

CHAPTER 06

INTEGRATED TRANSPORT

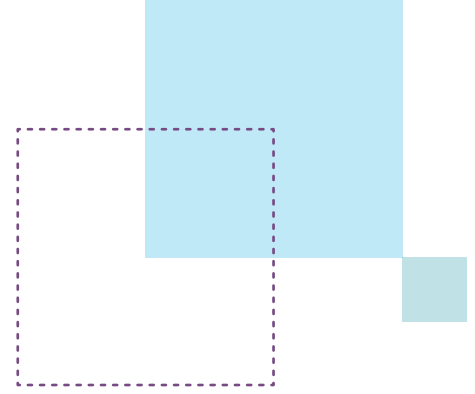


Plan Melbourne Outcome 3:
Melbourne has an integrated transport system that connects people to jobs and services and goods to market.

As the Southern Metro Region grows, it will require better integration of land use and transport planning, better use of existing roads, and increased investment in public transport, walking and cycling. Making better use of transport infrastructure, complemented by good precinct design, can improve connections without necessarily the expense and disruption of delivering new infrastructure. Land use decisions, as well as mode shift opportunities, can significantly improve access and reduce transport-generated emissions.



Photo credit: Department of Jobs, Precincts and Regions



Transport in the Southern Metro Region is primarily provided by road and rail networks that radiate from the CBD, connecting through the region and onto Gippsland and other parts of the state. However, connections are limited between residential neighbourhoods and employment areas throughout the region.

The Southern Metro Region is home to transport gateways such as the Port of Hastings and Moorabbin Airport, and the proposed location for the possible South-East Airport. SRL and other committed rail and road projects will improve access within the region and to the other regions.

State of play

Map 5 outlines the current state of play for transport in the Southern Metro Region.

Road network

The Southern Metro Region road network is characterised by a grid of arterial roads in both north-south and east-west directions. These are intersected by highways, freeways and railway lines that generally radiate outwards from Melbourne's CBD. Monash Freeway, Eastlink, Mornington Peninsula Freeway, Princes Highway and Freeway, Nepean Highway, Western Port Highway and South Gippsland Freeway and Highway all provide important connections within the region – to adjacent metropolitan regions and beyond to Gippsland.

Eastlink is an orbital north-south link through the region connecting into the Mornington Peninsula Freeway to the south and the new Mordialloc bypass to the north. Eastlink's role will be further enhanced by the construction of North East Link, connecting the region to Melbourne's north and north-west. Thompsons Road is a key east-west arterial road linking employment areas in Carrum Downs, Dandenong South to the South Eastern Growth Corridor. In the eastern part of the region, Healesville-Koo Wee Rup Road is an important north-south arterial road connecting Pakenham to South Gippsland.

Several parts of the existing transport network have capacity constraints, or will in the future, as the region grows, particularly passenger rail services and sections of the freeway network. Congestion is

increasing, particularly during peak hours, as many residents commute beyond the region. By 2031, traffic volumes in the inner part of the Southern Metro Region are expected to increase by 33.3 per cent from 2015 (KPMG & ARUP, 2017, p. 15).

Public transport network

The rail network includes three metro passenger services to Pakenham, Cranbourne and Frankston. These services connect the Southern Metro Region and Gippsland with Melbourne's CBD and other parts of the state.

Parts of the Southern Metro Region have good access to public transport, particularly along railway lines, in activity centres and in northern urban areas of the region. Figure 17 shows accessibility to public transport for people who live within the region based on how far they need to walk to access train, tram and bus services. The northern parts of the region are well connected to Melbourne's CBD by train and bus with multiple services each hour. Mornington Peninsula LGA has relatively poor public transport with none of its activity centres located on a metro rail line and no direct east-west bus link across the Peninsula.

A V-Line service on a single track runs to Stony Point through Langwarrin, Baxter, Somerville and Hastings. V-Line rail and coach services also provide access to Gippsland and beyond. Public transport to new communities in the south-eastern growth areas is still developing.

The Southern Metro Region has an extensive bus network, particularly in the northern parts of the region and along either side of the Mornington Peninsula to Rosebud and Hastings. Three orbital SmartBus routes service the region providing north-south connections. The Southern Metro Region is the only region of metropolitan Melbourne not serviced by trams.

On the Mornington Peninsula, a vehicular ferry connects Sorrento to Queenscliff, and a passenger ferry connects Stony Point, French Island and Cowes. These ferries play an important tourism role for the region.

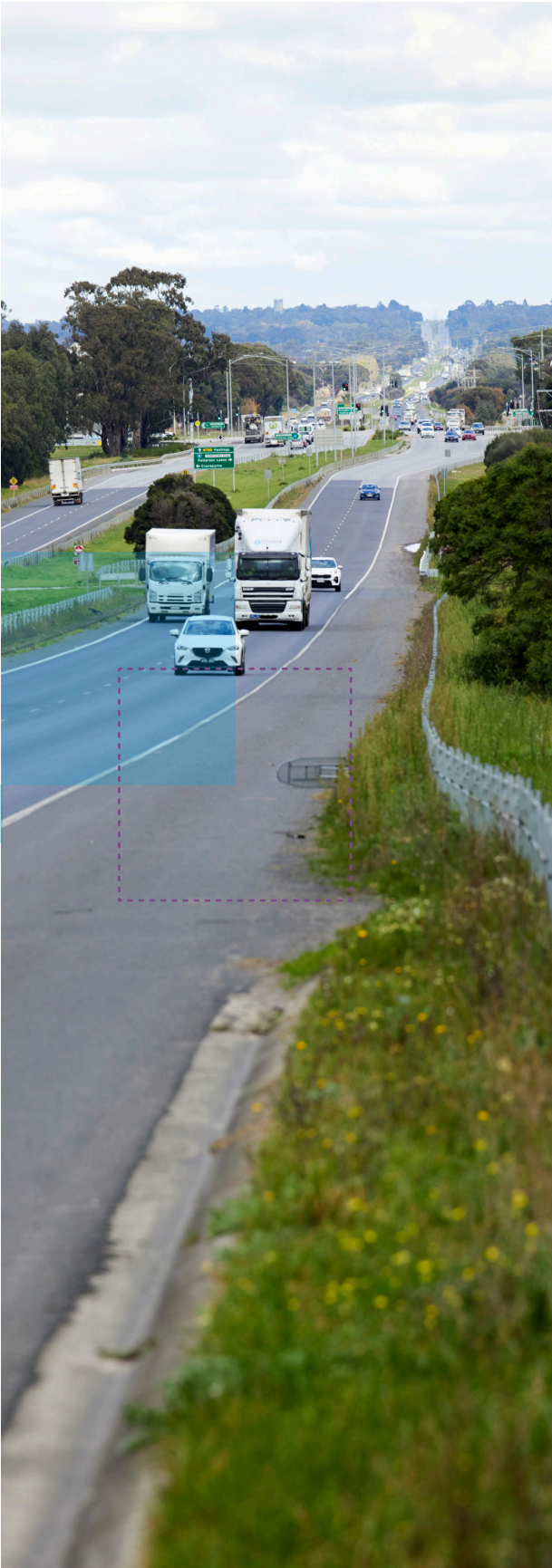


Photo credit: Tim Bell Studio

Active transport network

An existing and emerging cycling network in the Southern Metro Region provides connections, largely consistent with the region's freeway and rail network. Strategic Cycling Corridors generally radiate out along rail lines or major roads and have often been built as part of major road projects. Examples include the shared bike path from Caulfield to Dandenong delivered as part of the Caulfield to Dandenong Level Crossing Removal Project and the Eastlink Trail.

In 2016, 0.3 per cent of residents cycled to work in the Southern Metro Region. This compares to 1 per cent that cycled to work in metropolitan Melbourne. Further improvements are needed to make cycling a more attractive form of transport including providing safe, dedicated routes for commuting, local and recreational cycling. There is also low proportion of people who walk to work, only 1 per cent of people walked to work in 2016, compared to 3 per cent for metropolitan Melbourne.

Freight network

As a national centre for manufacturing, the freight network is an integral part of the region's economic success. The region's freight network is well established, and the Principal Freight Network (PFN) uses both road and rail for the transport of goods. The PFN follows the major highways, freeways and railway lines including links between Frankston and the Mornington Peninsula, as well as the Thompsons Road, Pakenham and Cranbourne Corridors. The PFN links to the state- and regionally-significant industrial precincts, Port of Hastings and the possible South-East Airport.

