporated document to both the Melbourne and the Port Phillip Planning Schemes.[12] The Amendment also introduced open space contributions for the subdivision of land and required notice be given for applications within the 'Rail Investigation Area' (for a potential Montague Station) identified within the *Strategic Framework Plan.*[13]

The incorporated *Strategic Framework Plan (July 2014)* identified land use considerations, the proposed street network, an emphasis on sustainable transport (including public transport and potential cycling corridors), visions for each precinct and design guidance for the Fishermans Bend Urban Renewal Area. With respect to transport, the *Strategic Framework Plan* identified the need for:

---

10 *Schedule 1 to the Parking Overlay*, Port Phillip Planning Scheme, Department of Environment, Land, Water and Planning, http://planning-schemes.delwp.vic.gov.au/schemes/portphillip/ordinance/45_09s01_port.pdf, accessed 21/02/18

11 *Schedule 13 to the Parking Overlay, Melbourne Planning Scheme,* Department of Environment, Land, Water and Planning, http://planningschemes.dpcd.vic.gov.au/schemes/melbourne/ordinance/45_09s13_melb.pdf, accessed 21/02/18

12 Tapper, P, Department of Environment, Land, Water and Planning, *Draft Planning Controls – Planning Scheme Amendment GC81,* https://engage.vic.gov.au/application/files/2015/1720/4613/Document_5_-_Planning_Controls_Presentation_-_Taskforce.pdf, accessed 21/02/18

13 *Amendment GC7 Explanatory Note*, Department of Environment, Land, Water and Planning, http://dsewebapps.dse.vic.gov.au/Shared/ATSAttachment1.nsf/(attachmentopen)/E66CC1142E4F304CCA25810A0027AB1E/$File/GC7+Explanatory+Report+Approval+Gazetted.pdf, accessed 21/02/18

- *"A new underground station in Montague"*
- *"New tram and bus routes and improved services will integrate with Montague Station and the central city"*
- *"Strong walking and cycling connectivity are central to the success of Fishermans Bend"*[14]

Plummer Street and Fennell Street are identified as a 'civic boulevards', with prioritised and high-frequency public transport services. A series of new streets is also proposed, predominantly to the south of the West Gate Freeway, with dedicated cycle lanes and some PT provision.

The Amendment introduced a requirement that *"a permit granted must be generally in accordance with the incorporated Fishermans Bend Strategic Framework Plan, July 2014"* in the respective schedules to the Capital City Zone under the Melbourne and Port Phillip Planning Schemes.

Amendment GC7 affected land within the Lorimer, Wirraway, Sandridge and Montague precincts but not the Employment Precinct.

3.2.3 Amendment GC29 to the Melbourne and Port Phillip Planning Schemes – April 2015

Amendment GC29 was approved by the Minister for Planning in April 2015. The Amendment updated the incorporated *Strategic Framework Plan, July 2014 (amended April 2015)* to remove reference to a train station in the Montague Precinct and the associated 'Rail Investigation Area'. This was in response to the government's intentions for public transport in Melbourne. The Amendment also introduced temporary maximum building heights (transitional controls) and establishes the Minister for Planning as the responsible authority for development over a specified threshold.[15]

The incorporated *Strategic Framework Plan, July 2014 (amended April 2015)* stated that the document *"is to be read as if any reference to a train station in the Montague Precinct, a Rail Investigation Area and possible tram routes has been deleted".*[16]

The Amendment maintained that *"a permit granted must be generally in accordance with the incorporated Fishermans Bend Strategic Framework Plan, July 2014 (amended April 2015)"* in the respective schedules to the Capital City Zone under the Melbourne and Port Phillip Planning Schemes.

Amendment GC29 affected land within the Lorimer, Wirraway, Sandridge and Montague precincts but not the Employment Precinct.

---

[14] *GC7 – Incorporated Document – Fishermans Bend Strategic Framework Plan July 2014*, http://dsewebapps.dse.vic.gov.au/Shared/ATSAttachment1.nsf/(attachmentopen)/36D001F16F4122F1CA25810A0027ABDE/$File/GC7+Incorporated+Document+-+Fishermans+Bend+Strategic+Framework+Plan+July+2014+Approval+Gazetted.pdf, accessed 21/02/18

[15] *GC29 – Explanatory Note*, Department of Environment, Land, Water and Planning, http://dsewebapps.dse.vic.gov.au/Shared/ATSAttachment1.nsf/(attachmentopen)/A25E303BBE0F6D8FCA25810A0031C525/$File/GC29+Explanatory+Report+Approval+Gazetted.pdf, accessed 21/02/18

[16] *GC29 – Incorporated Document, Fishermans Bend Strategic Framework Plan July 2014* (amended April 2015), http://dsewebapps.dse.vic.gov.au/Shared/ATSAttachment1.nsf/(attachmentopen)/C35185EF4607411CCA25810A0031C5B6/$File/GC29+Incor+doc-+Fishermans+Bend+Strategic+Framework+Plan+July+2014(amended+April+2015).pdf, accessed 21/02/18

3.2.4 Amendments GC50 & GC59 to the Melbourne and Port Phillip Planning Schemes – November 2016

Amendment GC50 was approved by the Minister for Planning in November 2016 to introduce interim *"built form controls and policy changes to encourage employment uses, dwelling diversity and affordable housing in the Fishermans Bend Urban Renewal area"*, while permanent controls are being developed by the Fishermans Bend Taskforce (GC81).[17]

The Amendment also updated the incorporated *Fishermans Bend Strategic Framework Plan, July 2014 (amended September 2016).* This update deleted the 'Sustainable Transport' section of the Plan, including potential public transport networks, strategic cycling corridors and the former rail investigation area[18].

The Amendment maintained that *"a permit granted must be generally in accordance with the incorporated Fishermans Bend Strategic Framework Plan, July 2014 (amended September 2016)"* in the respective schedules to the Capital City Zone under the Melbourne and Port Phillip Planning Schemes.

Amendment GC59 made minor technical updates to the Design and Development Overlay introduced under GC50.

Amendment GC50 & GC59 affected land within the Lorimer, Wirraway, Sandridge and Montague precincts but not the Employment Precinct.

3.2.5 Summary

The following summarises the current planning controls currently in place for the Fishermans Bend area, most relevant to transport.

Table 3.2: Current Planning Controls Relevant to Transport[10]

Melbourne Planning Scheme	Port Phillip Planning Scheme
Capital City Zone – Schedule 4 *"a permit granted must be generally in accordance with the incorporated Fishermans Bend Strategic Framework Plan, July 2014 (amended September 2016)"*	**Capital City Zone – Schedule 1** *"a permit granted must be generally in accordance with the incorporated Fishermans Bend Strategic Framework Plan, July 2014 (amended September 2016)"*
Parking Overlay – Schedule 13 Maximum car parking rates, minimum motorcycle parking rates, ineligibility for resident parking permits	**Parking Overlay – Schedule 1** Maximum car parking rates, minimum motorcycle parking rates
Road Zone – Category 1	**Road Zone – Category 1**
Fishermans Bend Strategic Framework Plan July 2014 (amended September 2016) – Incorporated Document	

[17] Tapper, P, Department of Environment, Land, Water and Planning, *Draft Planning Controls – Planning Scheme Amendment GC81,* https://engage.vic.gov.au/application/files/2015/1720/4613/Document_5_-_Planning_Controls_Presentation_-_Taskforce.pdf, accessed 21/02/18

[18] *GC50 – Incorporated Document – Fishermans Bend Strategic Framework Plan September 2016*, http://dsewebapps.dse.vic.gov.au/Shared/ATSAttachment1.nsf/(attachmentopen)/DDC09898EF312C47CA25810A0035ACC7/$File/Melbourne+GC50+Fishermans+Bend+Strategic+Framework+Plan+September+2016+Approval+Gazetted.PDF, accessed 21/02/18

3.3 Precinct Specific Planning Studies

The *Fishermans Bend ITP* and *Framework* have been informed by a range of technical background studies and reports. These studies seek to address a broad spectrum of planning matters, including open space, transport, population and demographics and community infrastructure within the context of Fishermans Bend.

Table 3.3 summarises the precinct-specific planning studies that inform and underpin the transport planning for Fishermans Bend. This list was prepared with reference to the *Minister for Planning's Part A Response to the Fishermans Bend Draft Planning Scheme Amendment GC81*.

Table 3.3: Summary of Transport-Relevant Precinct Specific Planning Studies

Document	Prepared
RELEVANT BACKGROUND REPORTS FOR DRAFT FRAMEWORK Documents which informed the preparation of the Framework	
Fishermans Bend Population and Demographics Study	DELWP & Taskforce (2017)
Fishermans Bend Economic and Employment Study	SGS Economics and Planning (2016)
Fishermans Bend Waste and Resource Recovery Strategy	Metropolitan Waste & Resource Recovery Group (2017)
RELEVANT PRECINCT-RELATED STUDIES (TfV) Documents prepared on behalf of Transport for Victoria (TfV) which informed the preparation of the Framework	
Fishermans Bend Public Transport and Active Mode Link Report Stage 1	Jacobs (2016-17)
Fishermans Bend Freight Corridor Advisory Report	Jacobs (2016)
Metro Alignment & Feasibility	Aurecon (2017)
Fishermans Bend Tram Extension – VITM Modelling	WSP/PB (2016)
Microsimulation Modelling of Port Junction and Spencer/Clarendon Corridor	GTA Consultants (2017)
Precinct Car Parking Opportunities	GTA Consultants (2016)
Road Network Peer Review (Strategic Transport Peer Review)	GTA Consultants (2016)
Water Transport Feasibility Study	WSP/PB (2016)
Yarra's Edge Marina – Movement & Berthing Analysis	Arup (2016)
Draft Integrated Transport Plan for Fishermans Bend Urban Renewal Area	DTPLI (2013)
Fishermans Bend Land Use Scenarios for VITM	SGS Economics & Planning (2016)
RELEVANT HISTORICAL DOCUMENTS Preceded the release of the draft Vision for Fishermans Bend in 2013 and do not necessarily reflect the views of the Victorian Government	
Principal Bicycle Network, Fishermans Bend, Route Assessment	GTA Consultants (2013)
OTHER DOCUMENTS Broader studies and reports referenced in technical material and considered relevant to the review.	
Review of Options for Container Handling for the Port of Melbourne: Preliminary Findings	Parsons Brinckerhoff (2009)

It is noted that the above modelling and background studies completed on behalf of Transport for Victoria (TfV) and the Fishermans Bend Taskforce generally reflect superseded aspirations for employment in the precinct (i.e. 60,000 jobs). The *Framework* and *Integrated Transport Plan* envisage 80,000 jobs.

Those studies considered most relevant to my assessment have been reviewed with a brief summary of each provided in the proceeding report sections.

Fishermans Bend Population and Demographics Study, DELWP & Taskforce (2017)

This report completed by the DELWP estimates the population numbers, number of households and number of jobs within each of the four precincts between now and 2051. This was achieved by considering each precinct as a blank canvas. The populations were then modelled with the goal of reaching the vision as outlined in the Fishermans Bend Taskforce.

The report included population and mode share targets for each precinct.

Fishermans Bend Economic and Employment Study, SGS Economics and Planning (2016)

This Fishermans Bend Economic and Employment Study completed by SGS Economics and Planning details the economic narrative of the area. It seeks to outline an economic story for Fishermans Bend into the future, including the internal and external forces that will impact the precinct, as well as pathways for the future.

This research was conducted in three sections which:

1. Included analysis of the key economic trends and issues.
2. Detailed three realistic alternative pathways which Fishermans Bend could take.
3. Discussed the report findings, makes recommendations and discuss where further research is needed.

This research then provided transport-related recommendations under the following three themes.

Opportunities

- Being an extension to the CBD
- Facilitating the continued efficient transportation of interstate and international goods.

Policy Leadership

- Timely and efficient provision of transport infrastructure

Challenges

- Current lack of public and active transport accessibility

Fishermans Bend Public Transport and Active Mode Link Report Stage 1, Jacobs (2016-17)

The purpose of the report was to undertake a Feasibility Study and Options Development for a Fishermans Bend Public Transport and Active Transport (PTAT) Link. The scope of the study was split into three stages;

- Stage 1 – undertake a background review of existing conditions assessment to determine whether a PTAT link across Charles Grimes Bridge or crossing further west along the North Wharf is feasible. This report assesses the feasibility of a number of options that the project team have requested be assessed. The report notes that the feasibility of the Collins Street Extension has been assessed in a number of previous studies and is deemed feasible.
- Stage 2 - Options Development. Concept designs will be developed for options the project team deem feasible following the outcomes of Stage 1; and
- Stage 3 – Option Assessment. An option assessment will be undertaken on the concept designs developed, including assessment against options developed for the Collins Street Extension (both fixed bridge and opening bridge).

It is noted that although subsequent reports (Stages 2 and 3) were prepared by Jacobs, these reports were not made available and therefore not included in the scope of this review. Having said that, these later reports provide detailed layout and configuration content (as set out below) which are not required for an evaluation of the robustness of the Integrated Transport Plan (2017) to the extent that it is likely to deliver on the established transport targets.

For an avoidance of doubt, the Stage 1 study only assessed above ground river crossing options. The report states that underground river crossing options are not included as previous studies have indicated that they are too expensive and not deemed to provide the preferred active transport solution.

The recommendations provided in the Stage 1 report were for the following options to continue through to Stage 2 – Concept Design Development:

- Charles Grimes Bridge Option 1 - At grade PT corridor, utilising Charles Grimes Bridge slip road to incorporate a PT only corridor. A sub option to consider widening Charles Grimes Bridge in the median so that traffic lanes could potentially be shifted towards the east to create more room for a tram corridor on the west, thereby reducing the traffic impacts of an at-grade solution. This would be for the southern section of the bridge where the level difference between the two structures isn't as significant;
- Charles Grimes Bridge Option 2 – An elevated PT corridor, utilising a similar alignment to Option 1. The recommended corridor for Lorimer Street is to proceed along the centre of Lorimer Street rather than the option to proceed along the south side of Lorimer Street due to the significant impacts this would have on properties west of the exit ramp; and
- Collins Street Extension – Fixed Bridge Option – this has previously been assessed in a number of other previous studies and deemed feasible; and
- Collins Street Extension - Opening Structure – this has previously been assessed in a number of other previous studies and deemed feasible.

Further to this the report states that the Collins Street Extension options for a fixed bridge and opening structure will be carried through to Option Assessment stage (Stage 3).

Additional information on the changes to traffic flows predicted through this area following the completion of Western Distributor will be used to assess the traffic impacts of the options during the Option Assessment Stage (Stage 3) particularly for the Option 1 under the At-Grade solution.

Fishermans Bend Freight Corridor Advisory Report, Jacobs (2016)

The Jacobs report seeks to identify a preferred freight road and rail corridor for protection and future development to service long-term growth at Webb Dock.

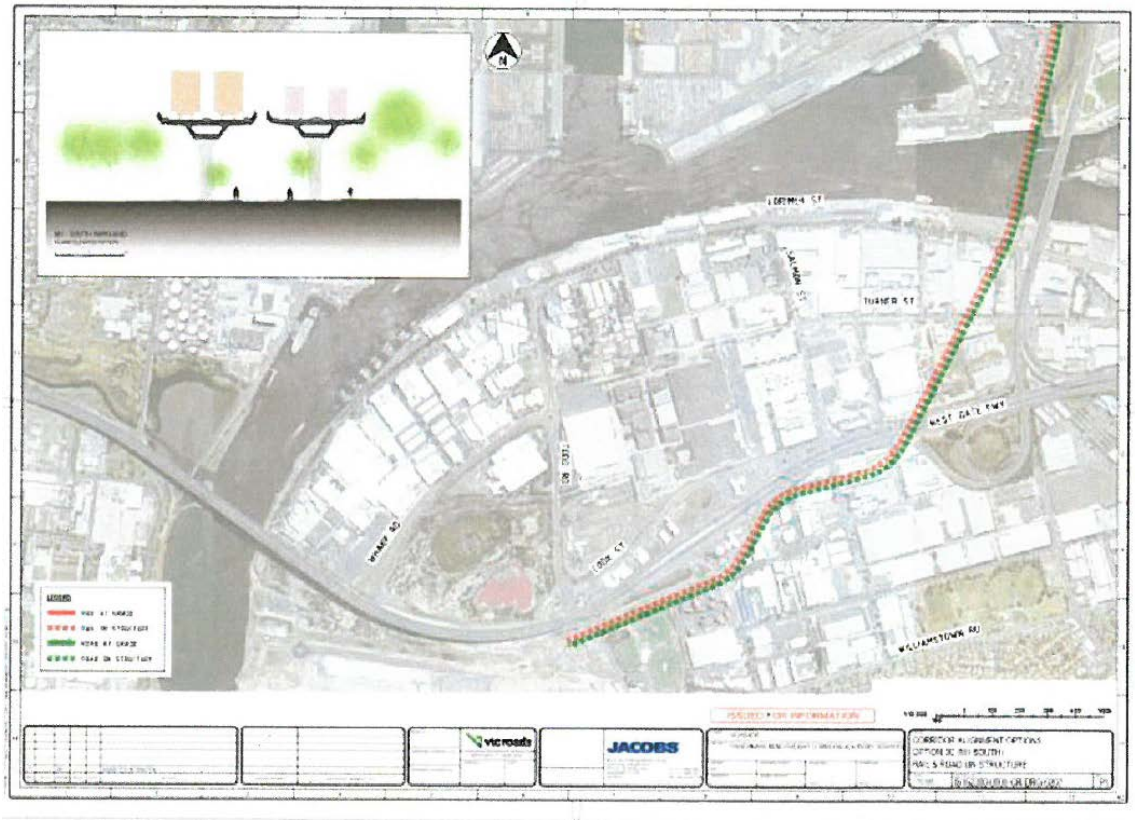
The report:

- assesses trade volumes handled at Webb Dock
- analyses various scenarios for the development of trade through Webb Dock and identifies commensurate landside connections
- assesses a range of road and rail corridor options for providing a connection to Webb Dock via Fishermans Bend employment area in the long term
- establishes the cost, concept design and cross-sections for each option
- assesses each of the corridor options on impact on development of Fishermans Bend, including consideration of the impact on deliverability of potential public transport connections to the precinct
- undertakes a multi-criteria assessment of options to identify a preferred corridor for delivery of the road and rail corridor in the longer term as trade volume grows.

The report identifies that for the short to medium term the existing Lorimer Street road connection to Wurundjeri Way is expected to remain in place and determines that it will be adequate to support expected volumes, but that at higher volumes, Lorimer Street may no longer provide adequate capacity. The report also noted future planning now underway for development and renewal of Fishermans Bend may add to the difficulty of accommodating additional truck movements through the area via Lorimer Street.

The report identifies a preferred alignment for a road and rail corridor (Option 3C) which would cross the Yarra River adjacent to (and on the west side of) the Bolte Bridge, then cross the West Gate Freeway and run along the southern side of the West Gate Freeway to Webb Dock (refer Figure 3.1). Lorimer Street would continue as the key route in the short-to-medium term.

Figure 3.1: Option 3C – Preferred Alignment (as identified in Jacobs study)[19]



The report recommends that this alignment be protected to support the development of Webb Dock during the 50-year lease term. This option would require acquisition to maintain the corridor, particularly on the southern side of the M1. While a range of factors may emerge in the longer term that may change the view on the preferred alignment, the report identifies that for now, it is vital that a route be identified and protected to ensure an effective road and rail corridor is available for development if and when it is needed.

[19] *Fishermans Bend Freight Corridor Advisory Services*, Jacobs, September 2016, page 46

Metro Alignment & Feasibility, Aurecon (2017)

The Fishermans Bend Metro Alignment and Feasibility Options Report produced by Aurecon explores a range of heavy rail passenger options to serve the Fishermans Bend Precinct.

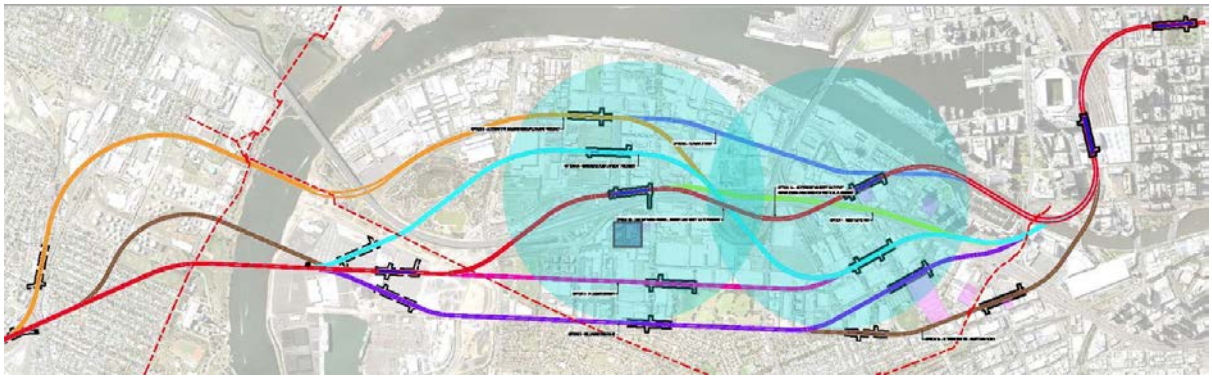
The report outlines a range of issues and constraints on any heavy rail option. These issues reduce the flexibility in what can be delivered. The key constraints include:

- Yarra River and associated infrastructure - rail has to pass either over or underneath
- Westgate Freeway - rail has to pass either over or underneath
- Existing structures and land uses, which can restrict access for construction, and route alignments including underneath
- Future high-rise structures, which can limit underground routes depending on depth of piles and planning permits
- Utilities, including Melbourne Water sewers, pumping stations
- Connecting to existing rail network - the start points are Southern Cross with options around re-connecting to the west around Newport
- Geological conditions can impose constraints on construction approaches and scale of work involved.

All rail options in the report anticipate an underground solution on the basis that the connection is to an underground station at Southern Cross, that this therefore requires an underground rail link through Fishermans Bend and that the Maribyrnong river is also optimally crossed via an underground link (the only alternative being a rail crossing at the height of the Westgate bridge).

Key questions raised by the report include those relating to station locations and how the proposed rail line will link into the network around Newport. Options include two possible alignments running south of the Westgate freeway, and others that facilitate stations both north and south of it. These options are reproduced at Figure 3.2.

Figure 3.2: Identified Rail Alignments (Source: page 24)



There is some discussion about vertical alignments and how deep the alignment would need to be (shallow at 30m or deep at 70m), depending on the depth of foundational piles from above ground structures and on geological conditions. A deeper alignment mitigates construction impacts; however, it would mean station platforms of 70-80m underground, requiring the use of high capacity lifts instead of standard lifts for passenger access.

The report narrows the assessment down to two possible options:

- Option 2: Plummer Street
- Option 5/5A: Sandridge/GM Holden or Sandridge Employment

These options are shown at Figure 3.3 and Figure 3.4.

Figure 3.3: Option 2, Plummer Street with a station in the Wirraway and Sandridge precincts

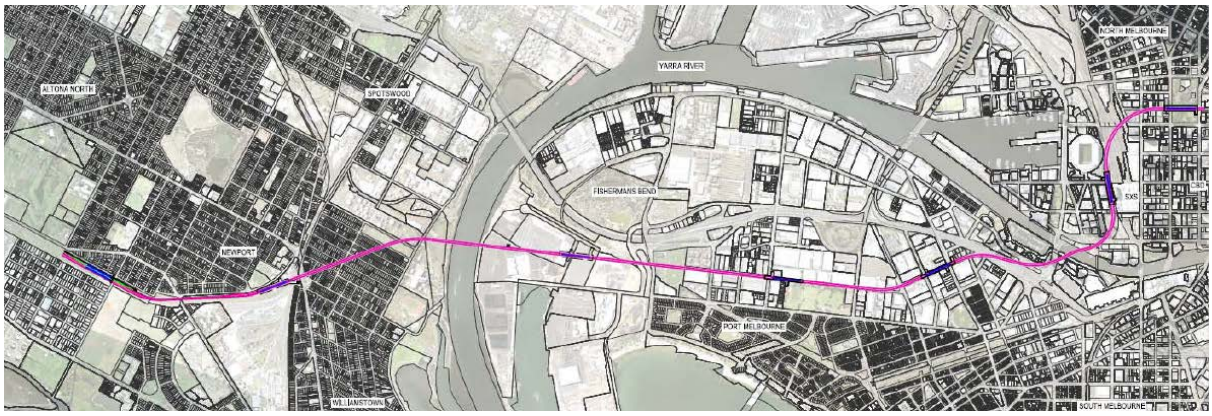
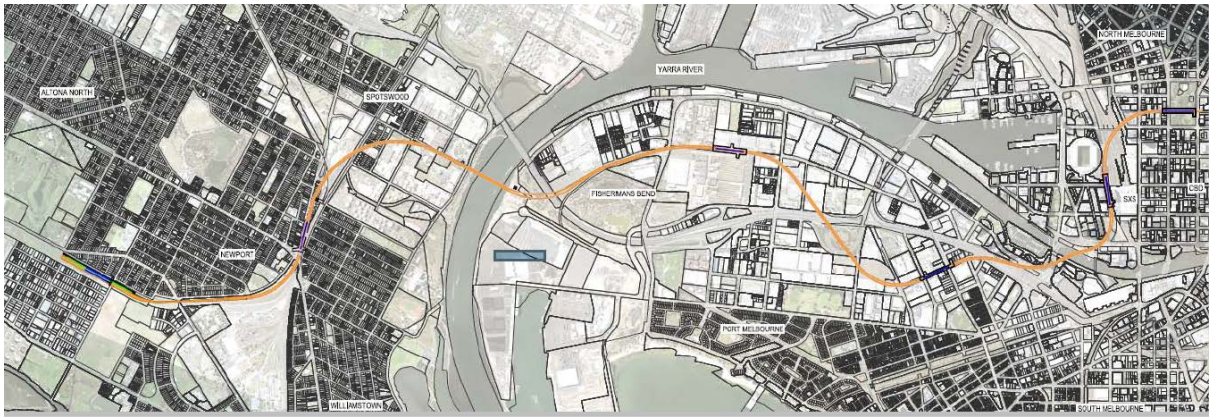


Figure 3.4: Option 5/5A Sandridge/GM Holden or Sandridge Employment with a station in the Employment and Sandridge precincts



The ITP report concluded that at this stage both alignments through Fishermans should be preserved (so that building pilings don't limit the ability to build either of the alignments), however it also states only one of the options could proceed, and the decision is where there is either a station in the Employment Precinct or Wirraway. The Framework agreed and mapped both options.

Fishermans Bend Land Use Scenarios for VITM, SGS Economics & Planning (2016)

The Fishermans Bend Land Use Scenarios for VITM (SGS Economics and Planning, 2016) reports on four land use outcomes (called scenarios) for Fishermans Bend. The report outlines the planning policy and transport provisions that would likely result in a level of population and employment within the precinct. These scenarios named Market-Led (lowest development); Moderate Intervention (less development), Current Vision (2016 recast), and Current Vision with a University (2016 recast with 9,000 student campus).

These scenarios were then used as an input to the VITM strategic modelling of transport infrastructure review.

Fishermans Bend Tram Extension – VITM Modelling, WSP/PB (2016)

The WSP/PB-prepared report assesses various public transport options to support the envisaged population, employment and land use development at Fishermans Bend to the 2046/51 design

horizon[20]. This report is an important technical document in support of the targets set out under the *Integrated Transport Plan* and the *Fishermans Bend Infrastructure Plan*. The report does not rank options but provides a high-level indication of performance relative to the option's forecast demand, noting that different input assumptions are considered.

The modelled Base Case was formed using the 2046 VITM Transport for Victoria Reference Case, which includes a projected network appropriate to the travel demand generated by 2046 population and employment patterns. This population and employment scenario was referred to Moderate Intervention in the SGS Economics and Planning October 2016 report. To ensure an effective basis for comparison with option scenarios, the Base Case conservatively assumes that Fishermans Bend would only be serviced by the 2015/16 Fishermans Bend bus network rather than the projected network in the Reference Case. Similarly, the Base Case also adopts the 'moderate' employment and population outlook assumed in the Reference Case land use scenario (54,000 jobs and 72,000 residents), which is lower than the current Vision for Fishermans Bend. The modelling also excludes provision for the recently approved Westgate Tunnel project.

Scenario modelling has been undertaken for a number of project cases with varying land use/demographics inputs and degrees of public transport provision. It is my appreciation that there are three reasons that some of the modelling scenarios used the lower 'Moderate Intervention' or Reference Case population and employment forecasts:

1. The 'Moderate Intervention' or Reference Case land use used in Project Case 1 to 4 could be considered relevant as a representative of a potential 'interim' scenario (prior to full realisation of the vision land use)
2. SGS Economics and Planning report stated that to achieve the vision land use projections, heavy rail is required with connections to the east and west, and at the time of the Reference Case land use were developed (in 2015), this wasn't part of Fishermans Bend planning. Only a link from the east connecting to the rest of the train network at Southern Cross was in public documents
3. There was a delay in engaging SGS Economics and Planning, and some of the modelling preceded the finalisation of the details within the Vision population and employment forecasts.

