

NORTH EAST LINK

INFRASTRUCTURE AUSTRALIA

**REFORM AND INVESTMENT FRAMEWORK
TEMPLATES FOR USE BY PROPONENTS**

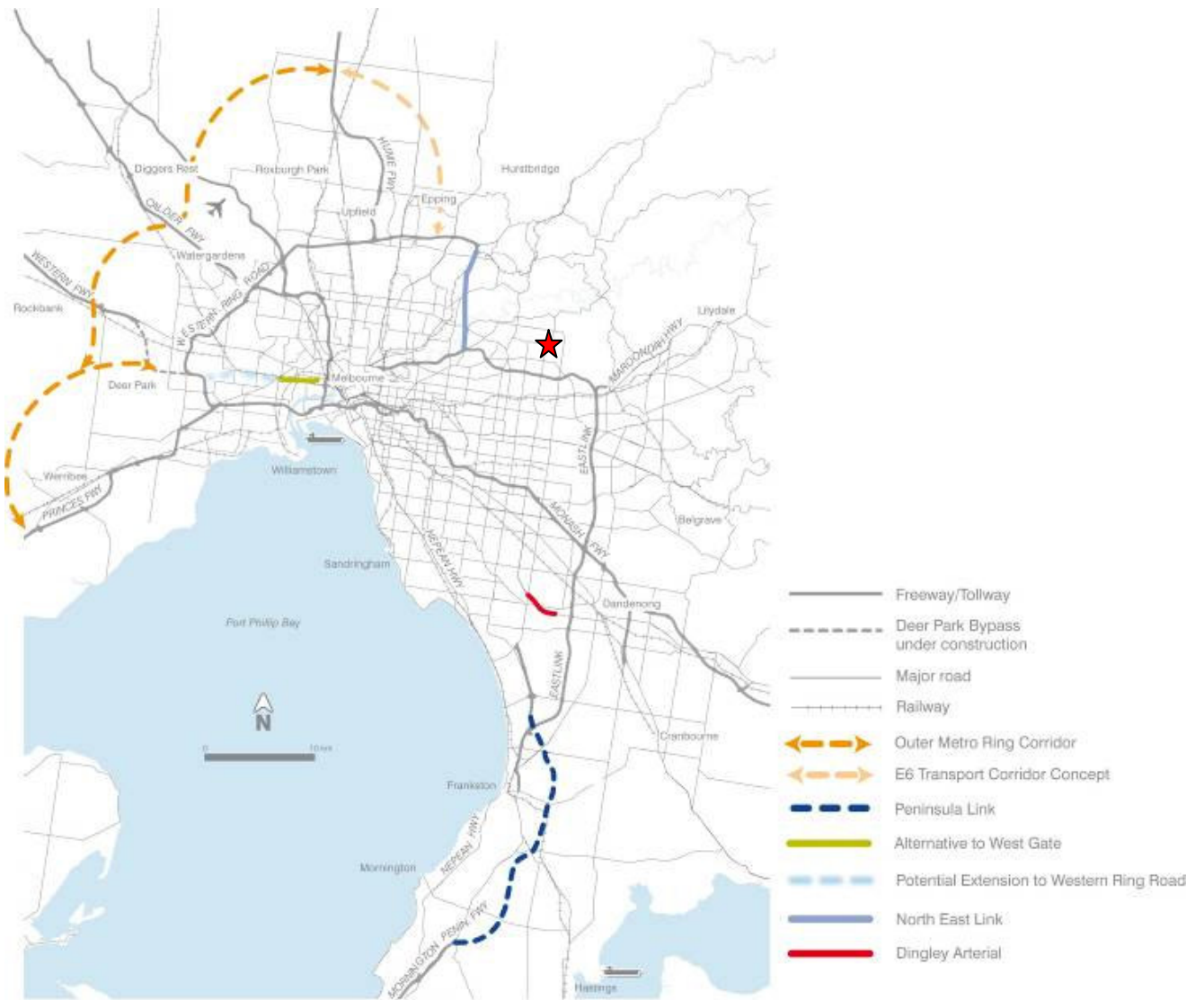
(To be read in conjunction with Infrastructure Australia's
Better Infrastructure Decision-Making)

**Summary Template
and
Templates for Stages 1-6**

October 2009

Proposal Summary (2 pages, excluding maps)

