

Melbourne Airport Rail Link Study

Study overview and findings



Melbourne Airport caters for 28 million air passenger trips each year and this figure is expected to double in the next 20 years.

Transport links to Melbourne Airport will need to be improved to cater for this significant growth in the number of people using the airport.

The Victorian Government is planning for and protecting transport corridors to Victoria's international and domestic airports.

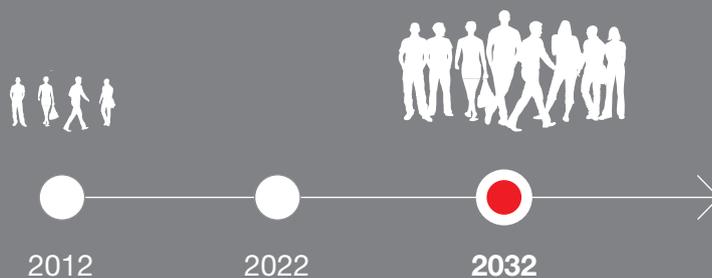
This work is occurring through initiatives including the development of a rail link to Avalon Airport and the Melbourne Airport Rail Link Study.

The Government committed to begin planning for a rail link between Melbourne Airport and Melbourne's central business district (CBD) through the Melbourne Airport Rail Link Study (MARL).

A funding allocation of \$6.5 million was provided in the 2011/12 State Budget to identify and plan for the most appropriate route.

This brochure summarises broader transport planning for Melbourne Airport, outlines the Study purpose, approach and areas of investigation, and details the Study findings to date.

Air travel to and from Melbourne Airport is expected to double over the next 20 years to 60 million air passenger trips a year, comparable with Heathrow Airport today



Background to planning a rail link to Melbourne Airport

An alignment for a rail link to Melbourne Airport was reserved more than ten years ago, involving a new reservation from the airport boundary connecting with an existing freight corridor through Sunshine North, and new tracks within the Sydenham rail corridor to Southern Cross Station.

Since that time, air passenger numbers and patronage on Melbourne's rail network have significantly increased. In the decade since 2001, air passenger trips and patronage on trains have both grown by an unprecedented 70 per cent, and road traffic on routes to the airport continues to grow.

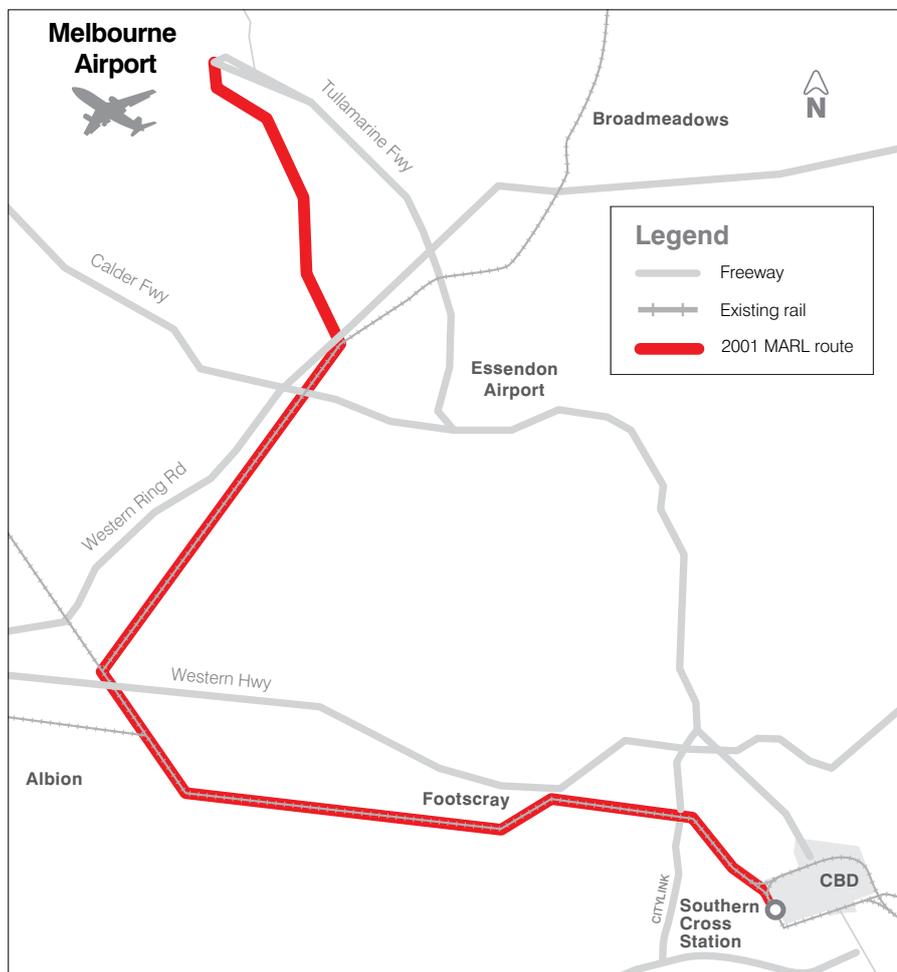
Growth has been particularly strong on rail lines to the north and west of Melbourne, with increasing pressure on the Werribee, Sydenham / Sunbury and Craigieburn corridors.