Transport gateways

In addition to the transport gateways of Moorabbin Airport and the Port of Hastings, there is also the possible South-East Airport that would further enhance the region's accessibility. In addition, the Dandenong South Port Rail Shuttle Network (PRSN) connection is underway.

The Port of Hastings is a key gateway for non-containerised trade such as bulk product exports, break bulk products and fuels. Around 2 million tonnes of steel, gas and petroleum products moves through the Port of Hastings, making it a significant economic gateway for Victoria. The Port of Hastings has been identified as a reserve option, behind the preferred Bay West, for a second major container port once the Port of Melbourne reaches capacity (Port of Hastings, 2018, p. 8).

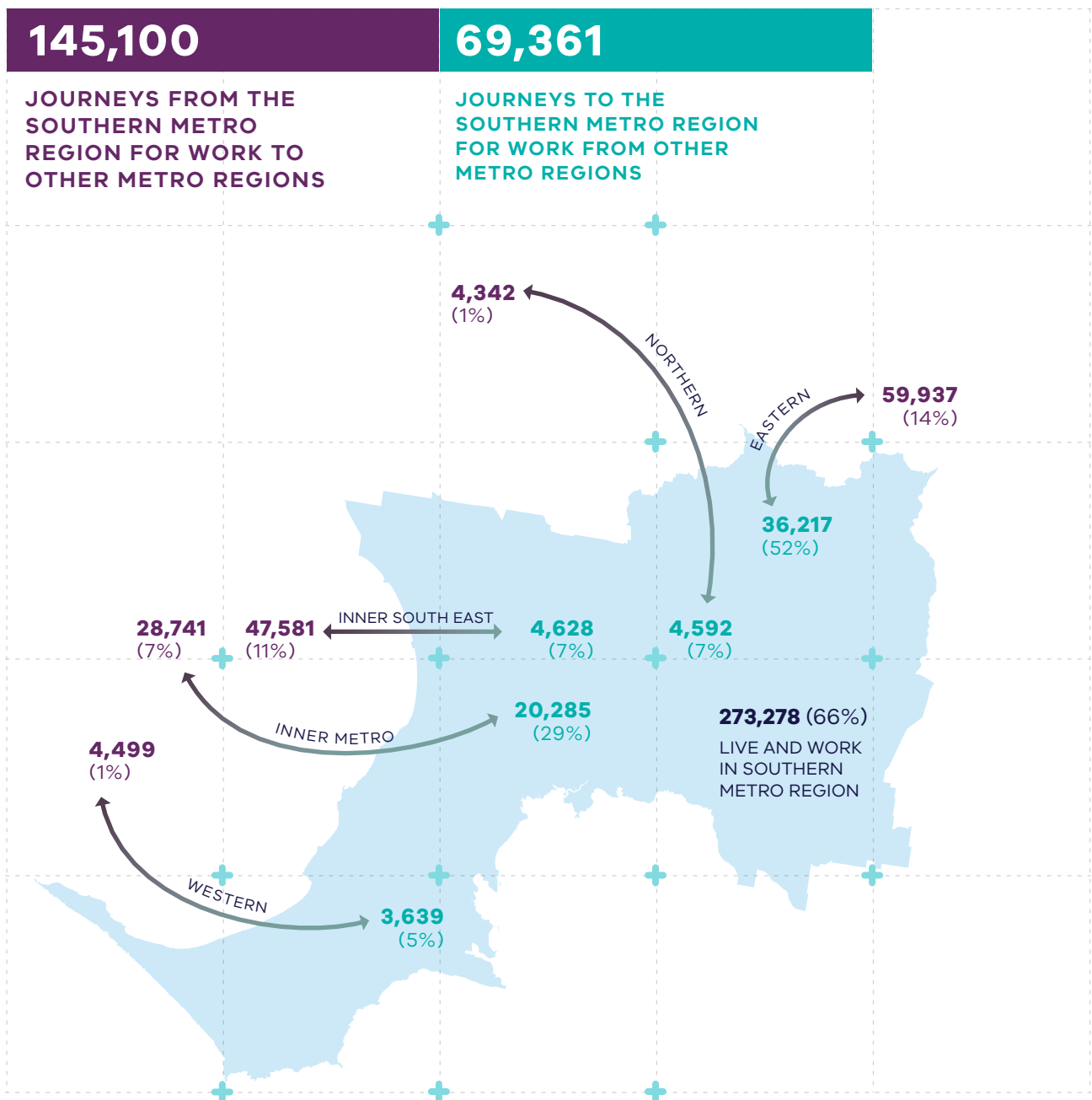
Regional access and movement

After the Inner Metro Region, the Southern Metro Region has the second highest proportion of residents who work within the region. In 2016, 66 per cent of Southern Metro Region residents also worked in the region.

Figure 16 shows journeys to work in and out of the Southern Metro Region. The most common work destinations for the Southern Metro Region after the region itself were the Eastern and Inner metro

regions. Greater Dandenong LGA is the top work destination followed by the Casey and Mornington Peninsula LGAs (SGS, 2019, p. 40). Most people living and working in the region come from Casey, Mornington Peninsula and Frankston LGAs. Most people working in the region from outside the region were from the Eastern Metro Region LGAs of Knox, Monash and Yarra Ranges (SGS, 2019, p. 40). There was little connection with the Northern and Western metro regions for the purpose of travelling to work.









FIGURE 16. Journey to work in and out of the Southern Metro Region









Source: Australian Bureau of Statistics (2016) *Census of Population and Housing*, Commonwealth of Australia, Canberra, Australia.











MAP 5. Southern Metro Region integrated transport state of play

Precincts and Activity Centres






-  National employment & innovation cluster (NEIC)[^]
-  Metropolitan activity centre
-  Major activity centre
-  Major activity centre (future)
-  State-significant industrial precinct - existing
-  State-significant industrial precinct - future
-  Regionally-significant industrial precinct - existing
-  Regionally-significant industrial precinct - future

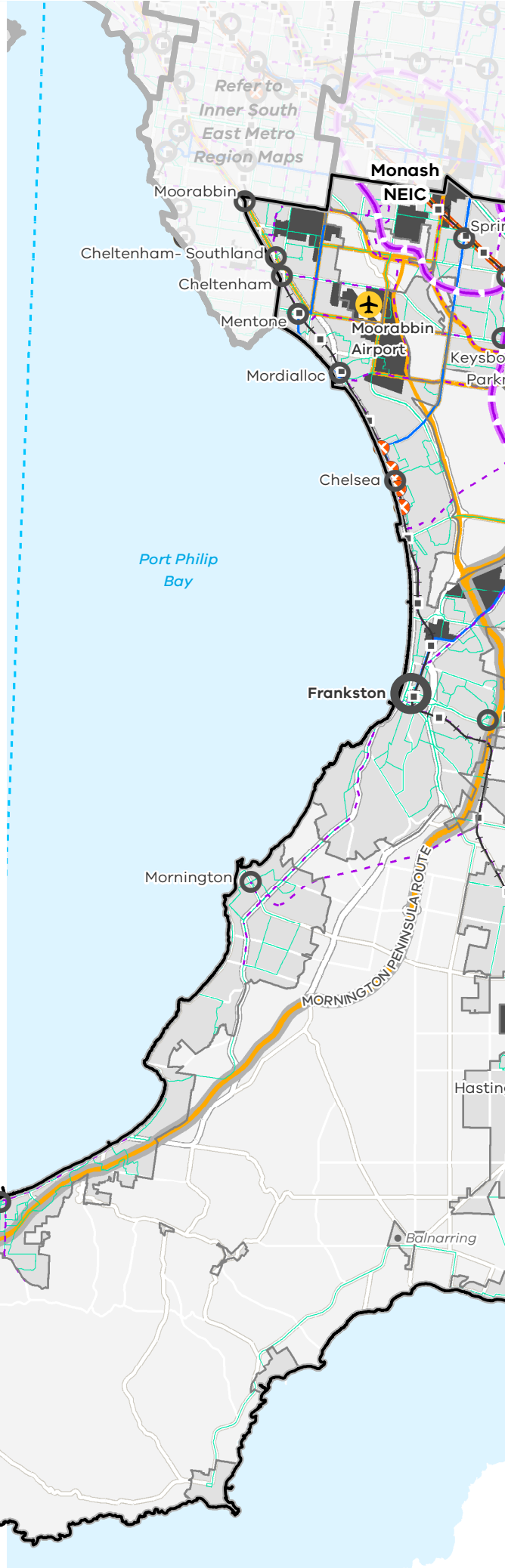
Transport

-  Transport Gateway - Airport
-  Transport Gateway - Seaport
-  Transport Gateway - possible Airport (indicative)
-  Other Intermodal Freight Terminal - existing and potential
-  State-significant road corridor
-  Road network

-  Train station
-  Rail network
-  Regional rail network
-  Bus network
-  High frequency bus network
-  Strategic Cycling Corridor
-  Ferry route
- Principal Freight Network**
-  PFN road
-  PFN rail
- Transport projects - committed**
-  Level crossing removal site

Land use/Administration

-  Regional boundary
-  Green wedge land
-  Growth area
-  Urban area
-  Urban growth boundary



[^]NEIC boundary is indicative only and subject to detailed planning.