Initiative Name:	North East Link - Planning
Location (State/Region(or City)/ Locality):	Victoria / Melbourne / Bulleen to Greensborough
Name of Proponent Entity:	VicRoads
Contact (Name, Position, phone/e-mail):	Robert Freemantle Executive Director, Network and Asset Planning Tel: 03 9854 2600 Email: robert.freemantle@roads.vic.gov.au
Project Description:	<ul style="list-style-type: none"> Provide a 2-3 paragraph description of the initiative and the capability it will provide. The description needs to provide a concise, but clear description of the initiative's scope. <p>The proposal is to complete planning activities to secure a transport corridor reservation between the Metropolitan Ring Road at Greensborough and the Eastern Freeway at Bulleen. The planning will better define alignment options and connections to the arterial road network to enable a major freeway standard road link to be constructed in the future. This will also include a strategic arterial road network planning exercise to fully understand the associated arterial road requirements to support a future North East Link.</p> <p>The ultimate construction of the North East Link will fill a 'missing link' to provide a complete freeway standard, orbital road link between Laverton in Melbourne's south west and Frankston in Melbourne's south east. The project will improve connections to:</p> <ul style="list-style-type: none"> key international gateways including Melbourne Airport and the Port of Hastings; key interstate freight gateways and corridors including Donnybrook Interstate Rail Terminal, and Hume Freeway to New South Wales, Queensland and regional Victoria; major freight areas in Melbourne's north (Somerton), and east (Dandenong South, Bayswater); Melbourne Wholesale Markets (currently being relocated to Epping) Central Activities Districts including Broadmeadows, Box Hill, Ringwood, and Dandenong to facilitate Melbourne's transformation from a monocentric to a polycentric city <ul style="list-style-type: none"> Include two maps (in pdf format) showing the location of the proposal, one showing the broader area within which the initiative sits, and one showing the initiative in more detail.





- As part of the submission, attach Geographic Information System data for the initiative (either in Mapinfo tab or mif format, or ESRI shape file or geo-database format), where available.

Theme alignment

- **With reference to Infrastructure Australia’s themes, describe the strategic planning or decision-making task for which assessment against the Reform and Investment Framework is being undertaken eg. Transforming [City X], Water Security for [], Developing the national energy market through [].**

This proposal addresses several of Infrastructure Australia’s themes, namely:

- A national freight network
 - Transforming our Cities (Melbourne)
 - Competitive International Gateways
- **Outline how the initiative could contribute to these themes and create national benefits.**

National Freight Network

The Hume Freeway linking Melbourne with Sydney and Brisbane, north-eastern Victoria and New South Wales, connects with the M80 (Western Ring Road) at Thomastown. Major parts of Melbourne’s industry are located in the south eastern suburbs in the Dandenong and Monash areas. Interstate and intrastate transport travelling from/to the Hume corridor to/from Melbourne’s eastern and south eastern suburbs (with a population that exceeds that of Adelaide) then either travels on the Tullamarine and WestGate/Monash Freeways at a distance penalty of 9 km or estimated 9 minutes extra travel time (compared with a North East Link), or travels on the Metropolitan Ring Road, arterial roads between Greensborough and Bulleen, then on the Eastern Freeway/EastLink with a distance penalty of 2 km and estimated travel time penalty of 16 minutes, compared with a North East Link.

Planning for the longer term Outer Metropolitan Ring / E6 transport corridors (see previous map) to support the National Network in the future is currently occurring as part of the State Government’s *Delivering Melbourne’s Newest Sustainable Communities* initiative, which is an integrated process that also includes proposed changes to the Urban Growth Boundary, Regional Rail Link planning and retention of environmentally significant grasslands. This will leave the North East Link planning as the missing component to define and secure a reservation to support future development of the orbital freight network.

Transforming our Cities (Melbourne)

A refinement of the settlement pattern for metropolitan Melbourne is required to accommodate the higher level of growth and manage its impacts – particularly as we adjust our lives to the reality of climate change. The imbalance between the location of jobs and where people live is increasing the congestion on the transport networks in the inner and middle suburbs. The predominance of single direction travel during morning and evening peaks congests roads and public transport.

We need a ‘multi-centre’ city structure that builds on the principles and directions of Melbourne 2030 but acknowledges the need for a better distribution of jobs and activities, so that Melburnians can work closer to where they live. Moving from one CBD to a number of CBD-like centres will reduce congestion and enable people to spend less time commuting to and from work and more time with their family.

This initiative would complete a freeway-standard road corridor that would serve a number of the defined new central activities districts, including Broadmeadows, Box Hill, Ringwood, Dandenong and Frankston.

Competitive International Gateways

Melbourne Airport is located on Melbourne's north-west fringe, whilst much of Melbourne's population lives in Melbourne's eastern and south eastern suburbs. This proposal would provide higher speed and safer access between these suburbs and the airport.

In the longer term, the proposal would form part of the Principal Freight Network to provide higher speed access between the Port of Hastings and Melbourne's northern suburbs industrial areas around Somerton. It will also support efficient distribution from a relocated Melbourne Wholesale Markets in Epping.

