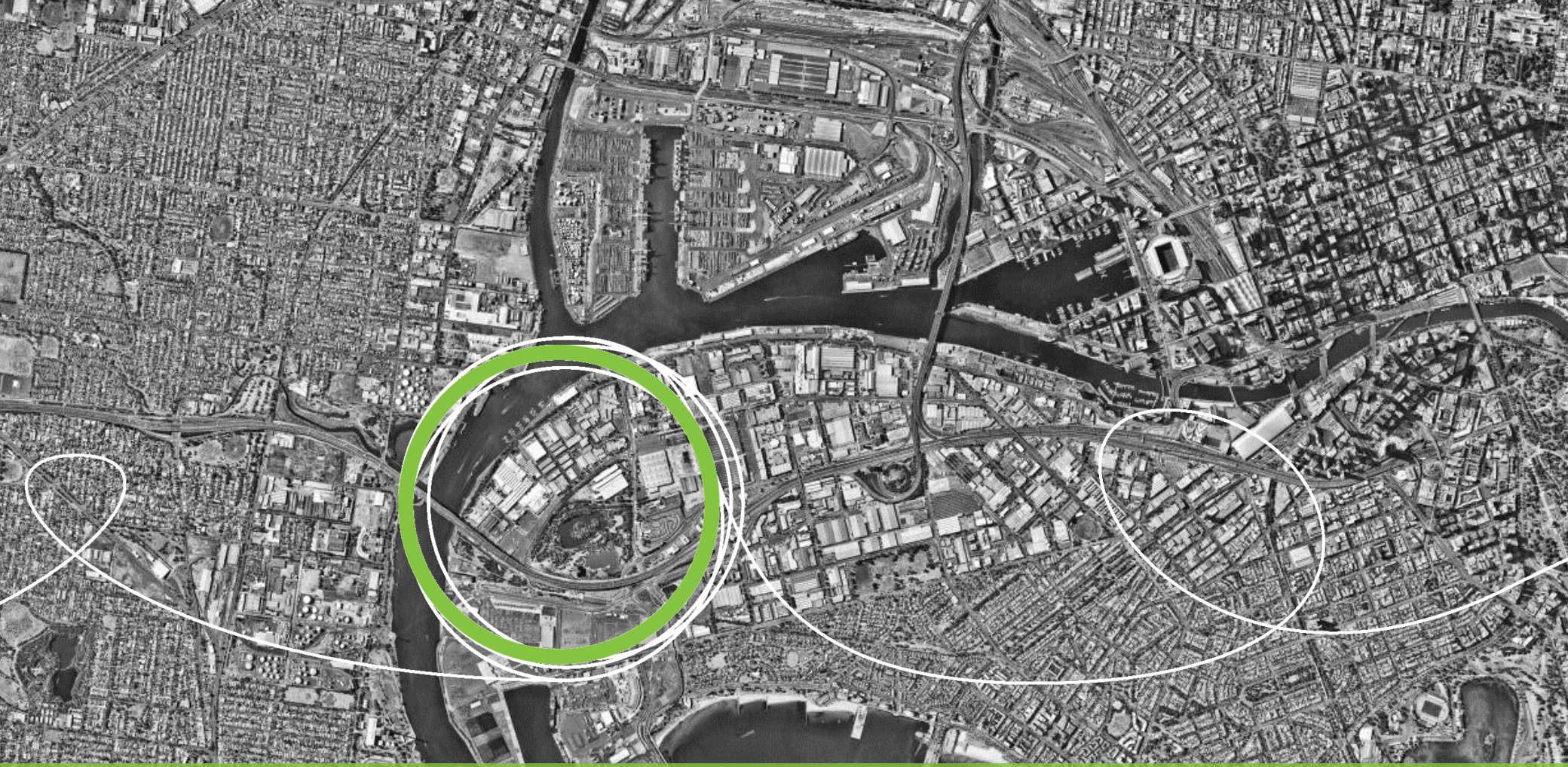

Fishermans Bend
Integrated Transport Plan Peer Review

John Kiriakidis, GTA Consultants

28/03/2018

GTAconsultants

01
Preliminaries

ITP Peer Review – Fishermans Bend PS Amendment GC81

Review scope :

- Review **technical background reports** relied upon to support the Amendment,
- Review the Fishermans Bend **Integrated Transport Plan October 2017** and assess the adequacy of the recommendations set out in that report;
- 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.