Note:

The Principal Freight Network reflects the version published in 2013 (Victoria the Freight State - the Victorian Freight and Logistics Plan, August 2013) in addition to Mordialloc Highway and West Gate Tunnel. East West Link has been removed. The Department of Transport is currently undertaking a review of the Principal Freight Network.



Location Map

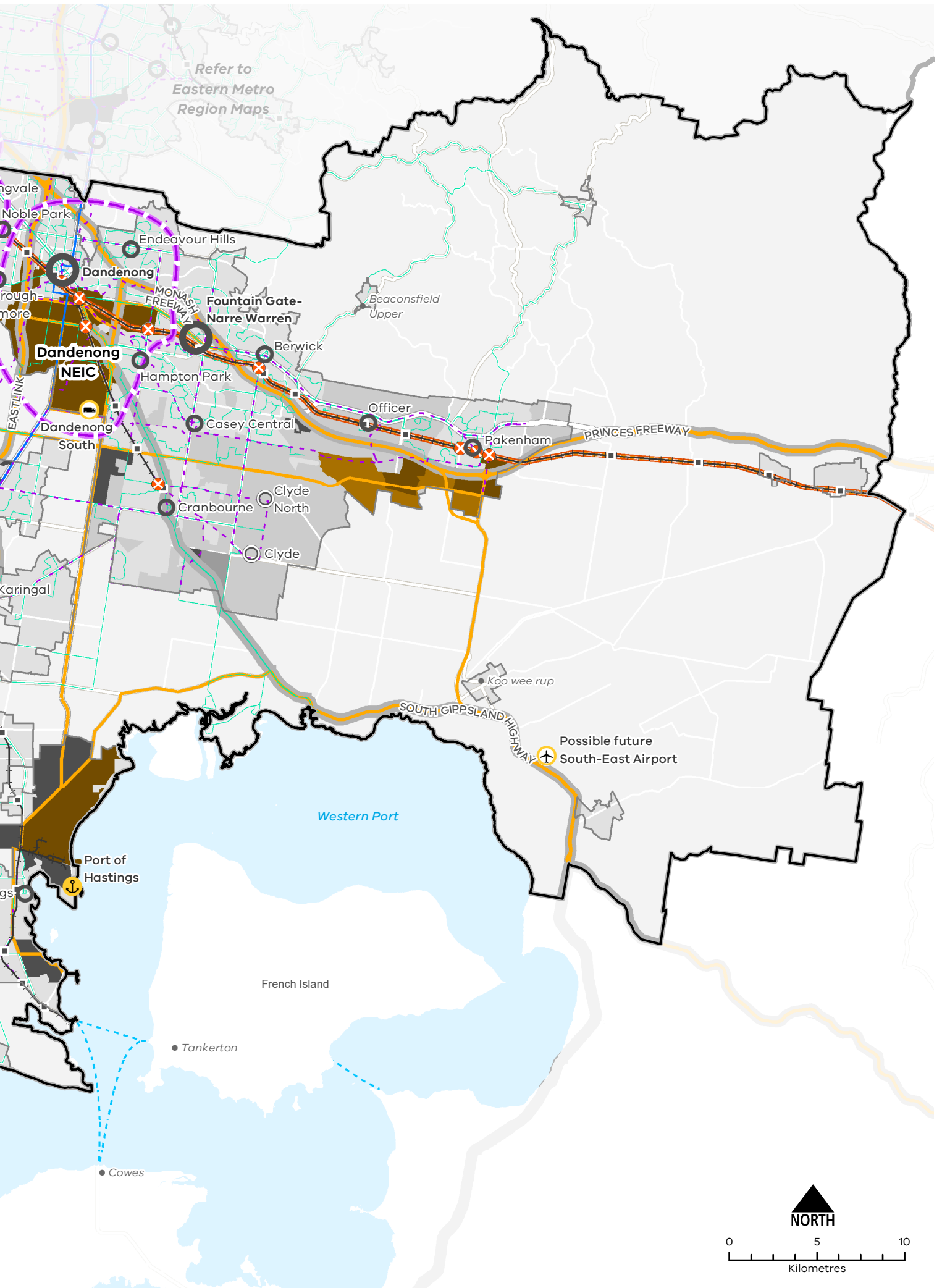
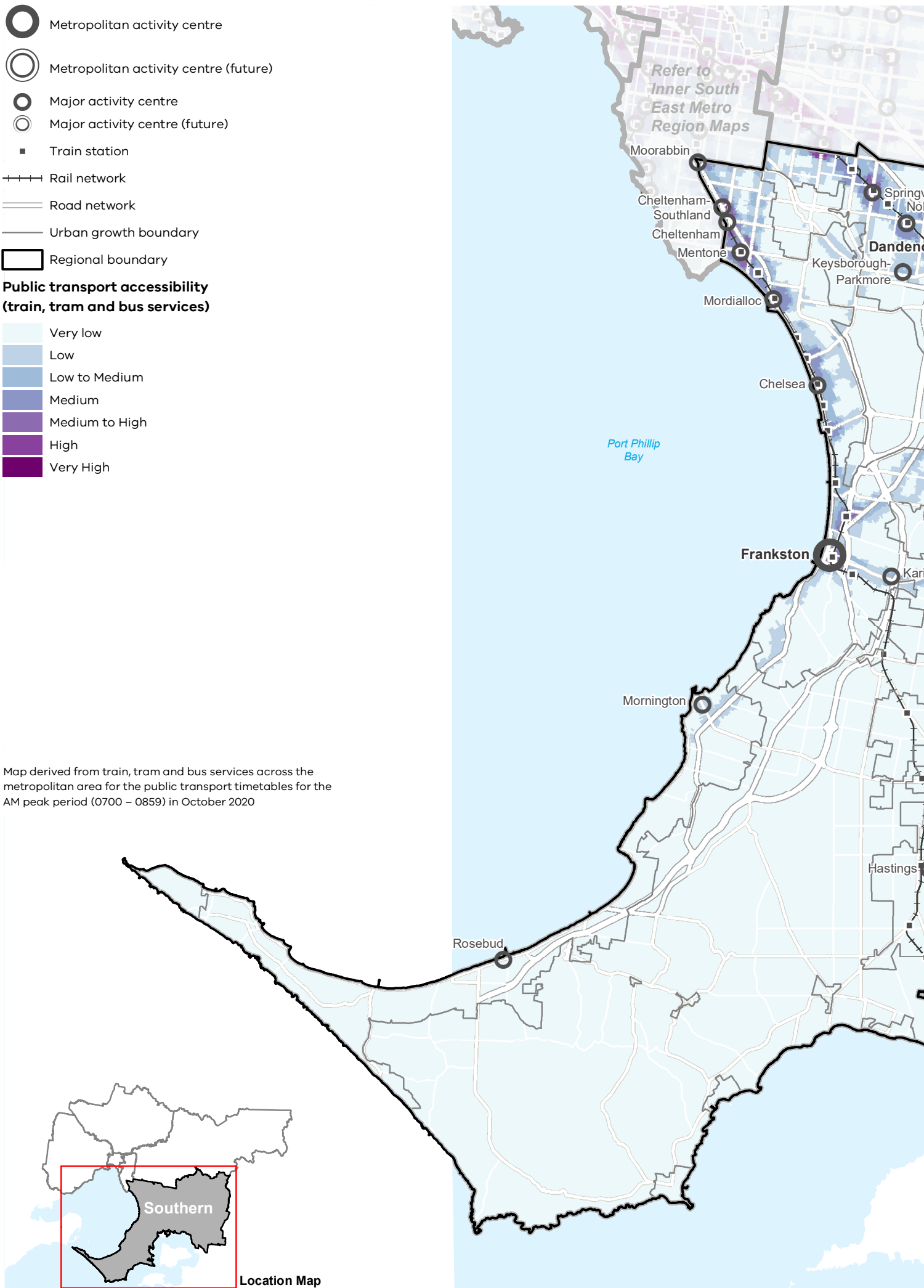