As such only Project Case 6 and 7 exploring the full build-out as envisaged under the previous Vision (80,000 residents and 60,000 jobs). All the transport and land use modelling scenarios are summarised below.

Table 3.4: Transport Project Scenarios Modelled (VITM Model Scenarios)

Scenario	Land Use/Demographic Assumptions	Public Transport Assumptions
Project Case 1	**Reference Case** (54,000 jobs and 72,000 residents – less than Vision)	○ Two new tram services - e*xtension of tram routes 11 and 48 from Victoria Harbour to Fishermans Bend via the Collins Street Extension and the northern (Turner Street) and southern (Plummer Street) alignments.* ○ A complementary Fishermans Bend bus network. ○ No heavy rail services to Fishermans Bend.

[20] Refer Executive Summary page iii of Fishermans Bend Tram Extension (VITM Modelling) Report dated 17/10/17.

Scenario	Land Use/Demographic Assumptions	Public Transport Assumptions
Project Case 2	**Reference Case** (54,000 jobs and 72,000 residents – less than Vision)	○ One new tram service to Fishermans Bend *via the Collins Street Extension and the Plummer Street) alignment.* ○ A premium SmartBus service on turner street via *Collins Street extension and a complementary Fishermans Bend bus network.* ○ No heavy rail services to Fishermans Bend.
Project Case 3	**Reference Case** (54,000 jobs and 72,000 residents – less than Vision)	○ Two new tram services - extension of tram routes 11 and 48 from Victoria Harbour to Fishermans Bend via the Collins Street Extension and the northern (Turner Street) and southern (Plummer Street) alignments. ○ A complementary Fishermans Bend bus network. • Heavy rail along the 'southern' alignment, with a station at each of Sandridge and Plummer Street (Wirraway). The line would extend from Southern Cross and connect with the Werribee line at Maddox Station to the west.
Project Case 4	**Reference Case** (54,000 jobs and 72,000 residents – less than Vision)	○ Two new tram services - extension of tram routes 11 and 48 from Victoria Harbour to Fishermans Bend via an elevated structure next to the Charles Grimes Bridge then travelling to the northern (Turner Street) and southern (Plummer Street) alignments. ○ A complementary Fishermans Bend bus network. ○ No heavy rail services to Fishermans Bend.
Project Case 6	**Vision Plus University** (60,000 jobs and 80,000 – consistent with previous Vision)	○ *Extension of tram routes 11 and 48 from Victoria Harbour to Fishermans Bend via the Collins Street Extension and the northern (Turner Street) and southern (Plummer Street) alignments.* ○ New tram connection between North Melbourne station *and the Employment Precinct and Wirraway, via Turner Street.* ○ Heavy rail along the '*southern' alignment, with a station at each of Sandridge and Plummer Street (Wirraway). The line would extend from Southern Cross and connect with the Werribee line at Maddox Station to the west.* ○ A complementary Fishermans Bend bus network.
Project Case 7	**Vision Plus University** (60,000 jobs and 80,000 – consistent with previous Vision)	○ Two new tram services - e*xtension of tram routes 11 and 48 from Victoria Harbour to Fishermans Bend via the Collins Street Extension and the northern (Turner Street) and southern (Plummer Street) alignments.* ○ Heavy rail along the 'northern' alignment, *with a station at each of Sandridge and Fishermans Bend (Employment Precinct), near Turner Street. The line would extend from Southern Cross and connect with the Werribee line at Maddox Station to the west.* ○ A complementary Fishermans Bend bus network.

Project Case 6 most closely resembles the transport network identified in the ITP and the Framework. It assumes the previous Vision of 80,000 residents and 60,000 employees in the precinct and the establishment of a major university in the area's Employment Precinct. This scenario also assumes the heavy rail Metro alignment is on Plummer Street.

The report does not seek to rank options but provides general commentary regarding the performance of the options relative to forecast demand. The report notes that both options include a rail alignment and achieve similar PT patronage; however, the northern alignment (as presented in Project Case 7) will likely achieve higher PT mode shares for the Employment Precinct. This is reflected in the precinct level results. Public transport trips to Fishermans Bend from Wyndham and Whittlesea also became more popular with the introduction of Melbourne Metro 2, as it would make these areas easier to access.

Further discussion is provided in later sections of this report on results relative to ITP nominated transport targets.

Microsimulation Modelling of Port Junction and Spencer/Clarendon Corridor, GTA Consultants (2017)

The GTA report seeks to investigate opportunities for future light rail options that operate through the Port Junction Intersection (Clarendon Street / Whiteman Street / Normanby Road). This includes assessing the current operation of the Junction and its ability to cater for additional tram activity, with impacts on both tram operation and private vehicle operation in the network.

The report found that the Port Junction intersection currently operates well and has the ability to accommodate more than double the number of trams as currently scheduled, albeit at the expense of private vehicle journey time and throughput. Scenario 3a, however, which includes up to 148 trams through the intersection, was deemed to cause unacceptable delays to both trams and vehicles on the road network. These results do not have consideration for capacity constraints at the Collins Street and Spencer Street intersection or the intersections' ability to handle these high numbers of trams.

Precinct Car Parking Opportunities, GTA Consultants (2016)

The GTA report seeks to investigate opportunities for Precinct Parking Stations (or PPS) in Fishermans Bend. The report explores local and international case studies and presents two scenarios for the potential implementation of PPS in Fishermans Bend.

The study recommends that PPS be promoted through public sector incentives (i.e. decreased/increased parking allowance). In this scenario, developers would not be mandated to deliver PPS; however, incentives are provided to encourage PPS within 'precinct parking zones'. Outside of these zones, the Capital City Zone would apply, meaning that developers can simply provide parking on-site in accordance with the rates specified to under the Parking Overlay.

Further detailed planning was recommended. The report identifies that PPS will need to be underpinned by early provision of public transport infrastructure, a range of new approaches to managing parking and demonstrate commercial viability and 'highest and best use' of land.

Road Network Peer Review, GTA Consultants (2016)

The GTA Consultants report presents a peer review of all Fishermans Bend transport planning work prior to (but not including) 2016. The peer review identifies gaps in the planned transport network at that time and sets out a pathway towards establishing amongst other things an evidence-based transport network.

The report advised the Fishermans Bend Taskforce on the appropriateness of the use of mode share targets to drive all subsequent stages of planning and technical studies, and recommended that the Taskforce:

- Incorporate the *'city of the future'* into all analysis

- Ensure that consideration of the employment precinct and Port is completely integrated into the process
- Take full consideration of demand management policy levers.

These recommendations, particularly the appropriateness of mode shares, the integration of the employment precinct/Port and demand management measures, have been incorporated into the Framework plan and the ITP.

Water Transport Feasibility Study, WSP/PB (2016)

The WSP/PB report investigates the role that water transport could play in serving Fishermans Bend. The report considered the physical characteristics of the potential transport system (river, boats, bridges, route planning, wharf design), assessed the current operations of the West Gate Punt and the potential impact of water transport, modelled demand on various potential routes and determined the viability of water transport in Fishermans Bend.

For the purposes of the analysis, the report assumed a service frequency of 10 minutes to and from Fishermans Bend during peak periods and 20 minutes during off-peak periods and assumed operation between 7:00am and 9:00pm.

The report found that the water transport would constitute only a *'minor'* proportion of trips on any public transport network for the following reasons:

- low operating speed limits (5 knots / less than 10km/h) on the river network and the winding nature of the river courses results in slow average journey time.
- significant time delay associated with the docking movement (up to three minutes) made it hard to justify docking at a number of wharves with very low patronage.
- modelling indicates rapid deterioration of operating return beyond Flinders Street Station (Yarra River) and the Footscray Road bridge (Maribyrnong River).
- operating constraints associated with Port of Melbourne commercial ship movements and clearance under Spencer Street Bridge at high tide.
- river frontage between Bolte Bridge and Todd Road is designated for Port operations, meaning that ferry terminals would not be well located with respect to areas of highest demand.
- challenges in identifying ferry terminal locations that are capable of maximising travel demand capture whilst satisfying environmental and planning constraints.
- options for the location of ferry storage and maintenance facilities are limited.
- ferry operation is forecast to contribute to a maximum of only 4% of the total people movement task after full development in 2050 and generate a BCR of 0.8.
- potential downward pressure on ferry patronage as a result of passenger perceptions, weather conditions and perceived attractiveness of other modes (especially given the proposed location of these alternate modes relative to demand).
- implementation of the network at an earlier stage of development of the precinct will generate less favourable outcomes.

The report concludes that the perception of water transport's viability *"will be reliant on it being provided as a minor part of the transport network, an acceptance of the relatively high upfront costs to set up the network (compared to other public transport services such as a bus route) and an advanced level of development being completed in Fishermans Bend"*.

Yarra's Edge Marina – Movement & Berthing Analysis, Arup (2016)

A tram and active transport bridge extending Collins Street across the Yarra River (known as 'Collins Street Extension') has been proposed to improve transport accessibility to Fishermans Bend. This bridge will impose a height restriction on vessels berthed at the Yarra's Edge Marina.

The Arup report analyses the vessels currently berthed at the Marina to determine the number (and proportion) of berthed vessels that would be impacted by various proposed bridge heights in order to deduce a recommended bridge height.

The report identified that a bridge of minimum height 5.49m (AHD) would allow 50% of vessels to pass underneath.

The report also identifies that should an opening bridge option be pursued, and assuming the opening bridge resembled the existing Charles Grimes Bridge, peak vessel periods would require it to open 2.8 times per hour on weekdays and up to 7.75 times per hour on weekends. It is noted that these periods do not correspond to peak commuting times.

It was recognised that should the new bridge be built a number of vessels would be required to be relocated. The report identifies Yarra's Edge Pontoons, North Wharf and Victoria Harbour as the preferred substitute berthing locations. It is noted that these recommendations are predicated on the proposed freight corridor bridge and proposed northern pedestrian bridge being provided as opening bridges.

Draft Integrated Transport Plan for Fishermans Bend Urban Renewal Area, DTPLI (2013)

The Draft Integrated Transport Plan ('draft ITP 2013') was prepared as an input into the (former) Fishermans Bend Urban Renewal Area Strategic Framework Plan and Development Contributions Plan. The draft 2013 ITP was also used as an input to the overarching Metropolitan Planning Strategy (now Plan Melbourne).

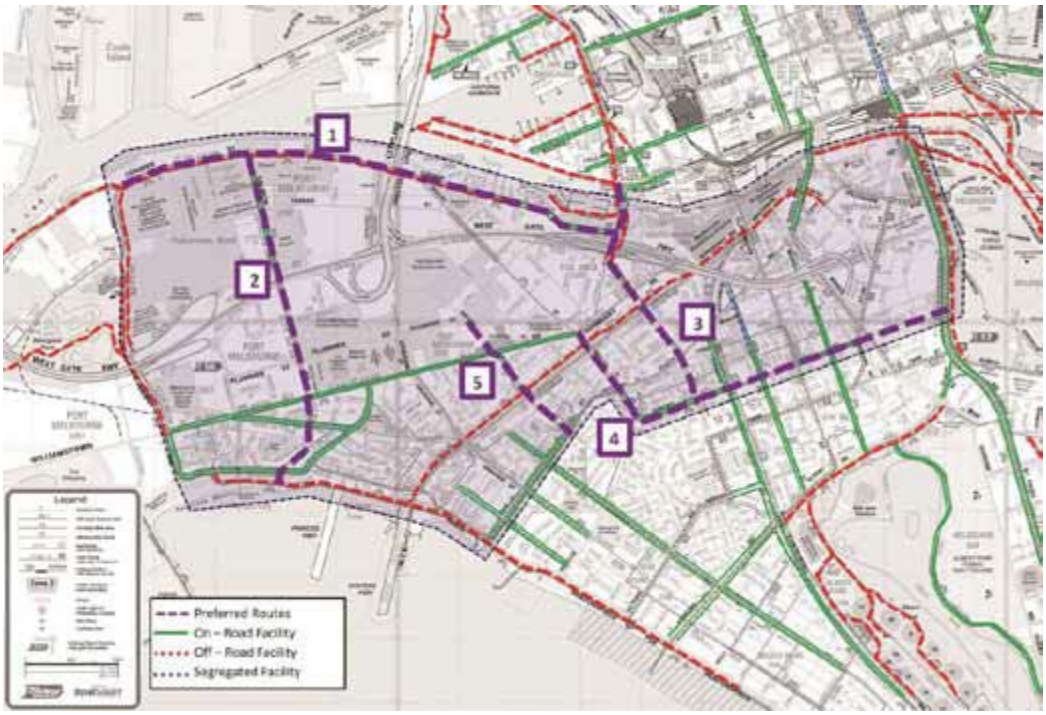
As per the current Fishermans Bend ITP, the draft 2013 ITP was underpinned by a range of transport technical reports and studies, including a traffic study, bicycle route assessment, metro rail study and arterial road investigation. It is understood that the draft 2013 ITP formed a considerable input into the preparation of the current ITP.

Principal Bicycle Network, Fishermans Bend, Route Assessment, GTA Consultants (2013)

The GTA report undertakes a route options study of five cycling corridors for initial costing and feasibility purposes. The study identifies preferred cycling treatments for the corridors, identifies preferred pedestrian and cycling treatments for two key intersections and provides concept designs for the preferred facility treatments.

The preferred corridors are shown below in purple, recommended to be facilitated by a range of on-road, off-road, shared and dedicated bicycle paths as outlined in the report.

Figure 3.5: Preferred Cycling Corridor Routes (GTA, 2013)



To support consultation and engagement, a significant body of technical work was completed. A review of technical material demonstrates that transport planning has evolved over the greater part of the last decade. In this time there have been various revisions to the scope of the ITP, including catering for employment, different land use assumptions and infrastructure.

The evidence base that the current ITP draws on to make its recommendations is complex and informed by different input assumptions. However, the understanding of the transport challenges facing Fishermans Bend appears consistent across this evidence base.

4. ITP Planning Methodology

4.1 Preamble

The Fishermans Bend precinct is estimated to provide 80,000 jobs and a range of well-serviced, higher density housing options for 80,000 people by 2050.[21] These targets have been used to inform the exhibited planning framework, as well as a range of technical studies relied upon to determine the transport needs of the precinct.

Given the suite of studies used to inform the ITP over time, it is evident that there are some inconsistencies in data sources and inputs. These inconsistencies include a population estimate of 60,000 jobs (rather than 80,000) and the absence of recently approved city-shaping transport infrastructure projects such as the Westgate Tunnel.

Any '*business as usual*' approach adopting traditional transport planning principles consistent with those applied out in the Victorian growth areas would significantly challenge the existing transport network within and around the precinct. In particular, the *Fishermans Bend ITP* correctly highlights that:

"…if current mode shares for the City of Port Phillip were experienced in Fishermans Bend, in conjunction with the predicted growth in population, this would result in adding approximately three times the current traffic volumes to the street network."

Comment on the adopted assessment methodology supporting the ITP is set out as follows.

4.2 ITP Transport Targets

The *Fishermans Bend ITP* identifies five targets to establish the benchmark for long-term transport planning of the urban renewal area. These are reproduced below.

1. 80 per cent of trips are made by sustainable transport modes.
2. People with a wide range of abilities are able to get around independently.
3. Accesses to services (community infrastructure, open space and public transport) are generally within a 400 metre walk of homes and businesses.
4. Walkability score of more than 90 via WalkScore is achieved for all dwellings and workplaces.
5. 24 hours a day, 7 days a week access is maintained to the growing port.

It appears as though careful consideration has been given to developing these targets with meaningful emphasis on sustainable transport practises and the importance of enabling and supporting freight movement into and out of Port. The robustness of these targets has been considered in the strategic transport assessment prepared by Mr Will Fooks or GTA Consultants. The operational implications and the likelihood of achieving these targets is set out in later in this report.

[21] Fishermans Bend Integrated Transport Plan, 2017

4.3 ITP Principles

The transport targets are supported by a number of objectives grouped within three key principles of the *Fishermans Bend ITP.* Together, these principles aim *"to achieve a world class renewal and transport system for Fishermans Bend"*.

I reproduce these principles and objectives as they underpin various transport and land use planning decisions which culminate in the Section 6 ITP recommendations for the provision of complimentary light rail, bus, heavy rail, active travel, road and freight networks within and through Fishermans Bend.

4.3.1 Principle 1: Provide a quality transport network in Fishermans Bend

Objectives:

- *Transport infrastructure and services will integrate with and support the vision for changing land use and associated transport demand.*
- *Strategic transport linkages will complement existing networks and connect to metropolitan and regional destinations via existing and planned central city gateways (such as Southern Cross, North Melbourne, Arden and Domain).*
- *Land use planning will influence development to cluster community services, major entertainment, recreation, retail, education and employment uses around public and active transport routes and nodes, as well as effective freight movement.*
- *A fine grain of high quality walking, cycling and public transport linkages will link the five Fishermans Bend precincts with the adjoining areas such as the Hoddle Grid, Southbank, Docklands, North Melbourne, Arden Street, St Kilda, St Kilda Road, Domain, Port Melbourne, South Melbourne, Bay Street and Melbourne's inner western suburbs.*
- *High quality transport infrastructure will be integrated with streets and surrounding buildings through best practice design, including the use of elements that enhance climate change resilience.*
- *Footpaths will progressively be upgraded to remove pedestrian obstacles such as signs, poles, street furniture, signal boxes, telecommunication boxes and street trees, ensuring all footpaths are Disability Discrimination Act compliant.*

4.3.2 Principle 2: Prioritise walking, cycling and public transport

Objectives:

- *The street hierarchy will prioritise pedestrians, cyclists and public transport in key streets. The design of streets (including allocation of road space) will recognise this hierarchy, whilst providing for freight and general traffic on preferred routes.*
- *On-street and off-street car parking provision will be minimised by specifying best-practice parking rates and maximising provision of car share, bike share and bicycle parking, and consider centralised car parking facilities to encourage use of walking, cycling and public transport for short to medium distance trips.*
- *Land use planning and building design will encourage a mix of commercial and residential activity to reduce or avoid the need for longer distance trips. This includes the 10 minute neighbourhood concept for Fishermans Bend where local shops and services, parks, education, community and cultural services, and public transport are generally located within a 10 minute walk of dwellings and workplaces.*
- *Land use planning, building design and public realm design will encourage activated, permeable and people-friendly built environments.*

- *A fine grain, legible and connected pedestrian and bicycle network will integrate with the built environment, applying best practise examples from successful precincts in Melbourne and around the world.*
- *Increased urban greening and canopy cover will support active transport uses through the use of undergrounding infrastructure.*
- *Key pedestrian and cycling streets will be designed in ways that provide low speed and safe environments, encouraging the uptake of sustainable modes by people of all ages.*

4.3.3 Principle 3: Enable freight and private vehicle movements

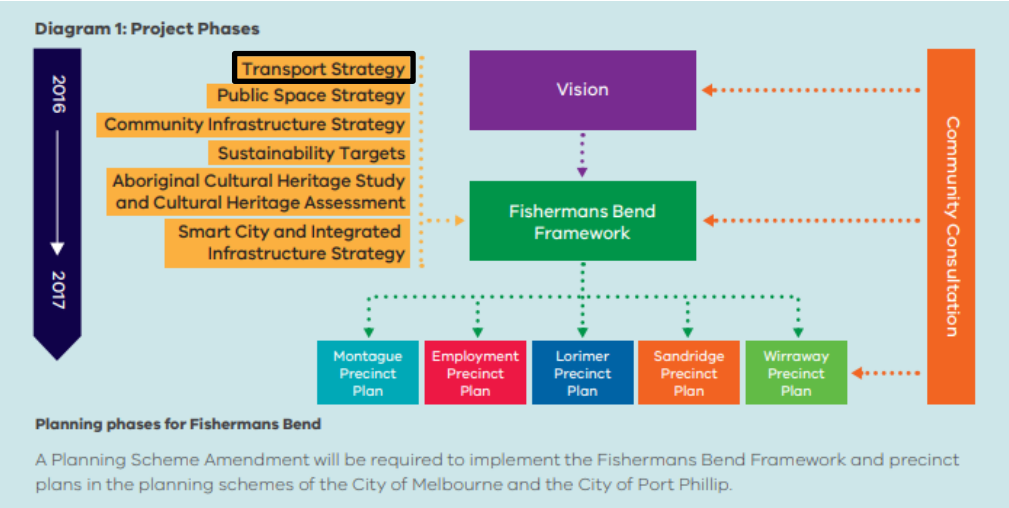
Objectives:

- *The operating and growing Port of Melbourne at Webb Dock will have ongoing access via road and rail, currently provided via Lorimer Street. In the longer term, freight movements may be provided via a new road and rail freight connection, with the land set aside and preserved in the short term.*
- *The impact on the external transport network surrounding Fishermans Bend, and potentially impacting freight movements, will be minimised by maximising the use of walking, cycling and public transport to access the precinct, rather than private vehicles.*
- *The street hierarchy for the precinct and adjoining areas will include appropriate traffic routes connecting to key destinations.*
- *The growth of activity at Webb Dock will be supported whilst managing the impacts on urban amenity.*
- *Access to Station Pier will be maintained to support the continued operation of activities.*
- *Land use planning and building design will minimise the need for local service, delivery and waste freight movements within Fishermans Bend, including the application of consolidated waste freight servicing across the precinct.*
- *Network planning and street design will minimise the impact of through freight and general traffic on abutting land use.*
- *Street design will cater for those transport movements that are required to service the local area (including construction and last mile freight deliveries).*

4.4 Planning Synchronisation

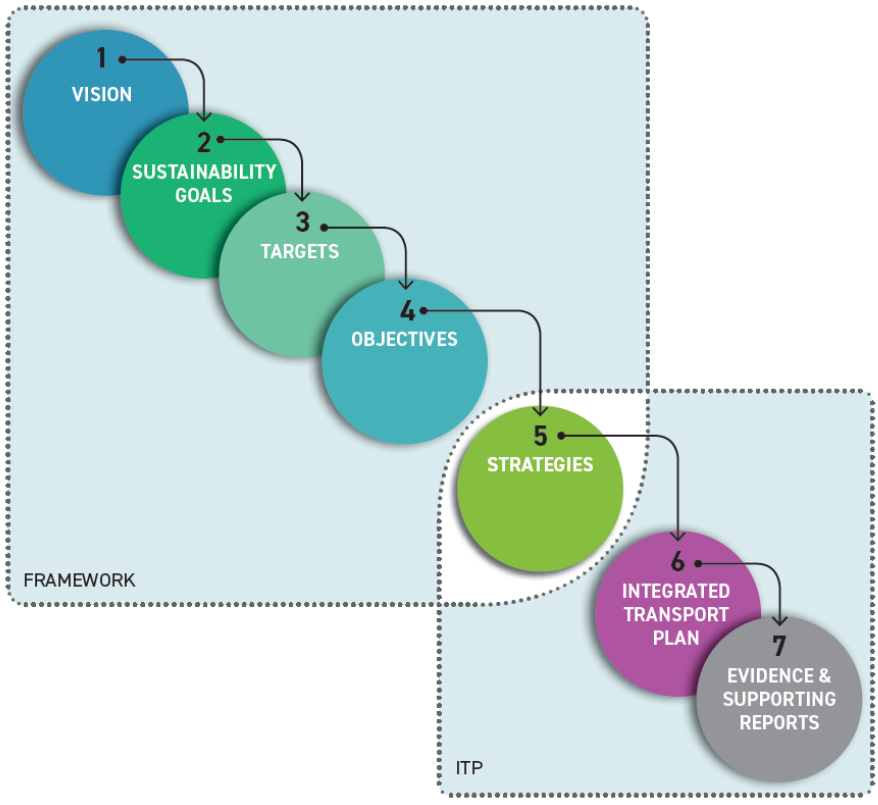
The *Fishermans Bend Integrated Transport Plan* is a background report (transport strategy) which underpins the transport aspirations of the draft *Framework*. The relationship between it and the framework can be observed at Figure 4.1.

Figure 4.1: Planning Phases – Relationship between Framework and ITP[22]



This cascading planning relationship between the goals, targets and objectivise is most suitably summarised at Figure 4.2.

Figure 4.2: Relationship between Framework and ITP



To illustrate the 'overlap' between the two documents, the freight-related 'objectives' from the *Integrated Transport Strategy* (Principle 3) have been tested against corresponding 'strategies'

[22] *Fishermans Bend Vision*, September 2016, State Government, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0027/29763/Final_Vision_LR_single_page.pdf, accessed 21/02/18

set out in the *Framework* at Table 4.1. It is evident from this review that suitable and cohesive links are made between the identified objectives and the corresponding strategies.

Table 4.1: Relationship between ITP Objectives and Framework Strategies

Integrated Transport Plan – Objective	Framework – Corresponding Strategies
The operating and growing Port of Melbourne at Webb Dock will have ongoing access via road and rail, currently provided via Lorimer Street. In the longer term, freight movements may be provided via a new road and rail freight connection, with the land set aside and preserved in the short term.	2.5.1 Safeguard 24/7 access to the port by preserving a direct rail and road freight corridor between Webb Dock and Swanson/Appleton Docks and the freight terminal at Dynon 2.5.4 Maintain Todd Road/Lorimer Street/Wurundjeri Way as a freight route in the short to medium term for vehicles that cannot use the West Gate or Bolte Bridges and require access to Swanson/Appleton Docks and Dynon Precinct
The impact on the external transport network surrounding Fishermans Bend, and potentially impacting freight movements, will be minimised by maximising the use of walking, cycling and public transport to access the precinct, rather than private vehicles.	1.4.2 Design street networks to reduce conflicts between modes of transport + many broader strategies to promote walking, cycling and public transport
The street hierarchy for the precinct and adjoining areas will include appropriate traffic routes connecting to key destinations.	2.5.1 Safeguard 24/7 access to the port by preserving a direct rail and road freight corridor between Webb Dock and Swanson/Appleton Docks and the freight terminal at Dynon 2.5.4 Maintain Todd Road/Lorimer Street/Wurundjeri Way as a freight route in the short to medium term for vehicles that cannot use the West Gate or Bolte Bridges and require access to Swanson/Appleton Docks and Dynon Precinct 2.5.5 Maintain the current over-dimensional routes along Lorimer Street and Williamstown/Normanby Roads 2.5.7 Explore the upgrade of the West Gate and Bolte Bridges to accommodate larger freight vehicles
The growth of activity at Webb Dock will be supported whilst managing the impacts on urban amenity.	2.5.6 Promote the use of preferred freight corridors to minimise the impacts on residential and commercial activities in Fishermans Bend
Access to Station Pier will be maintained to support the continued operation of activities.	2.5.6 Promote the use of preferred freight corridors to minimise the impacts on residential and commercial activities in Fishermans Bend Figure 14 also shows the proposed freight activity network, including access between Webb Dock and Station Pier via Williamstown Road, Graham Street, Bay Street and Beach Street.
Land use planning and building design will minimise the need for local service, delivery and waste freight movements within Fishermans Bend, including the application of consolidated waste freight servicing across the precinct.	8.2.1 Provide shared collection services to reduce truck movement 8.2.1 Require high standards for waste management plans and building design guidelines to ensure all waste is managed within buildings
Network planning and street design will minimise the impact of through freight and general traffic on abutting land use.	2.5.6 Promote the use of preferred freight corridors to minimise the impacts on residential and commercial activities in Fishermans Bend

Integrated Transport Plan – Objective	Framework – Corresponding Strategies
Street design will cater for those transport movements that are required to service the local area (including construction and last mile freight deliveries).	1.4.1 Introduce an expanded street network through the creation of new streets and laneways that provide vehicular access to all properties, as illustrated in figure 8 1.4.2 Design street networks to reduce conflicts between modes of transport 1.4.3 Ensure properties on streets in activity cores, dedicated public transport routes and strategic cycling corridors are accessed from streets and laneways off this core network to prioritise safety and movement flow 1.4.4 Provide rear access to properties on streets in activity cores, dedicated public transport routes and strategic cycling corridors to prioritise safety and movement flow

5. ITP Transport System Recommendations

5.1 Preamble

The Fishermans Bend ITP has been informed by *"modelling work and a series of detailed option assessments"*, including the technical studies outlined at Section 3.2.4.

These investigations culminated in a suite of recommendations (formulated by Transport for Victoria relying on the work undertaken by the Fishermans Bend Taskforce) to underpin the Fishermans Bend transport vision to 2050.

The key transport system recommendations are illustrated at Figure 5.1 and reproduced at Table 5.1.