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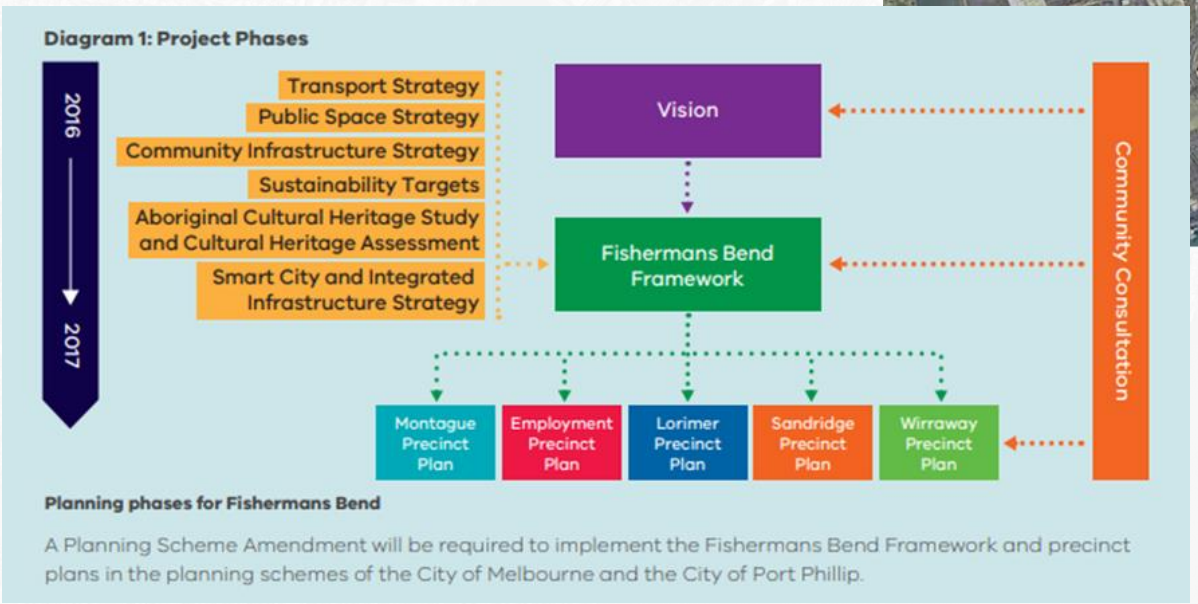
ITP Purpose (Context):

- Multi-modal **transport** review to broadly determine **infrastructure needs** to support 80,000 jobs and 80,000 residents.
- Identifies **targets, objectives and design principles** for the precinct.
- Recommends a **transport system** for FB.



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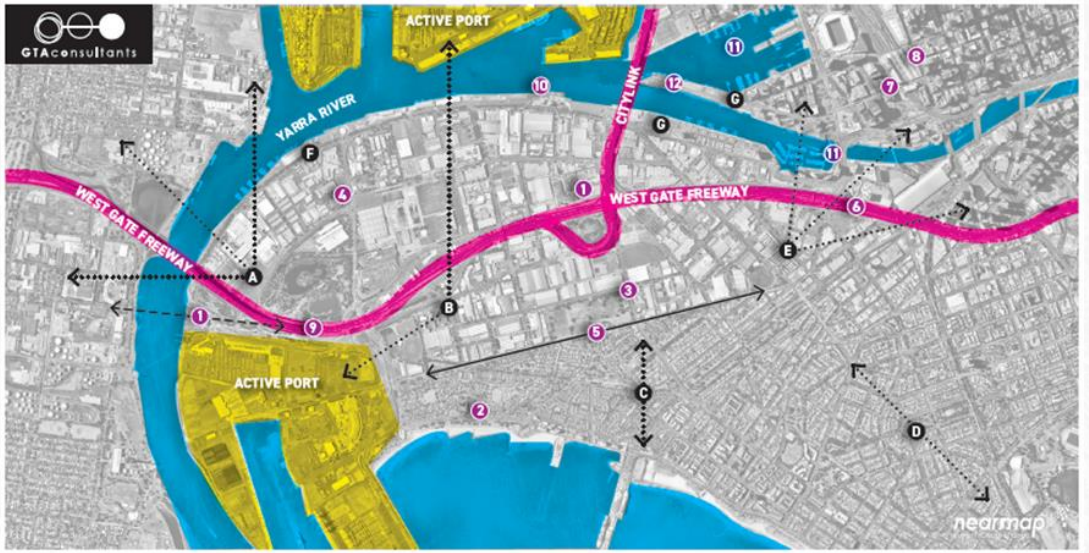

Existing Condition Observations:

- Up to 6km from Melbourne CBD.
- Under-developed bicycle network.
- Generally poor walking environment. The closest current train station (Southern Cross) is a 25min walk
- Poor levels of public transport except for Montague precinct.
- The Yarra River and Westgate Freeway are major barriers to connectivity,
- The road network is designed to support industry with wide carriageways and narrow verge areas.
- The network access gateways (interchanges) are congested during peak times.

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Technical Studies Reviewed:

- The studies range from 2009 and 2017 reflecting the extended history associated with the Fishermans Bend Urban Renewal area.

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)

02
ITP Transport Targets, Objectives & Strategies

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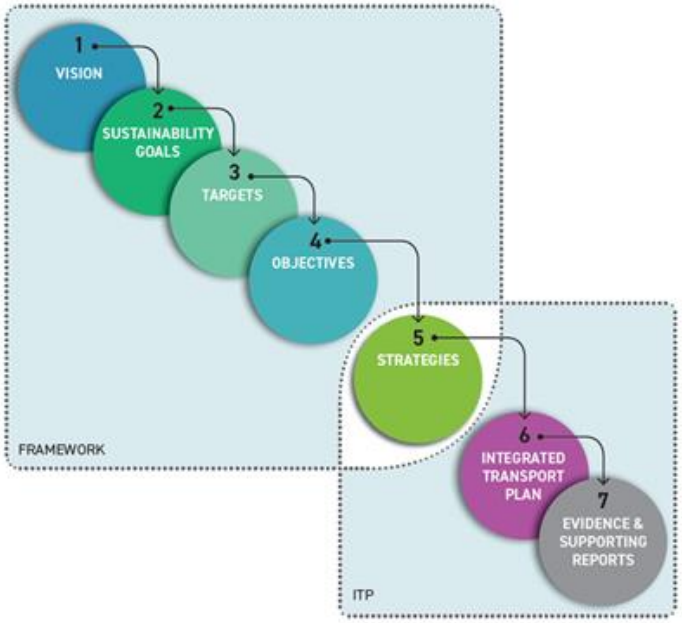
ITP Transport Targets:

1. **80%** of trips by **sustainable transport**.
2. People with a **wide range of abilities** are able to get around independently.
3. Access to services (community infrastructure, open space and public transport) within a **400 metre walk of homes and businesses**.
4. **Walkability score** of more than **90** via WalkScore.
5. 24 / 7 day access is maintained to **port**.