FIGURE 17. Public transport accessibility in the Southern Metro Region



Map derived from train, tram and bus services across the metropolitan area for the public transport timetables for the AM peak period (0700 – 0859) in October 2020

Refer to
Eastern Metro
Region Maps

vale
ble Park

ong

ingal

Endeavour
Hills

**Fountain Gate-
Narre Warren**

Berwick

Hampton Park

Casey Central

Officer

Pakenham

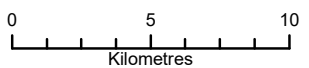
Clyde North

Cranbourne

Clyde

Western Port
Bay

French Island



Regional strengths

- The region has a strong freeway, arterial road, and freight network.
- Moorabbin Airport, Port of Hastings and the possible South-East Airport are key transport gateways.
- Access improvements for walking, cycling and public transport will result from the development of the SRL station and supplement the existing network.

Regional challenges

- There is a need to improve east-west connections between Pakenham, Cranbourne, Dandenong and Frankston to connect people with jobs and services.
- The region has high private vehicle use increasing congestion, and significant gaps in public transport particularly to the outer south-east.
- The provision of roads and public transport needs to be sequenced with new urban development.
- Several parts of the existing transport network have capacity constraints, or will in the future as the region grows, particularly passenger rail services and sections of the freeway network.

Directions and strategies

The directions identified to achieve the 2050 vision for the Southern Metro Region in terms of Integrated transport and Outcome 3 of Plan Melbourne are:

Direction 13	Improve transport connections to support the productivity of the Southern Metro Region
Direction 14	Improve public and active transport access for Dandenong NEIC, metropolitan and major activity centres and Cheltenham Precinct
Direction 15	Improve transport linkages in the south-eastern growth area and on the Mornington Peninsula
Direction 16	Improve active and public transport options to promote mode shift and support 20-minute neighbourhoods
Direction 17	Improve freight efficiency and increase capacity of gateways while managing impacts on urban amenity

Each direction is implemented through regionally-specific strategies identified in this LUFP.

Map 6 shows how Integrated transport will be enhanced across the Southern Metro Region by 2050 as a result of these directions and strategies, together with Plan Melbourne and other strategies and initiatives as outlined in **Appendix 01**.













Photo credit: Tim Bell Studio





MAP 6. Southern Metro Region integrated transport 2050

Precincts and Activity Centres




-  National employment & innovation cluster (NEIC)*
-  Activity corridor
-  State-significant commercial land*
-  Regionally-significant commercial land*
-  Regionally-significant commercial land (future)*
-  State-significant industrial precinct - existing
-  State-significant industrial precinct - future
-  Regionally-significant industrial precinct - existing
-  Regionally-significant industrial precinct - future
-  Future Business Corridor (Business with Residential)

Transport

-  Transport Gateway - Airport
-  Transport Gateway - Seaport
-  Transport Gateway - Possible Airport (indicative)
-  Other Intermodal Freight Terminal - existing and potential
-  State-significant road corridor
-  Road network
-  Train station
-  Committed station
-  Potential station
-  Rail network

-  Regional rail network
-  Rail stabling facility
-  Strategic Cycling Corridor
-  Ferry route



Principal Public Transport Network

-  PPTN station
-  PPTN interchange
-  Bus







Principal Freight Network


-  PFN road
-  PFN rail

Suburban Rail Loop






-  SRL East (Cheltenham to Box Hill)
-  SRL - interchange station

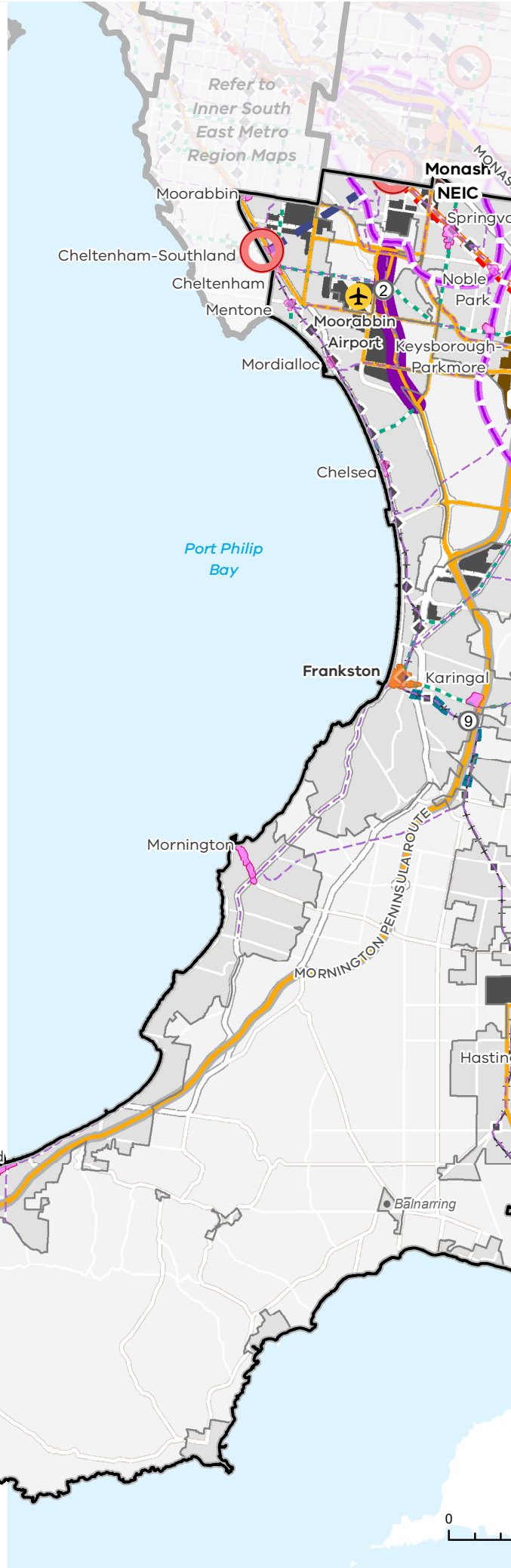
Transport projects - committed

-  Rail Improvements Sunbury to Cranbourne
-  Rail Project - committed
-  Road Project - committed
-  Road Project - planned future
-  Rail Project - potential future
-  Road Project - potential future