Figure 5.1: Key ITP Recommendations (Indicative Only)

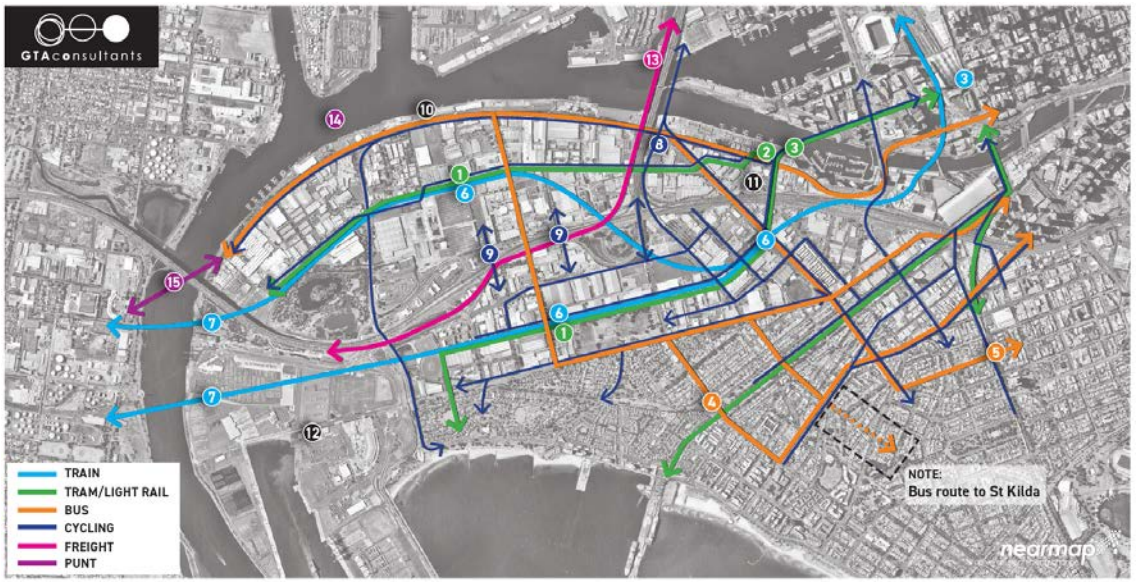


Table 5.1: Key Transport Recommendations within the ITP Report

Mode	Key Recommendations
Light Rail	1. In the medium term, it is recommended that northern (Turner Street) and southern (Plummer Street) light rail connections are provided to support precinct development and growth, with the initial priority being the northern alignment. 2. It is recommended that a Yarra River crossing is provided to enable the two preferred alignments. 3. It is recommended that this crossing be enabled with a 6-metre bridge across the Yarra connecting Collins Street on the North to Lorimer Street on the South, avoiding severance of Point Park open space.
Bus	4. An immediate increase in AM and PM bus services on existing routes is recommended and has been funded in the 2017/18 Victorian Budget. Further bus upgrades and new routes should be investigated for implementation beyond 2018. 5. New bus services will be evaluated to further support growth in Fishermans Bend connecting it to surrounding suburbs and key destinations including the new ANZAC Metro Station at Domain. These should be implemented to meet demand.

Mode	Key Recommendations
Underground Rail	6. Should a new cross city underground rail line be prioritised, it is recommended that the potential Fishermans Bend station sites identified in this plan be assessed as part of investigation, assessment and development recommendations. 7. Planning safeguards for the potential rail and station alignments are preserved via the Fishermans Bend Framework Plan, individual Precinct Plans and Melbourne and Port Phillip Planning Schemes (2017).
Active Transport	8. Deliver a series of principal walking and cycling corridors which provide dedicated space for these movements and lift the presence of these modes as transport choices. 9. Construct a number of upgraded and additional Westgate Freeway and Yarra River crossings to improve permeability, connectivity and accessibility.
Road Network	10. Provide a network of arterial and collector roads that enable vehicle access across the precinct. 11. Redevelop the current large block sizes within Fishermans Bend to deliver more permeable and connected spaces through the introduction of a series of new roads, streets and laneways. New developments should provide regular interruptions to provide for walking, cycling and vehicle access.
Freight, Goods & Services Movement	12. Safeguard the existing freight connections to Webb Dock which are sufficient to meet the short to medium term demands for freight movements, including exploring the potential to strengthen existing structures for higher mass vehicles. 13. Safeguard a future road and rail corridor to connect Webb Dock to Swanson/Appleton Docks which, depending on port traffic growth, may need to be constructed over the next 40 years. An alignment option is recommended for long term corridor protection.
Water Transport	14. The option of a ferry service to Fishermans Bend is not recommended but further evaluation may be revisited on a regular basis as the population grows, and as technology and regulations change. 15. The Westgate Punt service is recommended to be continued.
Travel Demand Management	16. As public transport and new walking and cycling connections are implemented across Fishermans Bend, the Congestion Levy should be expanded to the entire Fishermans Bend area. Revenue raised via the Levy should be used to fund further transport improvements within the vicinity of Fishermans Bend. 17. Undertake further investigations in relation to precinct parking structures to understand market uptake, potential future demands, site placement, capacity and planning policy amendments required for implementation to be successful.

5.2 Recommended Transport Framework Solution

As would be expected, the Fishermans Bend framework provides a similar network of recommendations as those that are summarised above from the ITP. A composite map summarising the proposed Public transport and active travel routes is shown at Figure 5.2.

Figure 5.2: Fishermans Bend Framework – Proposed Transport Network

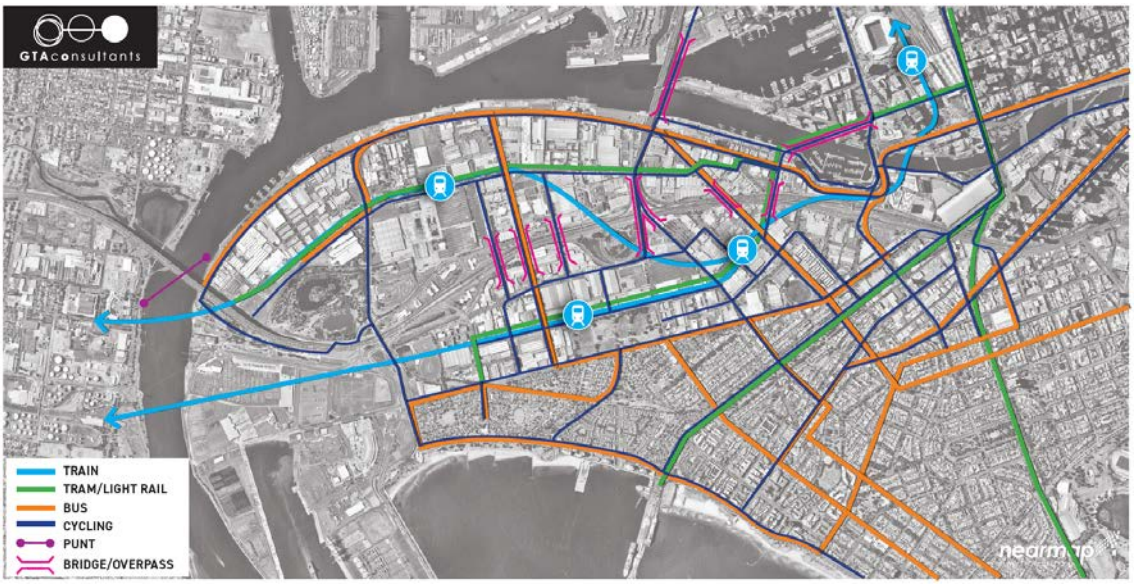


Table 5.2: Key Public Transport and Active Travel Recommendations from Framework Report

Mode	Key Recommendations
Light Rail	Tram services will be provided by a bridge extension off Collins Street. This service will split into a northern and southern section, both running in the east-west direction through the Fishermans Bend precinct. The northern route will run along what is currently Turner Street, finishing along the northern frontage of Westgate Park. The southern route will run along what is currently Plummer Street.
Bus	The framework proposes additional bus connectivity along Ingles Street and Graham Street. The bus network will be broadly expanded to improve coverage, frequency, connection and user choice
Underground Rail	The framework recommends an underground rail service be provided from Southern Cross Station. The service will have a station near the intersection of Bertie Street / Fennel Street. It will then split into two lines. The southern route will have a station on Plummer Street adjacent to the JL Murphy Reserve before continuing across the River. The northern route will have a station near what is currently Caprice Street before continuing across the river.
Active Transport	A variety of active travel walking and cycling routes are proposed, providing both on and off-road services. These routes will service the whole Fishermans Bend precinct and be interconnected within the surrounding network. A number of additional crossings of the Westgate freeway and crossings of the Yarra River.
Water Transport	The Westgate Punt service is to be continued. Opportunities will be explored to support privately operated ferries and water taxis.

The recommendations provided in both the ITP report and Framework are broadly similar. A number of minor differences have been identified. A comparison between the two documents is summarised below.

- Both documents identify two tram routes. These routes broadly follow the same path as the trainlines, except that they do not continue beyond the Fishermans Bend precinct.
- Both documents have an underground train route, splitting into a southern path and a northern path and travelling in an east-west direction.
- A number of bus routes shown in the Framework are not present in the ITP. It is noted that these are all pre-existing routes that are already operational.
- An off-road bicycle path to the far west of the precinct, operating alongside the Westgate freeway in the Framework plan.

- The ITP does not clearly designate the continuation of the on-road cycling network beyond the precinct and along the southern coast.

These differences between the two documents are not considered significant.

Given that the drafted planning scheme controls propose to adopt (only) the Framework plan as a reference document, and the Framework plan itself contains broader transport connectivity aspirations, I do not foreshadow any material impact on planning outcomes.

In the event that the ITP were to become a reference document within either or both the City of Melbourne or City of Port Phillip Planning Schemes I would recommend the two documents are updated to avoid these and any other identified inconsistencies.

6. Transport Target Achievability

6.1 Preamble

The following report section explores the analytic and principles-based work completed with the view to determining, from a transport planning viewpoint, the likelihood or otherwise of achieving targeted modal travel outcomes for residents and employees within the Fishermans Bend precinct for the recommended transport system.

One of the most significant tests of the ITP, is whether it is likely to achieve the various transportation targets set out in the draft Framework Plan. Given the breadth of the ITP, and limitations on analytical tools available to transport planners, this review needs to be both qualitative and quantitative.

Quantitative elements can be (in part) informed by analytic models. These models however have limitations. In the case of Fishermans Bend, the VITM strategic model was used to test the effectiveness of different public transport options. The model does not explicitly state a percentage of active travel made to and from the precinct. GTA has inferred the active travel trips made by people living in Fishermans Bend, and therefore inferred a range in terms of the share of trips made using public transport, walking and cycling by residents out of the total trips of which they are forecast to undertake each day. GTA presents these later in this report to assist the Advisory Committee.

6.2 Strategic Model (Quantitative) Testing Methodology

A review of the technical work completed in support of the ITP reveals that the transport network and service planning options are based upon:

- The principles in the ITP.
- The challenges and opportunities in the ITP.
- A range of investigative engineering and modelling studies set out earlier in this report.
- A full land use build-out for a 2050 planning horizon.

The VITM option scenarios provide a series of tests that look at both the capability and attractiveness of bus, tram and heavy rail as a mode choice into and out of the Fishermans Bend. These tests have gone on to inform the Fishermans Bend transport system outlined in the draft Fishermans Bend Framework Plan.

Investigations reveal that the Fishermans Bend Taskforce explored numerous transport network options, more than those ultimately modelled with some options that remained untested lacking either or both economic and practical feasibility.

6.3 Strategic Model Limitations

The strategic model created to validate the recommended transport system for Fishermans Bend included a meaningful focus on train and tram extensions into and through Fishermans Bend. The model is a linked based multi-modal model with no ability to replicate finer grain active travel provisions including exclusive high capacity and interconnected walking and bicycle networks the likes of which are planned in Fishermans Bend.

The model forecasts the amount of active travel trips people make each day, based on the existing behaviour characteristics determined from transport surveys, including car ownership

statistics. However, it doesn't forecast from where to where they will make these trips, or when they undertake them. This means that the model can't provide all the answers to walking and cycling questions but is still very capable in terms of forecasting the split between car and public transport usage.

It is evident from the model build that more time could have been spent on building the road and the bus network (on-road transport) more consistent with that contained in the Framework Plan and ITP. A review of the model indicates that the road-based network is coarse and could benefit from some further refinement to better appreciate road-based transport outcomes under the full build scenario[23].

Initial investigations indicate that the model could be making car trips more attractive than they are in practice for future scenarios. This coupled with a jobs input of 60,000 rather than 80,000 across the precinct would help elevate the relative attractiveness of sustainable transport travel.

6.4 Strategic Model Outputs

Modelling performed in support of the Amendment indicated that as both the capacity and frequency of the public transport options were introduced within the precinct they become more effective and capable at both carrying and attracting passengers. These levers provide flexibility to match demand as it arises within the Fishermans Bend precinct.

At a local level, it was identified that trams are more effective than a SmartBus-type service and heavy rail is more effective than trams. These elements are likely to affect the timing of transport investments within the precinct which I expect will be resolved as further planning, beyond this Amendment is completed.

In terms of the transport usage patterns estimated by the model for the 2050 planning horizon, my office reviewed the model outputs and identified the following modal behaviour for the two scenarios most closely representing the Framework Plan (VITM Project Case 6 & 7) which correlates with the recommended transport system and most closely represents the population and employment aspirations targets set down in the Framework Plan. This is shown in Table 6.1 and Figure 6.1 and Figure 6.2.

Table 6.1: Estimated Transport Usage (VITM Modal) Travel Patterns @ Full Build

Mode	Mode Share (Range) of total person trips by residents (PC6) [24]	Mode Share (Range) of total person trips by residents (PC7)
Public Transport	36-39%	35-39%
Active Travel[25]	38-45%	38-45%
Car	19-22%	19-22%
Public Transport and Active Travel combined	79%-81%	78%-81%

[23] Refinements include better speed limit selection and cross-section controls i.e. number of trafficable lanes.

[24] This excludes trips from the Employment Precinct, as there are no residents. PC6 has about 5% less public transport trips in the Employment Precinct than PC7. PC6 has about 2% more public transport trips in the Wirraway Precinct than PC7.

[25] VITM uses household car ownership assumptions to forecasts active (walking and cycling) trips. These trips are allocated to where people live, not where they work or study. As such there is no forecast trips allocated to employment locations, including the Employment precinct.

Figure 6.1: Summary of Travel Behaviours (PC6)

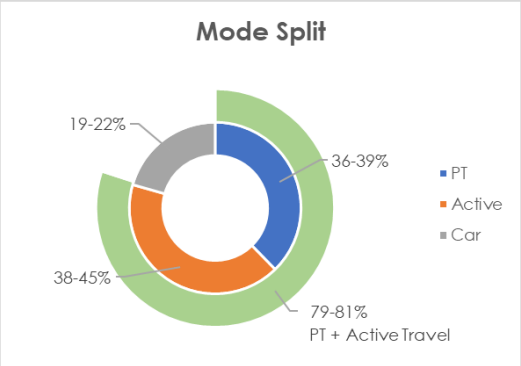
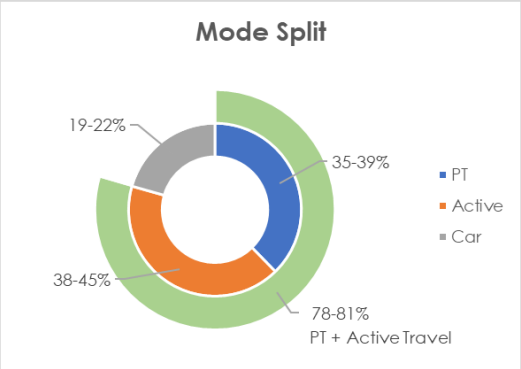


Figure 6.2: Summary of Travel Behaviours (PC7)



These statistics indicate that the transport system is expected to broadly (but closely) achieve the sustainable transport target specified in the Framework Plan of 80%. In terms of operation, select outputs from the model reinforce strategic expectations around high levels of travel between Fishermans Bend and the Melbourne CBD. A volume to capacity plot for tram services demonstrates this AM peak hour relationship with extracts from the model shown at Figure 6.3 and Figure 6.4.

Figure 6.3: AM Peak Tram Load

Figure 6.4: Project Case 1 – AM Peak Tram V/C

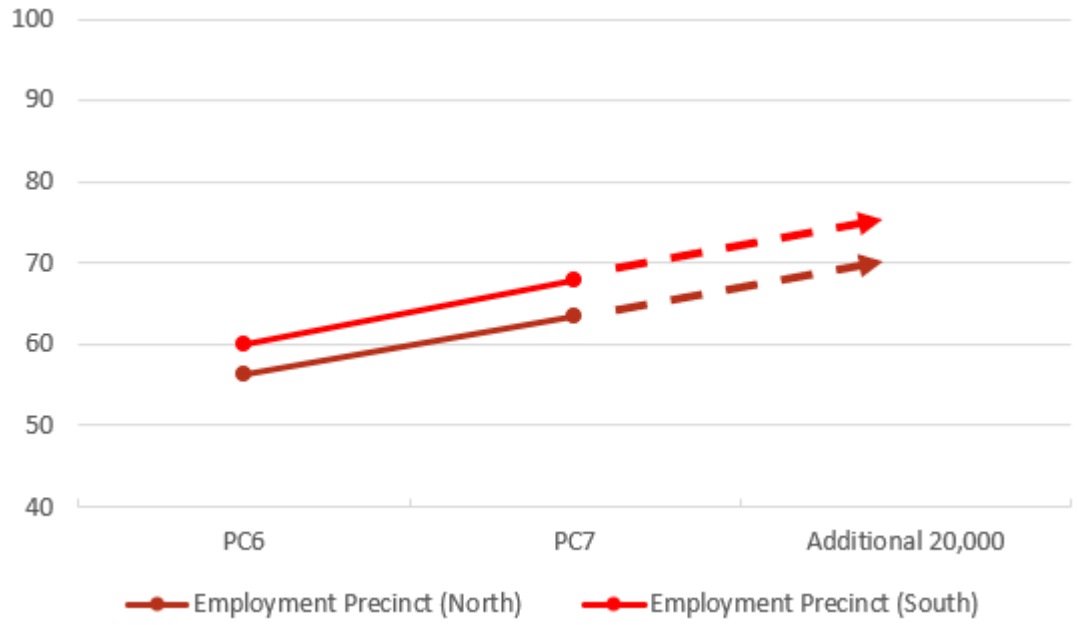
It is worth noting that the volume to capacity (V/C) represents a forecast number of passengers and vehicle maximum load representing how crowded the tram vehicles are on the system.

These outputs show that the levels of demand are consistent with the capacity provided (refer red parts on the map) – i.e. the forecast demand supports the case for the provision of a tram link; however, it should be acknowledged that it involves some reliance on access from a particular part of the CBD, and ultimately connection to Southern Cross and Collins Street. Network resilience issues arise when many tram services are reliant on one corridor/track. I expect that the Taskforce has had regard to these trade-offs when developing and recommending the adopted transport system.

Of possible interest to the Advisory Committee it is worth noting that the modelling tests both the Charles Grimes and Collins Street light rail bridge options. The VITM report indicates that *"the river crossing alignment does not have a great impact on public transport trips to any of the Fishermans Bend precincts"* (p39), with the Charles Grimes option having slightly less usage of trams, which is not unexpected given the slightly longer journey time. The proposed tram crossing (via Collins St) represents the quickest and most direct tram connection between Fishermans Bend and the CBD and nearby rail stations.

In terms of synergies with land use targets between Project Case 6 and Project Case 7 and the Framework Plan I instructed my office to prepare an estimate of likely impacts of a further 20,000 jobs within the employment precinct. Without surprise, an additional 20,000 jobs will place additional demand on the transport system. These demands are expected to generate a relative increase in public transport demand as shown in Figure 6.5, noting that ITP PC5 and PC6 are the equivalent of PC6 and PC7 outlined in the Framework Plan.

Figure 6.5: AM Peak PT Mode Share by Selected Destination Precinct



This demonstrates that the PT mode share increases with a station in the precinct, on the basis that the proposed Employment precinct station is more central to the precinct, and that the walk from Wirraway in PC5 is akin to the walk from Flinders Street Station to the MCG, which is too far to make every day trips.

On this basis, it can be observed that with an additional 20,000 jobs it would increase further mode share in the Employment Precinct as those jobs would be within easy walking distance to the Employment precinct railway station, however the exact amount would need further investigation and modelling.

As an outcome, it may well be the case (subject to detailed modelling) that any train station delivered in the precinct is delivered in the Employment Precinct on the north side of the Westgate Freeway.

6.5 Sustainable Travel Sensibility Review

Whilst modelling tools provide guidance on amongst other things likely travel behaviours of occupants located within a particular precinct that are exposed to a range of planned transport systems, it is always useful to consider the achievability of those estimates by considering comparable (existing) locations.

It was stated earlier that the ITP specifies a target of achieving 80% of trips made by sustainable transport modes by 2050. This includes active modes (walking, cycling) and public transport. The ITP and the draft Framework do not specify individual mode shared targets for each transport mode, however based on comparable mode share splits for inner city suburbs in Melbourne with

high rates of walking and cycling, I expect that the target mode share attributed to active travel is likely to represent around half or 40% (of 80%) with the remaining 40% attributed to public transport. To test this hypothesis and assist the Advisory Committee with its assessment of the achievability of these targets, I have had my office undertake a high level investigation of journey-to-work trips from the 2016 ABS Census for suburbs located within close proximity of the Melbourne CBD, and with transport access attributes broadly consistent with those sought to be achieved within Fishermans Bend.

The ABS Census provides a wide range of transport categories; some categories only contribute marginally to overall travel patterns. Analysis excludes those categories, i.e. 'taxi', 'truck', 'motorbike' and 'other', as well as those responses which indicated they did not go to work.

With respect to classifying multi-modal trips, this assessment has adopted the following hierarchy (shown in order) to reflect the likelihood of each mode being used as the first mode to depart the home:

1. Walk
2. Bicycle
3. Car (as driver)
4. Car (as passenger)
5. Motorbike
6. Truck
7. Taxi
8. Bus
9. Tram
10. Train
11. Ferry
12. Other

Lastly, responses for 'worked at home' were clustered under 'active transport' to reflect trip containment within the precinct.

Figure 6.6 and Table 6.2 present the existing mode share for journeys to work originating in each respective suburb, based on ABS Census (2016) Method of Travel to Work data.

Figure 6.6: Current Mode Share for Similarly-Located Suburbs – Method of Travel to Work (ABS 2016)

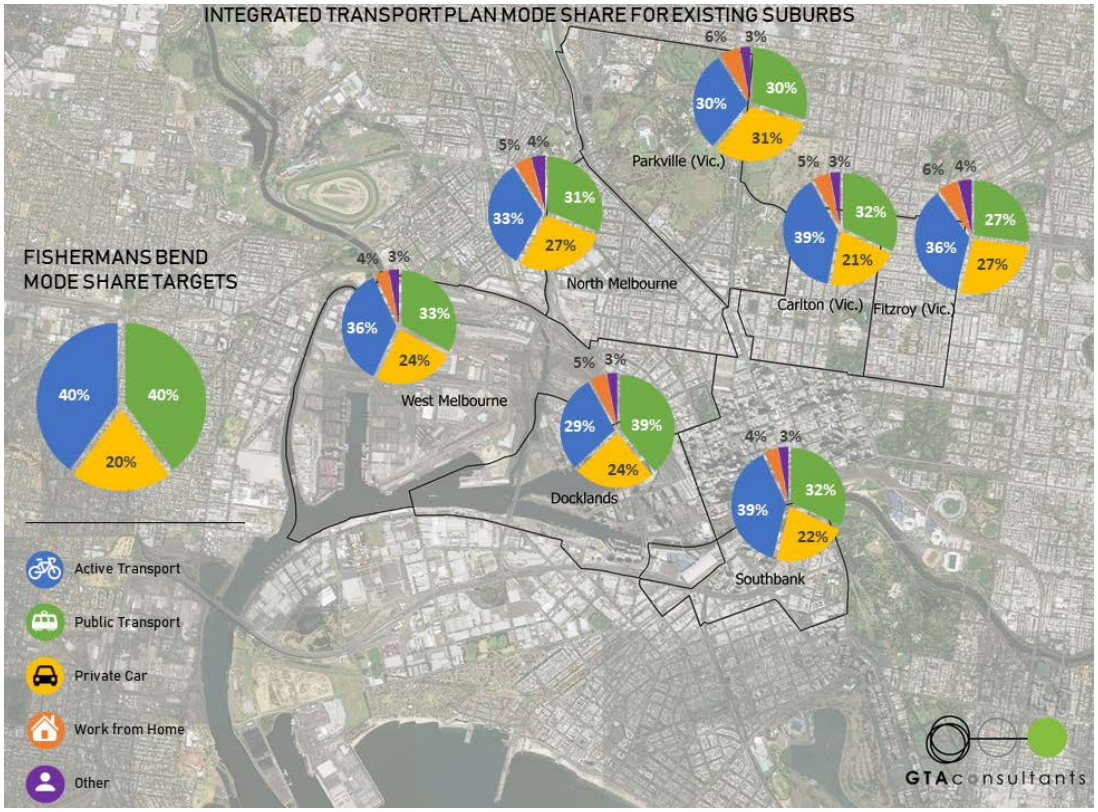


Table 6.2: Current Mode Share for selected Inner-City Suburbs – Method of Travel to Work (ABS 2016)

Suburb	Distance From GPO (approx.)	Public Transport Share	Walk / Cycle Share	Work at Home	Other	Private Vehicle
Docklands	**1.5km**	39%	29%	5%	3%	24%
Carlton (Vic.)	**1.6km**	32%	39%	5%	3%	21%
Southbank	**1.6km**	32%	39%	4%	3%	22%
Fitzroy (Vic.)	**1.9km**	27%	36%	6%	4%	27%
West Melbourne	**2.1km**	33%	36%	4%	3%	24%
North Melbourne	**2.2km**	31%	33%	5%	4%	27%
Parkville (Vic.)	**3.1km**	30%	36%	4%	3%	31%

As shown, private vehicle uptake for journeys to work from inner-city suburbs range from 19 - 27%, with sustainable transport comprising 73 - 81%.

These values reveal high levels of existing sustainable transport mobility (2016) in well-established and accessible suburbs in and around the Melbourne CBD. These results provide a level of confidence, in support of the strategic modelling work completed that the targets adopted within the ITP are achievable for Fishermans Bend by 2050.

6.6 Modelling – Is more work Required?

Based on my review of the modelling work completed to date, and acknowledging its limitations, I am satisfied that it demonstrates with a sufficient level of confidence that the proposed sustainable transport targets contained within the Framework Plan can be achieved. Having said this and appreciating that more refined planning of individual precincts will be required for each of the relevant precinct structure plans, as well as a need to better plan for the delivery of transport infrastructure, it is considered necessary that further work be completed before embarking on preparing individual precinct structure plans as well as after completion of the precinct structure plans. This should include a combination of strategic level modelling as well as more detailed operational modelling.

A brief commentary on those components requiring more refinement is provided below.

Modelling of Highway Network

A high-level review was completed of the link plots created from the VITM model for the road network. A sample showing both lane configuration and network speed is provided in Figure 6.7 and Figure 6.8.

This review indicates that the road network developed for the Fishermans Bend precinct in the model is coarse and lacking consistency with a range of sustainable transport objectives around diminishing the availability of road space for private motorised car travel.

More specifically, more lanes than likely are provided on key routes within the precinct and posted road speeds are akin to suburban growth area specification, rather than considering the amount of walking and cycling rates planned, which would see a lower speed limits e.g. 30km/hr recommended in the Strategic Assessment prepared by Mr Will Fooks. With this in mind, the network in its current modelled configuration will be more favourable to car-based trips than planned or supported by the various strategies.

Figure 6.7: Modelled Network – Number of Lanes

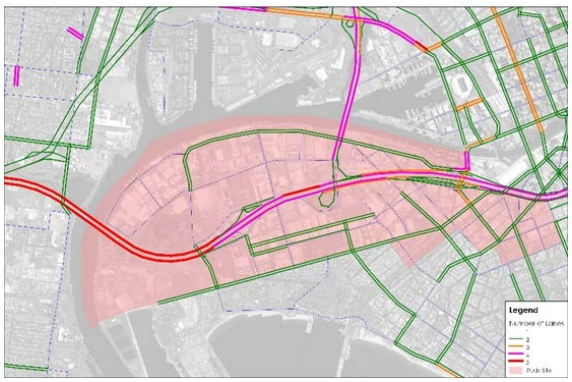
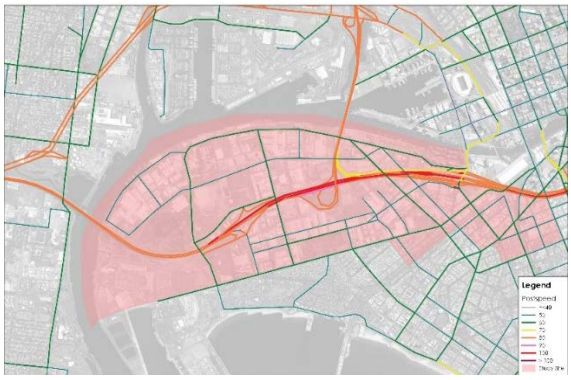


Figure 6.8: Modelled Network – Posted Speed



A sample of AM and PM peak hour V/C or 'congestion indicator' is also provided to assist the Advisory Committee. These are provided at Figure 6.9 and Figure 6.10 below.

Figure 6.9: Road V/C Plots – AM Peak

Figure 6.10: Road V/C Plots – PM Peak

These figures show (where brown very congested, red close to capacity, and green not congested) that the arterial network is broadly uncongested within Fishermans Bend, with the roads connecting to the Freeway system experiencing some levels of congestion. Amongst other things, these plots reveal the potential for internal precinct roads to replicate the and activate some of the strategies contained in various Framework Plan strategies and ITP principles around managing road space in favour of more sustainable forms of transport.