In response to this, the Regional Rail Link project is underway to provide dedicated tracks for regional trains from the north and west of Melbourne, and free up capacity for metropolitan trains.

The Victorian Government is also proceeding with planning for the Melbourne Metro (MM) rail tunnel which will link the Sunshine and Dandenong rail corridors via the CBD, significantly reduce pressure on the city loop and free up capacity through the inner core of the rail network.

Taking into account the growth and changes in planning for Melbourne's rail network, a review of the existing Albion East reservation and Sydenham line connection was necessary to determine its capacity to provide an airport rail link that will meet needs into the future.

2001 Albion East design



Planning for improved access to Melbourne Airport

Melbourne Airport is fundamental to Melbourne's continuing growth and competitiveness, providing regional and global connections for millions of overseas and domestic business travellers as well as tourists and Victorian residents.

Access to Melbourne Airport is entirely road based and dependent on the Tullamarine Freeway and Melrose Drive. Demand on some parts of the freeway is approaching capacity and parts of the Airport's internal road network are constrained, leading to delays on both internal and external roads.

An integrated transport strategy, known as the Melbourne Airport Land Access Strategy, is currently being developed to guide planning of all forms of land access to and from Melbourne Airport. More specifically, this work is investigating options to:

- > improve and strengthen road access and capacity;
- > increase existing bus access and services;
- > provide a rail link to the airport from Melbourne's CBD, and
- > incorporate and allow for express airport rail access that would share a proposed high speed rail corridor.

Work to date has found that people are increasingly using Skybus or other bus services to access Melbourne Airport, and that mode shift to mass transit options will need to continue to ensure that the airport's growth and access needs are not constrained.

In addition, Melbourne Airport is currently preparing its next Master Plan which will include significant proposals for improvements to the airport's internal access routes and transport infrastructure.

Purpose of the Melbourne Airport Rail Link Study

The Melbourne Airport Rail Link Study has been commissioned within the context of the Melbourne Airport Land Access Strategy.

Taking into account past planning for an airport rail link and changes in Melbourne's transport network, the primary focus of the Melbourne Airport Rail Link Study has been to investigate and identify the best route for a rail link between Melbourne Airport and the CBD.

Public Transport Victoria (PTV) is managing the study and is coordinating with the Department of Transport, Melbourne Airport, VicRoads and other key stakeholders to ensure that planning for access to Melbourne Airport is coordinated.

The objectives of the MARL Study are to:

- > coordinate planning for a rail link with the Melbourne Airport Land Access Strategy, the new Melbourne Airport Master Plan and the Commonwealth Government's high-speed rail study;
- > define how a rail service to Melbourne Airport could operate, and
- > identify the best route for a Melbourne Airport Rail Link.

20 per cent of air passengers access Melbourne Airport by Skybus, hotel bus, tour bus or scheduled bus services



Melbourne Airport Rail Link Study approach

Work has been under way on the Melbourne Airport Rail Link Study since mid-2011 and has involved a range of technical, operational, land use, construction, environmental and social impact investigations.

Coordination with other key plans

The Study has been developed with significant input and ongoing engagement with a wide range of transport, planning and other key stakeholders, including Melbourne Airport, VicRoads, local councils, Department of Planning and Community Development, Department of Sustainability and Environment, the Commonwealth Government, rail and bus operators and the Royal Auto Club Victoria (RACV).

Melbourne Airport is currently preparing its next Master Plan, which is renewed every five years and will be submitted to the Commonwealth Government at the end of 2013 to provide a 20 year strategic vision for the airport site.

The Study team in Public Transport Victoria has also been working to identify possible synergies between a Melbourne Airport Rail Link and an east coast high speed rail route currently being investigated by the Commonwealth Government.

The Commonwealth study has shortlisted alignment options, including a route which may be suitable for a future airport rail link.

Defining how an airport rail service should operate

In order to identify and assess route options for an airport rail link, it was essential to establish some goals or parameters for how an airport rail service should operate.