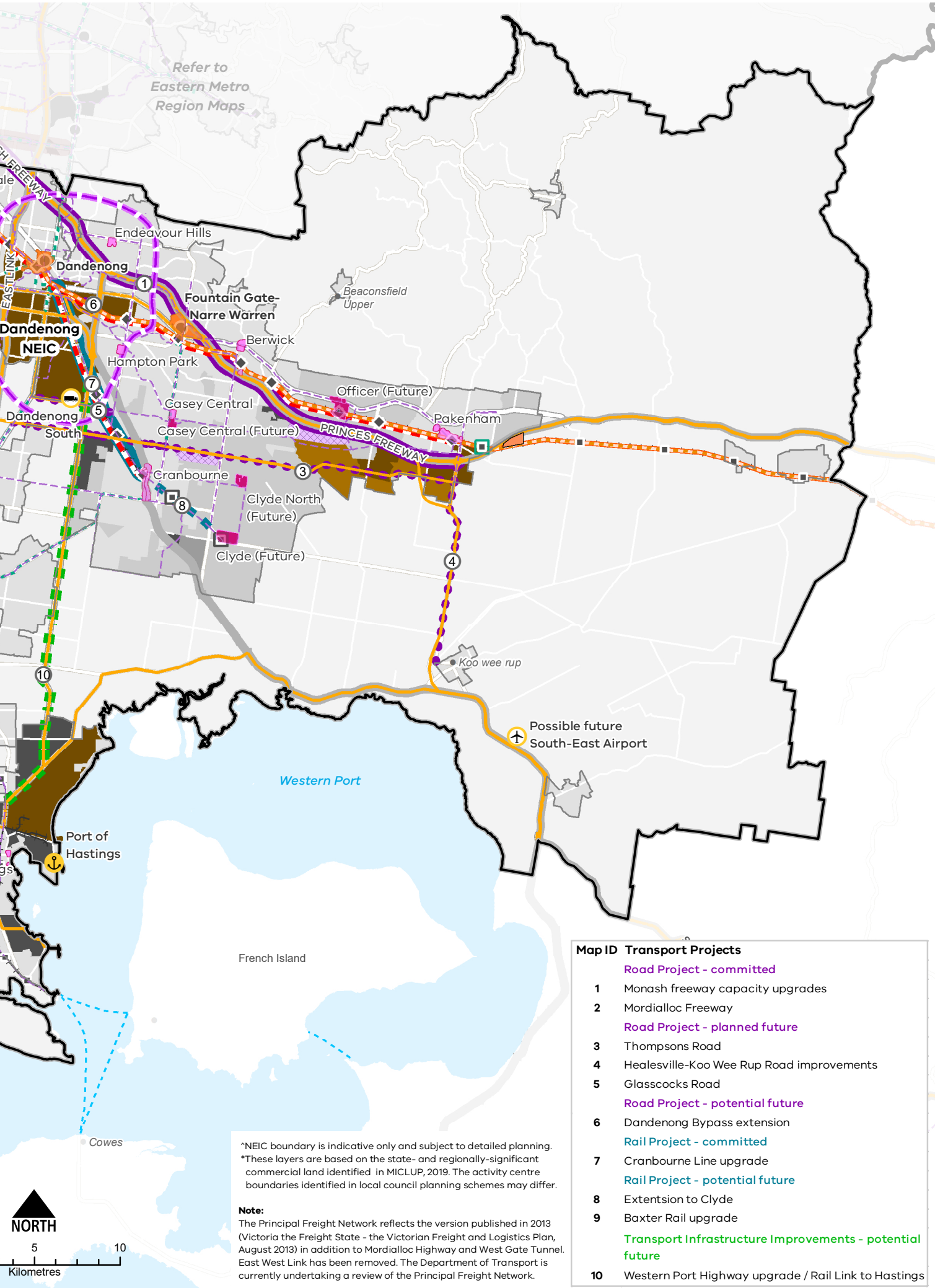
-  Transport Infrastructure Improvements - potential future

Land use/Administration

-  Regional boundary
-  Green wedge land
-  Growth area
-  Urban area
-  Urban growth boundary



Location Map



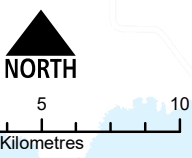
Refer to
Eastern Metro
Region Maps

^NEIC boundary is indicative only and subject to detailed planning.
*These layers are based on the state- and regionally-significant commercial land identified in MICALUP, 2019. The activity centre boundaries identified in local council planning schemes may differ.

Note:
The Principal Freight Network reflects the version published in 2013 (Victoria the Freight State - the Victorian Freight and Logistics Plan, August 2013) in addition to Mordialloc Highway and West Gate Tunnel. East West Link has been removed. The Department of Transport is currently undertaking a review of the Principal Freight Network.

Map ID Transport Projects

- Road Project - committed**
- 1 Monash freeway capacity upgrades
- 2 Mordialloc Freeway
- Road Project - planned future**
- 3 Thompsons Road
- 4 Healesville-Koo Wee Rup Road improvements
- 5 Glasscocks Road
- Road Project - potential future**
- 6 Dandenong Bypass extension
- Rail Project - committed**
- 7 Cranbourne Line upgrade
- Rail Project - potential future**
- 8 Extension to Clyde
- 9 Baxter Rail upgrade
- Transport Infrastructure Improvements - potential future**
- 10 Western Port Highway upgrade / Rail Link to Hastings



DIRECTION 13.

Improve transport connections to support the productivity of the Southern Metro Region

Sustainable population and economic growth in the Southern Metro Region relies on improving public transport access to and between job-rich locations such as the Monash and Dandenong NEICs, metropolitan and major activity centres, state- and regionally-significant industrial precincts and health and/or education precincts. This will support an expanded network of economic activity that is less reliant on private car use, with more reliable and frequent public transport services to encourage mode shift and reduce road congestion, which is significant in many parts of the region.

Capacity and efficiency improvements to the public transport system are needed to ease the pressure on the region's roads and to provide more sustainable transport alternatives. A number of regionally-significant committed and proposed improvements to public transport infrastructure and services are outlined in **Appendix 01**.

The key regional linkages are shown in **Figure 19**. Decisions regarding appropriate modes for these links should consider the capacity of existing infrastructure, ongoing sustainability and providing travel choices over a longer time period including evening and late-night travel.

The SRL interchange station at Cheltenham will link residents to major destinations in the Eastern Metro Region including Monash NEIC and Box Hill Metropolitan Activity Centre, and in the longer term, to Melbourne Airport. SRL will change the way people travel to and move around the eastern and southern part of Melbourne by providing public transport access to key employment locations without having to travel to intersecting points on the network closer to the inner city.

An important component of SRL is a stabling facility and operations control centre for testing and commissioning of trains and infrastructure, stabling and maintenance. As SRL East (Cheltenham to Box Hill) is the first part of an orbital network around Melbourne, the Southern Metro Region is the planned location for SRL East Stabling Facility. The development and operation of SRL East will not be able to be realised without the stabling facility. The selection of the location of the stabling facility within Kingston LGA will require an assessment of different, and potentially competing, planning policy considerations in order to determine how the delivery of this critical component of SRL can achieve a net community benefit.

Increasing the reach and frequency of public transport, particularly bus routes, is the key for increasing public transport use across the region. There is a need to plan for and implement improvements to the region's bus network, including on-road priority, increased frequencies and improved route legibility. Priorities include the introduction of services in greenfield growth areas, improvements on the Mornington Peninsula and better connectivity between residential areas and employment areas.

Strategic Cycling Corridors will connect state-significant locations and activity centres. Priority active transport projects will promote increased safe use of the region's cycling and walking network (**Figure 19**).

Primary routes provide a core network of Strategic Cycling Corridors that connect places of state significance – the Central City, metropolitan activity centres and NEICs within metropolitan Melbourne. Main routes are Strategic Cycling Corridors that provide additional connections to state-significant destinations as well as connections to major activity centres and key train stations across metropolitan Melbourne.

STRATEGY 41. Improve transport connections between the Dandenong NEIC, Frankston and Narre Warren-Fountain Gate metropolitan activity centres and the Southern Employment Precinct (including Officer-Pakenham and Hastings).

STRATEGY 42. Improve bus service connectivity prior to the delivery of Suburban Rail Loop.

STRATEGY 43. Improve transport connections between the Dandenong NEIC (including the Southern Employment Precinct), Frankston and Fountain Gate-Narre Warren metropolitan activity centres and the Officer-Pakenham SSIP.

STRATEGY 44. Support cycling for transport through the development of Strategic Cycling Corridors in the Southern Metro Region.

DIRECTION 14.

Improve public and active transport access for Dandenong NEIC, metropolitan and major activity centres and Cheltenham Precinct

Continuing to provide opportunities for public and active transport in and around the Dandenong NEIC, metropolitan and major activity centres will be critical to improve the amenity of these centres and make them more attractive for business investment and local residents.

As the metropolitan activity centres of Dandenong, Frankston and Fountain Gate-Narre Warren undergo change to a more compact urban form, they will require active transport networks that logically connect with public transport nodes. In established higher-density locations, networks should better connect to existing cycling and walking infrastructure to fill existing gaps.

Building SRL and delivering cross-suburb travel connections will trigger investment and economic activity in the middle suburbs – enabling clusters of jobs and businesses, as well as new quality housing and services. This will include increasing public transport and active transport connectivity to and from the SRL station at Cheltenham from nearby activity centres, urban renewal areas, employment precincts such as Moorabbin, and along key transport corridors including the Nepean Highway to enable people to access the SRL using a range of modes.

Until SRL is delivered, there are many transit-oriented development opportunities around the existing transport system and activity centre network that would accommodate growth and improve the amenity of key locations.