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ITP Principles:

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

*Principle 2: Prioritise **walking, cycling and public transport***

*Principle 3: Enable **freight and private vehicle movements***

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ITP Objectives (See Section 4.3 of GTA Report):

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, Arde*
- *Land use planning will influence development t entertainment, recreation, retail, education an active transport routes and nodes, as well as ef*
- *A fine grain of high quality walking, cycling ana Fishermans Bend precincts with the adjoining ar Southbank, Docklands, North Melbourne, Arder Port Melbourne, South Melbourne, Bay Street ar*
- *High quality transport infrastructure will be integ buildings through best practice design, includin climate change resilience.*
- *Footpaths will progressively be upgraded to ren poles, street furniture, signal boxes, telecommu all footpaths are Disability Discrimination Act co*

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 fac cycling and public transport for short to medium*
- *Land use planning and building design will encou residential activity to reduce or avoid the need fo the 10 minute neighbourhood concept for Fishern services, parks, education, community and cultur generally located within a 10 minute walk of dwe.*
- *Land use planning, building design and public rec permeable and people-friendly built environment*
- *A fine grain, legible and connected pedestrian an the built environment, applying best practise exam Melbourne and around the world.*
- *Increased urban greening and canopy cover will s the use of undergrounding infrastructure.*
- *Key pedestrian and cycling streets will be designed safe environments, encouraging the uptake of sust ages.*

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).*

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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

ITP Objectives Assessment:

- Freight example (this slide).
- Comparison of ITP objectives with Framework Plan Strategies indicates alignment and consistency.

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

03
ITP Recommended Transport System

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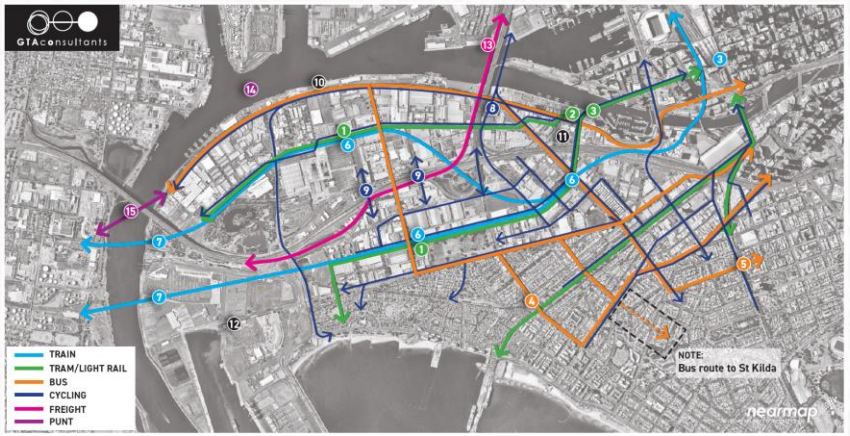

LIGHT RAIL

1-3 Two light rail connections - Northern (Turner Street) and southern (Plummer Street), initial priority being the northern alignment. Yarra River crossing (6-metre bridge) connecting Collins Street to Lorimer Street, avoiding severance of Point Park.

BUS

4 Increase in AM & PM bus services on existing routes

5 New bus services to support further growth, connecting to surrounding suburbs (including potential connections to Anzac Station).

TRAIN

6 Should a new cross-city underground rail line be prioritised, investigate potential station sites in Fishermans Bend.

7 Planning safeguards for potential station & rail alignment.

ACTIVE TRANSPORT

8 Series of principal walking and cycling corridors.

9 Upgraded and new West Gate Freeway and Yarra River crossings.

ROAD

10 Provide a network of arterial and collector roads to enable vehicle access across precinct.

11 Redevelop large blocks to deliver more permeable and connected spaces for walking, cycling and vehicle access.

FREIGHT

12 Safeguard existing freight connections to Webb Dock, including potential to strengthen existing structures for higher mass vehicles.

13 Safeguard future rail and road corridor connecting Webb Dock to Swanson/Appleton Docks.

WATER TRANSPORT

14 Ferry service not recommended but evaluation may be revisited on a regular basis as population grows and technology changes.

15 Continue West Gate Punt service.

TRAVEL DEMAND MANAGEMENT

16 As PT, walking and cycling connections are rolled out, Congestion Levy should be extended to Fishermans Bend, with revenue used to fund further transport improvements.

17 Investigate precinct parking structures to understand market uptake, potential future demands, placement, capacity and planning policy amendments required for implementation.