Capital Cost of Initiative by Proponent (\$M, nominal, undiscounted):	
Commonwealth contribution sought by Proponent, and cash flow in financial years (\$M, nominal, undiscounted):	See general statement on Commonwealth and State contributions.
Other funding (source/amount/cash flow) (\$M, nominal, undiscounted):	
BCR by Proponent excluding Wider Economic Benefits	(as per economic evaluation provided in 2008 - further evaluation work has not been undertaken)
High level development and implementation program	<ul style="list-style-type: none"> • Show key steps, eg planning, project development, business case consideration, environmental approvals, procurement, and construction, with expected start and end dates <p><u>Planning / project development/environmental approvals.</u></p> <ul style="list-style-type: none"> • Establish planning study scope – commenced; complete by end 2010 • Develop, evaluate and refine options – commence beginning 2011, complete mid 2012 • Obtain formal approvals – commence mid 2012; complete mid 2013 <p><u>Land acquisition</u></p> <p>The creation of a Public Acquisition Overlay (PAO) will trigger the need to purchase particular parcels of land as landowner claims for compensation and hardship are received and assessed. Land acquisition will occur over time, with the bulk of land purchased in the future just prior to construction of the North East Link.</p> <p><u>Construction</u></p> <p>Commencement of construction would be possible once planning activities are completed. An indicative three year timeframe for construction is anticipated.</p>
Confidentiality	See general statement on confidentiality.

Templates for Individual Stages in the Reform and Investment Framework

<p>Goal Statements</p>	<p>List the goal(s) that the initiative is seeking to address:</p> <ul style="list-style-type: none"> • Improve freight access and connections to employment between Melbourne’s northern and south eastern suburbs and the regions beyond to enhance economic growth and improve social outcomes • Improve amenity of those areas currently impacted by heavy motor-car and freight vehicle volumes between these areas <p>List and provide sources for the higher and/or lower order goals such as those of a National/State/Regional/City/Location specific focus with reference back to existing plans and strategies:</p> <p>(Note: In some cases, goals have been derived from statements within the strategies, rather than being stated explicitly as goals in the strategies)</p> <p>National Goals</p> <p><u>Infrastructure Australia’s Strategic Priorities:</u></p> <ul style="list-style-type: none"> • Expand Australia’s productive capacity • Increase Australia’s productivity • Develop our cities and/or regions <p><u>AusLink White Paper (2004)</u></p> <ul style="list-style-type: none"> • Effectively support growth in Australia’s overseas trade and thus contribute to our competitiveness <p><u>AusLink Melbourne Corridor Strategy (2007)</u></p> <p>The five strategic priorities for the Melbourne Urban Corridor are:</p> <ul style="list-style-type: none"> • Enhancing general freight movement and reliability • Improving landside port capability and freight distribution • Developing other key links to support the national corridor
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- Enhancing public transport
- Addressing transport needs in outer areas and congestion hotspots

State Goals

Victorian Transport Plan (2008)

- Boost jobs, economic growth, social mobility and access to opportunity
- Linking communities
- Supporting future growth
- Economic success and liveability

Freight Futures (2008)

- Maintain and improve the efficiency of the freight network – ensuring that the road and rail links, ports, terminals and related facilities for handling and moving goods around our cities, towns and State are operating to their maximum efficiency to support Victoria’s continued economic growth
- Ensure the availability of sufficient capacity in the freight network to handle the growing freight task – both through achieving better utilisation of existing infrastructure and providing new infrastructure as required

Melbourne 2030 A Planning Update - Melbourne @ 5 million

- Ensure liveability and quality of life is preserved and enhanced into the future

Local Goals

City of Banyule

Ready access to employment, services, recreation and tourism opportunities are important to Banyule’s economic and social well-being

City of Boroondara

Issues:

- In spite of a well-developed public transport network, Boroondara suffers from heavily trafficked main roads, particularly during peak periods