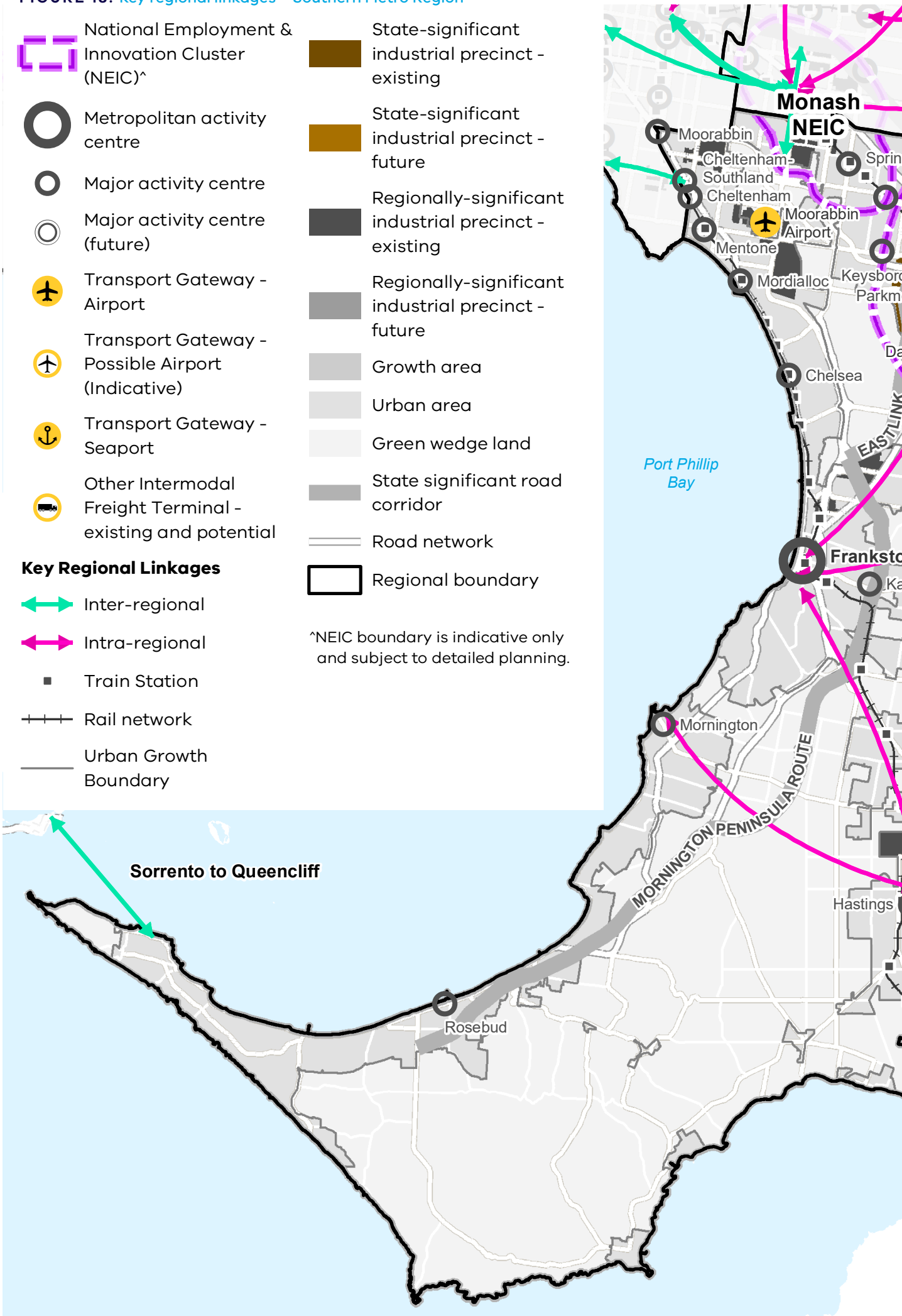
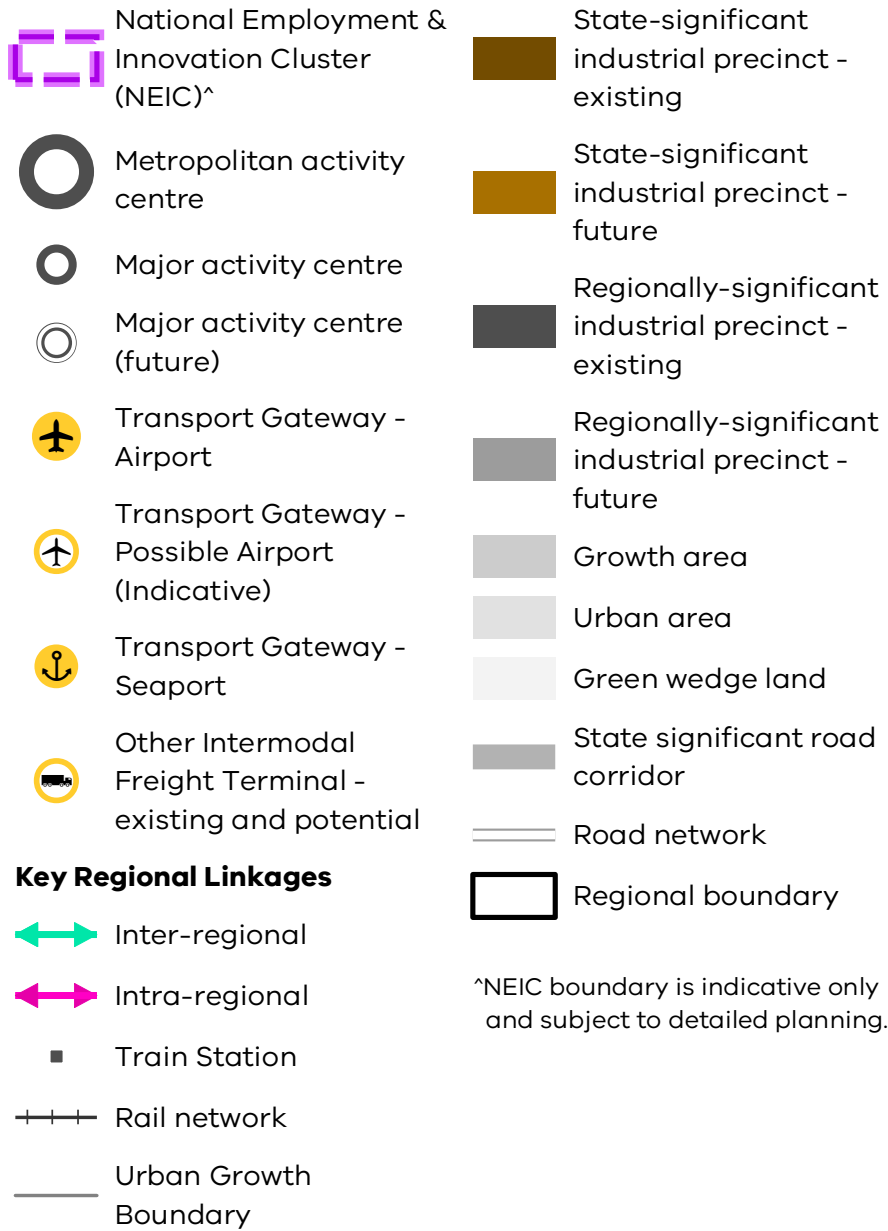
STRATEGY 45. Improve public and active transport access to job-rich areas including Dandenong NEIC, Dandenong, Fountain Gate-Narre Warren and Frankston metropolitan activity centres, major activity centres and the Southern SSIP and the Cheltenham Precinct.