Given these observations, it is recommended that further analytics research is completed for the road network including refinement that reflects aspiring road space allocations. This would involve the development of a high order arterial and connector road network which replicates intended lane configurations and speed limits within the precinct and would be completed prior to the settlement of any precinct structure plans. Some key local roads may be included in the model as well depending on the role they may be expected to play in the overall transport system.

Suitability of Zone Disaggregation & Other Modelling Consideration

The model used for this assessment, the Victorian Integrated Transport Model (VITM), uses small areas to aggregate the population demographics and jobs in an area, there is approximately 3,000 of these areas, called 'transport zones', across Melbourne. The modelling undertaken within the *Fishermans Bend Tram Extension – VITM Modelling* report increased the number of zones in Fishermans Bend by about 35, by splitting some of the existing larger zones. This is a common

approach to area-based evaluation, and was used for other projects, such as Mernda Rail Extension.

Consideration should be given to further refining these zones to more accurately predict transport demands on the transport system.

In general terms, more enhanced strategic modelling should consider as a minimum:

- An additional 20,000 jobs in the Employment Precinct.
- An update network with latest known major infrastructure and plans such as West Gate Tunnel.
- A review of the strategic model road network in and around the precinct to ensure capacity and operational controls for example speed limits/turn bans are accurately reflected in the model down to a connector road typology.
- Ensure planned cross-sections and operational controls for Fishermans Bend are reflected in future scenario tests.
- An exploration of opportunities to strengthen public transport connections between the northern and southern precincts with forecast additional jobs (+20,000).
- A review of the impact of increased bus frequencies and consider allowances which provide for buses with on- road priority measures to reduce pressure on the light and heavy rail transport systems.

To more confidently manage concerns around traffic congestion, an operational level of modelling is required. Rather than supporting a *"predict and provide approach"* this should focus on establishing the practical capacity of the network by considering the number of vehicle lanes on individual links, routes for buses, LRT rights of way, bicycle lanes and footpaths using new and emerging tools such as activity-based models. This multi-modal approach would ideally consider capacity of footpaths and cycle lanes so that the ultimate layouts adequately caters for all forecast demands and the interactions between modes.

Operational modelling would benefit finer grain planning on amongst other things, bus priority levels within the transport system and at key nodes within the precinct. This operational modelling should review the network through a 'people-movement-lens' and consider adopting either a 'link-and-place' or 'movement-and-place' planning philosophy to optimise transport network efficiency whilst achieving the overall objectives of the draft Framework Plan. At precinct structure planning the finer details of cross section and space allocation will need to be considered across all modes. For example, "traditional" footpath widths i.e. 1.5 – 2.5m are likely to be inadequate for the volumes of both general pedestrians, and those moving to and from public transport and their place or work or residence. This is already evidenced in parts of Docklands at peak times.

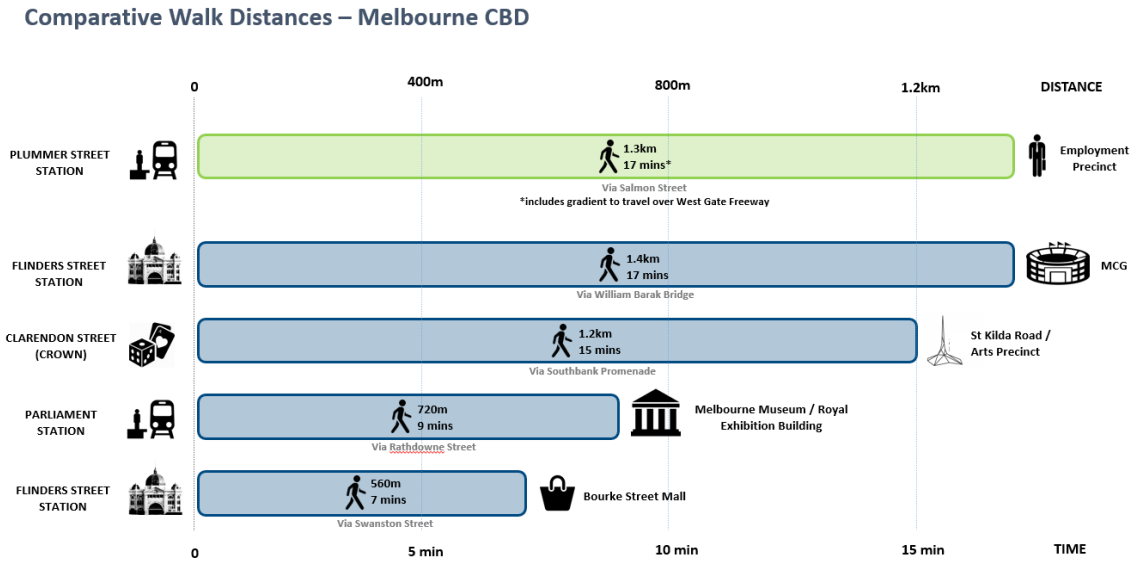
Heavy Rail Alignment

The heavy rail Metro 2 options ultimately considered two short-listed options including a southern alignment based on Plummer Street, Project Case 5 in the ITP, and a combined north/south alignment with a station in the Employment Precinct, Project Case 6. These equate to Project Case 6 and 7 in the Framework Plan.

At this stage, the ITP provides an acknowledgement that the southern alignment offers slightly better performance. Based on my experience, the addition of another 20,000 jobs in the northern precinct could counter-balance results to the extent that the northern rail alignment is more favourable. By way of example, when looking at the attractiveness of a Plummer Street Station for those working in the Employment Precinct it is worth considering the distance for potential passengers from the Plummer Street Station to the Employment Precinct, and the

severance and barrier effect of the Westgate Freeway on movement. This is illustrated below in Figure 6.11.

Figure 6.11: Comparative Walk Distance – Melbourne CBD Examples



This exercise indicates that further analysis should be completed in relation to the impact of the additional 20,000 jobs in the employment precinct may have on the preferred rail station and the two-short-listed heavy rail alignment options.

Infrastructure Delivery Timing

Work completed to date in support of the Framework Plan broadly concentrates on a full build-out scenario for the precinct. To assist with determining the delivery timing of transport infrastructure within the precinct and connections more broadly, it would be appropriate to undertake a further study which estimates likely land use delivery over incremental timeframes, by way of example, every 5 to 10 years together with scenario testing of the transport system components which need to be sequenced to service that or variations on land use delivery in the precinct.

This approach would be consistent with broader Melbourne transport planning methodologies but have a precinct-centric focus to better plan for likely growth stages throughout the development lifecycle of Fishermans Bend. This study would complement the forthcoming Precinct Structure Plans which are expected to follow approval of this Amendment.

Sustainable Transport Travel Contribution to Mobility

In terms of influencing modal behaviour, research by Litman (Land Use Impacts on Transportation, 2015) indicates that there are at least 11 factors which individually and collectively contribute to any end outcome including density, land use mix, centricity to employment and services, network connectivity and capacity, the availability and accessibility to active transport options, the establishment of local policies and programs supporting more sustainable transport practises and the management of car parking (supply and pricing). Limitations with the strategic model relied upon to estimate forecast travel demands limit a meaningful qualitative analysis of attributes of active travel capacity, local policies and car parking limitation to the extent contemplated in the draft planning controls.

Litman goes on to note that the total impact of these factors tends to be *"multiplicative not additive, because each additional factor applies to a smaller base".* But he also notes that a combination of factors "*are often synergistic"* where the *"total impacts are greater than the sum of their individual impacts"*.

Litman (2015) subsequently cites the example that improved walkability, improved transit, and increased parking pricing might only reduce vehicle travel by 5% if implemented alone, but if implemented together might reduce vehicle travel by 20-30%, because they are complimentary. These observations highlight the importance of developing a complete and inter-dependent transport system for Fishermans Bend which includes both *'hard'* (infrastructure and services) and *'soft'* (policy and pricing) transport planning measures.

Litmans' research indicated that those factors which contribute to the greatest reduction in car-based travel include (in order):

- Centricity to employment and services.
- Availability and accessibility to active transport options.
- Local policies and programs supporting more sustainable transport practises.

Acknowledging that active travel is a major influencer of travel behaviour, and a planning policy position which elevates the importance of active travel movement above all other transport modes, it is worth exploring in detail the merit and robustness of the proposed active travel component of the proposed transport system.

To assist the Advisory Committee, the following report sections provide an outline and test of this specific component of the proposed Fishermans Bend transport system.

6.7 Active Travel Infrastructure Review

The Fishermans Bend ITP seeks to deliver a world class, leading transport system that seamlessly integrates with land uses and urban fabric of the area and where sustainable transport choices are intrinsically intuitive, and the preferred option for movement within and through the precinct. To achieve these objectives, a strong focus has been applied to active modes to ensure that the precinct is fully accessible.

To achieve the objectives, and consistent with earlier observations, the following key targets have been relied upon to inform development of this component of the planned transport system:

- *80 percent of trips are made by sustainable transport modes.*
- *People with a wide range of abilities are able to get around independently.*
- *Access to services (community infrastructure, open space and public transport) are generally within 400metre walk of homes and businesses.*
- *A walkability score of more than 90 via WalkScore is achieved for all dwellings and workplaces*
- *24 hours a day, 7 days a week access is maintained to the growing port.*

These are the planning benchmarks for Fishermans Bend and are underpinned by three core principles, of which Principle 1 and Principle 2 include elements designed to create a first class walking and cycling precinct. To facilitate the safe and fluid movement of pedestrians and cyclists through the precinct, the ITP proposed the following two recommendations (Section 6.4, pg. 15):

- *Deliver a series of principal walking and cycling corridors which provide dedicated space for these movements and lift the presence of these modes as transport choices.*

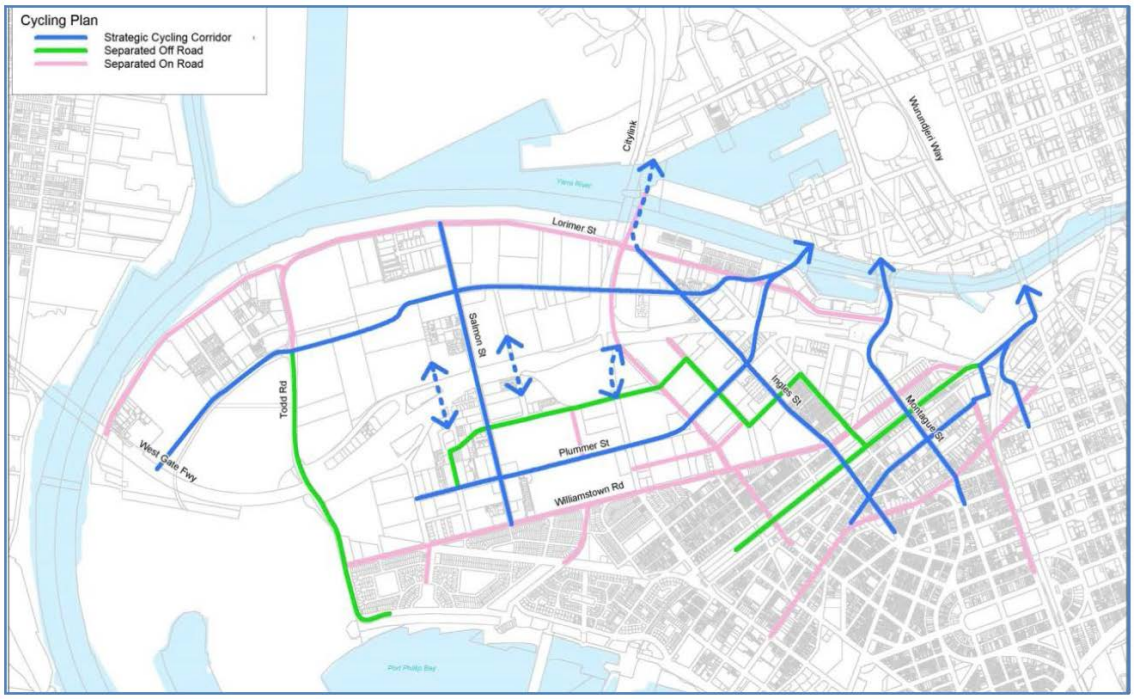
- *Construct a number of upgraded and additional Westgate Freeway and Yarra River crossings to improve permeability, connectivity and accessibility.*

These recommendations form the basis of the Fishermans Bend vision for 2050.

Comment on Proposed Cycling Environment

The cycling plan is presented in Figure 6.12. The cycling plan proposes a network of strategic and separated arterial cycle routes. It is designed to connect the various precincts and create direct connections into Docklands and the CBD as well as a connection to the West Gate Punt and to South Melbourne. The core bicycle network is proposed to be fully separated from vehicles and pedestrians and would seek to achieve priority for cyclists at road crossings. An example of this includes the Lorimer Street corridor. The network includes several new bridges across the West Gate Freeway to enable connections between the employment precinct and southern precincts.

Figure 6.12: Proposed cycling network (from ITP)



Source: Figure 5, page 16, Fishermans Bend ITP

Similar to the pedestrian network, the proposed bicycle network will be supplemented by a series of lower-order, low-speed, fine-grain cycling connections through the local street network. In conjunction with the various other measures outlined in the ITP, the cycle network is planned to facilitate a 5% - 15% cycling mode share by 2050. For reference, existing mode share to cycling is approximately 5% in both the City of Melbourne and City of Port Phillip[26]. Though previous mode share estimates for cycling have been developed by precinct[27], the current target is for *'sustainable travel'*, which includes cycling.

Based on recorded (2016) mode shares in Melbourne, achieving between a 5 – 15% mode share for cycling sits between a moderate and high outcome. This is sensible given stated objectives

[26] ABS Census 2016, Method of Travel to Work by Place of Residence for City of Melbourne and City of Port Phillip. Further methodology detail can be reviewed in the Framework Peer Review Report.

[27] Fishermans Bend, Population and Demographics, Department of Environment, Land, Water and Planning 2017

and targeted 2050 mode share outcomes compared with those recorded for present day (2016) conditions in comparable areas.

Car Parking Considerations

Many of the proposed treatments identified in background technical reports informing the cycling network involved the removal of car parking to be able to accommodate the design. This is consistent with Principle 2 of the ITP which notes that '*on-street and off-street car parking provision will be minimised by specifying best practice parking rates and maximising provision of car share, bike share and bicycle parking*.'

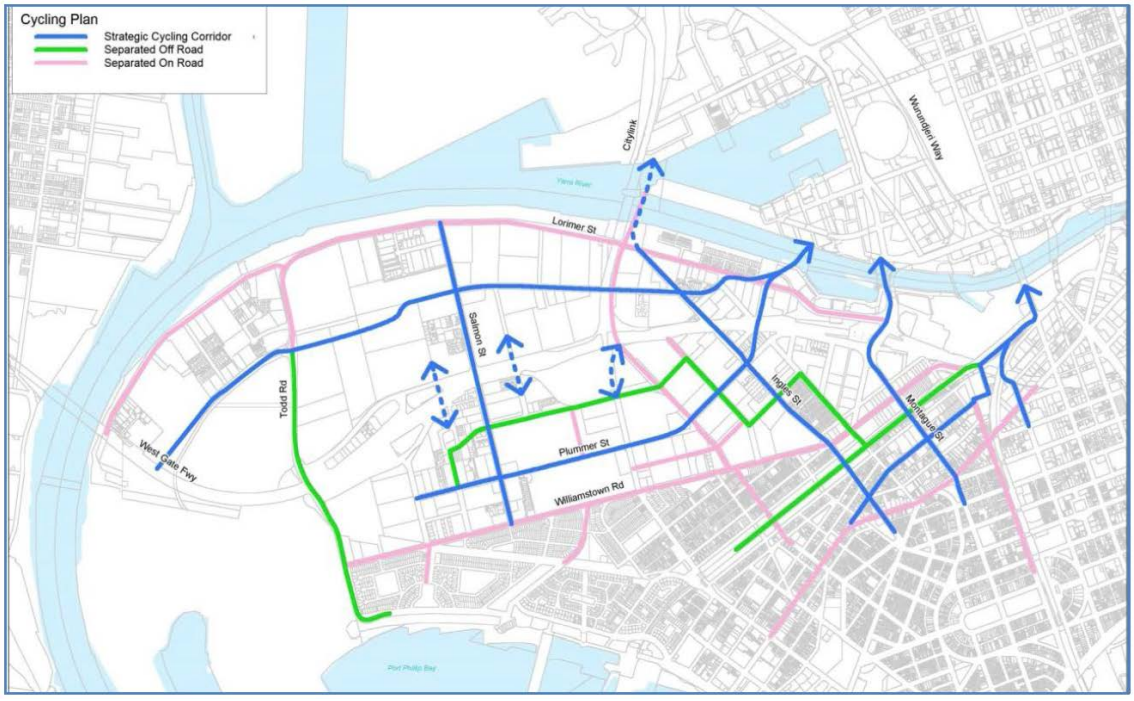
The concept designs prepared for the five corridors (2013) indicated that on-street car parking will need to be removed to accommodate proposed bicycle facilities, this is consistent with other initiatives (e.g. travel demand management) to reduce the use of private cars.

Barriers to Movement

The West Gate Freeway and the Yarra River present significant barriers to the movement and permeability of pedestrians and cyclists within the Fishermans Bend precinct and to/from the CBD. Both the ITP (Figure 6.13) and the draft Framework Plan have included proposals for new Yarra River crossings to Docklands (Strategy 1.3.1 from the Framework). This includes a new bridge on the eastern side of the Bolte Bridge, and a new bridge connecting to the western end of Collins Street. In addition to this, four new and two upgraded bridges are proposed across the West Gate Freeway.

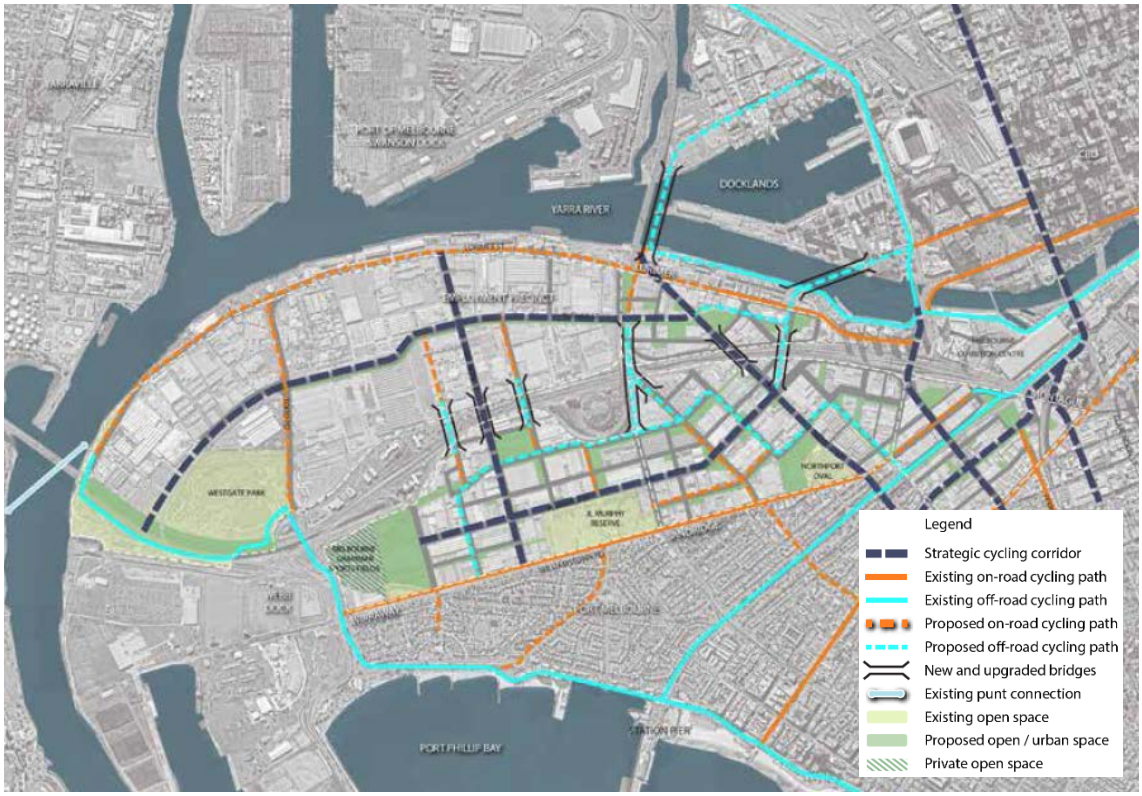
These new grade-separated crossings will form an important component of creating a connected network with direct access to the CBD and Docklands. Their design parameters as planning advances after this amendment will need to be clearly articulated to ensure that they will meet the requirements for strategic cycling corridors and not adversely impact operations on the Yarra River.

Figure 6.13: Proposed Cycling Network (ITP)



Source: Figure 5, page 16, Fishermans Bend ITP

Figure 6.14: Cycling infrastructure (draft Framework)



Source: Figure 7, page 34, Draft Fishermans Bend Framework

The Strategic Cycling Corridors shown in Figure 6.15 are generally consistent with those shown in the ITP (Figure 6.13), with the exception of the connections to the east of Ingles Street and across the proposed bridge into Collins Street (Docklands).

The ITP (page 15) recommends several additional new SCCs as follows:

- *Buckhurst Street/Bay Street linking Port Phillip Bay (at Bay Street) to the central city via Montague Precinct (Buckhurst Street).*
- *Turner Street linking the Employment Precinct, Lorimer and the central city.*
- *Plummer Street/Fennell Street corridor connecting Sandridge and Wirraway to the central city.*
- *Williamstown Road and Lorimer Street.*

Of these recommendations, Williamstown Road and Lorimer Street have not been shown as SCCs on the proposed network plan in Figure 6.13. The current (VicRoads) Strategic Cycle Network[28] is reproduced in Figure 6.15, indicates that Lorimer Street is designated as a SCC, however Williamstown Road is not.

[28] *Strategic Cycling Corridors*, VicRoads Open Data, VicRoads, http://vicroadsopendata-vicroadsmaps.opendata.arcgis.com/datasets/c126b57531da48ae8991bda91f1b1d83_0, accessed 23/02/18

Figure 6.15: VicRoads Strategic Cycling Corridors

Source: VicRoads Open Data

Notwithstanding, Williamstown Road is identified as having proposed separated on-road cycle lanes (Figure 6.13) which is comparable to a SCC design.

It is acknowledged that the VicRoads strategic cycle network is soon to be undergoing a review[29] and the final alignments may change. It is likely that the SCCs developed for Fishermans Bend will shape the alignment of SCCs in the broader strategic network.

A fine-grain, safe network of paths will be essential to deliver the target outcomes.[30] This includes the creation "*of street blocks no larger than 100m and clear separation of walking and cycling from other road users.*"[31] In addition to creating this network, the network must be easily accessible and provide direct, safe, separated connections into the CBD and to the south of the precinct. While the ITP and the Framework includes new, grade separated bridges into Docklands, the connection into the CBD via Normanby Road and Clarendon Street is recommended for further consideration within the Framework Plan.

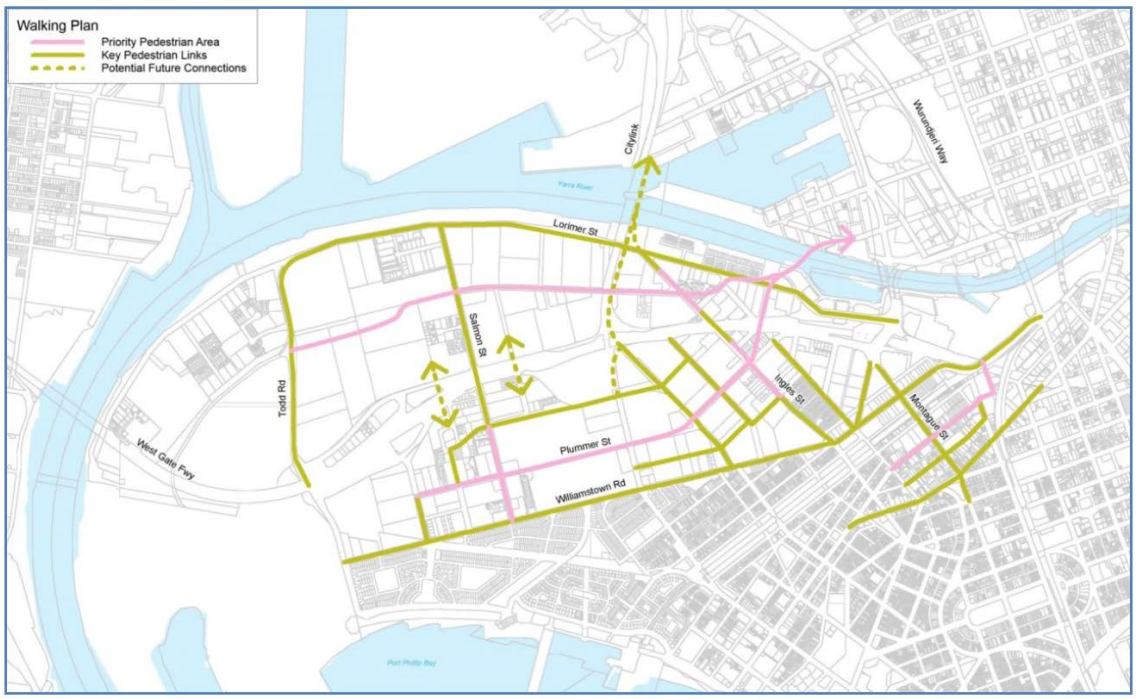
In particular, a separated provision for cyclists is recommended at the intersection of Clarendon St/Whiteman St/Normanby Road and continuing into the city. This is a key missing link for the western end of the CBD and to access the Southbank path network. Spencer Street is identified as a SCC in the draft Framework, however information available from VicRoads only has Spencer Street designated as a SCC between the Yarra River and Collins Street. It is understood that VicRoads has long-term plans to downgrade Spencer Street to traffic and create improved pedestrian and separated cycling infrastructure along this route.[32]

Comment on Proposed Walking Environment

The ITP has developed a network of walking routes, with the proposed walking plan presented in Figure 6.16.

29 Personal communication with VicRoads, 22 February 2018
30 Aligns with Principle 1 and Recommendations from Section 6.4 of the ITP.
31 Page 15 of the ITP
32 GTA Consultants has previously prepared high-level concept plans for separated cycle lanes on Spencer Street (for VicRoads)

Figure 6.16: Proposed walking plan (from ITP)



Source: Figure 4, page 16, Fishermans Bend ITP

The pedestrian network has been informed by the location of public transport hubs, and through input from the Fishermans Bend Taskforce. The network shown in Figure 6.16 represents the primary/principle pedestrian network. This is proposed to be supplemented with a fine grain, permeable walking network that is accessible to all users and is compliant with the Disability Discrimination Act. At a local level, streets are proposed to be designed to create low speed, safe environments that encourage the uptake of sustainable transport modes. The pedestrian network will be separated from the cycle network so that all vulnerable road users have their own space.

More broadly, overcoming the barriers presented by the West Gate Freeway is important. Three new bridge crossings are seeking to mitigate this. The design details of the bridges are yet to be developed, but they should be sufficiently wide to comfortably accommodate high volumes of pedestrians and cyclists. I expect this level of detailed planning will occur following approval of the Amendment.

Are the Active Transport Provisions Proposed with Fishermans Bend Considered Best Practise?

To understand whether the proposals outlined in the ITP are considered best practice against cycling, the following key guiding documents have been referenced:

- **Pedestrians First – Tools for a Walkable City, 2018** – prepared by the Institute of Transportation and Development Policy (ITDP), this document recognises the complex ecology of walkability and provides a range of best practice tools and approaches to create first class walking environments that are fundamental to the creation of sustainable transportation in an urban environment.
- **Global Street Design Guide, 2017** – an internationally recognised document that sets a new global baseline for designing urban streets by recognising that cities are places for people. The guide adopts a new approach to street design by recognising that streets are public places for people as well as for movement. It departs from the traditional view of vehicle movement and safety and instead focusses on inclusive access, safety,

and mobility for all users, environmental quality, economic benefit, enhancement of place, public health, and overall quality of life.

- **Streets for People, Compendium for South Australian Practice, 2012** – an Australian guide designed to reclaim streets for pedestrians and cyclists and as public spaces for social and commercial interaction. It provides guidance for developing cycle-friendly environments that promote health and strengthen communities.

While there are other guiding documents available – such as the CROW Design manual for bicycle traffic (Netherlands) and other international design guides, these are generally more design specific in their guidance and recommendations. The three documents above align with the vision for Fishermans Bend to create a precinct that is designed around people and highly integrated.

Key best practice elements from the above documents have been assessed against the ITP and draft Framework principles and strategies. This has been done to provide confidence that the proposed initiatives are fit for purpose, are embedded in international best practice and have the best possible chance of delivering the vision and mode share targets for the area. The assessment is summarised in Table 6.3.