City of Manningham

Improve safety, access, mobility and minimise adverse environmental impacts

<p>Objective Statements</p>	<p><i>List the objective(s) that the initiative is aiming to meet:</i></p> <ul style="list-style-type: none"> • To support the planned growth of Melbourne • To identify and secure a transport corridor for the future construction of the North East Link • To better define alignment options and connections to the arterial road network including associated land acquisition and construction costs • To plan a route for the North East Link that when constructed will: <ul style="list-style-type: none"> ➤ lower transport costs for freight and passenger travel across the Melbourne metropolitan road network ➤ improve connections between Melbourne’s northern and south eastern suburbs ➤ ease the growth in congestion on Yarra River crossings in Melbourne’s north eastern suburbs ➤ improve road safety outcomes ➤ improve residential amenity in Greensborough, Rosanna, Eltham and Heidelberg ➤ maximise previous investment in transport infrastructure <p><i>List the higher and/or lower order objectives such as those of a National/State/Regional/City/Location specific focus:</i></p> <p><i>Where available, outline the targets against these objectives, with references back to the documents where they originate from, eg ‘State plans’, planning strategies:</i></p> <p>National</p> <p><u>Infrastructure Australia</u></p> <p>Not specified</p> <p><u>AusLink</u></p> <ul style="list-style-type: none"> • Improvements in alternative network connections between the Metropolitan Ring Road and the industrial areas of south-eastern Melbourne will be subject to ongoing monitoring and assessment
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	<p>State</p> <p><u>Victorian Transport Plan (2008)</u></p> <ul style="list-style-type: none"> • Shaping Victoria – Linking jobs, services and homes • Strengthening Victoria’s and Australia’s economy – New Links to drive jobs, economic growth and build Victoria’s prosperity • Moving Around Melbourne – Linking our communities by closing gaps, reducing congestion and improving safety on the road network <p><u>Freight Futures (2008)</u></p> <ul style="list-style-type: none"> • Facilitate the efficient movement of freight in Victoria • Reduce the cost and improve the reliability of supply chains • Plan and deliver new network infrastructure in a timely manner • Identify and protect freight network options where necessary to ensure future capacity, flexibility and certainty <p><u>Melbourne 2030: A Planning Update - Melbourne @ 5 million</u></p> <ul style="list-style-type: none"> • A more compact city • Better management of growth • Networks with the regional cities <p>Local</p> <p><u>City of Banyule</u></p> <ul style="list-style-type: none"> • Increased accessibility for all those who work or reside in Banyule • A safe, efficient and effective integrated transport network • Reduction of the detrimental effects of transport on the environment and amenity of Banyule • Increased use of public transport and reduced dependency on private vehicles • Safe and suitable pedestrian and bicycle access within the municipality
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	<p><u>City of Boroondara</u></p> <ul style="list-style-type: none"> • To achieve good access by all modes of movement to all activity centres and community facilities within the City • To optimise use of the City’s roads in an environmentally sustainable manner. <p><u>City of Manningham</u></p> <ul style="list-style-type: none"> • Progressively upgrade roads in a sustainable manner • Encourage major traffic movements to the arterial roads to minimise traffic intrusion in local areas • Ensure road construction and management decisions reflect a balance of social, economic, land-use and environmental priorities • Enhance public transport networks and ensure road development is integrated with other road users
<p>Goal and Objective Alignment</p>	<p><i>Outline how the proponent’s goals and objectives for the initiative align with higher and/or lower order goals and objectives of others.</i></p> <p>The planning for the North East Link will protect an alignment for future construction options and provide some certainty with respect to location and future access arrangements.</p> <p>The future construction of the North East Link will enable completion of a high standard road link for freight vehicles connecting major industrial and freight terminal areas in Melbourne’s north and south east. The North East Link will also complete a high standard connection through suburban Melbourne linking key interstate and regional Victorian locations with major industrial areas and transport terminals in Melbourne’s south east. The construction of the link will enable savings in transport costs, thus increasing industry competitiveness that will drive jobs, economic growth and build Victoria’s and Australia’s prosperity, which aligns with the economic goals at the National and State level.</p> <p>In addition to easing the traffic pressures in residential areas of Greensborough, Rosanna, Eltham and Heidelberg, the proposal will also lead to some easing of traffic pressures in the vicinity of the Port of Melbourne and south of the Melbourne Central</p>

Business District as interstate and interregional traffic diverts to the new route. The easing of traffic pressures aligns with the improvement of residential amenity, which is sought in the local area strategies.

Outline how the proponent's goals and objectives align with Infrastructure Australia's strategic priorities.

Expand Australia's Productive Capacity

The North East Link will be 'highly beneficial' for Australia's future productive capacity. The North East Link connects freight centres including the Donnybrook Interstate Rail Terminal and Somerton freight activity centre in the north, and the Dandenong (south east) freight centre, as well as better links from north to the smaller southern and eastern centres of Kingston and Bayswater, and the future container role of the Port of Hastings

This opens up new capacity for employment and industrial activity, consistent with the strategy to distribute freight from suburban centres rather than relying on the centralised Port of Melbourne.

Also improves link (provides an alternative) between the east and south eastern suburbs to Melbourne Airport.

Increase Australia's productivity

The North East Link will be 'highly beneficial' for Australia's future productivity. Freight movements will be more efficient, as congestion will be lower than the equivalent trip on the existing arterial road network. Reliability of travel times will also be key to more certainty in logistics and inefficiencies brought about by not being able to adequately predict arrival times and meet delivery windows.

Productivity will also be improved by having more options for industry to strategically locate.