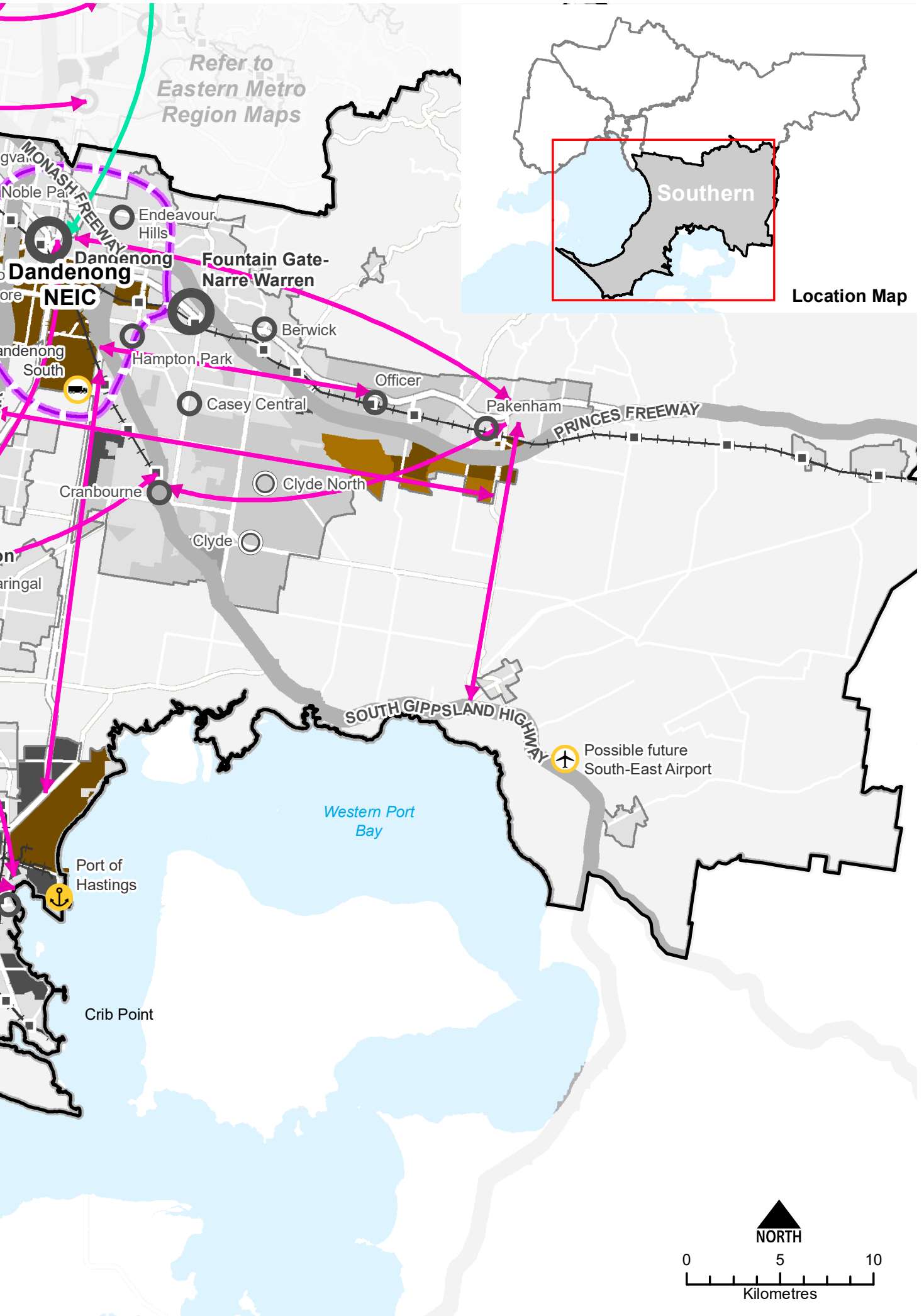
STRATEGY 46. Ensure the planning and design of the Suburban Rail Loop station at Cheltenham Precinct maximises opportunities for public and active transport connections and links between key destinations and surrounding activity centres.



Photo credit: Tim Bell Studio

FIGURE 18. Key regional linkages – Southern Metro Region





Refer to Eastern Metro Region Maps



Location Map

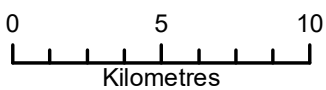






FIGURE 19. Strategic Cycling Corridor network – Southern Metro Region

 National Employment & Innovation Cluster (NEIC)


 Metropolitan activity centre

 Major activity centre

 Major activity centre (future)

 State significant road corridor

 Road network


 Train station

 Rail network

 Regional boundary

 Green wedge land

 Growth area


 Urban area

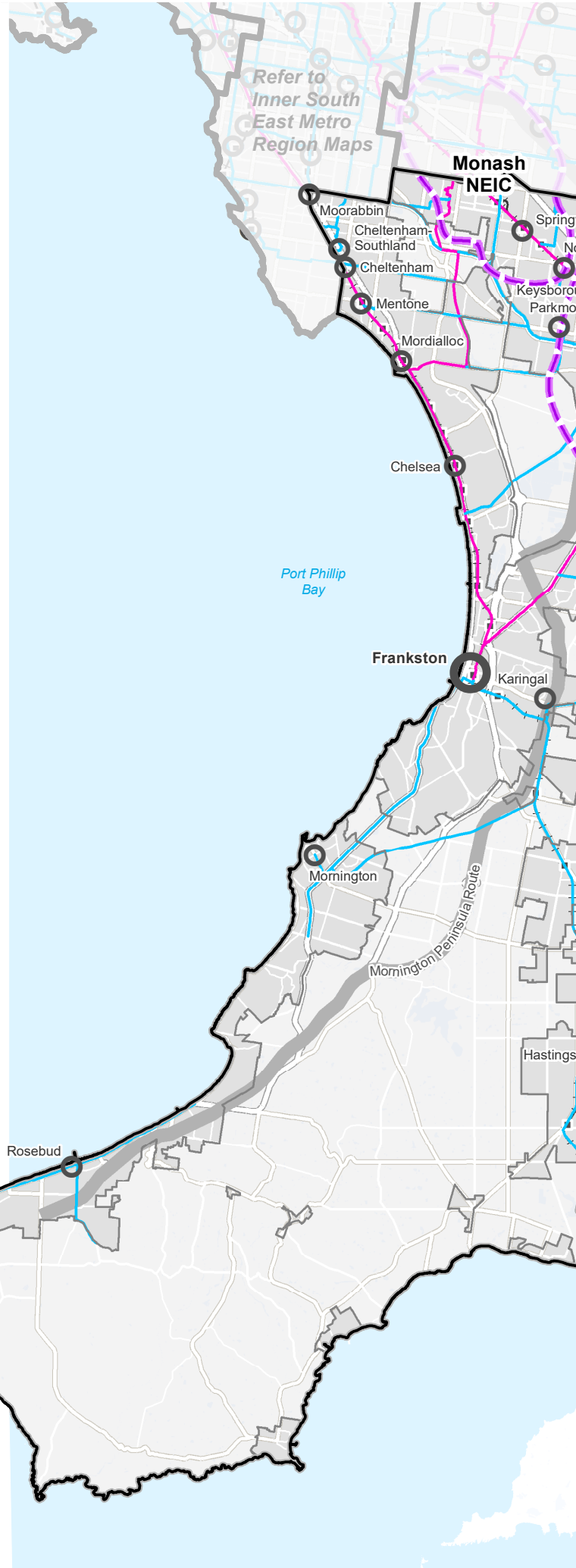
 Urban growth boundary

 Waterbody

Strategic Cycling Corridor

 Primary route (C1)

 Main route (C2)