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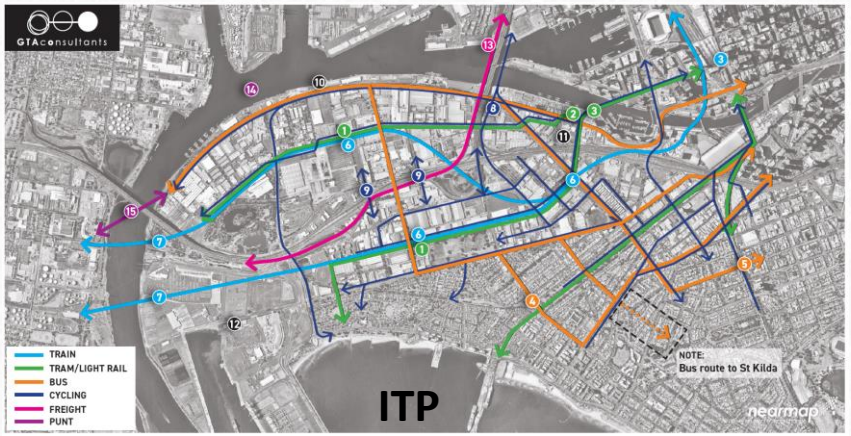

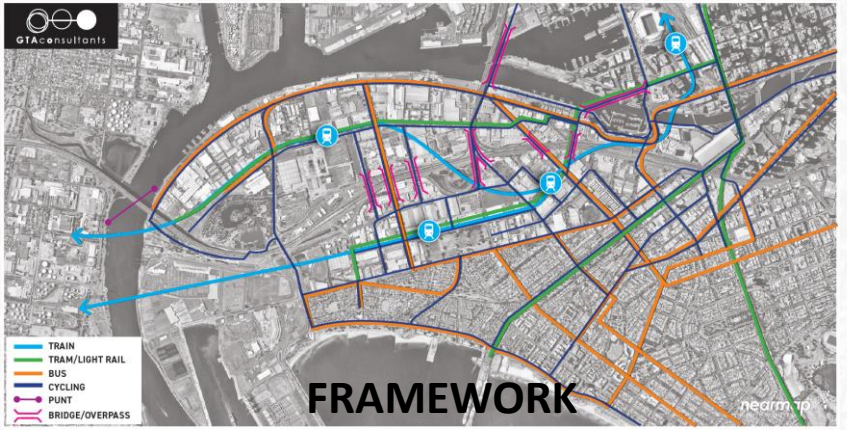

- As expected ITP and Framework Transport systems align strongly.
- A number of bus routes shown in the Framework are not present in the ITP. It is noted that these are all pre-existing routes that are already operational.
- An off-road bicycle path to the far west of the precinct, operating alongside the Westgate freeway is shown 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. I would recommend the ITP be updated to align with the FP.

These differences between the two documents are not significant and easily remedied to ensure complete alignment.

04
ITP Transport Target Achievability

ITP Peer Review – Fishermans Bend PS Amendment GC81

Transport Target Achievability:

- Qualitative and quantitative review completed by GTA of target achievability.
- Analytic model outputs have been reviewed and interpreted.

Modelling Testing Methodology:

- 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.
  - Various land use build-out's for a 2050 planning horizon .
- A range of modelled transport option scenarios were completed.

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Modelling Testing Limitations

- The model is a strategic model with limited ability to replicate finer grain active travel provisions.
- The model forecasts the amount of active travel trips people make each day within each zone, allowing for forecast car ownership statistics. However, it doesn't forecast from where to where they will make these trips, or when they undertake them.

Finer grain pedestrian network vision (Framework)

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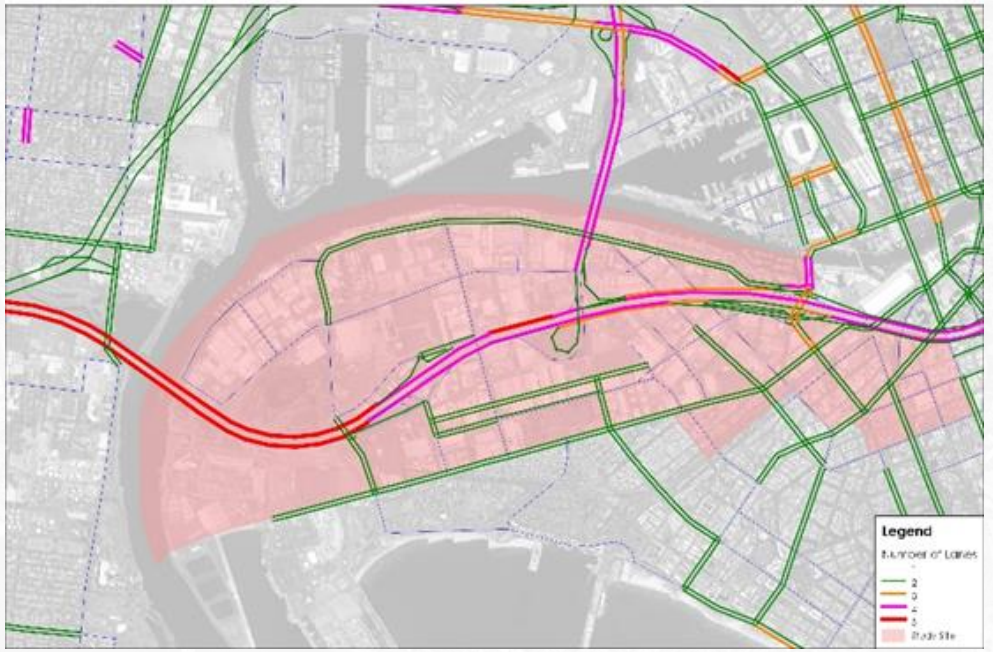
Modelling Testing Limitations (continued)

- The road-based network modelled is coarse and could benefit from some further refinement.
- Initial investigations indicate that the model could be making car trips more attractive than they are in practice for future scenarios.