Diversify Australia's economic capabilities

The North East Link will be 'slightly beneficial' for Diversifying Australia's future economic capabilities. Better access to employment markets will allow better matching of jobs to people, with subsequent nation-building outcomes.

Build on Australia's Global Competitive Advantages

The North East Link will be 'highly beneficial' for building on Australia's future global competitive advantages.

The model of dispersing freight activity away from the Port of Melbourne which is underpinned by the construction of the NE Link for the northern and south eastern freight places will position Victoria even further as the most significant freight hub on the Eastern Seaboard and the advantages of the Port of Melbourne's efficiencies.

Develop our Cities and/or our Regions

The North East Link will be 'highly beneficial' for developing our Cities and/or our Regions. This project facilitates growth in Melbourne's north (Hume/Whittlesea Growth corridor), where there is one of the major corridors residential and business development across Melbourne. All other growth corridors have direct freeway linkages with inner Melbourne and extensive ring freeway connections.

The North East Link will further develop Melbourne by enabling high standard linkages between the north and east that would otherwise not be in place.

The current alternative is a heavily congested network that will only become more congested with employment, population and freight growth

Reduce Greenhouse Gas emissions

The North East Link will be 'neutral' for reducing Greenhouse Gas emissions

There will be some new activity generated as a result of constructing the North East Link. This will be offset to a degree by smoother-flowing traffic, and by the reduction in length of trips that would otherwise use the Western Ring Road, City Link, Monash Freeway connection between north and south east.

Improvements in vehicle technology would be expected to be the major contributor to reduction of Greenhouse Gas from private motor vehicle use.

Improve social equity, and quality of life, in our cities and our regions

The North East Link will be 'slightly beneficial' for improving social equity, and quality of life, in our cities and our regions

The quality of life will be greatly improved for communities in the northern suburbs currently experiencing high levels of congestion and freight-related activity. With EastLink opening, the level of freight on the Eastern Freeway has increased, and will continue to, increase, placing further pressure on the arterial network currently performing the "missing link" function.

Social inclusion will be enhanced by opening up a new Yarra River crossing. Pressure will be reduced on other crossings of the Yarra River.

Outline other goals and objectives not directly relevant to the task which may be affected.

This proposal relates to planning for one additional link in a major metropolitan freeway network. It would therefore not be expected to have a major impact on other goals, such as those related to water supply or telecommunications.



Stage 2: Problem Identification

<p>Problem Identification:</p> <p>Current issues</p>	<p><i>List those current problems, issues or challenges that the proponent considers will limit the ability to achieve the goals and objectives identified in Stage 1:</i></p> <p>Significant environmental constraints in the area being investigated for the North East Link alignment</p> <p>Comparative high cost of building the North East Link with a long length of tunnel</p> <p><i>This could be accessibility, availability, prices/cost, capacity, emissions, safety etc. Identification should be based on empirical observations and could be generated based on surveys, interviews or studies from a wide range of sources.</i></p> <p>Lack of road network capacity, with AM peak travel speeds in the 20 – 30 km/h range</p>
<p>Problem identification:</p> <p>Future scenarios</p>	<p><i>Outline the 'drivers of change' that are likely to have the greatest impact on the relevant infrastructure network(s), for example:</i></p> <ul style="list-style-type: none"> • <i>Socio-demographic change</i> <p>Significant expansion of urban population and employment in the Hume/Whittlesea Growth corridor is anticipated in response to population growth pressures. This is expected to have a major influence on increasing travel demand.</p> <p>Another socio-economic effect is the ageing of the population. This could lead, for ageing people, to relatively less travel at peak times but more travel at off-peak times, as retired people engage in social pursuits during business hours.</p> <ul style="list-style-type: none"> • <i>Economic change</i>

Restructuring of freight transport systems including future construction of Donnybrook/Beveridge interstate rail terminal and expansion of Port of Hastings.

Ongoing economic growth leading to increase in road freight transport between Melbourne's north and south eastern suburbs

Economic growth driving increase in road freight transport

- *Energy prices*

Stage 2: Problem Identification

journeys. However, there is also usage that would be less elastic to energy price scenarios, particularly circumferential travel journeys where the wide range of origins and destinations is less able to be served by high quality public transport.

- *Climate change*

Climate change is unlikely to have a major impact on this proposal. Design flood levels will need to be considered in the light of climate change scenarios.

- *Technological change*

Technological change has, over many decades, led to reductions in the cost of road use. Increasingly, technological change is also expected to mitigate the adverse impacts of motor vehicle usage, particularly greenhouse gas emissions and other motor vehicle pollution. These directions are likely to continue.

- *Governance change*

Appropriate forms of governance will be utilised for the construction and operation of

What are the uncertainties around these 'drivers'?