Preferred characteristics of a future airport rail service include:

- > a target travel time of 30 minutes to compete with other travel modes
- > 10 minute service frequency
- > express operations where possible and cost-effective
- > around the clock services to match Melbourne Airport's 24 hour operations
- > integration with other services to provide direct trips and minimise the need for transfers
- > catering for people travelling with luggage including possible check-in and luggage drop
- > minimising impacts on other rail services and the road network

On a typical weekday there are 107,000 person trips in and out of the airport



Identifying the best route

The study has involved a review of the existing Albion East alignment which was identified and reserved in local planning schemes in 2001, taking into account changes in the rail network and planned projects such as the Melbourne Metro Rail Tunnel.

This review identified that the 2001 Albion East alignment using existing lines to Southern Cross Station would not have the capacity or allow for growth in rail patronage to incorporate new rail services to Melbourne Airport or other rail services.

This resulted in a redesign of the Albion East alignment which utilises the land reserved in 2001 and the existing Sunshine rail corridor, but connects with the planned Melbourne Metro rail tunnel to access the CBD and link with Melbourne’s south-east.

This new Albion East rail alignment was then confirmed as a ‘base case’ for a MARL and PTV then studied a range of alternative alignments to identify and compare alternative routes to this base case.

The purpose of examining alternative alignments was to:

- > Identify all heavy rail options for a rail link between the Melbourne Airport and the Melbourne CBD
- > Compare these options against agreed functional requirements and the Albion East base case
- > Identify up to three alternative alignment options
- > Undertake a detailed assessment to determine if any of the alternative options are potentially better than the base case

The work reviewed previous studies and related projects and followed national transport management guidelines to identify and assess all heavy rail options for a rail link to Melbourne Airport.

The following diagram and table provide an overview of the alternative alignments review and a summary of the key evaluation criteria used to assess options.

The study team involved transport and planning stakeholders at each stage of the alternative alignment work, to ensure that key decisions like the evaluation criteria and refinement of options were well-informed.

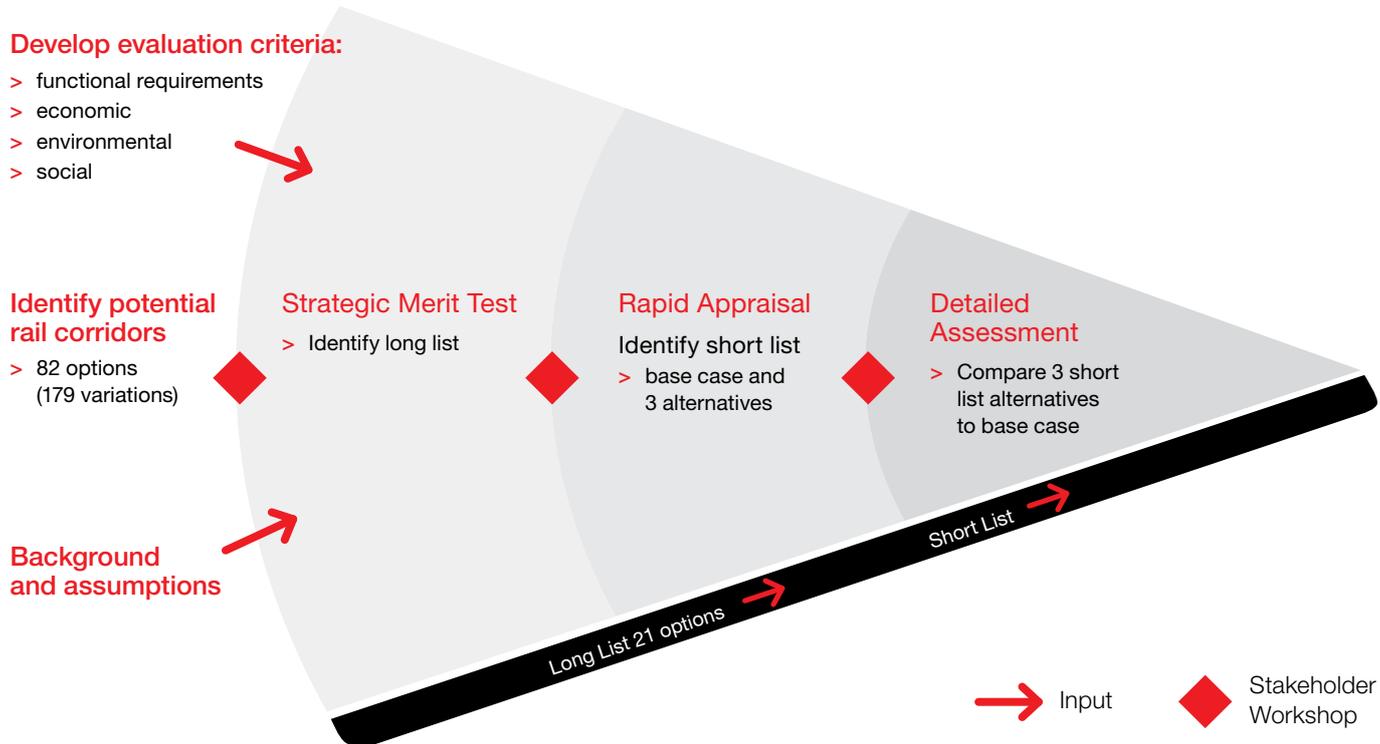
The Tullamarine Freeway carries 75 per cent of all airport traffic