Coarse road network – VITM Modelling

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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%

Figure 6.1: Summary of Travel Behaviours (PC6)

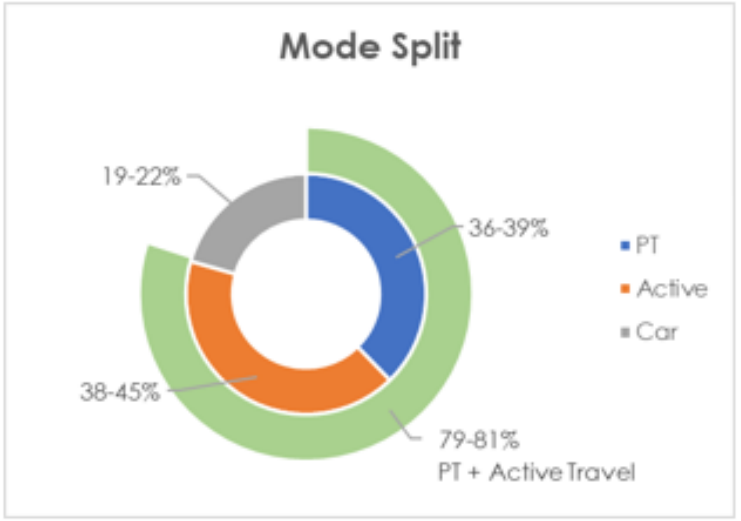
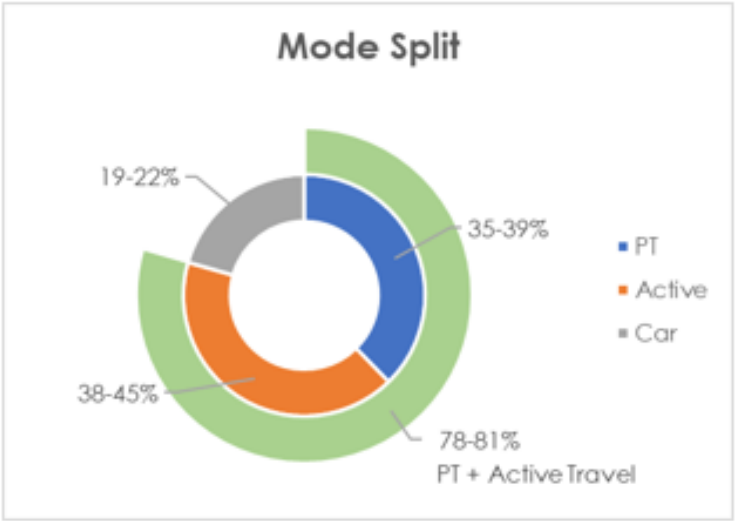


Figure 6.2: Summary of Travel Behaviours (PC7)



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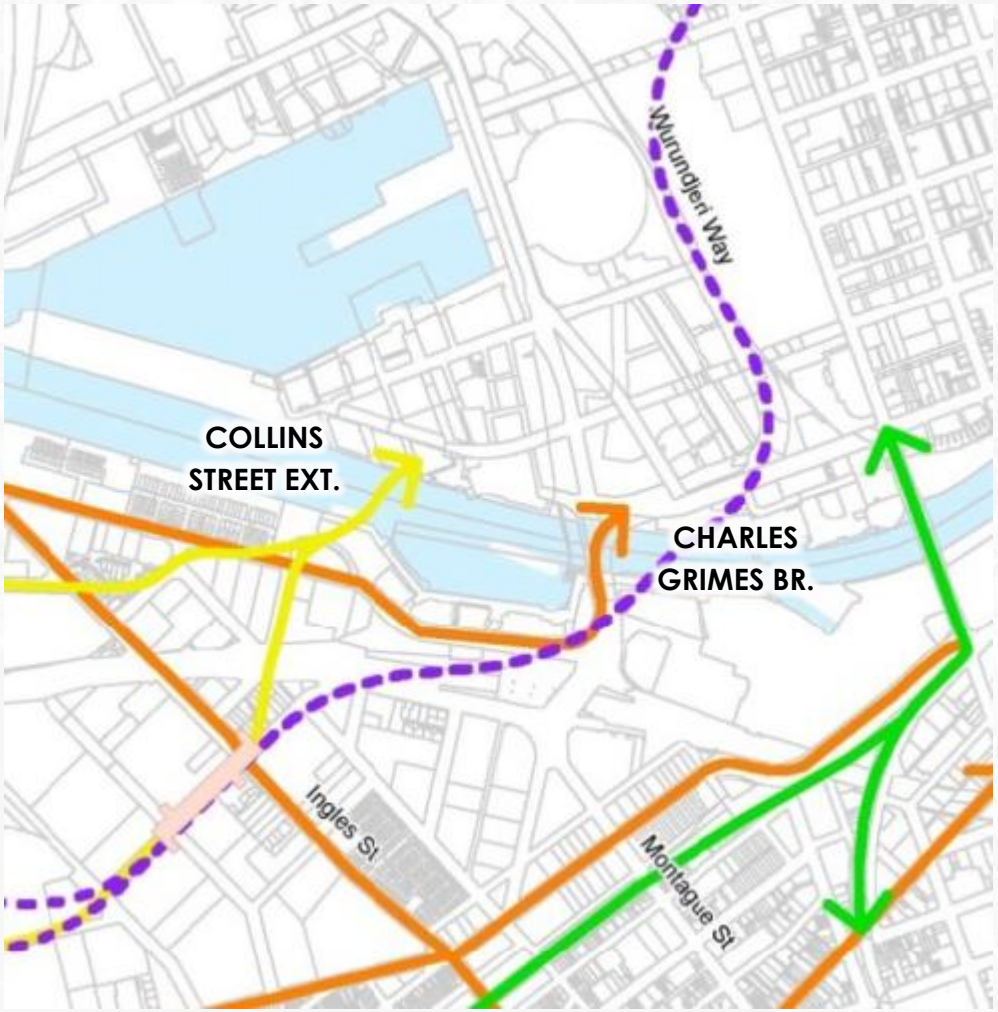
Bridge Crossing Implications on Mode Share