The future by its very nature contains a range of unpredictable factors. Planning needs to proceed on the basis of plausible scenarios, particularly planning that responds to commonalities amongst a range of scenarios. Some drivers would lead to lower travel demands, while other drivers would lead to higher travel demands. In general, the extent of travel increases as population and the economy grow, and decreases when the economy or population decline. The drivers for increased travel are therefore expected to outweigh drivers for decreased travel.

Outline any scenarios that have been generated from the drivers of change, i.e. High-oil prices scenario, High-population scenario etc – detailing the horizon year, data sets, models used, outcomes)

Planning at a further level of detail will be undertaken for this project in the next phase of strategic planning.

Employment location scenarios

Two broad scenarios for employment location are presented, namely 'One major Central Activities District-based' and 'Dispersed Central Activities based'.

Under the 'One major Central Activities-based', strong employment growth occurs in

Stage 2: Problem Identification

and around the current Central Activities District. This has been the model for previous employment growth in Melbourne. This model results in extensive radial travel from dispersed suburbs to the Central Activities District and inner suburbs.

Under the “Dispersed Central Activities District Model”, six separate Central Activities Districts are established (this is the Victorian Government’s policy as set out in Melbourne @ 5 million). This leads to a dispersion of employment with less concentrated peak flows between inner and outer suburbs.

Under either scenario, there would be expected to be extensive use of the North East link as it would serve both an inner employment area as well as dispersed Central Activities Districts.

Residential Development Scenarios

Two potential scenarios for residential development are presented, namely: “Concentrated along tramlines within the urban growth boundary” and “Combination development in existing developed areas/development in new growth areas” (this latter is the government’s policy). Current market trends are for most private finance to be directed to development in new growth areas rather than development within existing urban areas. Doubts have also been raised about the ability of the road network in existing inner areas to cope with a population increase of another million people, particularly in an environment where trams operate in mixed traffic rather than their own rights of way.

“Development along tram lines” would be expected to have less impact on traffic growth on a North East Link, than would a ‘Combination development in existing developed areas/development within new growth areas’. This is because the metropolitan ring transport corridor of which the North East Link is a part is better located to serve development in new growth areas rather than development along tram lines, which are predominantly located in inner suburbs.

While there are some notable exceptions (for example, along tram lines close to universities), it is likely that “Development concentrated along tram lines within the urban growth boundary” would have a lower probability of occurring than “combination development in existing developed areas/development in new growth areas”.

List potential future problems or challenges from the scenarios. Are they same as the current problems? Have some problems disappeared? Would new problems arise under some scenarios?

The likelihood is that population growth will continue in the northern suburbs Hume/Whittlesea corridor. Under a high population growth scenario (for example, continuation of current population growth rate which is a higher rate of growth than current official projections), the issues associated with high population growth will arise earlier.

In addition, high population growth combined with ‘One-CAD’ will potentially lead to a

Stage 2: Problem Identification

further concentration of traffic flows from outer to inner suburbs. It is potentially possible that this combination of scenarios could occur before a “Dispersed-CAD” scenario has fully developed, as this may take place over a longer period of time than the faster growth of residential development.

This could be accessibility, availability, prices/cost, capacity, emissions, safety etc. Identification should be based on empirical observations and could be generated based on surveys, interviews or foundation studies from a wide range of sources.

Final Draft

Stage 3: Problem Assessment

Problem assessment	<p><i>To what extent does (or will) the problem impacts upon the goals and objectives?</i></p> <p>Further investigation is required to be able to respond to this question.</p>
Current problems	<p><i>How is the problem currently affecting the nation/ state/ region (city)/ locality?</i></p> <p>Freight and other vehicles travelling longer distances and/or times than they otherwise could in order to undertake their journeys, thereby incurring greater costs. These costs result in these areas, particularly Melbourne's north being less competitive and attractive compared with other areas of Melbourne, where accessibility is better. Growth is now occurring in Melbourne's northern suburbs, but it has occurred at a far lesser rate over time than growth in Melbourne's eastern and south eastern suburbs where accessibility is better.</p> <p>Congestion occurring around Yarra River crossings, including Chandler Highway, Banksia Street and Fitzsimmons Lane results in unnecessary delays and economic and social costs.</p> <p>Adverse impacts, especially noise, arising from trucks and heavy volumes of cars passing through residential areas along Rosanna and Greensborough Roads/</p> <p><i>Quantify the extent to which the problems may affect the attainment of the goals/objectives.</i></p> <p>Further investigation is required to be able to respond to this question.</p> <p><i>List the data and evidence is available to support the quantification.</i></p> <p>Further investigation is required to be able to respond to this question.</p>
Future problems	<p><i>How is the problem likely to affect the nation/ state/ region/ city/corridor?</i></p> <p>The current problems will become greater in magnitude, particularly as population growth continues in the Hume and Whittlesea growth corridors. Experience with road management is that once congestion as measured by volume//capacity ratio approaches one, then traffic delays increase exponentially.</p> <p><i>Quantify the extent to which the problems may affect the attainment of the goals/objectives.</i></p>