Summary of key evaluation criteria used to assess route options for a MARL

Transport system benefits	
Travel time	Between CBD and Melbourne Airport
Service frequency	10 minutes
Patronage	Patronage forecasts
Integration with transport network	Connections with existing/future rail network and other modes
Transport and land use	Opportunity to integrate and stimulate land use development
Benefits to network	Benefits and impacts such as potential grade separations
Cost and implementation	
Delivery cost	Estimated costs including planning and construction
Operating cost	Ongoing costs including maintenance
Sequencing and staging	Triggers for a MARL and sequencing with related projects
Integration with other plans	Integration with Airport Master Plan and long-term rail plans
Environment and social	
Environmental impacts	Possible environmental impacts and approvals obligations
Social and community impacts	Impacts from construction and ongoing operation



MARL route options development and assessment process



Melbourne Airport Rail Link Study findings

The study of alternative alignments resulted in a shortlist of the Albion East base case and three alternative potential routes for a Melbourne Airport Rail Link:

- > The Albion East base case
- > A direct tunnel link with potential new stations
- > A Craigieburn link, using the Craigieburn line and new track through Westmeadows
- > A Flemington link, using the existing Flemington line and rail tunnel

The table below provides an overview of the shortlist evaluation, highlighting the performance of each shortlisted option against critical evaluation criteria.

The study has found that the Albion East base case outperforms all of the alternative options identified for a MARL route.

PTV endorses the Albion East route as the best route for development of an airport rail link for the following reasons:

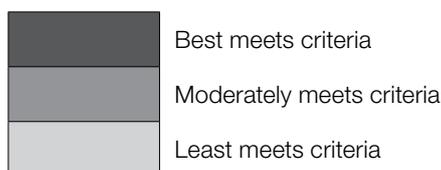
- > The delivery cost of the direct tunnel link and the Flemington link could be more than double the cost for delivery of the Albion East base case, with significant works, complexity and potential risk for tunnel construction.
- > The delivery cost for the Craigieburn route is comparable with Albion East, but operations on this route would add to road congestion at the seven level crossings on this corridor.
- > Albion East provides the best connections through the direct link from the airport to Dandenong via the planned Melbourne Metro rail tunnel.

- > While the direct tunnel and Flemington options provide shorter journey times to Southern Cross, they rely on connections to the existing network and would be constrained by City Loop capacity.