- 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.



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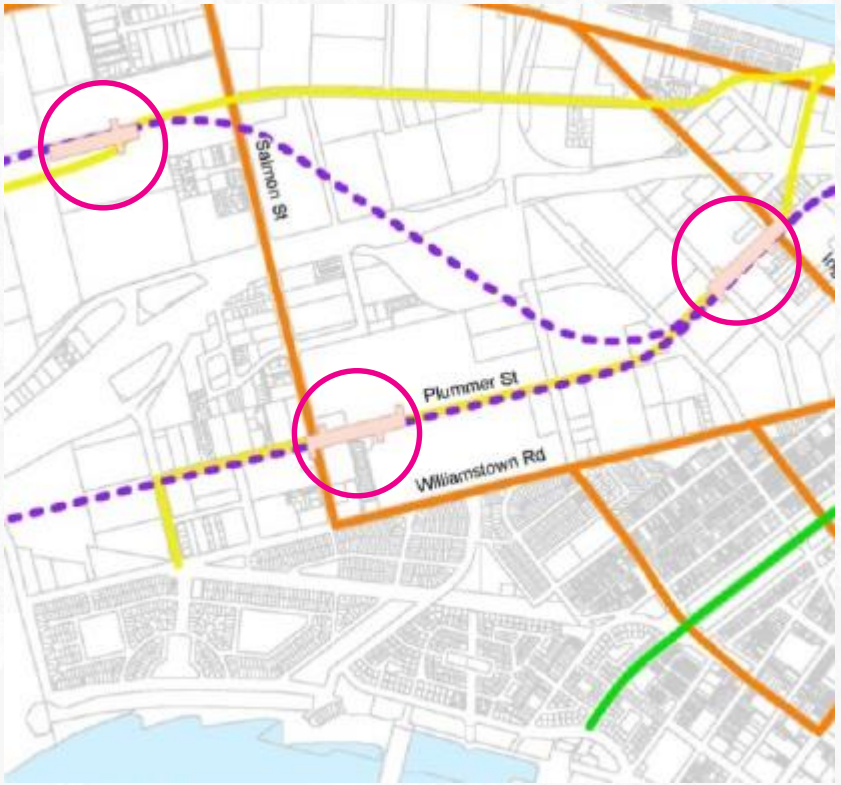
Additional 20,000 jobs in Employment Precinct

- An additional 20,000 jobs will place additional demand on the transport system.
- An additional 20,000 jobs will increase mode share in the Employment Precinct as those jobs would be within easy walking distance to the Employment precinct railway station.
- Subject to updated modelling, a train station in the Employment Precinct on the north side of the Westgate Freeway may be more attractive for the precinct as a whole.



Train station options contemplated in the ITP

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Is more modelling work required?

- **Yes.** Whilst enough work has been completed in support of Amendment GC81, more work is recommended to develop higher levels of planning confidence and certainty.
- The **road network** 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.
- Consider impact of an additional **20,000 jobs** in the employment precinct on the preferred rail station and the two-short-listed heavy rail alignment options.
- Consider 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.
- Explore in more detail the **quantitative merit of the proposed active travel** initiatives.
- Consider impacts of other projects such as the **WGT** on access to the FB precinct.

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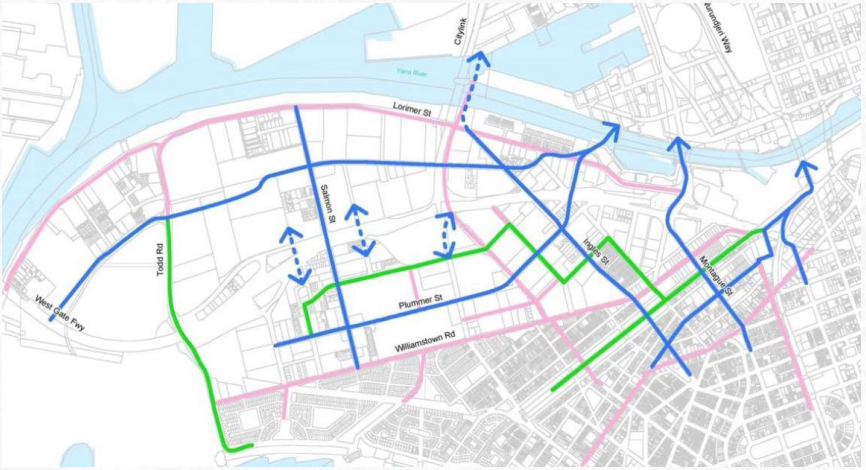
Active Travel Infrastructure Review:

- The ITP proposes a network to interconnect precincts and create direct connections into Docklands, the CBD, South Melbourne and the West Gate Punt.
- 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 proposed bicycle & pedestrian network will be supplemented by a series of lower-order, low-speed, fine-grain cycling connections through the local street network.