Stage 3: Problem Assessment

	<p>Further investigation is required to be able to respond to this question.</p> <p><i>List the available data and evidence to support the quantification.</i></p> <p>Further investigation is required to be able to respond to this question.</p>
<p>Problem Prioritisation</p>	<p><i>Identify which are the most pressing problems – i.e. demonstrate which problems are most likely to hinder the achievement of goals and objectives.</i></p> <p>Analysis has been undertaken of the sequencing of a number of major road projects in Melbourne, namely:</p> <ul style="list-style-type: none"> • Port access and Maribyrnong River crossing (Port to Geelong Road) including Truck Action Plan • East West Link (west) – Geelong Road to Western Ring Road • East West Link (east) – Eastern Freeway/ Hoddle Street to Port • North East Link <p>The analysis considered factors including:</p> <ul style="list-style-type: none"> • travel demand • reduction of reliance on West Gate Bridge • Broader strategic impact, and • Economic impact <p>This analysis recommended that Port Access and East West Link (west) should take priority over North East Link which in turn should take priority over East West Link (east).</p> <p>Nevertheless, it is important that planning proceed now for the North East Link so that a reservation can be established to provide planning certainty and development in the area can proceed in the knowledge of the location of the link.</p>

Stage 4: Problem Analysis

Problem analysis	<p><i>Outline the underlying causes of the problem.</i></p> <p>The underlying causes of the problem are several:</p> <ul style="list-style-type: none">• The demand for road travel exceeds the supply of road space in this corridor <p><u>Supply of road space</u></p> <p>Planning was undertaken many decades ago to provide a reservation that could be developed to provide additional road space in this corridor. However, in the 1970's, this reservation was removed from the planning scheme and the land was converted to a park or sold. In addition, part of the alignment would have passed through the Banyule Flats parkland, which has long been considered to be an environmentally sensitive area. Consequently, there has been no ability to provide a new surface road over the full length of the corridor.</p> <p>There is a planning scheme reservation parallel to Greensborough Road capable of supporting a widening of Greensborough Road, north of the Simpson Army Barracks. However, given that the critical part of the network is Rosanna Road between Lower Heidelberg Road and the Banksia Street Bridge crossing of the Yarra River, there was little value in undertaking this further potential widening in the absence of being able to address the overall traffic issues in the corridor.</p> <p>The only viable option for additional road space in this corridor is for there to be a relatively long tunnel under residential and parkland areas.</p> <p><i>Give the policy argument explaining the genesis of the problem (e.g. market failure, incorrect pricing, lack of investment signals, governance).</i></p> <p><i>Incorrect pricing signals</i></p> <p>As with all Australian jurisdictions, there is no use of direct pricing signals in this corridor through peak period road pricing to seek to limit travel demand on the arterial road network.</p> <p>There is no continuous public transport route along the Metropolitan Ring Road, while routes along or parallel to Greensborough Road largely serve different travel markets to the North East Link. Hence, it would be likely that demand in this corridor would be relatively inelastic to price signals.</p> <p><i>Lack of investment signals</i></p>
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Stage 4: Problem Analysis

	<p>Governance</p> <p>The provision of a road is not a private good that the private sector is able to provide without government intervention. Government has a monopoly of the planning system and a monopoly of the ability to compulsorily acquire land. This is not a power that the private sector has. Consequently, the private sector does not have the ability to gain the land tenure required for such a project without explicit government intervention.</p> <p><i>Provide data and other evidence to back up the policy arguments.</i></p> <p>Information about how traffic models calculate benefits across the road network can be provided if required.</p>
<p>Identify fundamental cause, not symptoms, of the problem</p>	<p><i>Focus on the fundamental cause of the problem, e.g. the root cause of road congestion should not simply be claimed as a “lack of capacity” – what has caused the lack of capacity?</i></p> <p>The fundamental cause of the problem is that there is an excess of road transport demand in the corridor compared with the available capacity. There has not been a commensurate investment in additional road capacity to meet the demand that has arisen from population and economic growth or traffic growth in this area arising from infrastructure investment elsewhere in the Metropolitan Ring road corridor.</p> <p>The road network in this area is very sparse – there are limited or few nearby satisfactory alternatives. There are few parallel crossings of the River Yarra.</p> <p>Investment has proceeded for other infrastructure projects where previous planning has been undertaken. There has not been an ability for infrastructure investment to be made in this corridor as the necessary planning has not been undertaken.</p> <p>Additionally, the scale of the investment required is beyond the State’s resources to be able to fund.</p> <p><i>It may, for example, be a demand/supply mismatch caused by incorrect pricing and excess demand, or a lack of supply side investment due to the absence of price signals or targeted revenue streams.</i></p>

Stage 4: Problem Analysis

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Final Draft

Stage 5: Option Generation

REFORM (ESSENTIALLY NON-CAPITAL INVESTMENT) OPTIONS

Option 1

Short description of the option, and how it is likely to achieve the goals/objectives.