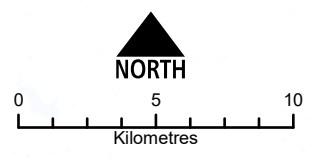
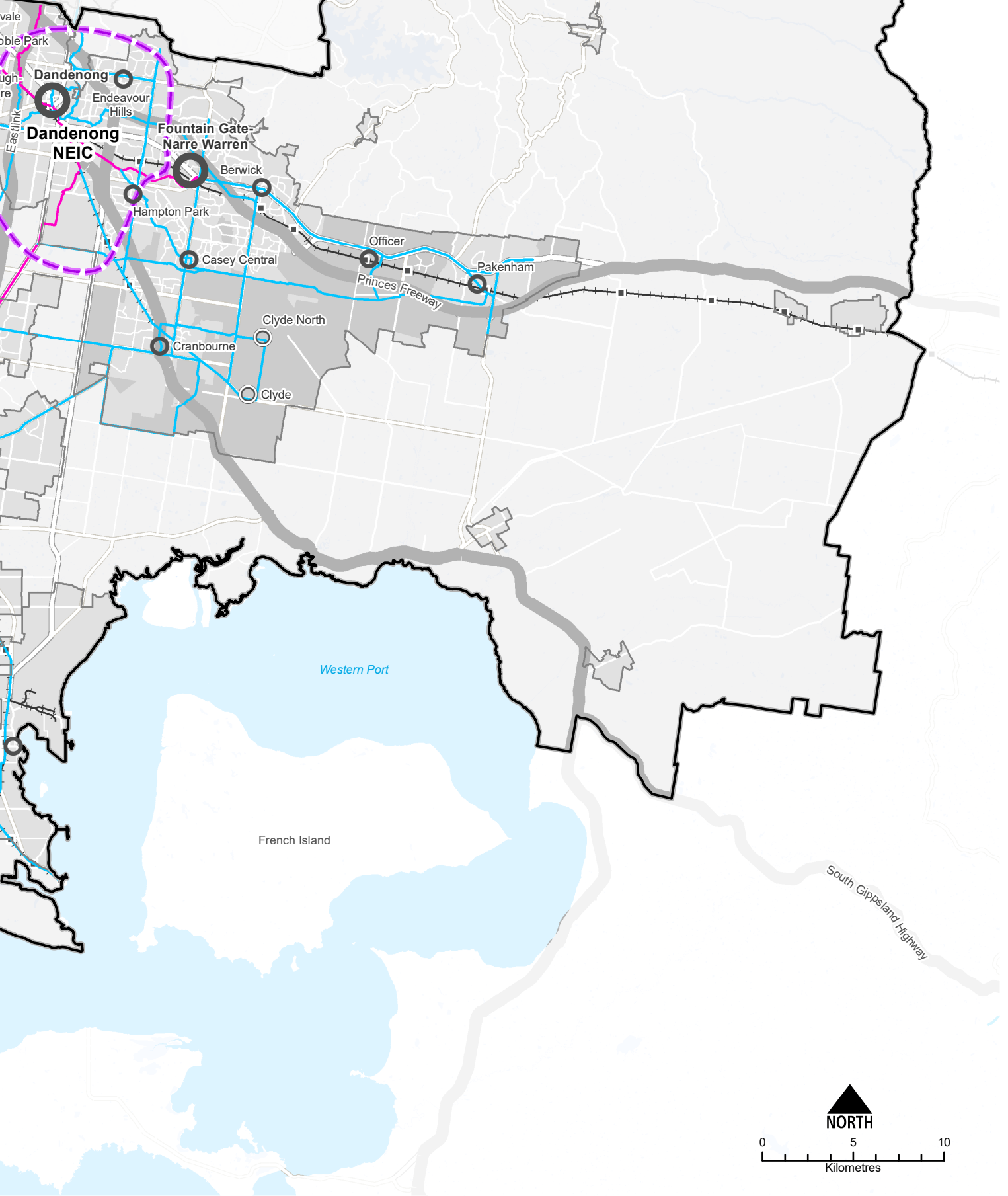


*NEIC boundary is indicative only and subject to detailed planning.



Location Map

Refer to
Eastern Metro
Region Maps



DIRECTION 15. **Improve transport linkages in the south-eastern growth area and on the Mornington Peninsula**

Planning will be required for the Southern Metro Region's growth areas to deliver self-contained, liveable communities that offer more jobs and facilities and high-quality public transport and road connections.

Urban development in these growth areas is supported by two metropolitan railway lines to Pakenham and Cranbourne, with a future extension to Clyde, with connections to the bus network and other modes. The PPTN provides the basis for a potential future strategic bus network linking train stations along and between Cranbourne and Pakenham rail lines as well as connecting activity centres, employment precincts and regional open space.

Transport linkages will be important for the major activity centre at Clyde, adjacent to a new rail station along the extended Cranbourne rail line. The major activity centre Clyde North needs to be linked as part of a public transport network that goes from Cranbourne to Officer and beyond.

In greenfield growth areas, there is a need to provide key road connections and improve the efficiency of the road network. Delivery of a network of new connector roads will improve connections between existing metropolitan and major activity centres and employment nodes such as the Southern SSIP. The grid of north-south and east-west roads will need to provide links between Cranbourne, Officer and Pakenham, north-south public transport routes, and crossings of Cardinia Creek.

Parts of the arterial road network along the PPTN could be designed to accommodate higher capacity public transport networks such as busways, including between Cranbourne and Officer.

Regionally-significant road projects include:

- Thompsons Road is a critical east-west connection that connects the established urban areas north of Frankston to emerging growth areas around Cranbourne North. It is planned to extend further east to the future Officer-Pakenham Industrial Precinct
- Glasscocks Road, from Frankston-Dandenong Road to Cranbourne North, which is planned to provide improved connectivity to and within the Southern SSIP
- Improvements to the Healesville-Koo Wee Rup Road which are planned to provide an upgraded connection between Pakenham and the South Gippsland Highway, as well as providing an alternative route to travelling through Cranbourne.

Potential road projects of regional significance include:

- Western Port Highway upgrade, potentially to freeway standard in the future, to improve connectivity between Dandenong, Cranbourne and the Mornington Peninsula
- Dandenong Bypass extension, from South Gippsland Highway to South Gippsland Freeway, to provide for better connectivity to, and within, the Southern SSIP.

It is important that planning for connections such as Thompsons Road and adjacent land uses protect the function of the road for public transport and freight.

STRATEGY 47. Provide high-quality public and active transport access to job-rich areas in the greenfield growth areas as they are developed.

STRATEGY 48. Improve outer suburban public transport to ensure integration with sequenced land use and development.

STRATEGY 49. Maintain and further develop the arterial road network to support improved travel times, safety and reliability.

DIRECTION 16.**Improve active and public transport options to promote mode shift and support 20-minute neighbourhoods**

Access to public transport varies significantly across the region. Improvements to local transport options, including bus, cycling and pedestrian access, are needed to support the delivery of 20-minute neighbourhoods across the Southern Metro Region.

Within the region 36 per cent of people used a car when making a short trip under 5 kilometres, whereas 23 per cent of people walked, and only 2 per cent of people cycled for short trips (DELWP, 2021b). To reduce dependence on private vehicles, public transport, cycling and walking need to be more accessible. This means significant upgrades to public transport access, and improvements to pedestrian and cycling accessibility, better linking neighbourhoods to employment, and social and community services.

Priority locations for improving cycling links and pedestrian access should be identified such as neighbourhoods around existing centres, schools and along transport corridors. They should also be a key part of the delivery of major infrastructure projects, particularly for station precinct planning as part of the SRL and level crossing removal projects.

As the region grows, resulting land use changes will also change the destinations and distances people travel, enabling more people to access jobs and education by public transport. The integration of an SRL station with surrounding regional and local public and active transport is paramount to encouraging the shift from private car use to public transport, delivering 20-minute neighbourhoods and growing the Southern Metro Region.

New communities in growth areas are planned around new major activity centres. Each should be accessible by multiple transport modes and planned to support 20-minute neighbourhoods. Precinct structure planning also provides for a network of neighbourhood activity centres to provide local services as well as opportunities for higher densities of development. Continued and innovative development of the bus network is a priority for growth area communities that have the least access to public transport in the region.

STRATEGY 50. Create pedestrian-friendly neighbourhoods by enhancing major pedestrian links and expanding the network.

STRATEGY 51. Create a network of walking and cycling links for local trips that link to public transport.

STRATEGY 52. Provide walking and cycling routes and drop-off zones to health and community services and recreation facilities.

DIRECTION 17.**Improve freight efficiency and increase capacity of gateways while managing impacts on urban amenity**

The region's strategic freight connections provide a strong competitive advantage for the manufacturing, export and logistics sector. Supporting the efficiency movement of goods by protecting its freight efficiency and capacity will be crucial for protecting the region's existing sector strengths while enabling future economic growth. Effective land use planning will be an important factor in this by protecting key regionally-significant freight routes and industrial land from the encroachment of sensitive or conflicting land uses.

STRATEGY 53. Ensure the Dandenong South PRSN Intermodal Terminal, the possible South-East Airport and connecting freight corridors and industrial areas and their connecting freight corridors are protected from encroachment of sensitive or conflicting land uses.

STRATEGY 54. Protect the Thompsons Road freight route from sensitive uses by including a buffer of non-residential land uses.

**ACTIONS –
Integrated transport**

ACTION 9. Review the Principal Public Transport Network for the growth areas.

ACTION 10. Plan for and implement improvements to the region's bus network, including on-road priority, increased frequencies and improved route legibility. Priority areas include the introduction of services in the growth areas, improvements on the Mornington Peninsula and better connectivity between residential areas and employment areas.



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