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Active Travel Infrastructure Review (continued)

- Achieving between a 5 – 15% mode share for cycling sits between a moderate and high outcome.
- 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. New grade-separated crossings will be critical to achieving a connected network. Design will need to be clearly articulated to ensure satisfactory outcomes.
- A fine-grain, safe network of paths are considered essential to deliver the target outcomes for walking and cycling.

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Active Travel – Opportunities for Further Exploration:

- Consider local road speeds set and designed to 30km/h.
- A greater commitment to high quality bicycle parking at recreation areas, shopping precincts, parks and other high activity areas.
- Consider use of electric share bikes and provision for e-bike charging.
- Consider a higher minimum bicycle parking rate (one space per bedroom and one space per five dwellings for visitors in medium and high density dwellings.
- Consider incorporating the use of bicycles/cargo bikes for last-kilometre freight.

05
ITP Future Freight Corridor

ITP Peer Review – Fishermans Bend PS Amendment GC81

Design Principles Applicable to Managing Freight:

- Port of Melbourne at Webb Dock will have ongoing access via road and rail via Lorimer in the short-term and a strategic corridor in the long term.
- Maximising the use of walking, cycling and public transport to suppress motorised travel on roads in the precinct and shared with freight.
- A clear and developed street hierarchy.
- Support growth at Webb Dock whilst managing impacts on urban amenity.
- Maintain access to Station Pier.
- Minimise the need for local service, delivery and waste freight movements within Fishermans Bend.
- Street design will cater for those transport movements that are required to service the local area in accordance with the adopted street hierarchy.

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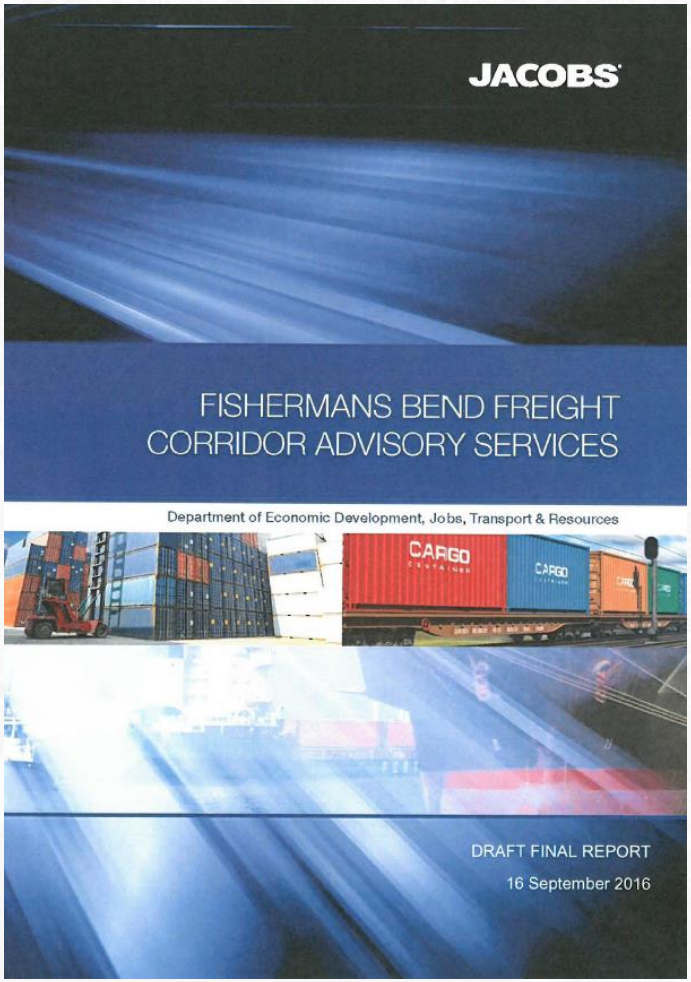
Strategic Freight Corridor Review:

- Fishermans Bend Freight Corridor Advisory Services Report, Jacobs 2016



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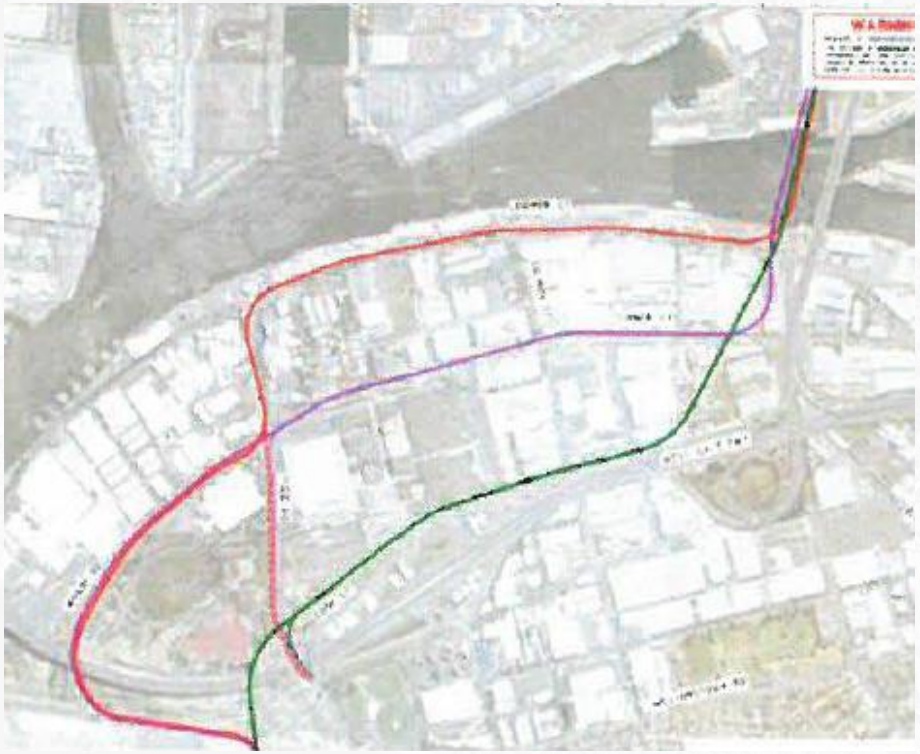
Options Assessment