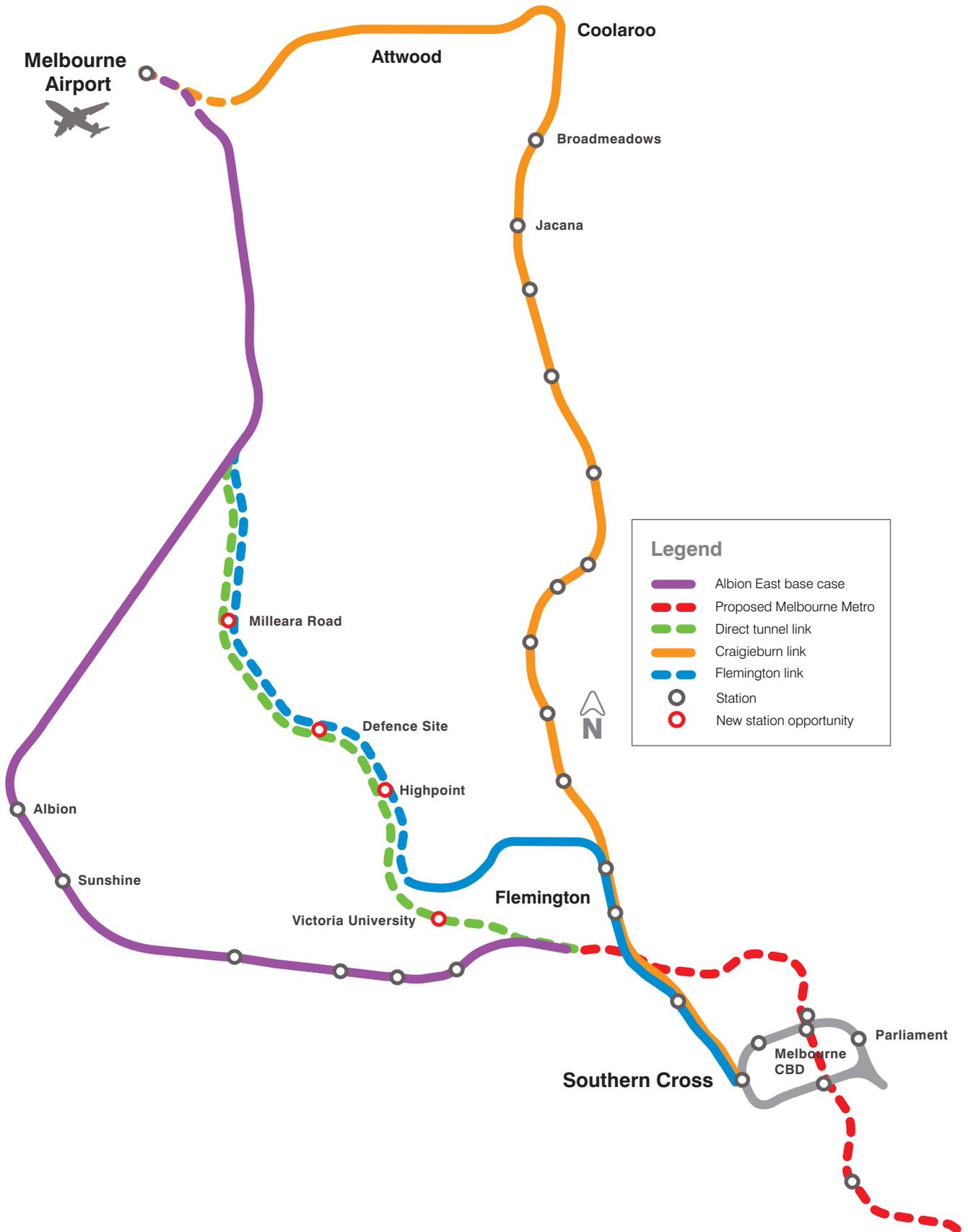
With land reservations already in place on the Albion East route and planning now well under way for the Melbourne Metro rail tunnel, PTV recommends that a Melbourne Airport Rail Link should be provided via the Albion East route once the Melbourne Metro rail tunnel is in place.

Assessment of shortlist route options for a Melbourne Airport Rail Link

OPTION	Travel time	Patronage	Connections	Construction	Environment	Social impact	Master plan	Cost
Albion East base case								
Direct tunnel								
Craigieburn link								
Flemington link								



Shortlisted route options for a Melbourne Airport Rail Link



Future considerations

Given the Victorian Government's commitment to preserving and protecting transport corridors to the State's airports, the Study has also considered longer-term needs and opportunities to provide a rail connection to Melbourne Airport.

Over time, it is expected that the Albion East route will reach capacity given its interactions with services on other corridors.

These interactions also mean there will be limited opportunities for express airport services on the Albion East route, unlike the direct route options which would allow shorter, express journeys.

While the Study has found the benefits of the direct link option are currently outweighed by the high costs, at some point an express journey between the CBD and Melbourne Airport will become more important.

The direct link option shortlisted in the Study aligns closely with one of the route options being considered in the Commonwealth High Speed Rail Study, a link via Jacana and a tunnel into central Melbourne.

This similarity in route options presents the opportunity to create a new shared rail corridor which could cater for both High Speed Rail services and an express Melbourne Airport Rail Link.

Public Transport Victoria advocates Commonwealth support for ongoing joint planning of this High Speed Rail route linking the other east coast states with the CBD via Melbourne Airport.



Next steps

Inputs from key stakeholders have played a critical role in the MARL Study's investigations and PTV will now seek further stakeholder and community input.

If you would like to make a comment about the findings, please use the online feedback form at ptv.vic.gov.au/projects

Your feedback will be considered in preparing for the next stage of planning for a Melbourne Airport Rail Link.





For more information visit ptv.vic.gov.au
or call **1800 800 007** (6am – midnight daily)

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