Table 6.3: Comparison of sustainable transport initiatives against key best practice measures

Category	Best Practice [1]	ITP / Framework Response
User	○ Plan and design for people first. ○ Cater for people of all ages and abilities (inclusive) ○ Create an environment that is enjoyable to be in and that people want to experience.	**Integrated Transport Plan (ITP)** ○ **Principle 1: Provide a quality transport network in Fishermans Bend**. - fine grain of high quality walking linkages - footpaths progressively upgraded to remove obstructions ○ **Principle 2: Prioritise walking, cycling and public transport**. - street hierarchy that prioritises pedestrians and cyclists - land use planning and design to facilitate local trips **Draft Fishermans Bend Framework** ○ **Strategy 1.2.2 –** fine grain permeable street network ○ **Strategy 1.2.3 –** reduce speed limits ○ **Strategy 1.2.5 –** design streets to create safe, comfortable pedestrian friendly environments. ○ **Strategy 1.4.2 –** design street networks to reduce conflicts between modes of transport
Walking and Cycling Network	○ Provide a comprehensive strategic walking and cycling networks that provide safe, convenient and direct routes to key destinations with full modal separation and priority to pedestrians and cyclists. ○ Provide a hierarchy of cycling routes that integrate with the fine-grain local street network and encourage short, local, functional trips. ○ Priority crossings. ○ Protection for cyclists at intersections. ○ Connect networks with activity centres, public	**Integrated Transport Plan (ITP)** ○ **Principle 1: Provide a quality transport network in Fishermans Bend**. - fine grain of high quality walking linkages - high quality transport infrastructure will be integrated with streets and surrounding buildings ○ **Principle 2: Prioritise walking, cycling and public transport**. - street hierarchy that prioritises cyclists - key pedestrian and cycling streets will be designed to provide low speed and safe environments for all ages **Draft Fishermans Bend Framework** ○ **Strategy 1.2.1 –** create new, direct pedestrian connections across the Yarra River ○ **Strategy 1.2.2 –** fine grain permeable street network ○ **Strategy 1.2.3 –** reduce speed limits ○ **Strategy 1.2.6 –** improve the pedestrian connection across major roads ○ **Strategy 1.2.7** – improve pedestrian connectivity across the West Gate Freeway ○ **Strategy 1.3.1 –** create new, direct cycling connections across the Yarra River to Docklands

Category	Best Practice [1]	ITP / Framework Response
	transport, community centres, recreation areas and other key destinations and trip generators	○ **Strategy 1.3.2 –** create new, direct cycling connections to Moonee Ponds Creek and extend Capital City Bike Trail to FB ○ **Strategy 1.3.3 –** create a network of priority separated cycling routes that connect to existing and planned cycling networks including the West Gate Punt and Yarra River Corridor ○ **Strategy 1.3.6** – improve connectivity across the West Gate Freeway for cyclists. ○ **Strategy 1.3.9** – deliver best practice cyclist protection through intersection design ○ **Strategy 1.4.2 –** design street networks to reduce conflicts between modes of transport ○ **Strategy 1.5.2 –** create safe, high amenity walking connections to open spaces
Complementary cycle measures	○ Safe, secure bicycle parking located throughout the precinct, including at transport interchanges and destinations. ○ High quality end-of-trip facilities at employment locations. ○ Clear wayfinding. ○ Bike share program. ○ Shade (urban forestation) ○ Low speeds	**Integrated Transport Plan (ITP)** ○ **Principle 2: Prioritise walking, cycling and public transport**. - maximise provision of bike share and bicycle parking - increased urban greening and canopy cover - pedestrian and cycling streets designed in ways that provide low speed and safe environments **Draft Fishermans Bend Framework** ○ **Strategy 1.2.3 –** reduce speed limits ○ **Strategy 1.3.4** – install high-quality bicycle parking and facilities at key transport interchanges ○ **Strategy 1.3.5 –** investigate bike sharing schemes ○ **Strategy 1.3.8 –** provide a minimum of one bike space for each dwelling and one space per 10 dwellings for visitors.
Walkability	○ Small block sizes ○ High block densities ○ Shade and shelter ○ Safe, protected, DDA compliant, unobstructed footpaths ○ Prioritised connectivity ○ Visually active frontage ○ Complementary uses ○ Physically permeable frontage ○ Low speed ○ Wayfinding ○ Access to local services ○ Access to public transport ○ Personal safety, passive surveillance	**Integrated Transport Plan (ITP)** ○ **Principle 1: Provide a quality transport network in Fishermans Bend**. - fine grain of high quality walking linkages - footpaths progressively upgraded to remove obstructions ○ **Principle 2: Prioritise walking, cycling and public transport**. - street hierarchy that prioritises pedestrians - land use planning and design to facilitate local trips - activated, permeable and people-friendly built environments - increased urban greening and canopy cover - key pedestrian streets designed to provide low-speed, safe environments **Draft Fishermans Bend Framework** ○ **Strategy 1.2.2 –** fine grain permeable street network ○ **Strategy 1.2.3 –** reduce speed limits ○ **Strategy 1.2.5 –** design streets to create safe, comfortable pedestrian friendly environments. ○ **Strategy 1.2.8 –** improve wayfinding and signage ○ **Strategy 1.4.2 –** design street networks to reduce conflicts between modes of transport ○ **Strategy 1.5.2 –** create safe, high amenity walking connections to open spaces ○ **Strategy 1.5.4 –** design streets to encourage growth of large connected tree canopies that provide shade
Car Parking	○ Limit amount of on-street car parking ○ Limit the amount of car parking in new developments	**Integrated Transport Plan (ITP)** ○ **Principle 2: Prioritise walking, cycling and public transport**. On street and off-street car parking provision will be minimised by specifying best-practice parking rates and maximising provision of car share, bike share and bicycle parking, and consider centralised car parking facilities to encourage use of walking, cycling and public transport.

Category	Best Practice [1]	ITP / Framework Response
	○ Increase cost of parking to reduce demand ○ Encourage car share ○ Build in resilience to car park planning to enable future conversion to alternate uses.	**Draft Fishermans Bend Framework** ○ **Strategy 1.6.1 –** encourage transport options and smart use of space by limiting private car parking in new developments to 0.5 cars/dwelling and one car/100sqm for employment uses. ○ **Strategy 1.6.2 –** car parks must be designed to allow for future conversion to alternate uses and sub-divided as common property. ○ **Strategy 1.6.3 –** support the off-site delivery of precinct car parking stations to provide dedicated car parking in the short-term ○ **Strategy 1.6.5** – encourage inclusion of car share spaces within new developments.
Speed	○ Local street design to be self-enforcing and encourage 30km/h speeds ○ Reduce delays to pedestrians and cyclists by assigning priority to active modes and impeding vehicle movements in high activity areas	**Integrated Transport Plan (ITP)** ○ **Principle 2: Prioritise walking, cycling and public transport**. - street hierarchy that prioritises pedestrians and cyclists - key pedestrian and cycling streets designed to provide low-speed, safe environments
		Draft Fishermans Bend Framework ○ **Strategy 1.2.3 –** reduce speed limits to create and enjoyable walking environments ○ **Strategy 1.2.5 –** design streets to create safe, comfortable pedestrian friendly environments. ○ **Strategy 1.4.2 –** design street networks to reduce conflicts between modes of transport
Traffic Management	○ Restrict vehicle access to city centre locations and selected major walking/cycling corridors ○ Reduce vehicle speeds ○ Vehicle movement is subordinate to all other modes ○ Last mile freight services delivered by low-impact transport mode (e.g. cargo bike or electric vehicles.) ○ Constrain vehicle movement	**Integrated Transport Plan (ITP)** ○ **Principle 2: Prioritise walking, cycling and public transport**. - street hierarchy that prioritises pedestrians and cyclists - key pedestrian and cycling streets designed to provide low-speed, safe environments ○ **Principle 3: Enable freight and private vehicle movements** - network planning and street design will minimise the impact of freight and general traffic on abutting land use. - street design will cater for those transport movements that are required to service the local area (including construction and last mile freight deliveries).
		Draft Fishermans Bend Framework ○ **Strategy 1.2.3 –** reduce speed limits to create and enjoyable walking environments ○ **Strategy 1.2.5 –** design streets to create safe, comfortable pedestrian friendly environments. ○ **Strategy 1.4.2 –** design street networks to reduce conflicts between modes of transport

[1] Based on the reference documents above and examples from selected international cities that have achieved comparable mode share targets. This is not intended to be a definitive list, but a summary of the overarching elements that are likely to have a direct impact on the ability to meet the mode share targets.

From the assessment in Table 6.3, it is evident that there are strong alignments in both the draft Framework, and the ITP which have been heavily informed and consistent with contemporary best practice planning. Successful international cities that have achieved high active transport mode share, share common themes, including:

- Prioritising walking and cycling movement over private vehicles
- Pedestrian dominated town centres
- Small blocks, high densities and highly permeable street networks
- Fine grain walking and cycling networks.
- Separated cycling infrastructure
- Vehicle access reduction strategies
- Seamless integration with (highly efficient) public transport

- Abundant bicycle parking and pedestrian rest areas/amenities
- Progressive policies that continually set ambitious targets to increase participation in active modes
- Bike share schemes
- Low default vehicle speeds (typically 30km/h for local roads)

When cities combine these elements well, the result is a highly liveable city where citizens are healthier and happier.

The following closing comments, both favourable and where more detail could be provided are made with respect to the active travel initiatives outlined in the draft Framework and the ITP:

Table 6.4: Comments and Opportunities on Selected items from the Draft Framework

Reference	Comment
Strategy 1.2.3 – Reduce speed limits to create safe and enjoyable walking environments.	This is supported; however no speed is specified. To maximise walking and to be consistent with European best practice, local road speeds should be set and designed to 30km/h.
Strategy 1.3.4 – Install high-quality bicycle parking and facilities at key transport interchanges.	This should also be expanded to include recreation areas, shopping precincts, parks and other high activity areas.
Strategy 1.3.5 Investigate bike sharing schemes	This should also include consideration of electric share bikes.
Strategy 1.3.6 – Improve connectivity across the West Gate Freeway for cyclists.	Consider including broad level design parameters for bridges to the ensure fit for purpose and ability to comfortably cater for future volumes.
Strategy 1.3.7 – Establish design controls to provide high quality end of trip facilities in new developments.	This is important to encourage commuter trips and guidance[33] should be provided on delivering high quality EOT facilities, which also include provision for e-bike charging.
Strategy 1.3.8 – Provide a minimum of one bicycle space for each dwelling and one space per 10 dwellings for visitors. Within non-residential areas, one space/50sqm should be provided for workers and one space/1000sqm for visitors.	To maximise the uptake of cycling and to support the case for cycling and walking being the preferred travel choice, this rate could be higher. In particular, consideration should be given to adopting a rate of one space per bedroom and one space per five dwellings for visitors for medium-high density dwellings. The non-residential worker rate is considered adequate; however the visitor rate could be increased.
Strategy 1.3.9 – Deliver best practice cyclist protection through intersection design.	What are the parameters for 'best practice?' More detail could be provided including protected intersections, bike priority, separation from pedestrians and vehicles
Strategy 1.4.4 – Provide rear access to properties on streets in activity cores, dedicated public transport routes and strategic cycling corridors to prioritise safety and movement flow.	This will deliver excellent safety outcomes (in combination with separated facilities) by eliminating vehicle movements typically associated with crossovers and access to properties.
Strategy 1.7.2 – Prioritise innovative freight delivery and supply chain solutions to reduce the number of trucks accessing the area	This should include bicycles/cargo bikes for last kilometre freight – align with City of Melbourne Last Kilometre Freight Plan 2016.

The principles outlined in the ITP are all supported and if delivered together, in a complementary way should deliver a target mode share of 80 percent towards sustainable travel including meaningful proportions contributed by both walking and cycling. Important elements to the success making walking and cycling the preferred modes include early allocation of road space to support active modes (and actively discourage vehicles), separated infrastructure for high use corridors, local roads designed to reduce speeds (30km/h) and be self-enforcing and creating a fine grain, permeable environment or a 'walkers paradise'.

[33] GTA has previously prepared a Workplace EOT Guide for the ACT Government

7. The Need for a Future Freight Corridor

7.1 Freight Planning Context

Principle 3 of the ITP at Section 4 sets out to *"Enable freight and private vehicle movements"* within and around the Fishermans Bend precinct. The subset design principles set for Fishermans Bend include:

- *The operating and growing Port of Melbourne at Webb Dock will have ongoing access via road and rail, currently provided via Lorimer Street. In the longer term, freight movements may be provided via a new road and rail freight connection, with the land set aside and preserved in the short term.*
- *The impact on the external transport network surrounding Fishermans Bend, and potentially impacting freight movements, will be minimised by maximising the use of walking, cycling and public transport to access the precinct, rather than private vehicles.*
- *The street hierarchy for the precinct and adjoining areas will include appropriate traffic routes connecting to key destinations.*
- *The growth of activity at Webb Dock will be supported whilst managing the impacts on urban amenity.*
- *Access to Station Pier will be maintained to support the continued operation of activities.*
- *Land use planning and building design will minimise the need for local service, delivery and waste freight movements within Fishermans Bend, including the application of consolidated waste freight servicing across the precinct.*
- *Network planning and street design will minimise the impact of through freight and general traffic on abutting land use.*
- *Street design will cater for those transport movements that are required to service the local area (including construction and last mile freight deliveries).*

In support of these sub-set principles and in particular the first, third and fourth sub-set principles, Section 10 of the ITP details a newly proposed (strategic) rail and road freight corridor alignment through Fishermans Bend and provides an overview of why the corridor is required in the long term. This justification is aligned with the findings presented in the Fishermans Bend Freight Corridor Advisory Services Report (Corridor Advisory Report) prepared by Jacobs (2016).

Infrastructure Victoria's Advice on Securing Victoria's Ports Capacity in 2017 recommended that capacity of the Port of Melbourne could be increased to approximately 8million TEU without a dedicated road and rail Freight Link through Fishermans Bend to Webb Dock. The Corridor Advisory Report provides the following justification for the *'need'* of the proposed freight corridor in the long term:

- The existing freight route via Lorimer Street is the only route to and from the Webb Dock for vehicles operating at 109 tonnes (i.e. there is no alternative route for HPFV vehicles). HPFV offer an opportunity to streamline freight movements and potentially reduce the quantity of vehicles required.
- The existing freight route via Lorimer Street has sufficient capacity for the short to medium term. However, in the long term additional and/or dedicated freight capacity is likely needed.

- Currently the network lacks resilience and is vulnerable to potential network issues such as the event of the M1 having temporary closure which would constrain the Webb Dock.
- Freight movement through Fishermans Bend is required as the Tasmanian trade handled at Webb Dock often moves to and from the Dock to close locations including Swanson Dock, the Dynon rail terminals and near port Tasmanian trade related businesses.

In light of the above, and with consideration to the sustainability goals (or principles) within the Fishermans Bend Framework, the preservation of the road and rail corridor provides an opportunity for clear separation between freight movement and commuter trips of all modes as the demand for freight increases.

More importantly, the early identification and preservation of this road and rail corridor meets the objective of maintaining port access for high productivity vehicles. This will greatly extend the port capacity expansion for the PoM precinct and more specifically, Webb Dock and provide a long-term delay for consideration of the addition of port capacity.

This preferred route alignment also preserves a corridor for heavy rail which will serve to support the transition from road to rail transport and as a result, reduce increasing congestion and help preserve the precinct's urban safety and amenity.

7.2 Suitability of Freight Assessment Methodology

The process undertaken to identify the preferred long-term corridor, as outlined within the Corridor Advisory Report (Jacobs 2016) is consistent with contemporary planning practice and cognisant of key urban planning and integrated transport needs. Key findings include:

4. Summary of any relevant previous work undertaken considering freight access arrangements for Webb Dock.
5. Analysis of various scenarios for the development of trade through Webb Dock and identification of the land side connection that may be required to support movement of this trade.
6. Assessment of a full range of road and rail corridor options for providing a connection to Webb Dock via the Fishermans Bend employment area in the longer term.
7. Detailed assessment of deliverable long-term corridor options including through preparing concept designs and cross section and costing for each option.
8. Review of corridor options to assess their impact on development of Fishermans Bend, including consideration of impact on the deliverability of potential public transport connections servicing the precinct.
9. A Multi Criteria Assessment (MCA) of options to identify a preferred corridor for delivery of dedicated road and rail capacity in the longer term as trade volumes grow.

The above methodology for determining a preferred freight corridor is considered appropriate as it provides an iterative process for determining the best *'on-balance'* alignment. Additionally, the methodology builds on following background studies:

- Review of options for Container Handling for the Port of Melbourne: Preliminary Findings, Parsons Brinckerhoff, 2009
- Road capacity review to support the Port of Melbourne development recommendations report, Parsons Brinckerhoff, 2009
- Port of Melbourne Traffic Surveys: Summary Report, GHD 2013

7.3 Freight Study Scope Limitations

The scope of the study specifically excludes a tunnel option for the freight corridor. The justification for excluding the tunnel option is outlined in the technical supporting document entitled *"Review of Options Container Handling for Port of Melbourne Preliminary Findings Report"* (Parsons Brinckerhoff 2009). This study contemplated a bridge and a tunnel option for the river crossing, however a bridge crossing was considered the only viable option as a tunnel would cost considerably more and would create significant environmental issues.

It is noted that my review excludes assessment of bridge height, exploration of alternative options for the bridge, consideration of the option of strengthening the existing Bolte Bridge and staging plans to determine when infrastructure will be built.

I understand that these items have been considered as part of *'proof-of-concept'* evaluations however will be refined in more detail during further stages of planning following the Planning Scheme Amendment.

7.4 Suitability of Alignment Assessment Process

The initial assessment for freight corridor options consisted the following:

- Option 1: Lorimer Street Route (largely existing heavy freight route)
- Option 2: Turner Route (New route which would require new connection to extend Turner Street to Todd Road)
- Option 3: M1 Route (New route which would require new connection to link Cook Street with a new river crossing).

7.5 Suitability of Analytic Assumptions used for Freight Forecasting

The Corridor Advisory Report and states that the main influencing factors determining truck routes are:

- Location of origins and destinations.
- The road network that is open to the truck concerned, considering.
    - Vehicle type (semitrailer, b-double, super b double HPRV or a double PPFV)
    - Vehicle mass (GCM less than: 42.5 tonne, 68.5 tonne, 77.5 tonne, 88.5 tonne or 109 tonne).
- Congestion or alternative routes that may be open to the vehicle concerned.

The Corridor Advisory Report provides detailed methodology to developing the analytic assumptions to support the proposed freight movement demand. The assumptions take into consideration changes existing volumes, the impact of relocation and growth of specific port users (i.e. Tasmanian trade). This information is used as the basis for the quantity of freight required to be moved per low, medium and high scenario. From this the report identifies the likely road and rail mode split per units during opening hours.

The transport mode share and truck and train capacity assumptions is based on current practices for international containers at Swanson Dock and changes expected to occur in the future.

7.6 Suitability of Distribution Assumptions

One of the main influencing factors determining truck routes is the origins and destinations of freight traffic. The Port of Melbourne Traffic Surveys: Summary Report prepared by GHD (2013) identifies the distribution pattern for freight vehicle movements accessing the Web Dock at that time. The Report states that trips to and from Lorimer Street via Todd Road represented only 12% of inbound and 11% of outbound trips, whilst freight trips utilising the CityLink represented 21% of inbound and 25% of outbound trips.

Further to this the Jacobs Advisory Report (2016) provides an anticipated freight mode share for low, medium and high scenarios for transport expected to use the proposed road and rail freight corridor through Fishermans Bend.

The results of the anticipated mode share stated above indicated that in the low scenario 100% of movements are expected to be via road, in the medium scenario 20% of movements would be undertaken via rail and in the high scenario 40% of movements would be undertaken by rail. Therefore, based on this mode share the average truck movements expected to use the corridor per day regardless of scenario would be in the order of between 1,488 and 1,696, this represents only a marginal difference.

As a further reference point, the PoM's Rail Access Strategy has identified a total of 2.6M TEUs moved through the Port of Melbourne with 90 per cent of these transported by truck for 2016-17. This volume generates 5,000 daily truck movements into and from the port precinct each day which is forecast to grow strongly into the future. For this reason, the PoM strongly advocates for a transition to rail transport and for the protection of a rail corridor that will allow this transition to occur at the earliest possible opportunity.

7.7 Freight Route Rapid Assessment

As part of the initial options review process a rapid assessment was undertaken to eliminate consideration of options considered largely undeliverable. The rapid assessment took into consideration the following criteria:

- Construction cost and complexity;
- Impact on amenity and urban development; and
- Impact on development of additional public transport services.

Based on the rapid analysis of various freight corridor options, the five strategic options were identified:

- Strategic Option 1a – Lorimer Street road and rail at grade (the base case)
- Strategic Option 1B – Lorimer Street road and rail on structure
- Strategic Option 2- Turner Street road and rail on structure
- Strategic Option 3 – M1 corridor road and rail on structure
- Strategic Option 4 – Dual corridor – road on structure on Lorimer Street, rail on structure M1 corridor.

Following further detailed review of the above five corridors, including considering variations of alignments. A final package of eight alignments were identified to progress the concept design. These options are reproduced in the table below.

Col A	Col B
Alignment Option 1A	Lorimer Street with road and operating grade within existing corridors. Option includes two grade separated intersection with rail crossing the Yarra via a low opening bridge. Road would continue to use the existing road links via Wurundjeri Way. This is considered to be the Base Case.
Alignment Option 1B	Lorimer Street with rail operating on a two-lane structure and Road continuing to use the existing road links via Wurundjeri Way. Option includes rail crossing the Yarra via a low opening bridge. A new tram service could be incorporated operating under the new structure.
Alignment Option 1C	Lorimer St with road and rail operating on a four-lane structure above Lorimer Street connecting across the Yarra on a low four lane opening bridge. Whilst the bridge would be delivered as four lanes, the full structure could be built as a two-lane road structure that is expandable to four lanes to accommodate rail as and when needed.
Alignment Option 2	Turner Street with road and rail operating on a four-lane structure above Turner Street connecting across the Yarra on a higher four lane bridge rising to a similar height to Bolte Bridge. Whilst the bridge would be delivered as four lanes, the full structure could be built as a two lane road structure that is expandable to four lanes to accommodate rail as and when needed.
Alignment Option 3A	M1 North – All M1 alignments have in common a connection to a high Yarra crossing (no opening requirement) and take a path to avoid crossing over the AusNet transmission facility. This route requires acquisition of a fair parcel of land as the route crosses Turner Street. The route would then proceed on structure over Salmon Street along Cook Street. The nth M1 alignment would then follow a path around the northern side of Westgate Park, connecting with the existing rail corridor on the western side of the park to enter the port.
Alignment Option 3B	M1 Centre – An on-structure alignment that follows Cook St and enter the port area near current truck access point on the north side of the freeway. Given the need to get under the M1, the connection would need to drop as it approaches port land and would require a realignment of Todd Road to the east in order to maintain adequate clearance on this link.
Alignment Option 3C	M1 South – An alignment has been identified that would cross the M1 and enter Webb Dock on the southern side of the freeway. Options would require acquisition of a new corridor on the southern side of the M1.
Alignment Option 4	Separated Corridor – Given the requirement to protect corridors for road and rail, an option is to provide access through two corridors rather than one. This option includes delivery of a road connection on structure along M1 connecting to a low opening 4 lane bridge that has capacity to carry rail. There could also be development later of a separate two lanes structure for rail along Lorimer Street. Depending on progress of other factors, under this option either both, or maybe only one of the corridors might ultimately be developed.

7.8 Multi Criteria Assessment of Options

A multi-criteria assessment (MCA) workshop was held on 29 August 2016 with representatives from DEDJTR, VicRoads, PTV and Jacobs.

The criteria used for assessment is reproduced table below.

Item	Basis of Assessment
Cost	Jacobs will be preparing a high-level costing for each option being considered. It has been assumed that options involving four lanes on structure would be built in two, two lane stages. The Yarra crossings would always be initially built to meet ultimate capacity.
Construction and deliverability risk	Jacobs will provide a high-level assessment of the relative construction risk of each option taking into account the complexity and likelihood of critical issues emerging.
Landside port supply chain efficiency	Jacobs assessment of the impacts of each option for port operations – would any of the options be better or worse for supporting the future development and capacity of the port? Key factors differentiating options are ability to separate port trucks from general traffic, impact of an opening bridge on route capacity and impact of any high grade connection of fuel consumption.
Ease of connection to Webb Dock	Jacobs will provide a high-level assessment of how easily and efficiently each option will be able to connect into Webb Dock including impact on other roads, and any complexity with needing to pass over or under other structure and ability to transition smoothly to accommodate options for future development of rail terminal capacity within the port.
Impact of connection to broader network	All options need to connect road and rail freight movement from Webb Dock to the Swanson/Appleton precinct. Jacobs will provide a high – level impact assessment of all the options including road remaining on arterial network and rail and road on a low opening bridge or a higher bridge.

Item	Basis of Assessment
Fishermans Bend transport network connectivity impacts	Planning is underway considering enhanced transport connections for Fishermans Bend for public trans and active modes. There will be a need to retain a flexible and workable network for road access. Jacobs provided the workshop a high-level comment of the impact of each option on connectivity within Fishermans Bend for all modes or transport (walking, cycling, public transport, and private car networks).
Land acquisition impact	Jacobs will provide a high-level assessment of the potential area needed to be acquired under each option. A very indicative cost of the land acquisition, assuming it is developed for a mix use purpose, will be provided to allow comparison between options.
Environmental impacts	Group quality discussion on the relative environment impact (noise, emissions) on the corridor area affected by each option informed by Jacobs assessment and urban design cross sections of each option.
Visual and amenity impacts	Group qualitative discussion on relative visual amenity impact on the corridor area affected by each option informed by Jacobs assessment and urban design cross section of each option.
Support for Fishermans Bend renewal	High-level Jacobs qualitative assessment of the likely impact (positive, negative, neutral) on the renewal and development of the area passed by each corridor option.

7.9 Preferred Alignment Option

The outcome of the MCA process identified that the options along the M1 corridor were a preferred strategic option. The options along Lorimer Street and Turner Street were considered to have a greater impact generally on the urban realm and development potential of the area relative to the M1 options. Further to this the Corridor Advisory Report stated that of the three M1 options, the option to have the corridor running along the southern side of the M1 was preferred (option 3C) as the alternation options would impact either Westgate Park or result in the requirement for network changes to Todd Road.

As such, the alignment option chosen as the best *'on-balance'* option was Option 3C – M1 South. To reiterate, this option consists of an alignment that would cross the M1 and enter Webb Dock on the southern side of the freeway. The cross section within Section 6.2.7 of the report indicates that the rail would form a dual track. This is further supported in the design considerations outlined in Section 4.3 of the Advisory Report.

It is noted that the Advisory Report identifies Option 3C as a highest cost option due to longer length, structure over the M1 and land acquisition on the south of the M1. However, the report justified that whilst the land will be impacted, this could potentially be managed as the area is redeveloped.

7.10 Freight Infrastructure Staging

With regard to the staging of the development of freight movements in through the area, the ITP states that in the short to medium term the existing Lorimer Street road connection to Wurundjeri Way will remain in place to provide support for expected volumes needed, prior to the introduction of the proposed freight corridor.

Further to this, the draft Framework outlines an infrastructure delivery timeframe which suggests that the southern corridor tram / boulevard will be delivered in the medium term. Whilst the ITP suggests that the proposed freight corridor will be delivered in the long term. A clear staging plan will be required as part of further detailed planning to ensure conflict between commuter and freight demands is accounted for and is decommissioning existing freight routes is aligned with land use deliver.

Deactivating key routes or reducing them in capacity should not occur before alternate routes and/or additional road capacity has been introduced.

8. Transport Infrastructure Delivery & Sequencing

Planning undertaken in support of the preparation of the *Fishermans Bend ITP* and *Framework* broadly identify the likely infrastructure, transport network and services required to deliver the Vision for the precinct in 2050.

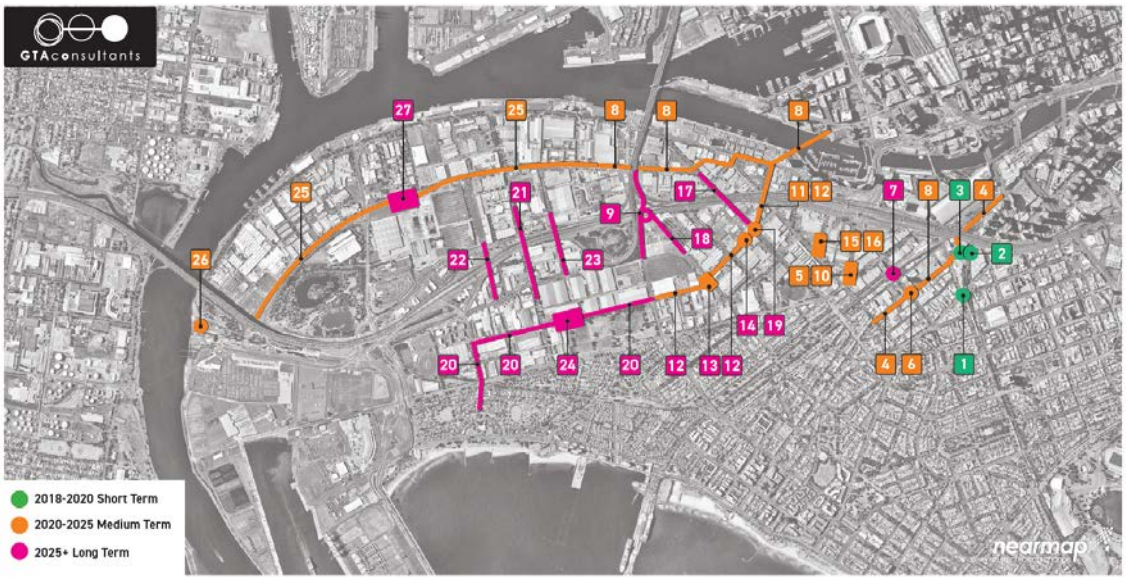
However there remains uncertainty around the timing and sequencing of infrastructure delivery and the potential challenges raised by a lack of transport infrastructure provision, particularly in the short and medium term. These uncertainties introduce questions around maintaining a connected, liveable and prosperous community which are fundamental to the achievement of the Vision for the precinct. These challenges include:

- *"Delivering a consistently safe and attractive public realm for pedestrians where industrial uses remain and large amount of construction activity will be occurring."*
- *"Managing freight and traffic movement in high amenity street environments whilst ensuring that remaining industrial uses can continue to operate satisfactorily."*[34]

It is understood that 'a plan for the funding, finance, timing and delivery of infrastructure to support the renewal of Fishermans Bend to 2050' is presently being prepared which is expected to provide greater detail regarding the delivery of infrastructure. Specifically, the plan is proposed to explore *"what infrastructure is required up front and what can be delivered as the population grows? i.e. a delivery plan"*[35].