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

The scope of the study specifically excludes a tunnel option for the freight corridor. A bridge crossing was considered the only viable option as a tunnel would cost considerably more and would create significant environmental issues.



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Assessment Methodology & Acceptability:

- Analysis of various (proportional) scenarios between road and rail freightconsidering future '*throughput*'.
- High level assessment of a range of road and rail corridor options via the Fishermans Bend employment area in the longer term.
- Detailed assessment of deliverable long-term corridor options.
- Review of corridor options to assess their impact on regeneration of Fishermans Bend.
- 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.

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Preferred Alignment Option

- Option to have the corridor running along the southern side of the M1 was preferred (option 3C) as the alternate M1 options would impact either Westgate Park or result in the requirement for network changes to Todd Road.
- 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.

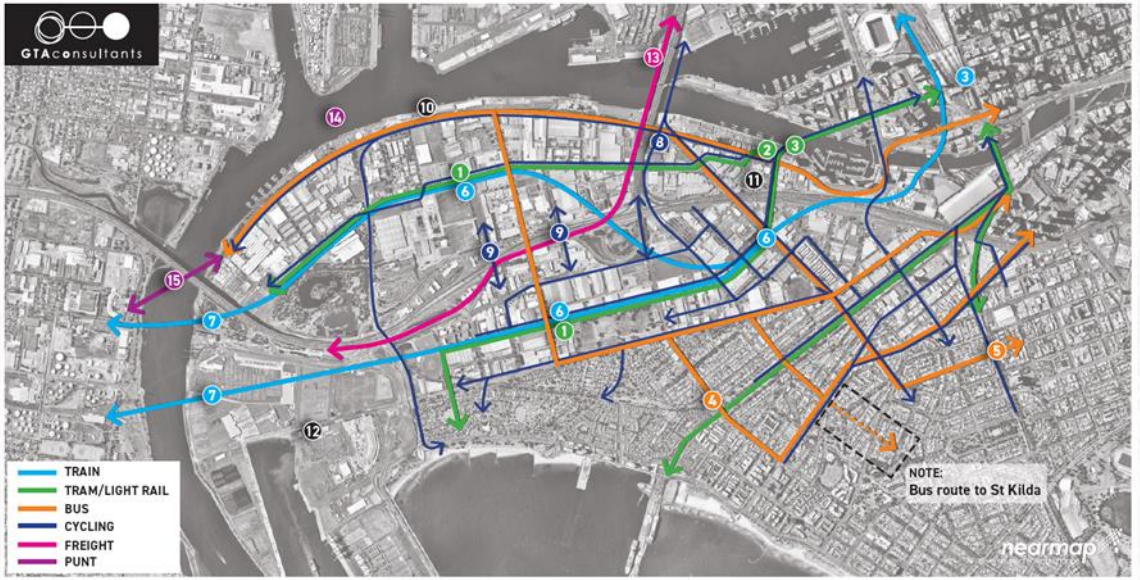
06
ITP Transport Infrastructure Delivery & Sequencing

ITP Peer Review – Fishermans Bend PS Amendment GC81

Infrastructure Delivery Phasing:

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



07
Submissions

ITP Peer Review – Fishermans Bend PS Amendment GC81

Key Themes:

- Early delivery of public transport.
- Ability to meet transport targets.
- Concerns regarding congestion.
- Traffic & cyclist safety (concerns) and pedestrian permeability.
- Concerns regarding new tram bridge.
- Designated freight routes (concerns over impacts and requests for clarity).
- Protection for Port of Melbourne.
- Concerns car parking rates being too low and too high. Support for maximum car parking rates.

ITP Peer Review – Fishermans Bend PS Amendment GC81

GTA Responses:

- Sufficient evidence base provides acceptable level of confidence that transport targets will be met.
- Provision of a tram bridge over the Yarra River will be pivotal in adequately linking Fishermans Bend to the central city and achieving identified transport targets.
- Recommend a more comprehensive transport system staging plan (including freight staging) be developed together with a funding strategy.
- Reservation of a freight corridor is an appropriate response at this stage of planning.
- Recommend further modelling be undertaken to inform preferred rail alignment.
- Introduction of maximum car parking rates supported.
- Further detail on many elements (including bicycle lanes, street cross-sections) will need to be provided in the individual precinct structure plans.

08
Questions?