Nil

Option 2

Short description of the option, and how it is likely to achieve the goals/objectives.

INVESTMENT OPTIONS

Option 1

Short description of the option, and how it is likely to achieve the goals/objectives.

The planning will better define alignment options and connections to the arterial road network to enable a major freeway standard road link to be constructed in the future.

The planning will also provide construction and cost options.

Option 2

Short description of the option, and how it is likely to achieve the goals/objectives.

Stage 6: Options Assessment

Infrastructure Australia is not mandating a particular process for moving from a long list of potential options to a short list of lead candidates. The following three-step process is an indicative guide.

Long list

Explain how an original full list ('long list') of options was initially narrowed down to an interim list.

Following the identification of the three corridors of interest, and subsequent sub-options, an initial assessment of the broad ranges of options was undertaken based on the following factors:

- Impacts on the existing road network
- Retaining the functionality of the existing road network
- Connectivity to the existing road network
- Land acquisition and infrastructure requirements; and
- social and environmental impacts

Following this initial assessment, the options were narrowed down to a recommended shortlist, with each of the three corridors having one preferred option to be taken forward for further assessment.

Summarise the results of this process, for instance the scores from a high level Multi Criteria Analysis process.

Option 1 – Eastern Corridor

All options in the 'Eastern Corridor', would:

- cover a significant distance and due to this they would impact socially and environmentally over greater areas
- they would have significant construction costs, including several interchanges, tunnels and elevated structures for some options; and
- due to the fact that they would traverse the fringe of the urban area in the north and east, it is expected that they would attract less use and would therefore have lower economic benefits in comparison to costs.

Stage 6: Options Assessment

	<p><u>Option 2 – Middle Corridor</u></p> <p><u>Option 3 – Western Corridor</u></p> <p><i>Where possible, explain how this process incorporated different scenarios.</i></p> <p>Not applicable</p>
<p>Interim list</p>	<p><i>Explain how the interim list of options was then narrowed down to a short list.</i></p> <p>Not applicable</p> <p><i>Summarise the results of this process, for instance the scores from a detailed Multi Criteria Analysis process and the headline results of Rapid Economic Appraisals.</i></p> <p>Not applicable</p> <p><i>Where possible, explain how this process incorporated different scenarios.</i></p>

Stage 6: Options Assessment

	Not applicable
Short list	<p><i>Explain how the interim list of options was finally narrowed down to a lead option.</i></p> <p>The further assessment of the three shortlisted options was undertaken in the following tasks:</p> <ul style="list-style-type: none"> • transport modelling to assess patronage volumes and catchment areas • High-level cost estimates • Strategic fit • Performance criteria • Advantages and disadvantages <p><i>Summarise the results of this process, for instance the scores from a detailed Multi Criteria Analysis process and the main results from a detailed economic appraisal of two or three lead contenders (presenting, for instance, the Appraisal Summary Table for each lead option).</i></p> <p>Option 1:</p> <ul style="list-style-type: none"> • Longest and most indirect route • Uses existing freeway reserve in Lilydale corridor • Attracts least traffic • Major impact on green wedge and environmentally sensitive areas <p>Option 2</p> <ul style="list-style-type: none"> • Most expensive • • High potential impact on environment • • Do not increase pressure on Mullum tunnels • Likely to create major adverse public reaction

	<p>Option 3</p> <ul style="list-style-type: none"> • Shortest route • Least social and environmental impacts • Maximum relief to Fitzsimmons Lane and Banksia Street bridges • Highest traffic use and road user benefits • Highest Benefit Cost ratio • Likely to create adverse public reaction <p>The following general, high-level conclusions apply as options move from west to middle to east:</p> <ul style="list-style-type: none"> • less traffic is carried • routes become longer • As length increases, so does cost (except for the most costly long tunnel options on the middle corridor) <p>This meant that the west options quickly emerged as having the greatest economic justification.</p> <p>It is noted that that there are several alternatives for connections to the existing road network and tunnel configurations that should also be further investigated at a more detailed level. These investigations need to be further progressed.</p> <p><i>Where possible, explain how this process incorporated different scenarios.</i></p> <p>Not applicable</p>