In the interim, the *Framework* broadly outlines the phasing of infrastructure delivery in the short, medium and long-term horizons. The proposed timing of transport infrastructure delivery (as presented in the *Framework)* is outlined below.

Figure 8.1: Infrastructure Delivery Phasing (Framework)[36]



[34] *Fishermans Bend Integrated Transport Plan*, Transport for Victoria, October 2017

[35] *Part A Response to Fishermans Bend Draft Planning Scheme Amendment GC81*, Minister for Planning, Department of Environment, Land Water and Planning, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0020/115814/Fishermans-Bend-Part-A-Submission-Final-19-Feb-2018.pdf, accessed 22/02/18

[36] Fishermans Bend Framework 2017, pages 69-79

Table 8.1: Infrastructure Delivery Phasing

No.	Objective	Timeframe	Description
Montague			
1	1.2	Short Term	City Road/Ferrars Street intersection upgrade
2	1.1		Route 96 (Stop 126) & 109 (Stop 125A) tram stop upgrades
3	1.2, 1.5		Railway Place/Ferrars Street streetscape upgrade
4	1.3	Medium Term	Bay Street to City bike connection
5	3.7		Johnston Street road closure
6	1.2, 1.3, 1.5		Buckhurst/Montague Streets intersection upgrade
7	1.1	Long Term	Montague Street route 109 (Stop 126) tram stop upgrade
Lorimer			
8	1.1	Medium Term	Northern corridor tram
9	1.2, 1.3, .1.5	Long Term	Graham/Bridge Street pedestrian bridge
Sandridge			
10	3.7	Medium Term	Johnson Street road closure/open space
11	1.1, 1.2 ,1.3		New tram, pedestrian and cycle bridge over freeway
12	1.1, 1.2 ,1.3, 1.5		Southern corridor tram/boulevard
13	1.1, 1.2, 1.3		Redevelopment of Fennell/Plummer/Bridge St intersection
14	3.6		Opening of pop-up outdoor public space on future potential Sandridge Rail Station site
15	3.7		White Street road closure and temporary pop-up
16	3.7	Long Term	White Street open space
17	1.2		Ingles Street Bridge widening
18	1.2, 1.3, 1.5		Graham/Bridge Street pedestrian bridge
19	1.1		Potential rail (including station and associated infrastructure such as transport interchange and public square)
Wirraway			
20	1.1, 1.2, 1.3, 1.5	Long Term	Southern tram corridor
21	1.1, 1.2, 1.3, 1.5		Salmon Street bridge widening
22	1.2, 1.3, 1.5		Rocklea Drive walk and cycle bridge
23	1.2, 1.3, 1.5		Thackray Street walk and cycle bridge
24	1.1		Potential underground rail
Employment Precinct			
25	1.1	Medium Term	Northern tram corridor
26	1.3		Upgrade of the Westgate Punt
27	1.1	Long Term	Potential underground rail

Early delivery of public transport and active travel infrastructure will be key to promoting sustainable transport habits for new residents and workers in the area. The Fishermans Bend ITP notes that:

"When new residents move homes or change jobs they are more susceptible to changing their behaviour. Fishermans Bend presents a significant opportunity to provide people with new options for mobility and influence mode choice from the moment they move into a new home or change job location."

Ongoing evaluation will also be pivotal to the successful staging and development of the precinct. The *Minister's Response to the Fishermans Bend Draft Planning Scheme Amendment GC81* identifies that:

"regular monitoring and review is required. This will likely need to be quite broad ranging from the market response, residential and worker demographics, through to community expectations and even bicycle usage. An evaluation methodology will be developed to measure progress towards achieving the Fishermans Bend targets. The evaluation will establish baseline information and regular monitoring intervals to track progress. This would include regular monitoring and reporting against the Green Star Communities requirement".

It is my view that a detailed infrastructure sequencing/delivery study will be critical to the success of the precinct and should be prepared as early as practically possible following approval of this Planning Scheme Amendment. This study should outline the order and timing of the delivery of key infrastructure items and assess the adequacy of interim/transitional infrastructure with respect to allowing for the Vision to be realised.

I expect this study would be subject to ongoing monitoring and performance to ensure it maintains adequate momentum and is suitably aligned with land use delivery.

9. Summary of Submissions

9.1 Preamble

The Fishermans Bend Planning Review Panel has been appointed to consider the draft Planning Scheme Amendment GC81 affecting Melbourne and Port Phillip Planning Schemes (and public submissions made in response) in accordance with the Fishermans Bend Planning Review Panel Terms of Reference. Submissions were invited on the draft planning scheme amendment GC81 between 31 October and 15 December 2017[37]. Two hundred and fifty (250) submissions were received from a range of organisations including Councils, agencies, community groups and individuals. A summary of issues is provided below.

9.2 Summary of Issues Raised in Submissions

For reasons of brevity submissions with matters relevant to transport have been grouped into the following themes:

- Early delivery of public transport to service employment uses.
- Key concern relates to provision of adequate transport infrastructure before development
- Concerns about ability to meet transport targets
- Concerns about congestion
- Concerns about traffic and cyclist safety
- Concerns about new tram bridge over Tarra River
- Concern over impact on freight routes
- Requests for greater transport targets
- Requests for railway line and stations with certain location and funding
- Requests for expansion of bus services
- Requests for early delivery of tram (within next 5 years)
- Requests for upgrading existing light rail connections
- Requests for close Fennell and Plummer Streets to motor vehicle traffic
- Request for: change east west collector roads to local streets
- Requests for: explanation of traffic background reports
- Requests for designated freight routes
- Requests for greater pedestrian permeability
- Requests for protection of Port Melbourne
- Concerns about car parking rates being too high and too low
- Support for Parking Overlay
- Support for including requirement for electric cars
- Concerns about timing of delivery of infrastructure
- Concerns about impacts on existing infrastructure
- Concerns about lack of mechanism for land acquisition
- Request for timeline for delivery of public transport, social housing, education, health and recreation infrastructure

The following section sets out a summary of the issues and themes identified and provides a comment on each of the matters raised. Issues raised by major stakeholders are dealt with first on

[37] https://engage.vic.gov.au/fishermans-bend-draft-framework

an agency-by-agency basis. All other submissions are clustered and responded to after that using a tabulated format in the subsequent section.

In some cases, submissions repeat issues which have already been raised. To avoid repetition, similar issues from the same respondent have been clustered together. Separate respondents have been addressed individually using tailored (but broadly consistent) responses.

9.3 Major Stakeholder Submissions

The following stakeholders have been identified as strategic stakeholders with respect to transport:

- Metropolitan Waste and Resource Recovery Group
- The University of Melbourne
- Port of Melbourne Operations Pty Ltd
- Victorian Transport Association
- City of Port Phillip
- City of Melbourne
- Cycling Victoria
- Property Council of Australia
- Urban Development Institute of Australia (Victoria)
- Fishermans Bend Business Forum
- Department of Health and Human Services

9.3.1 City of Melbourne

1. Proposals for new public and active transport within Fishermans Bend are supported but there is concern around a lack of commitment to early delivery, particularly in relation to the new tram routes. This is critical to establish sustainable transport and land use patterns and reduce car dependency.

   It is critical that there is a commitment now to deliver the transport infrastructure early to establish sustainable transport and land use patterns and reduce car dependency. It will also be a fundamental success factor in attracting 'world leading higher education institutions and future employment and investment opportunities', particularly in the Employment Precinct.

   Response: Estimated infrastructure delivery timeframes for key projects are strategically outlined within the Framework. The Framework recognises the need to deliver transport infrastructure early to stimulate market investment and establish sustainable travel practices early in its development.

   The northern tram corridor, a new tram, pedestrian and cycle bridge over the West Gate Freeway and the southern tram corridor to Sandridge (including redevelopment of the Fennell/Plummer/Bridge Street intersection) are earmarked as medium-term projects over the next two to seven years (2020-2025). Various active travel upgrades (Bay Street to City bike connection, Punt upgrades linear parks, road closures, streetscape upgrades, tram stop upgrades and intersection upgrades) are also envisaged for the short to medium term.

   In terms of specific delivery timeframes major infrastructure items will need to be budgeted and subject to priorities by Treasury. The Minister's Response to the Draft Planning Scheme Amendment GC81 appreciates that *"a plan for the funding, finance, timing and delivery of infrastructure to support the renewal of Fishermans Bend to 2050 is critical"* and that *"this plan is presently being prepared"*. A requirement for this plan is set out earlier in this report to ensure infrastructure delivery is aligned with the delivery of land use. Lastly, and appropriately, the

Minister's Response further states that *"priority and timing for the development of the transport network will be informed by the detailed precinct structure planning and the level of land use change and development"* consistent with my expectations.

2. The two proposed pedestrian and public transport bridges across the Yarra River and Victoria Harbour are fundamental to successfully connect Fishermans Bend to the central city and Docklands but need to be designed to ensure the ongoing use of the waterways for river traffic and marine operations. In addition, there are significant unresolved design and operational issues regarding the proposed freight bridge.

   The design and detail of the two proposed pedestrian and public transport bridges across the Yarra River and Victoria Harbour need to be resolved as a matter of priority, in particular bridge height, form and operability. These bridges are fundamental to successfully connect Fishermans Bend to the central city and Docklands but need to be designed to ensure the ongoing use of the waterways for river traffic and marine operations.

   Response: As identified in the submission, connectivity between the central city and Fishermans Bend is pivotal to the success of the precinct and incorporation of the area as part of an expanded 'central city'. In 2016, ARUP undertook a review of the existing vessels berthed at Yarra's Edge Marina to determine the impact of a proposed public transport and active travel link via Collins Street Extension. This analysis concluded that for a bridge height of 5.69m, 55 (50%) of boats would be unable to pass. For a bridge height of 9.35m, 24 (30%) would be unable to pass. By comparison, the upstream Charles Grimes Bridge provides only 2.89m clearance at high tide. Whilst the final design and height are yet to be confirmed, it is anticipated that the proposed Collins Street Extension would not be the constraining factor for river traffic and marine operations for most of the Yarra River, given the low clearance at Charles Grimes Bridge.

   I have not been instructed to provide advice on detailed design matters around the bridge design. Putting issues of design aside, I agree that the bridges from important precinct connectivity features in support of sustainable transport travel practises.

3. The Framework does not plan adequately for the total population that could reside in Lorimer as it makes no provision for additional dwellings delivered via the FAU and predicts only a 75 per cent build out by 2050.

   It is further noted that the 80,000 residents and 80,000 jobs forecasts are based on a 75 per cent development build out rate by 2050. This approach is unusual and is not explicitly stated in the Framework document but has potentially significant implications on the provision of future services, including community infrastructure and open space. For example, the Population and Demographics background report is based on this 75 per cent build out figure but forecasts the Lorimer population/household target will be broadly achieved by the mid–2030s. It is therefore reasonable to suggest that a significant proportion of the additional 25 per cent of sites in Lorimer would come forward over the remaining period up to 2050, creating additional development and population not factored in to the long-term planning. Population and services should be modelled on a 100 per cent development build out rate for Lorimer by 2050.

   Response: The ITP outlines the strategic plan for 'a connected and adaptable transport network' that is subject to detailed operation and engineer planning. The transport modelling completed in support of the Framework Plan considers 80,000 residents and 60,000 jobs by 2050. I have recommended in the body of this report that further analysis be completed to reflect the currently anticipated full-build-out scenario to ensure transport infrastructure planning reflects forward forecasted land use demands.

In terms of further changes to population and employment estimates for the precinct, transport planning flexibility allows for variations in the number of frequency of services on the planned network. I am confident that this in-built flexibility can accommodate changes to land use outcomes.

4. However, there are numerous issues that have not been addressed and there is a disconnect between the high-level aspirations and targets, and the strength of the objectives set out to deliver these aspirations in both the Framework and the planning controls. Central to this is providing certainty regarding the delivery of infrastructure required to make Fishermans Bend a 'world leading urban renewal project'.

   Response: As discussed above, both the Framework Plan and Minister recognises the need for the early delivery of transport infrastructure. My review supports efforts to deliver infrastructure as a catalyst for development rather than as a trailing contribution to overcome transport access and mobility difficulties.

5. Proposals for new public and active transport within Fishermans Bend are supported, but there is concern around a lack of commitment to early delivery, particularly in relation to the new tram routes. The Northern tram route (through Lorimer into the Employment Precinct) is a medium-term delivery goal (2020–2025) whilst the Southern tram route (Lorimer, Sandridge, Wirraway) is a longer term priority (delivery post 2025). There is uncertainty regarding the location of the future stations as part of Melbourne Metro 2. Until this decision is made, optimal land use patterns will not be realised.

   Response: As discussed above, infrastructure delivery timeframes for key projects are outlined within the Framework. The northern tram corridor, a new tram, pedestrian and cycle bridge over the West Gate Freeway and the southern tram corridor to Sandridge (including redevelopment of the Fennell/Plummer/Bridge Street intersection) are earmarked as medium-term projects within the next two to seven years (2020-2025). Various active travel upgrades (Bay Street to City bike connection, Punt upgrades linear parks, road closures, streetscape upgrades, tram stop upgrades and intersection upgrades) are also envisaged for the short to medium term.

   As discussed earlier, a more comprehensive infrastructure delivery plan is recommended to provide greater confidence with respect to early delivery of active and public transport infrastructure provision. The Minister's Response to the Draft Planning Scheme Amendment GC81 appreciates that *"a plan for the funding, finance, timing and delivery of infrastructure to support the renewal of Fishermans Bend to 2050 is critical" and that "this plan is presently being prepared"*.

   Strategy 1.1.2 of the Framework seeks to *"investigate potential metro stations that may be incorporated into a future underground rail line"*. Potential metro rail alignments are also shown on the Public Transport map (Figure 5) of the Framework and within the Integrated Transport Plan, including broad station locations. Technical reports which inform the ITP (including the Aurecon Metro Alignment and Feasibility Options Study 2017) provide greater detail with respect to potential station locations. For a number of reasons outlined in my report (including the potential influence of the additional 20,000 jobs in the Employment Precinct since analytics were prepared), I have recommended further modelling be undertaken before a preferred heavy rail alignment is selected.

   The Minister's Response to Draft Planning Scheme Amendment GC81 notes that "*growth in Fishermans Bend is not anticipated to accelerate until Southbank and Docklands nears capacity and public transport is provided to the precinct"*. While it is naive to assume no growth will occur in the interim, I am satisfied that monitoring for rail infrastructure will be undertaken on an ongoing

basis as the precinct evolves and that the provision of railway stations has the potential to be a catalyst for land use delivery.

6. With regards to active transport, more ambitious targets are required to improve on the current service levels of the Central City, such as a Walkscore of above 90 (much of the Central City is above this) and reduced maximum parking rates to below 0.5, reflecting the oversupply of residential spaces in the Central City.

   The underlying risk of the Framework and planning controls in their current format is that they are not practical or strong enough to deliver the vision, goals and targets identified in the Framework. Given the fundamental nature of these issues, this has potential for economic, social, environmental as well as reputational risks for State Government and the City of Melbourne in the delivery of Fishermans Bend.

   Response: Current planning controls for nearby areas of Southbank and Docklands (as comparable areas geographically to the Melbourne CBD) establish maximum car parking rates for various uses, including dwellings. A brief summary is provided below.

Table 9.1: Current Maximum Car Parking Rates for Nearby Areas

Location	Schedule to Parking Overlay in Melbourne Planning Scheme	Maximum Rate for Dwellings
Yarra's Edge (Docklands)	Schedule 11 (PO11)	2 spaces/dwelling
Victoria Harbour (Docklands)	Schedule 6 (PO6)	2 spaces/dwelling
Docklands - Business Park	Schedule 10 (PO10)	1.5 spaces/dwelling
Southbank (CCZ - Outside Retail Core)	Schedule 1 (PO1)	1 space/dwelling
CCZ - Fishermans Bend	Schedule 13 (PO13)	1 space/dwelling
Fishermans Bend (GC81)		0.5 spaces/dwelling

   The maximum car parking rate of 0.5 spaces per dwelling reflects a step change in reducing maximum car parking provision for residential uses in the central city area. It is noted that as a maximum car parking rate, a lower car parking provision is permissible without requiring a planning permit. It is also noted that a permit is required to provide car parking in excess of the maximum car parking rate. In practice, establishing a low maximum car parking rate is consistent with the sustainability vision for the precinct and synergistic outcomes contemplated by Litman (2015) by having multiple strategies which overlap to deliver sustainable transport practices.

   In summary, I am comfortable with the car parking rate and targets identified in support of the various objectives.

7. It is noted that the freight traffic from Webb Dock is set to increase significantly with the expansion of the facility over coming years. The freight traffic will be utilising the existing primary freight route along Todd Road and Lorimer Street. There are concerns over how the increased number of heavy vehicle movements that will be running through Lorimer Precinct along Lorimer Street will integrate with the urban realm in terms of both access and amenity. In particular, how meaningful connections can be made across to the Yarra's Edge waterfront and the proposed health and wellbeing hub in Bolte West.

   Response: The existing and future freight requirements have been reviewed in the Fishermans Bend Freight Corridor Advisory prepared by Jacobs (2016). The ITP has adopted the recommendations presented in this report and supports the Multi Criteria Assessment (MCA) approach that has identified and attached appropriate weightings to all key elements that serve to protect both urban amenity and maintain high productivity freight routes within the PoM precinct and particularly to Webb Dock.

8. In addition, the future 'direct road and rail corridor to connect Webb Dock to Swanson/Appleton Docks' in the form of an elevated road and rail structure (at height of the Bolte Bridge when crossing the Yarra River) will have significant negative impacts on the development of the precincts, particularly in terms of built form, design and amenity. The Infrastructure Victoria report 'Securing Victoria's Ports Capacity' states that it would be a more desirable option to provide extra port capacity elsewhere, such as the future Bay West port when this long term need arises.

   Response: The existing and future freight requirements have been reviewed in the Fishermans Bend Freight Corridor Advisory prepared by Jacobs (2016). The ITP has adopted the recommendations presented in this report and supports the Multi Criteria Assessment (MCA) approach that has identified and attached appropriate weightings to all key elements that serve to protect both urban amenity and maintain high productivity freight routes within the PoM precinct and particularly to Webb Dock. This assessment on our review appears considered and satisfactory in its effort to set aside a possible future freight corridor.

   The ITP technical documents reflect to the best of my knowledge government's most contemporary estimates for growth in port activity within the Port of Melbourne. The ITP technical documents plan for the forecast level of demand.

9. Given the scale of change anticipated in Fishermans Bend and the timeframes involved in transitioning from an industrial area to a mixed-use area, the Framework would benefit from being definitive about how this transition will be managed across issues such as flood management, transport, economic and social activation. This includes the phased delivery of infrastructure and capital works.

   The funding and financing model for Fishermans Bend has not been released so it is unclear as to what contribution the Victorian Government will make towards the significant costs associated with public transport and flood mitigation requirements.

   Response: As discussed earlier, I understand that a plan is being prepared which will provide further detail on infrastructure delivery. I understand that this information will be released at or around the time of preparing the relevant precinct structure plans. This plan should provide increased certainty on timing and delivery of key infrastructure items within the precinct.

   Lastly, I expect the study currently underway, once settled will be a dynamic piece of work which is updated periodically to monitor progress and delivery sequencing, as necessary.

9.3.2 Port of Melbourne Operations

10. In delivering the growth potential of the Port of Melbourne in support of the National economy, ongoing collaboration between PoM, Government, industry, port users and the local community is required to ensure the delivery of an optimal port supply chain. Most recently this collaboration has occurred through the stakeholder engagement PoM has undertaken for the Rail Access Strategy (RAS) that PoM is required by the port lease to produce. The primary objective of the RAS is to increase the transport mode share to rail, taking trucks off roads, through improving port rail connections to key dock facilities including Swanson and Webb dock.

    Response: Noted.

11. The revised PDS is not expected to differ significantly from the initial PDS in that it will provide… enhancements to on-port and near-port road and rail links to Swanson, Appleton and Webb Docks, including the development of a rail / high productivity freight link to Webb Dock.

Response: Current planning does not preclude the development of a rail/high productivity freight link to Webb Dock. Specifically, Strategy 2.5.1 of the Framework seeks to *"safeguard 24/7 access to the port by preserving a direct rail and road freight corridor between Webb Dock and Swanson/Appleton Docks and the freight terminal at Dynon"*. Further, the Freight Activity plan (Figure 14) shown in the Framework shows a potential future elevated freight route road/rail corridor between Webb Dock and Swanson/Appleton Docks and the Dynon rail terminal.

12. PoM welcomes the recognition of the freight transport connections through the precinct, the ongoing efficient operations of the port and also the role of the precinct in supporting the Port of Melbourne.

    Response: Noted.

13. Efficient transport connections to and from existing port terminals and between terminals is critical to the port's efficient operations. In this regard there are several points of reference that should be reflected in further work by FBT on Fishermans Bend:
14. There has been considerable discussion regarding the potential re-establishment of the Webb Dock Rail Link and a recent commitment by Government to retain this optionality over the life of the port lease. Any future precinct planning should appropriately accommodate the freight rail connection through the precinct and be cognisant of the practical constraints in combining freight rail and light rail (i.e. separate infrastructure is required for these services).

    Response: As discussed above, current planning does not preclude the development of a rail/high productivity freight link to Webb Dock. Specifically, Strategy 2.5.1 of the Framework seeks to *"safeguard 24/7 access to the port by preserving a direct rail and road freight corridor between Webb Dock and Swanson/Appleton Docks and the freight terminal at Dynon"*. Further, the Freight Activity plan (Figure 14) shown in the Framework shows a potential future elevated freight route road/rail corridor between Webb Dock and Swanson/Appleton Docks and the Dynon rail terminal. This alignment has been underpinned by technical studies, including the Jacobs Freight Corridor Advisory Report (2016). I am satisfied that this expectation has been met.

15. The redevelopment of Webb Dock has included direct access roads to the M1 West Gate Freeway. PoM has previously expressed an interest in the redesign of the road network to ensure future traffic flows do not compromise the current upgrade and investments to support port freight at Cook Street.

    Response: At this high-level strategic planning stage, no detail has been provided as the specific redesign of the road network at in this location. The proposed road hierarchy map at Figure 6 of the Framework does not show any detail which would compromise the function of Cook Street, however it is noted that a potential active travel connection traversing the West Gate Freeway over Cook Street is envisaged to be provided in the future, as shown at Figure 7 of the Framework. Further detail with respect to the road network will be provided at a precinct-scale in subsequent planning stages. I am comfortable with this approach.

16. More broadly across the Fisherman's Bend Precinct it should be recognised that Station Pier freight will continue to have a requirement to traverse the precinct via Prohasky, Plummer, and Graham Streets (all of which are declared Arterial Roads by VicRoads). Any road network considerations should not adversely impact the capacity of these roads to accommodate freight movements to or from Station Pier and should give further consideration to the future precinct requirements with regard to cruise shipping.

    Response: Plummer Street (in conjunction with Fennel Street at the eastern end) has been identified as a *"civic spine which will stitch the whole precinct together and provide high quality*

public transport, pedestrian and cycling connections into Wirraway"[38]. The Plummer Street civic boulevard is envisaged as an active community area and is proposed to carry a potential tram corridor (as shown at Figure 5 of the Framework) in the long-term (2025+) horizon[39]. A potential southern rail alignment may also introduce a railway station on Plummer Street in the long-term (2025+) horizon. This environment is not conducive to the carriage of freight vehicles.

The proposed road hierarchy (at Figure 6 of the Framework) re-designates Plummer Street as a local street, with Williamstown Road maintained as an arterial road. The current principal freight route between Webb Dock and Station Pier (shown at Figure 14 of the Framework) runs along Williamstown Road, Graham Street, Bay Street and Beach Street. Strategy 2.5.6 seeks to *"promote the use of preferred freight corridors to minimise the impacts on residential and commercial activities in Fishermans Bend"*. Strategy 2.5.5 seeks to *"maintain the current over-dimensional routes along Lorimer Street and Williamstown/Normanby Roads"*.

I am satisfied that the current principal freight route maintains a suitable connection between Webb Dock and Station Pier whilst allowing for the realisation of the Vision of the precinct.

With respect to timing, the Framework Plan sets out some benchmarks for the deactivation of Plummer Street beginning from the east and moving west. This appears logical to the extent that it supports a staged implementation of the Plummer Street Civic Boulevard.

17. Existing freight vehicle connections between Webb Dock and Swanson Precinct are via Lorimer Street. Whilst there are strategic freight route options that could be explored and encouraged, there is a need to ensure these freight routes are protected to maintain freight movement efficiencies and capacity. Further, any alternative arrangements should; be integrated with the network; meet long term capacity and performance requirements; and promote freight efficiencies.

    Response: As discussed earlier, current planning does not preclude the development of a rail/high productivity freight link between the Swanson Precinct and Webb Dock. In the interim, Strategy 2.5.4 of the Framework specifically seeks to "*maintain Todd Road/Lorimer Street/Wurundjeri Way as a freight route in the short to medium term for vehicles that cannot use the West Gate or Bolte Bridges and require access to Swanson/Appleton Docks and Dynon Precinct"*. Further, Strategy 2.5.5 specifically seeks to *"maintain the current over-dimensional routes along Lorimer Street and Williamstown/Normanby Roads"*.

    I have recommended the preparation of an infrastructure delivery plan (including freight) at a later planning stage (prior to, or in conjunction with, precinct structure planning) and also recommended the preparation of more detailed operational studies to ensure appropriate levels of capacity and efficiency are maintained for freight traffic.

18. The draft Fishermans Bend Framework highlights opportunities for water transport options. Any further consideration would need to consider existing and future ship movements to/from the port of Melbourne and minimise any potential for conflict between commercial vessels and ferry (or other) vessel operations. There should be no assumption that port land will be made available for water transport options.

    Response: Strategy 1.1.5 seeks to *"explore opportunities to support the delivery of privately operated ferries and water taxis"*. It is noted that the Integrated Transport Plan does not recommend the option of a ferry service to Fishermans Bend, but further evaluation may be revisited as the population grows and technology and regulations change. This recommendation

[38] Fishermans Bend Framework, page 23
[39] Fishermans Bend Framework, page 76

is underpinned by the WSP/PB Water Transport Study (2016) which appreciates that *"the river frontage between Bolte Bridge and Todd Road is designated for port operations and is included in the new port infrastructure lease"*. The WSP/PB report also notes the *"operating restrictions imposed by the Port of Melbourne during certain commercial shipping movements"*.

I am satisfied that due consideration has been given to port operations and no assumption has been made with respect to use of port land for water transport. I anticipate this will not change in future planning stages.

19. The Port Development Strategy (as amended from time to time pursuant to the The Port Management Act 1995 - Port Development Strategy Ministerial Guidelines July 2017) should be incorporated into the planning schemes effected [sic] by CG81.

Response: Incorporation of the Port Development Strategy is not contemplated under the scope of the current Planning Scheme Amendment. There may be an opportunity to incorporate this strategy subject to it remaining consistent with the proposed Fishermans Bend Framework plan and other recognised government policies and strategies. I envisage this would involve a separate process outside the Advisory Committees Terms of Reference.

9.3.3 City of Port Phillip

20. Funding and financing details have not been released alongside the draft Framework and this is of key concern of Council. A plan is essential to convey confidence that infrastructure is affordable, and that financing arrangements will provide the 'cash flow' to deliver catalyst infrastructure in a timely manner.

There is a need for government to create 'the place' in Fishermans Bend through leadership, partnership and demonstration projects, as well as investment in catalyst infrastructure. This is crucial to set the tone for the precinct and deliver key elements of place for new communities.

Confidence that infrastructure is affordable and deliverable in a timely manner is essential. Accordingly, the absence of a clear plan for funding and financing the delivery of Fishermans Bend is of major concern to Council and makes it difficult to provide meaningful comments on the Framework and planning controls.

A detailed Development Contributions Plan (DCP) is a critical component of the overall planning control framework and remains a key gap. If an Infrastructure Contributions Plan (ICP) is contemplated, a supplementary contribution plan will need to be considered. An ICP has limitations to 'allowable infrastructure' and hence likely funding generated, particularly given fragmentation of land ownership limits the scope for 'developer works'.

Government must progress development of a funding and financing plan as a priority to prove deliverability of the Fishermans Bend Framework and support its implementation. The plan must:

- Be fully costed (verified cost estimates) with revenue generated closely aligned with the overall infrastructure cost over time. Both these elements are fundamental to ensuring there is no significant funding shortfall.
- Include projected revenue from the full spectrum of sources and value capture instruments including; land tax, stamp duty, and other levies.
- Include a fully costed and funded Development Contributions Plan (or Infrastructure Contributions Plan) for the delivery of local infrastructure.
- Ensure State infrastructure is not funded through the DCP or ICP, but through alternative revenue sources (including land tax, stamp duty, and other levies), to ensure there is no short fall in the funding of local infrastructure.

- Recognise that Council's rate revenue must be primarily directed to on-going maintenance and upgrades of infrastructure, and to service provision. Rate revenue must not be seen as significant source of funding for the delivery of new or substantially upgraded infrastructure. Council's capital expenditure on new infrastructure and assets is currently only four per cent of its total budget spend. Council is already maintaining assets in Fishermans Bend and early residents will rely on infrastructure and services provided in surrounding neighbourhoods.
- Establish funding and finance arrangements that are affordable and sustainable for Council, and fair from both inter-generational equity and causer/user pays perspectives.
- Ensure that the development sector contributes its 'fair share' of local infrastructure, such as new roads, lanes and public space.
- Include financing arrangements that will ensure timely delivery of infrastructure.

Aspects of the draft Framework that require change…

- Adequate funding to deliver redesigned roads that prioritise walking, cycling and public transport.

Response: I am supportive of the observations made by the City of Port Phillip but note that from a sequencing viewpoint, it is important to have the main principles of planning and strategy agreed before an overly detailed and prescriptive funding sand financing strategy is completed.

In the natural order of events, I am comfortable with an approach which seeks to have the draft Framework Plan endorsed followed by a separate study, thereafter, outlining detailed delivery timeframes for key infrastructure items following.

21. Early delivery of public transport is critical to the success of Fishermans Bend. Delivery of the entire tram network by 2022 is essential to unlock the development potential of Sandridge and Wirraway, deliver jobs, provide connection to the CBD and ensure sustainable travel choices are available to create a liveable precinct.

    Commitment to early delivery of fast, frequent public transport to Sandridge and Wirraway, to create market confidence and investment that will deliver high quality development and jobs.

    Later delivery of public transport is likely to result in under-provision of quality office space and/or high vacancies as precincts compete with supply in better serviced areas such as Docklands, Arden and Macaulay.

    Current conditions do not however, support high intensity, mixed use development and the most effective lever to unlock the potential of the land is early delivery of fast, frequent public transport.

    Location of the majority of employment opportunities close to public transport – with this highlighting that early delivery of transport infrastructure is an essential catalyst to the delivery of jobs.

    Early delivery of fast frequent public transport infrastructure to Sandridge and Wirraway that:

    - connects Fishermans Bend to the CBD and Melbourne's wider transport network
    - supports quality development and urban density
    - mitigates the risk of entrenching car use.

    Investing in fixed rail public transport is important to Victoria and the broader national goal of Fishermans Bend being an internationally competitive and liveable city. The Fishermans Bend

Economic and Transport Infrastructure Study authored by PwC and commissioned by Council has confirmed that the early delivery of major public transport projects is far and away the most demonstrative determinant on success. Without this, the private sector will remain uncertain of the commitment to these outcomes and will continue the current practice of speculation, inaction and under development of key sites.

The PwC analysis looked at a variety of factors including population and jobs growth potential, transport capacity constraints and the overall correlation that these factors have in creating the market confidence necessary to attract quality development. The analysis concluded that:

- delivery of the southern tram corridor by 2022 would be transformative for Fishermans Bend
- early delivery of key public transport infrastructure (tram and underground rail) will maximise jobs in Fishermans Bend
- delivery of tram infrastructure provides an anchor for development that could not be expected to be achieved by other initiatives
- the early presence of the tram will influence the character of Sandridge and Wirraway by facilitating retail and commercial developments in the core areas
- development overall would be more likely to occur in a planned and controlled manner
- pushing back the timing of the tram infrastructure on the southern corridor would risk lower density development outcomes and a more dispersed development outcome in the absence of Fennell Street and Plummer Street being established as a physical anchor for development
- train infrastructure will be required to meet the 40 per cent target for public transport trips, as the tram capacity is reached.

As well as unlocking jobs growth and the overall development potential of Fishermans Bend by providing a connection to the wider Melbourne train network, the Fishermans Bend rail corridor (also referred to as Melbourne Metro 2) has broad network benefits such as further improving the capacity in the City Loop, improving train capacity to growth areas in Melbourne's west and north, and unlocking the potential to deliver new rail lines, such as to Doncaster and Melbourne Airport.

What the Framework must deliver:

- The full tram network to Fishermans Bend within five years, to unlock development potential of Sandridge and Wirraway, provide connection to the CBD and enable sustainable travel choice.
- Commitment to delivering a rail connection to Sandridge within 15 years, connecting Fishermans Bend to Melbourne's wider transport network.
- Immediate protection of public transport corridors (tram and train) and potential Metro Train Stations, to ensure future deliverability.

Bring forward delivery timeframes for key transport infrastructure:

- Commitment to complete business case for full tram network in 2017/18
- Delivery of full tram network within 5 years (by 2022)
- Target date for delivery of train (Metro) within 15 years

Deliver the following transport infrastructure:

- new fast, frequent and direct bus services to the CBD, to be in operation by June 2019
- new fast, frequent and direct bus service to Domain Station to line up with its opening

- An additional fast, frequent and direct bus service to Balaclava Station, to be in operation by 2020.

Response: It is agreed that early provision of active transport and public transport infrastructure is important to establishing sustainable travel habits from an early stage and is a key catalyst for the precinct. Some broad infrastructure delivery timeframes for key projects are outlined within the Framework. The northern tram corridor, a new tram, pedestrian and cycle bridge over the West Gate Freeway and the southern tram corridor to Sandridge (including redevelopment of the Fennell/Plummer/Bridge Street intersection) are earmarked as medium-term projects over the next two to seven years (2020-2025). Various active travel upgrades (Bay Street to City bike connection, Punt upgrades linear parks, road closures, streetscape upgrades, tram stop upgrades and intersection upgrades) are also envisaged for the short to medium term. I am satisfied that these timeframes are consistent with comments provided by the City of Port Phillip acknowledging that infrastructure will need to be sequenced, follow a logical order and mesh with other projects requiring finance across the state.

Specifics around the sequencing of services need to follow a natural order and considered once an updated technical review is complete, reflecting latest land use and infrastructure considerations.

22. The Framework needs to further embed the structuring elements of place; core retail areas, community hubs, open spaces, and key public transport, walking and cycling networks; and integrate these elements to support functional and liveable neighbourhoods. The development of more detail Precinct Plans is critical to testing and refining these aspects of the Framework.

    Include a plan to more clearly define the Future Urban Structure, including the location of activity centres, core retail areas, community hubs and civic buildings, key public spaces, civic streets, and transport corridors and nodes.

    Response: I agree with this statement.

23. The current development controls and outcomes in Fishermans Bend are resulting in densities that far exceed population projections, and the capacity of local infrastructure such community facilities and open space. The 80,000 residents and 80,000 jobs projected in the draft Framework is based on 75 per cent of the total development potential by 2050. At full build out (post 2050) this could result in a total of over 100,000 residents and 100,000 workers.

    Careful planning which manages overall population density (that is, the total quantum of residents and workers) is essential, coupled with on-going infrastructure planning to ensure provision responds to the size and demographics and demand of the population. This needs to be closely monitored and adjusted over the development life of the precinct.

    Any shortfalls in infrastructure provision (particularly community hubs and open space) will be increasingly difficult and expensive to retrofit as the precinct becomes more mature and space in the right locations is at a premium or no longer available.

    Response: I am satisfied that there is flexibility in the proposed transport system to respond to changing and increasing levels of population and employment beyond the planned 2050 horizon. On the matter of social and community services, I will leave this to other experts to comment.

24. What the Framework must deliver... an integrated public space network, with linear connections across Fishermans Bend and into surrounding neighbourhoods... a public space network that connects the river to the bay, contributing to the place identity of Fishermans Bend.

Response: Various strategies within the Framework seek to establish a suitable network of public space and linear connections throughout the precinct. This includes Strategy 1.5.1 *("connect key community facilities to new and existing open spaces in a network using linear parks")* and Strategy 3.7.2 *("create a recreational walking and cycling trail along linear parks and streets through Fishermans Bend that connects the Yarra River and Port Phillip Bay and the Capital City Trail")*. These green links are reflected in Figure 16 of the Framework. I am satisfied with the network proposed in the Framework.

25. What the Framework must deliver:

- A target for sustainable transport mode share of at least 80 per cent.
- New public transport connections that link Fishermans Bend to the CBD and key destinations, including priority bus routes.

Response: The Framework and ITP both establish a sustainable mode share target of 80 per cent. Both documents (and their underpinning technical studies) propose a range of public transport initiatives linking Fishermans Bend to the CBD and other destinations. Further detail on how these will be staged to support changing land uses are expected to be delivered with the phase of planning which follows he Amendment approval.

26. A clearly defined hierarchy of streets that:

    - ensures car movements do not dominate local neighbourhoods
    - provides a network of continuous, legible cycle routes.
- A permeable network of streets and lanes, spaced no more that 100m apart.
- Clearly defined role of laneways; destination, activated, connector or access.
- Street profiles which are designed to prioritise public transport, walking and cycling.
- A high amenity walking network that enables people to move easily around their neighbourhood and to public transport connections.
- A travel demand management approach to the provision of parking.

High levels of walking and cycling have been proven to have positive health and wellbeing impacts. Fishermans Bend provides an opportunity to provide best practice cycling and walking facilities which service workers, residents and visitors. A safe and comfortable walking environment should be provided on all streets, with pedestrians, cyclists and cars separated on busier roads.

It is important that cycling and walking networks have direct, safe and convenient connections to public transport and key destinations. Even with a target of keeping private vehicle trips to under 20 per cent of total trips, road space in and around Fishermans Bend will be highly congested. This is due to the overall density of development proposed and the existing levels of traffic on key arterial roads. For this reason, it will be important to ensure that traffic in Fishermans Bend is managed so that roads do not become attractive routes for vehicle through movements.

Clearly designated servicing and access areas will help to ensure pedestrian priority within streets. The above outcomes are delivered in Melbourne's CBD through:

- alternating wide boulevards and narrower streets running east-west to assist with legibility and wayfinding
- north-south roads providing more of a distribution function interspersed with Melbourne's celebrated north-south activated laneways
- providing a safe and comfortable walking environment on all streets
- clearly designated servicing and access areas to ensure pedestrian priority.

A similar approach is needed at Fishermans Bend.

Response: Significant emphasis has been placed on recognizing the need to evolve the precinct from its existing industrial uses with low-amenity streets into an environment which is conducive to sustainable travel. In the Framework, Strategy 1.2.2 of the Framework seeks to *"introduce a fine grain, permeable street network through the creation of new streets and laneways and ensure intersections are aligned to maximize connectivity"*. Strategy 1.2.4 seeks to *"Extend and enhance the existing network of fine grain laneways in Montague"*. Strategy 1.2.3 seeks to *"reduce speed limits to create safe and enjoyable walking environments"*. The Framework further envisages Plummer Street as a civic boulevard with community activation.

With respect to the road network, the proposed road hierarchy is articulated in Figure 6 of the Framework which details the envisaged function of each road. The cycling and road networks are presented in Figures 7 and 8 respectively and outline connectivity with the existing network and broader areas.

I am satisfied that sufficient planning has been undertaken to facilitate Fishermans Bend as an extension of the central city, and that this is reflected in the Framework and underpinning documents and note that more detailed planning around for example street function and road space allocation will be determined as part of the precinct structure planning phase.

27. Parking Demand Management at Fishermans Bend is required to achieve more efficient use of existing parking facilities, reduce demand and shift travel behaviour away from car use. On-street parking will be limited with road-space reallocated to facilitate walking and cycling connections. The provision of off-street parking for new development must not undermine sustainable mode share targets.

Response: The Framework seeks to encourage alternative transport options to the car and smart use of space by limiting private car parking to 0.5 cars/dwelling and one car per 100sqm for employment uses (Strategy 1.6.1). These are reflected in Parking Overlay within the Planning Scheme Amendment documentation. The ITP also recommends further investigation in relation to precinct parking structures and discusses the potential for local government to *"develop an on-street car parking strategy to support the growth and transition of land use in Fishermans Bend"*. Strategy 1.6.3 of the Framework is responsive, supporting the *"off-site delivery of precinct car parking stations to provide dedicated car parking in the short-term"*. Other travel demand initiatives within the Framework include requiring new developments to *"incorporate green travel plans to support resident and worker use of alternative transport modes"* (Strategy 1.6.4) and encouraging *"inclusion of car share spaces within new developments"* (Strategy 1.6.5).

I am satisfied that these initiatives reflect an appropriate level of planning at this time.

28. Aspects of the draft Framework that Council supports

- Sustainable transport mode share target of 80 per cent, and 90 per cent for school trips.
- Investigation of a congestion levy provided the money is spent directly on sustainable transport.
- The provision for new dedicated cycling links to the CBD (particularly the CBD to Bay connection through Buckhurst Street) and across the Westgate Freeway.
- The proposed delivery of well-connected and safe cycling paths around Fishermans Bend connecting to the surrounding established neighbourhoods.
- The general location of new streets (subject to changes outlined below).

Response: Noted.

29.

- Reduce the potential for Plummer and Fennell Streets to become a major vehicle thoroughfare by allowing only pedestrians, cyclists and public transport movements to have full continuous and unimpeded access along the full length in both directions.
- Change east-west collector roads to local streets to ensure all collector roads in Sandridge and Wirraway are north-south roads which distribute longer through vehicle trips to the existing arterial road network.
- Include an additional east-west one-way local street south of Fennel Street between Boundary Street and Bridge Street in Sandridge.
- Consider reconfiguring east-west streets that run parallel to Plummer and Fennell Street to become one-way streets to deliver enhanced legibility, similar to the Melbourne CBD.

A diagram illustrating detailed suggested changes to the Road Hierarchy is provided as Attachment 6. These changes can be further refined though the Precinct Planning process.

Response: The detailed suggested changes have been noted. However, this will be reviewed at the next to stage of planning through the development of the precinct structure plans.

30. Pedestrian movement and vehicle access

- Prioritise north-south laneways in Sandridge and Wirraway (every 50 metres in core areas and every 100 metres in non-core areas) to increase pedestrian permeability and improve access to sunlight. Limiting east-west laneways will also assist in establishing a street block pattern that supports the feasibility of preferred building typologies.
- Refine the role of laneways through the Precinct Planning process to define whether they are intended to be activated spaces that are destinations in their own right or are intended to provide a connection and access function only.
- Prioritise pedestrians on key routes through restricting vehicle access.

Response: As previously stated, the detailed suggested changes have been noted. However, this will be reviewed at the next to stage of planning through the development of the precinct structure plans

31. Cycling infrastructure

- Provide for safe cycling on all roads, through a mix of on-road separated cycling paths, off-road paths, and on quieter roads, opportunities for bikes and cars to share the road.

A diagram illustrating detailed suggested changes to the cycling infrastructure proposed by the Framework is provided as Attachment 8. These changes will be further refined though the Precinct Planning process.

Response: A previously stated, the detailed suggested changes have been noted. However, this will be reviewed at the next to stage of planning through the development of the precinct structure plans.

32. Include a new commitment for further work to review car and bike parking rates and car share arrangements that will help deliver the draft Framework's mode share targets.

I am satisfied that a review of the rates recommended within the controls can be reviewed at any time. It is not necessary for there to be a specific requirement for this to occur within the Planning Scheme.

33. What the Framework must deliver

- A strategy to successfully manage long term freight movements form the Port of Melbourne.

Why this is important

Fishermans Bend is located adjacent to Australia's largest and growing commercial port which sits on a peninsula with constrained access. Management of the transport impacts generated by the Port of Melbourne on Fishermans Bend is crucial, and similarly for residents in nearby areas. The Framework reflects the potential for a dedicated above ground freight link (rail and road), primarily through Wirraway, to connect Webb Dock with Swanston and Appleton Docks. This would severely compromise the amenity, design and redevelopment potential in this precinct.

Council notes that this proposal is not supported by Infrastructure Victoria, with their 2016 report Advice on Securing Victoria's Ports Capacity which recommended that:

- the capacity at the Port of Melbourne should be expanded to reach its capacity without constructing a dedicated road and rail freight link through Fishermans Bend to Webb Dock instead of building the freight link, a better longer term solution would be to build a second container port for Melbourne at Bay West (south of Werribee).

Aspects of the draft Framework that Council supports

Protecting land use buffers and access to the Port of Melbourne.

Response: The technical work completed in support of the Framework Plan and ITP is consistent with current government commitments around future demand and managing port related activities. Whilst IV may have made a range of recommendations, until those recommendations are adopted by government it would be premature not to make provision for a strategic freight link within Fishermans Bend.

34. Aspects of the draft Framework that require change

Key ask:

- Deletion of the above ground freight link over the Westgate Freeway to Webb Dock through Wirraway, and identification of alternative solution

Response: Refer to comments earlier regarding the appropriateness of reserving the potential of future strategic freight link through Fishermans Bend.

35. Freight movement from the Port that directs truck movements away from residential areas.

Response: The proposed freight corridor will direct freight vehicles away from residential area.

9.3.4 Metropolitan Waste and Resource Recovery Group

No transport-related submissions.

9.3.5 The University of Melbourne

36. The University of Melbourne's submission provides comment on the plans for the development of the Employment Precinct as well as the transport connections required for the area and supports:

- *identifying key features of successfully established innovation precincts to help inform planning decisions relating to the Employment Precinct and NEIC.*
- *adopting the eight 'Sustainability goals' proposed in the Draft Framework.*

- *extending tram services to Fishermans Bend to support connections to the CBD and other parts of Melbourne.*
- *further investigating the possibility of locating Metro stations and an underground line in Fishermans Bend.*
- *recognising the importance of 'appropriate management of contaminated land use to maximise user safety'.*
- *ensuring that the governance framework facilitates ongoing collaboration between the Government and relevant stakeholders.*
- *carefully developing appropriate funding models for the delivery of essential infrastructure.*

In our view, the key sustainability goal is 'a connected and liveable community'. Effective public transport links to the CBD and the rest of Melbourne are crucial to delivering the sustainability vision and to realising the precinct's potential. Fishermans Bend, with a future 60,000 jobs and 80,000 residents, will require first-rate transport links across multiple transport modes if the potential of the precinct is to be optimally realised. Accordingly, the University strongly supports the medium term and long-term actions around transport infrastructure, including the expansion of tram services from Collins Street into Fishermans Bend by 2025.

Response: Noted. I am satisfied that the transport networks proposed for all modes in the *Framework* adequately allow for the Vision of the precinct to be realised at this stage of planning.

37. Planned tram routes will complement existing transport links for employees in the Employment Precinct. These routes should be delivered as soon as practically possible to unlock the opportunity and ensure the future success of the precinct.

Response: I am in agreement. The Minister's Response to the Draft Planning Scheme Amendment GC81 appreciates that *"a plan for the funding, finance, timing and delivery of infrastructure to support the renewal of Fishermans Bend to 2050 is critical" and that "this plan is presently being prepared"*.

As recommended in the ITP Peer Review Report, a detailed infrastructure sequencing/delivery study will be fundamental to the success of the precinct and should be prepared prior to (or in conjunction with) any precinct structure planning. This study should clearly outline the order and timing of the delivery of infrastructure (including transport infrastructure) in line with the development of the precinct and assess the adequacy of interim/transitional infrastructure to allow the Vision of the precinct is realised. The study should also present as a dynamic piece of work which is updated periodically to monitor progress and delivery sequencing, as necessary.

38. Recent analysis conducted by transport planners Arup reveal that a tram connection to the city would reduce travel time to Southern Cross Station by approximately 20 per cent (compared to existing bus services).

Extending regular bus services offers no significant time savings, adds to traffic congestion and should only be used as an interim measure before tram infrastructure, and eventually extended Metro services, connect Fishermans Bend to the city.

Response: The ITP states recommends that northern and southern light rail connections are provided to support precinct development and growth, with the initial priority being the northern alignment.

39. The University supports further investigation of the possibility of locating Metro stations and an underground line in the Fishermans Bend area. Metro rail routes have the potential to reduce travel times from Fishermans Bend to the Southern Cross Station by 25 per cent, and would deliver

significant reductions in travel time to other parts of Melbourne, improving access to the city for people living in the key transport corridors in the city's west and south.

Response: Agreed, this is supported within the Framework with Strategy 1.1.2 'Investigate potential metro stations that may be incorporated in a future underground rail line'.

40. Connecting Fishermans Bend to the Melbourne Metro network will also contribute to the recognition of the area as a centre of social and economic activity. Experience tells us that the cultural amenity which is an essential feature of a thriving innovation precinct tends to cluster around urban rail infrastructure. Metro stations based within Fishermans Bend would encourage this type of clustering.

Response: Noted.

41. The University acknowledges the level of investment required in order to extend Melbourne Metro into Fishermans Bend. A critical first step will be investment in public and active transport links to catalyse further investment in the precinct. Nonetheless, the inclusion of Fishermans Bend in the Melbourne Metro network should be part of the Government's long-term planning for the area.

Response: Strategy 1.1.2 of the Framework seeks to "*investigate potential metro stations that may be incorporated into a future underground rail line*". Potential metro rail alignments are also shown on the Public Transport map (Figure 5) of the Framework. The Framework is underpinned by the Integrated Transport Plan and various technical studies (including the Tram Extension VITM Modelling, which included potential rail alignments in various scenarios). More broadly, Stage 4 of the PTV Network Development Plan – Metropolitan Rail identifies intention for a second metro rail alignment, albeit as a spur from Fishermans Bend to the CBD, extending beyond to Clifton Hill[40].

In this respect, I am satisfied that adequate consideration has been given to the long-term planning for rail provision in Fishermans Bend. For a number of reasons outlined in my report (including the potential influence of the additional 20,000 jobs in the Employment Precinct since analytics were prepared), I have recommended further modelling be undertaken before a preferred heavy rail alignment is selected.

Various strategies throughout the Framework identify the intent to improve pedestrian and cycling connectivity (including direct access to Docklands and the CBD via a proposed Collins Street Extension) and establish a fine-grain, permeable street network within Fishermans Bend. Some of these initiatives (for example, a new tram, pedestrian and cycle bridge over the West Gate Freeway in Sandridge) have been earmarked in the Framework to occur in the medium term, prior to 2025.

I am satisfied that sufficient consideration has been given to active and public transport links at this stage of planning, with confirmation of infrastructure staging recommended during precinct planning.

42. A crucial part of these plans are the funding models for delivering essential infrastructure. The Draft Framework refers to "a mix of funding sources, including direct developer pays systems such as an Infrastructure Contributions Plan." The University will be pleased to contribute to these discussions as the details of funding are further developed.

Response: Based on the Minister's Response to the Draft Planning Scheme Amendment, it is understood that "*a plan for the funding, finance, timing and delivery of infrastructure to support*

[40] PTV Network Development Plan – Metropolitan Rail 2012, page 24

the renewal of Fishermans Bend to 2050"[41] is presently being prepared which is expected to provide greater detail regarding the delivery of infrastructure.

9.3.6 Cycling Victoria

43. On behalf of Cycling Victoria and its members we wish to commend the taskforce of the framework to date and seek that it considers the impact on urban densification not just within the precinct but the adjacent sites through a lens of health, lifestyle and community connectedness.

    In summary the proposal creates a facility that represents a key community asset, encouraging a healthy lifestyle, creating a place for community connections and supporting sustainable transport options. We look forward to seeing the outcome of your deliberations.

    Response: Noted

9.3.7 Property Council of Australia

44. The Property Council acknowledges the current planning undertaken for public transport in the Fishermans Bend precinct. We also acknowledge the Framework's ambitious plan to reduce car reliance by reducing car parking ratios, and taking into consideration the impact of autonomous vehicles and a possible decline in car ownership in the future. However, there are some practical realities associated with encouraging new development, both residential and commercial to the precinct.

    In discussions with industry about Fishermans Bend, a common theme has emerged, being the requirement for heavy rail into the precinct – upfront, or in concert with major development. Put simply, commercial development requires anchor tenants, and anchor tenants that employ many hundreds of employees will not commit to an area that cannot effectively transport workers in and out of an office location.

    Industry is concerned that the tram routes and their tram stops are not finalised, nor is there a clear funding model for this infrastructure. The lack of a final train route, number of stations, the funding model and the timeframes for this major infrastructure piece is a major barrier to development.

    Further, the location of tram stops and train stations can have a significant impact on where particular developments are most ideally suited, and land valuations can be affected if tram stops and stations are added or moved adjacent to a site. Developers are reluctant to commit to projects, when important amenity such as proximity to a station is uncertain.

    Response: Infrastructure delivery timeframes for key projects are outlined within the Framework. The northern tram corridor, a new tram, pedestrian and cycle bridge over the West Gate Freeway and the southern tram corridor to Sandridge (including redevelopment of the Fennell/Plummer/Bridge Street intersection) are earmarked as medium-term projects over the next two to seven years (2020-2025). Various active travel upgrades (Bay Street to City bike connection, Punt upgrades linear parks, road closures, streetscape upgrades, tram stop upgrades and intersection upgrades) are also envisaged for the short to medium term.

    It is agreed that there is a lack of clarity with respect to specific delivery timeframes and the management of the precinct in the interim periods (prior to the Vision) as the area evolves. As discussed earlier, a clear infrastructure delivery plan is recommended to provide greater

[41] *Part A Response to Fishermans Bend Draft Planning Scheme Amendment GC81*, Minister for Planning, Department of Environment, Land Water and Planning, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0020/115814/Fishermans-Bend-Part-A-Submission-Final-19-Feb-2018.pdf, accessed 22/02/18

certainty with respect to early delivery of active and public transport infrastructure provision. The Minister's Response to the Draft Planning Scheme Amendment GC81 appreciates that "a plan for the funding, finance, timing and delivery of infrastructure to support the renewal of Fishermans Bend to 2050 is critical" and that "this plan is presently being prepared". The Minister's Response further states that "priority and timing for the development of the transport network will be informed by the detailed precinct structure planning and the level of land use change and development".

45. It is also important to signal to the market how this major infrastructure will be funded. The Property Council notes that there are already many contributions and levies earmarked for the development industry. If a major part of funding of major infrastructure is to be borne by the development community, it is another factor in project viability. The current uncertainty around funding models and mechanisms to implement infrastructure makes it difficult to define costs and for owners to make informed decisions about development options, for example:

    - how will private land identified for roads and parks be acquired and paid for?
    - how will road construction across multiple private land ownerships be co-ordinated and funded?
    - Will arterial and collector roads be delivered via Development Contribution Plans (DCPs) and local roads paid for separately by individual land owners?

    The Property Council would welcome the opportunity to work with Government to explore innovative funding opportunities for major infrastructure.

    The Property Council acknowledges that the Victorian Government is investing in transport infrastructure at an unprecedented level, and also recognises the challenges associated with planning for multiple major infrastructure projects simultaneously. However, for Fishermans Bend to be a viable proposition for both residential and commercial projects, this issue must be addressed as a matter of urgency.

    Response: The Minister's Response to the Draft Planning Scheme Amendment GC81 appreciates that "a plan for the funding, finance, timing and delivery of infrastructure to support the renewal of Fishermans Bend to 2050 is critical" and that "this plan is presently being prepared". The Minister's Response further states that "priority and timing for the development of the transport network will be informed by the detailed precinct structure planning and the level of land use change and development".

Car Parking Requirements

46. The objective to promote sustainable travel options and a transition to reduced car rates is supported however this is reliant on public transport infrastructure. It is understood that reducing car parking has an urban design benefit in reducing high above ground podia and releasing space at lower levels to active uses. However, the maximum car rates are problematic for some dwelling types before public transport infrastructure is implemented (which is listed as medium and long term). The current controls mandate car parking rates at 0.5 maximum per dwelling. This will be a disincentive for family-friendly aspirations (problematic for families/workers/schools) for example the ambition to provide 20% 3 bed dwellings in developments in Lorimer >300 dwellings. 1 car should be allowed for each 3 bedroom dwelling.

    Response: Car parking rates have been developed as a mechanism to support the mode share targets identified in the Fishermans Bend Framework. Sustainable transport will be provided to support the reduction in car parking and offer desirable alternatives to driving. Additionally, land uses have been chosen to provide a holistic support for family needs (i.e. school, jobs, recreation).

Further to this, the ITP also recommends further investigation in relation to precinct parking structures and discusses the potential for local government to "develop an on-street car parking strategy to support the growth and transition of land use in Fishermans Bend". Strategy 1.6.3 of the Framework is responsive, supporting the "off-site delivery of precinct car parking stations to provide dedicated car parking in the short-term". Other travel demand initiatives within the Framework include requiring new developments to "incorporate green travel plans to support resident and worker use of alternative transport modes" (Strategy 1.6.4) and encouraging "inclusion of car share spaces within new developments" (Strategy 1.6.5).

I am satisfied that these initiatives reflect an appropriate level of planning at this time.

47. The provisions for exceeding the maximum parking provisions is unclear. It is assumed that meeting the Clause 6.0 car share provisions does not trigger an ability to increase car numbers, but the drafting of this provision is unclear. The design standards state that car parking areas should have a floor to floor height of not less than 3.8m. This is greater than floor to floor heights required for residential and smaller office spaces and will result in unnecessarily higher podia to achieve car parking requirements and long ramps which will be very difficult to accommodate on small to medium sized sites. There is also a lack of alignment in funding structures and planning outcomes which may make implementation impractical. For example, carparking conversion relies on a different development model where car parks are not sold with apartments or strata offices but are held in single ownership. The Property Council questions how development funding will be secured for alternative models (such as lease back arrangements?) to allow this objective to be achieved.

Response: This will be addressed further at the next stage of planning through the development of Precinct Structure Plans.

Developer Contributions

48. The Property Council is concerned that certain development costs are not adequately understood or considered by the taskforce. For example:

- Because car-parking has to be accommodated above ground, a site with smaller but taller footprints can result in less efficient car parking which has implications for the sellable area that can be achieved.

Response: This is an urban design and planning matter.

Preserving industrial uses

49. For Fishermans Bend to be a true mixed use precinct, consideration must be given to the current and future role that industrial use may play. This is especially important when considering the location of the Port of Melbourne in close proximity to the Fisherman's Bend precinct, and the importance of freight to both the overall economy, but how goods and services are now delivered to homes and businesses. It is important that there are appropriate buffers between the Port of Melbourne and residential areas.

Response: In the short to medium term Lorimer Street will continue to serve as a freight route within Fishermans Bend. In the long term the proposed road and rail freight corridor provides a solution to support the increasing freight demands at Webb Dock. This is supported within the Framework through Strategy 2.5.1 of the Framework seeks to "safeguard 24/7 access to the port by preserving a direct rail and road freight corridor between Webb Dock and Swanson/Appleton Docks and the freight terminal at Dynon". Further to this, the proposed freight corridor will direct freight vehicles away from residential area.

I recommend the freight corridor be preserved so the proposed freight corridor can be delivered when required.

50. The Port must be able to operate on a 24x7 basis, and resident reticence to noise and truck activity must not preclude the efficient movement of freight both on road and rail. The current road network is already at capacity for freight movement. The road corridors in and out of the precinct must provide for new age transport solutions and provide for articulated vehicles, automated vehicles and the large volume of traffic until heavy rail arrives. The Property Council notes that the Government is due to release a freight strategy in the new year. It is important that freight movement around Fishermans Bend is complimentary to this strategy.

    Response: The proposed road and rail freight corridor provides a long- term solution to support the freight demands within the area. As previously stated, Strategy 2.5.1 of the Framework seeks to "safeguard 24/7 access to the port by preserving a direct rail and road freight corridor between Webb Dock and Swanson/Appleton Docks and the freight terminal at Dynon".

    As noted above, I recommend the freight corridor be preserved so the proposed freight corridor can be delivered when required.

51. The designated freight route through Fishermans Bend is important, and the Property Council recommends the Government actively communicates the importance of allowing the movement of freight in Fishermans Bend. This corridor must be preserved and protected for freight rail with a clear policy that it can't be converted to passenger use in the future. Future proofing for last mile freight delivery is important in Fishermans Bend, as community expectations demand delivery of goods in a timely manner.

    This requires the supporting infrastructure – car parking in proximity, loading bays and 24x7 access. It is likely that distribution centres in inner Melbourne will become increasingly necessary to facilitate the timely movement of goods.

    Response: As stated previously, I recommend the freight corridor be preserved so the proposed freight corridor can be delivered when required. Additionally, as previously stated, Strategy 2.5.1 of the Framework seeks to "safeguard 24/7 access to the port by preserving a direct rail and road freight corridor between Webb Dock and Swanson/Appleton Docks and the freight terminal at Dynon".

    The development of distribution centres in inner Melbourne is beyond the scope of the Fishermans Bend Framework.

9.3.8 Urban Development Institute of Australia (Victoria)

52. A key concern raised by UDIA members is the timing and funding of community infrastructure for the Fishermans Bend precinct. UDIA endorses the sustainability goals put forward in the Framework, however, achieving a 'connected and liveable community' will not be possible with the very limited public transport that is currently servicing Fishermans Bend. It is a significant issue that there is no proposed timeframe for the provision of public transport, nor is there a government commitment or funding for this vital infrastructure. If this infrastructure is intended to connect the proposed 80,000 residents and 80,000 jobs to the CBD and beyond, it must be planned immediately with a viable funding model to support it.

    Response: It is agreed that early provision of active transport and public transport infrastructure is essential to establishing sustainable travel habits from an early stage and is a key catalyst for the precinct. Some infrastructure delivery timeframes for key projects are outlined within the Framework. The northern tram corridor, a new tram, pedestrian and cycle bridge over the West

Gate Freeway and the southern tram corridor to Sandridge (including redevelopment of the Fennell/Plummer/Bridge Street intersection) are earmarked as medium-term projects over the next two to seven years (2020-2025). Various active travel upgrades (Bay Street to City bike connection, Punt upgrades linear parks, road closures, streetscape upgrades, tram stop upgrades and intersection upgrades) are also envisaged for the short to medium term.

53. In the absence of a funding model, industry is concerned that responsibility for providing necessities like public transport will be left largely to those who develop sites in the precinct. While there has been constant reassurance that a funding model will be released imminently, the lack of such a model makes it difficult for UDIA to assess the merit of this Framework as there is no indication of how the Framework will be financially supported. It is noted that the first of the 'Committed next steps' (pg. 68) is to "finalise the planning and design of the tram corridors", yet of this list of eleven committed steps, the action of finalising an industry-endorsed funding model for the Fishermans Bend precinct has been omitted. The development industry is unable to endorse or commit support to proposed plans or frameworks involving this vital community infrastructure without first being presented with a transparent and feasible account of how such amenities would be financed.

Response: The Minister's Response to the Draft Planning Scheme Amendment GC81 appreciates that "a plan for the funding, finance, timing and delivery of infrastructure to support the renewal of Fishermans Bend to 2050 is critical" and that "this plan is presently being prepared". The Minister's Response further states that "priority and timing for the development of the transport network will be informed by the detailed precinct structure planning and the level of land use change and development".

9.3.9 Victorian Transport Association

The Victorian Transport Association (VTA) has made a strategic assessment of the Draft Framework Plan and has determined that there are serious deficiencies with respect to the safe, efficient and free-flowing movement of freight in what is – and will remain – a largely industrial precinct.

Provision for a Shared Bike Path on Lorimer Street

54. The VTA recommends discouraging bicycles from using the road altogether, unless a separated option is formulated…

…the thrust of our concerns with the Draft Framework Plan is therefore an apparent attempt to construct a shared, on-road bicycle path on Lorimer Street between the Bolte Bridge and the West Gate Bridge. This part of the plan is a direct contradiction of advice we have provided the department in preliminary meetings over the past 18 months…

… safety is the over-riding concern we have with putting a shared on-road bike path on Lorimer Street. Regardless of who is at fault, a cyclist will always be worse off in a collision with a heavy vehicle, so the better option on a gazetted freight route is to separate the modes of transport altogether.

… Instead, cyclists should be encouraged to use Williamstown Road, which could be transformed as a major boulevard for pedestrian, bicycle, light rail and commuter vehicle traffic, thus separating entirely heavy vehicle traffic from cyclists on Lorimer Street and mitigating safety risks.

Response: Under Framework Plan, an on-road cycle corridor is proposed along Lorimer Street. Strategy 1.3.3 of the Framework seeks to 'create a network of new priority separated cycling routes that connect to existing and planned cycling networks, including the Westgate Punt and

Yarra River Corridor'. Various options have been considered and I agree that a separated facility either on-road or off-road is required within the Lorimer Street corridor to balance competing user needs and mange operational safety, particularly for cyclists. With reference to Section 6.7 of this report, I understand it is proposed to have the core bicycle network fully separated from vehicles (including trucks).

Preserved Rail Corridor Access to Webb Dock

55. The VTA is encouraged that the Framework Plan earmarks a range of options for future freight rail access to Webb Dock and the new VICT stevedore. It is encouraging three corridors have been identified and land reserves quarantined for future use…

    The VTA recommends greater emphasis for rail in and out of Webb Dock be considered in the final plan, notwithstanding the strong case that has been made for quarantining a range of corridors for future rail.

    Response: Noted. The Framework outlines a potential future elevated freight road and rail route at Figure 14. Strategy 2.5.1 seeks to 'safeguard 24/7 access to the port by preserving a direct rail and road freight corridor between Webb Dock and Swanson/Appleton Docks and the freight terminal at Dynon'.

    Preliminary investigations explore the contribution a freight link may make on freight rail activities. I expect that this work will be reviewed in greater detail at the time of considering implementation and / or activation of the strategic freight link. It is at that time, the level of emphasis on freight rail would be more comprehensively considered.

9.3.10 Fishermans Bend Business Forum

56. The Framework document acknowledges that in the short to medium term that maintaining existing freight transport routes along Lorimer St to the major arterial routes of the West Gate Freeway and City Link is vital for the continued operation of major industries in the Employment Precinct. This includes vehicle access to and from the Melbourne Cement Facility and a number of construction companies and logistics business currently located within the Employment Precinct. Fishermans Bend Business Forum endorses Strategy 2.5.5 that the Framework plan is to "maintain the current over-dimensional routes along Lorimer Street and Williamstown Road."

    Response: Noted

57. It is noted that the Lorimer Precinct is a land-lock island and already residents in Yarra Edge and more broadly represented resident groups are using community forums to encourage limitations and /or restrictions of heavy vehicle movements in and around the Employment Precinct. This in contrary to Framework recommendations and would impact significantly on Sustainability Goal 2 – A Prosperous Community - protecting the viability of the port and associated industries.

    Response: The proposed freight corridor will direct freight vehicles away from residential area. The proposed road and rail freight corridor provides a long term solution to support the freight demands within the area. Strategy 2.5.1 of the Framework seeks to "safeguard 24/7 access to the port by preserving a direct rail and road freight corridor between Webb Dock and Swanson/Appleton Docks and the freight terminal at Dynon". I recommend the freight corridor be preserved so the proposed freight corridor can be delivered when required.

58. It is noted that the proposed light rail route is shown on the map (Figure 20 Infrastructure delivery in Lorimer) traverses along Lorimer Street between Hartley and Boundary Streets. Separation between the light rail and trucks on this section may poses difficulties and should be reconsidered in the early planning stage. Fishermans Bend Business Forum believes that operators of heavy

vehicles should be given further information that provides details of how this section is to be handled.

Response: Noted, this is beyond the scope of the high-level Framework. However, this will be undertaken once further planning has been undertaken.

59. In other urban redevelopments around the world, elevated light rail is often used to create separation between rail, motor vehicles and pedestrians. While more expensive at construction, this mode reduces to footprint of the rail tracks leaving space for existing truck and car movements.

    If residential amenity is a primary consideration planning should be undertaken immediately on finding solutions so that new transport infrastructure can be put in place ahead of increasing residential density as truck movements to and from the port and related industries are vital to the Victorian economy. Early action may lessen the community concerns that the Government had to deal with the elevate rail line in the SE suburbs. The Community Engagement Report 2013 states: *"The is strong consensus that public transport plus bike and walking infrastructure must be delivered early if the project objectives are to be met, particularly if car parking rates are to be kept low. "*

    Response: It is agreed that early provision of active transport and public transport infrastructure is essential to establishing sustainable travel habits from an early stage and is a key catalyst for the precinct. Some infrastructure delivery timeframes for key projects are outlined within the Framework. The northern tram corridor, a new tram, pedestrian and cycle bridge over the West Gate Freeway and the southern tram corridor to Sandridge (including redevelopment of the Fennell/Plummer/Bridge Street intersection) are earmarked as medium-term projects over the next two to seven years (2020-2025). Various active travel upgrades (Bay Street to City bike connection, Punt upgrades linear parks, road closures, streetscape upgrades, tram stop upgrades and intersection upgrades) are also envisaged for the short to medium term.

60. While the business community in the Employment Precinct is supportive of improved cycling and walking options along with efficient public transport they believe that there is potential for major conflict between cyclist and heavy transport movements along corridors such as Lorimer St.

    Response: The cycling plan is presented in Figure 0.7. within the ITP cycling proposes a network of strategic and separated arterial cycle routes. It is designed to connect the various precincts and create direct connections into Docklands and the CBD as well as a connection to the West Gate Punt and to South Melbourne. The core bicycle network is proposed to be fully separated from vehicles and pedestrians and would seek to achieve priority for cyclists at road crossings. The network includes several new bridges across the West Gate Freeway to enable connections between the employment precinct and southern precincts.

61. FBBF is of the view that more detailed consultation is needed on the Transport Plan, especially in the Employment Precinct as the business community concerns about the viability of port related businesses have not been sufficiently taken into consideration.

    Response: Further consultation will be undertaken at the next stage of planning as part of development of the Precinct Structure Plans which will be released in mid- 2018.

Public Transport

62. The FBBF is aware that Fishermans Bend Renewal is a long-term project over the next 30 years. FBBF also acknowledges the strategy to make 80% of trips by public transport, walking or cycling and,

that in the short-term, public transport in the Employment Precinct will be by increased bus services. FBBF is of the view that the role of government is to put necessary infrastructure in place early.

Response: It is agreed that early provision of active transport and public transport infrastructure is essential to establishing sustainable travel habits from an early stage and is a key catalyst for the precinct. Some infrastructure delivery timeframes for key projects are outlined within the Framework. The northern tram corridor, a new tram, pedestrian and cycle bridge over the West Gate Freeway and the southern tram corridor to Sandridge (including redevelopment of the Fennell/Plummer/Bridge Street intersection) are earmarked as medium-term projects over the next two to seven years (2020-2025). Various active travel upgrades (Bay Street to City bike connection, Punt upgrades linear parks, road closures, streetscape upgrades, tram stop upgrades and intersection upgrades) are also envisaged for the short to medium term.

63. For the Employment Precinct to reduce car travel dependence an early start on the Turner Street light-rail and the link across the Yarra joining to Collin Street must commence in 2018 and be operational by 2019. (see earlier comment on separation along Lorimer St).

Response: As stated earlier, I agree that early provision of active transport and public transport infrastructure is essential to establishing sustainable travel habits from an early stage and is a key catalyst for the precinct. Some infrastructure delivery timeframes for key projects are outlined within the Framework. The northern tram corridor, a new tram, pedestrian and cycle bridge over the West Gate Freeway and the southern tram corridor to Sandridge (including redevelopment of the Fennell/Plummer/Bridge Street intersection) are earmarked as medium-term projects over the next two to seven years (2020-2025). However, specific timeframes will be determined at the next stage of planning.

9.3.11 Department of Health and Human Services

No transport relevant submissions

9.4 Individuals and Organisations

In addition to the submissions received from organisations in the order of 250 other individual or smaller organisation submissions were provided. The submissions with relevance to transport has been grouped into the following key themes:

Themes	Response
Concerns	
Provision of public transport infrastructure before development	This is addressed in greater detail in the major stakeholder submissions. I recommend a more comprehensive staging plan be developed than that provided by the indicative timeframes with the Framework Plan.
Ability to meet transport targets.	A combination of integrated transport planning, self-contained development and travel demand management will be used to meet the transport targets identified in the Framework. This is outlined in greater detail in both the Framework and ITP Peer Review Reports.
Congestion.	I am satisfied that the Framework provides a range of strategies to support sustainable transport options and self-contained living which will support the mode share target of 80% sustainable transport and reduce the reliance on private vehicles. A review of the ITP and supporting ITP technical documents indicates that the network will be operating at and around v/c values of 1 for the frequency of services estimated. This is reflective of a transport system designed match forecast demand. I am comfortable with this approach.

Themes	Response
Traffic and cyclist safety.	I am satisfied that the Framework and ITP address the need to provide safe cycling facilities. Further detailed planning and design will be undertaken during the development of the Precinct Structure Plans.
New tram bridge over Yarra River.	This is addressed in greater detail in the major stakeholder submissions. Provision of a new tram and active travel link across the Yarra River will be pivotal to achieving the required connectivity to the CBD and enable Fishermans Bend as an extension of the central city. I am satisfied that appropriate planning has been undertaken noting that others will provide expert evidence to the Advisory Committee on the detailed construction elements of this proposal.
Impact on freight routes	The Framework provides short, medium and long-term plans to maintain freight movement and support increasing freight demand. I have recommended that greater detail be provided by way of an infrastructure delivery plan (including freight staging) to provide certainty around the transitional provisions.
Requests	
Greater transport targets	The transport targets set for the precinct are ambitious and set values consistent with best practice. Detailed commentary on the acceptability of the targets is provided in the Expert Evidence Report prepared by Mr Will Fooks of GTA Consultants.
Early delivery of public transport to service employment uses	This is addressed in the major stakeholder submissions. I have recommended an infrastructure delivery plan be developed to more specifically set out delivery targets. This study should involve some scenario testing of land use which estimates likely land use realisation rates for the precinct.
Railway line and stations with certain location and funding	I am satisfied that adequate planning has been undertaken to satisfy the potential provision for heavy rail to the precinct at a strategic level. The Framework acknowledges that further investigation is required, and I have recommended that further studies be undertaken to inform the preferred alignment. An infrastructure delivery plan would assist with providing greater certainty for location and funding of transport infrastructure, including stations and rail line(s).
Expansion of bus services	This is addressed in the major stakeholder submissions. All future modelling scenarios have included the provision for a complementary bus network linking to a range of locations including the CBD, Elsternwick
Early delivery of tram (within next 5 years)	I recommend a staging plan be developed at the next stage of planning to determine if this is an option.
Upgrading existing light rail connections	This is addressed within the Framework and Integrate Transport Plan. Further planning and design will be undertaken to established detailed delivery requirements.
Close Fennell and Plummer streets to motor vehicle traffic	Together, Fennell Street and Plummer Street have been identified as a civic 'spine' with high-quality public transport, walking and cycling links. I am satisfied that this satisfies the intent for promotion of sustainable transport. At this stage there is no intention to remove motorised vehicle traffic from this street except to note that motorised vehicle traffic will be provided with the lowest level of priority to encourage place making outcomes, maximise pedestrian and cyclist accessibility and sustainable transport travel along this corridor.
Change east west collector roads to local streets	This will be reviewed at the next stage of planning.

Themes	Response
Explanation of traffic background reports	The background traffic reports have been summarised within the Integrated Transport Plan and further in my evidence report. Specific requests for information should be referred to the relevant authority as outlined in the Minister's Response to Draft Planning Scheme Amendment GC81.
Designated freight routes	Noted, I am satisfied that reservation of the proposed freight corridor is an appropriate response at this stage of planning.
Greater pedestrian permeability	The Framework emphasises the evolvement of the precinct into a pedestrian-friendly environment with fine-grained streets and permeability. The street network will be further reviewed at the next stage of planning.
Protection of Port of Melbourne	I am satisfied that the Framework provides sufficient planning to protect the existing function of Port Melbourne and support expected growth.
Timeline for delivery of public transport, social housing, education, health and recreation infrastructure	This is addressed in major stakeholder responses. I recommend a staging plan be developed with more specific detail around delivery timeframes.
Carparking	
Concerns about car parking rates being too high and too low	Noted, this is addressed in major stakeholder responses. Further review may be undertaken as to the appropriateness of implementing a lower maximum car parking rate.
Support for Parking Overlay	Noted.
Support for including requirement for electric cars.	Noted.
Infrastructure	
Timing of delivery of infrastructure	I recommend a staging plan be developed at the next stage of planning.
Impacts on existing infrastructure	The technical reports prepared in support of the Framework Plan and ITP consider existing infrastructure impacts as part of their assessments.
Waste management	The Framework addresses waste management through Sustainability Goal 8 'A low waste community' and includes ten supporting strategies specific to waste management. I am satisfied that this is covered in sufficient detail for this stage of planning.

10. Review of Planning Scheme Controls

10.1 Preamble

Following a review of the Framework Plan and Integrated Transport Plan (ITP) together with their objectives, strategies, targets and principles, I offer the following comments on the draft Planning Scheme Controls for both the City of Melbourne in support of the Lorimer Precinct and the City of Port Phillip in support of the Montague, Sandridge and Wirraway Precincts.

Whilst the updates to the City of Melbourne and City of Port Phillip Planning Scheme provide some consistent overlap, I deal with each Planning Scheme separately, and offer recommendations where further refinements and / or additions could be made in my capacity as a traffic and transport planner and the extent to which I am capable of interpreting the interconnectivity and operation of the broader Planning Schemes.

10.2 City of Melbourne

10.2.1 Schedule 13, Clause 45.09 (Parking Overlay)

Section 7 of the overlay states:

"Vehicle access ways, crossovers and car park entries should be provided from secondary streets or side or rear laneways where available. If crossovers are provided on primary street frontages they must be:

- *Consolidated to provide shared access to multiple buildings.*
- *Designed to give priority to pedestrian movement.*
- *Include intermediate pedestrian refuges if the vehicle access or cross-over is more than 6 metres."*

This clause at the third dot point requires pedestrian refuges for any cross-over wider than 6metres. This requirement compares with Clause 52.06-9 of the Planning Scheme which states at dot point 6 under requirements for accessways:

"Provide a passing area at the entrance at least 6.1 metres wide and 7 metres long if the accessway serves ten or more car parking spaces and is either more than 50 metres long or connects to a road in a Road Zone."

A 6.1m passing area is consistent with the relevant Australian Standard for a two-way width accessway. The draft control should be updated to retain consistency with the balance of the City of Melbourne Planning Scheme and be amended from 6metres to 6.1metres.

10.2.2 Schedule 13 Clause 45.09 (Parking Overlay)

A minor observation however Section 9 of the clause identifies the 2017 ITP as a reference document. The ITP is recommended for update in the body of this review to account for changes in land use and a need to refine strategic analysis. It is recommended that the clause reference an ITP more generally rather than nominate the version created in 2017.

10.3 City of Port Phillip

10.3.1 Clause 21.03-2 (Sustainable Transport)

Objectives and strategies contained with the clause at Section 5 entitled *"To reduce the impact of vehicles on local areas"* sets out at item 5.2 the following:

"5.2 Require all new use and development to be self-sufficient in on-site car parking"

This requirement compares with decision guidelines set down at Section 4.0 the Decision Guidelines for a planning permit under draft Clause 45.09 (Parking Overlay), item 2 which states:

- *"Whether car parking is to be provided in a stand-alone building used for precinct car parking."*

It is evident from this review that the more general policy position at Clause 21.03-2 provides a misalignment with the drafted clause which allows parking in connection with land use to be provided off site and in dedicated car parking stations.

To overcome this mis-alignment is may be appropriate to add some additional wording to the item 5.2 requirement at Clause 21.03-2 which states (or similar) *"....unless otherwise permitted in any car parking overlay"*.

With these additions the wording would contain:

"5.2 Require all new use and development to be self-sufficient in on-site car parking unless otherwise permitted in any car parking overlay"."

10.3.2 Clause 21.04-7 (Subdivision)

Objectives and strategies at Clause 21.04-7 have been drafted to include provision for single ownership of car parking. The intent of the objective is not entirely clear other than the possible preference to unbundle car parking from individual dwellings. Unbundling car parking is meritorious to the extent that it supports adaptation and likely changing modal travel habits over time. The requirement specifically states:

"1.4 Ensure that within the Fishermans Bend Urban Renewal Area car parking spaces are retained in a single ownership to enable future adaptation."

This clause creates some challenges to the extent that not all spaces are likely to suit future adaptation and some flexibility should be provided in the framework to accommodate those spaces where adaptation or repurposing is highly unlikely.

It also appears to create a tension with Clause 37.04 (Subdivision) permit requirements at dot point 2 which states:

- *"Car parking areas are to be retained in a single or a consolidated title as common property, unless the responsible authority is satisfied that this requirement is not required."*

Accordingly, and given that some car parking spaces are unlikely to satisfy adaptability criteria, I would recommend Item 1.4 at Clause 21.04-7 be modified to provide some level of flexibility in accordance with above.

10.3.3 Schedule 1 Clause 45.09 (Parking Overlay)

Similar to observations made earlier in relation to the City of Melbourne car parking overlay. Section 9 of the clause identifies the 2017 ITP as a reference document. The ITP is recommended

for update in the body of this review to account for changes in land use and a need to refine strategic analysis. It is recommended that the clause reference an ITP more generally rather than nominate the version created in 2017.

Appendix A

John Kiriakidis - Curriculum Vitae

John Kiriakidis

Director

GTAconsultants
transportation planning, design and delivery

John has served as a consultant in the field of traffic and transport planning since 1994 for a broad cross-section of clients across the Australasian private and public business sector. John has particular expertise in the field of land use planning and design and has considerable involvement in guiding land use development projects across Greater Melbourne including greenfields and a range of urban renewal areas where predictive modelling is required to substantiate and develop a comprehensive transport solution.

John manages a large team of traffic and transport specialists and services a significant client base which delivers land use and transport infrastructure supporting land use.

John has a broad cross-section of experience across a range of transport specialties including design, active travel, analytics including a breadth of modelling tools.

John has a thorough understanding of federal, state and local transport planning policy and is regularly involved in evaluating complex land use and transport infrastructure planning projects.

He appears regularly at the Victorian Civil and Administrative Tribunal (VCAT) and Panels Victoria as an independent expert witness in the field of traffic and transport planning.

Office

Melbourne

Qualifications

BE(Hons)(Civ&Comp), Monash University

Memberships and Affiliations

Institute of Engineers Australia (Civil College)

Victorian Planning & Environmental Law Association (VPELA)

Australian Institute of Traffic Planning & Management (AITPM)

Select Project Experience

Transport Planning

Aitken Boulevard (E14), Northern Corridor
Gunns Gully Road Interchange, Kalkallo
Donnybrook Road, Kalkallo
Doncaster Hill Integrated Transport Plan

Land Use Planning

Arden Macaulay (C190)
City North (C196)
AMCOR Papermill Re-development
Merrifield West (Kalkallo)
Merrifield City Centre (Kalkallo)
Cloverton (Lockerbie Estate)
Melbourne Airport
Essendon Airport
Epping North East Structure Plan (450ha)
Numerous PSP's in Metropolitan Melbourne

Transport Impact

Westfield Doncaster
Westfield Knox
Westfield Southland
Tooronga Village Re-development, Glen Iris
Logis Business Park, Dandenong
Alliance Business Park, Epping
Eureka Tower
Freshwater Place

Traffic Engineering

Merrifield Industrial Sub-Division
Craigieburn Train Maintenance Facility
Goodyear Redevelopment, Thomastown

Professional Background

1997 – Present: GTA Consultants

John is proficient in the application of transport planning principles and initiatives to land use and transport planning projects. These principles encompass all motorised and non-motorised transport modes and extend to include advice on infrastructure requirements necessary to support the full spectrum of travel modes. John is experienced in the delivery of all key design facets of traffic and transport planning elements including road networks, intersections, individual roadways, cross-sections and road safety. He is also experienced in interpreting strategic modelling outputs and the delivery of projects using prominent micro-simulation network analytical software including, VISSIM and SIDRA. John's project expertise is extensive and includes a wide range of projects.

1995 – 1997: Grogan Richards, Traffic Engineer

As a Traffic Engineer for Grogan Richards, John assisted in the preparation of impact assessments for a range of land use developments throughout Melbourne and Victoria and was also involved in access and parking assessments and design and the preparation and implementation of traffic and parking surveys.

1994-1995 – Melbourne Water / City West Water

Working in the catchment and drainage department at Melbourne Water, John was a hydraulic modeller, reviewing catchment requirements and predicting flood levels.

Melbourne

A Level 25, 55 Collins Street
PO Box 24055
MELBOURNE VIC 3000
P +613 9851 9600
E melbourne@gta.com.au

Brisbane

A Ground Floor, 283 Elizabeth Street
BRISBANE QLD 4000
GPO Box 115
BRISBANE QLD 4001
P +617 3113 5000
E brisbane@gta.com.au

Adelaide

A Suite 4, Level 1, 136 The Parade
PO Box 3421
NORWOOD SA 5067
P +618 8334 3600
E adelaide@gta.com.au

Sydney

A Level 6, 15 Help Street
CHATSWOOD NSW 2067
PO Box 5254
WEST CHATSWOOD NSW 1515
P +612 8448 1800
E sydney@gta.com.au

Canberra

A Level 4, 15 Moore Street
CANBERRA ACT 2600
P +612 6243 4826
E canberra@gta.com.au

Perth

A Level 2, 5 Mill Street
PERTH WA 6000
PO Box 7025, Cloisters Square
PERTH WA 6850
P +618 6169 1000
E perth@gta.com.au