Auckland Transport
An Auckland Council Organisation

Multi Modal East West Study – Approval of Project Mandate

Glossary

Auckland Council	(AC)
Auckland Transport	(AT)
Government's Policy Statement on Land Transport Funding	(GPS)
Long Term Plan	(LTP)
Multi Modal East West Study	(MMEWS)
National Land Transport Fund	(NLTF)
New Zealand Transport Agency	(NZTA)
Rapid Transit Network	(RTN)
Transit Oriented Development	(TOD)

Executive Summary

The purpose of this paper is to seek the AT Board's approval of the draft project mandate (Attachment 1) for a new project called MMEWS and to approve its inclusion within the AT portfolio of capital projects for prioritisation. Approval is also sought for the first phase of the project, being the completion of a sub-regional strategy, at an estimated cost of $1.5m over two financial years for inclusion in the draft LTP.

The budget inclusions within the draft LTP will be subject to confirmation following the current consultation process.

The overarching objective for this multi modal project is to enhance the connectivity in the geographical area between the SH1 and SH20 corridors, immediately north of the Mangere Inlet, as identified in Figure 1 below:

Figure 1: Map of the Geographical Area between the SH1 and SH20 Corridors

The study aims to achieve multi-agency agreement in implementing improvements identified within the study area that will:

- Significantly improve the travel time and reliability for freight to/from the Onehunga Industrial Area to surrounding industrial areas of East Tamaki, Airport and Wiri;
- Enhance the accessibility of the airport by road and rail;
- Enhance southbound connectivity on SH1;
- Support growth and development of the Onehunga area and ensure potential land use opportunities are integrated with transport investments;
- Provide for the expansion of effective and efficient RTN services to service Onehunga and possibly connectivity of rail to/ from the Airport.

On completion of the sub-regional strategy the outcome will be the identification of a package of MMEWS projects, similar to that proposed for AMETI, which would then need to be prioritised as part of the approved AT prioritisation process. While a notional amount has been proposed within the latter half of the current draft LTP this will need to be reviewed and confirmed as part of the next LTP iteration once the MMEWS package of projects has been identified and prioritised. This will take into account the high priority given to MMEWS within the Auckland Plan (referred to as East West Link)

The NZTA has indicated a strong willingness to support and participate in this process.

Recommendations

It is recommended that the Board:

i). Receive the report

ii). Approves the draft Project Mandate

iii). Approves that funding of $1.5m be included within the first two years of the draft LTP for progression of the sub-regional strategy

iv). Agree that this paper be moved to the public agenda following discussion/resolution by the Board

Strategic Context

The draft Auckland Plan has set a specific strategic direction to reduce congestion levels on the strategic freight network to at or below the average of 2006-2009 levels by 2021 (average daily speed of 45 km/h). The current operating conditions on the strategic Neilson Street freight connecting are predicted to drop significantly below this level.

The draft Auckland Plan also includes a directive (directive 11.5) to progress the planning for the East-West Link (now MMEWS) with implementation by 2021.

Investigations into double tracking and level crossing removal have also been included in the scope of the multi modal study to allow for an integrated approach to improvements to the strategic road network and the rail link through Onehunga that forms part of the RTN to the airport (Map 11.1 in draft Auckland Plan).

The GPS[1] identifies the impacts that should be achieved through the allocation of funding (from the NLTF) to transport projects. The transport programme should prioritise activities that advance the GPS's priorities of economic growth and productivity, value for money and road safety. Table 1 below list the short to medium term impacts - sought in the GPS – and describes how an east-west link north of the Manukau Harbour would enhance transport efficiency and lower the cost of transportation.

GPS Impacts	East West Link Contribution to the Impact
Improvements in journey time reliability	A east-west motorway connection between SH1 and SH20 would significantly reduce travel time for sub regional traffic that are now slowed down by congestion, a convoluted road connection and 17 signalised intersections. Currently there is no direct link between Southdown and East Tamaki, and new link would reduce distance by 3.4km and the number of signalised intersections to four.
Easing of severe congestion	A new link would provide additional capacity for the east-west movements. Improved interchange configuration on SH20 would address the congestion experienced on the constraint access to/from this interchange. Additional south facing ramps to SH1 south would remove traffic from congested Mt Wellington Interchange.
More efficient freight supply chains	The Southdown Freight terminal is handling approximately 270,000 Twenty-foot Equivalent Unit, making it the third busiest freight terminal in New Zealand after Ports of Auckland and the Port of Tauranga. The east-west link would significantly improve connections to and from this freight terminal.
Better use of existing transport capacity	New link would remove through traffic from Neilson Street, enabling it to perform the accessibility function to the large number of industry established along this road.
Better access to markets, employment and areas that contribute to economic growth	The east-west link will create improved linkages to/from the Onehunga Port with the rest of the sub-region, especially East Tamaki. Coastal operator *Pacifica Shipping* indicated nearly 500 containers a week are moved through the Onehunga port on the company's coastal ship service, connecting Auckland, Nelson and Canterbury.

Table 1: Short to Medium Term Impacts

Background

A number of studies have been done in the past to investigate the potential for, and location of, a more direct east-west link between SH20 and SH1 in the vicinity of the Onehunga area. The last body of work was completed by NZTA in 2009 as part of the Manukau Harbour Crossing.

This link is considered strategically important within the regional roading context and advancing work on this corridor is important for the following reasons:

- The anticipated growth rates in population and employment are expected to increase road freight by 60% over the next 30 years
- Neilson Street is heavily congested and the dual mobility and accessibility function is causing a significant safety problem along this route
- Onehunga is poorly connected for efficient freight movements to SH1 south, SH20 south and East Tamaki

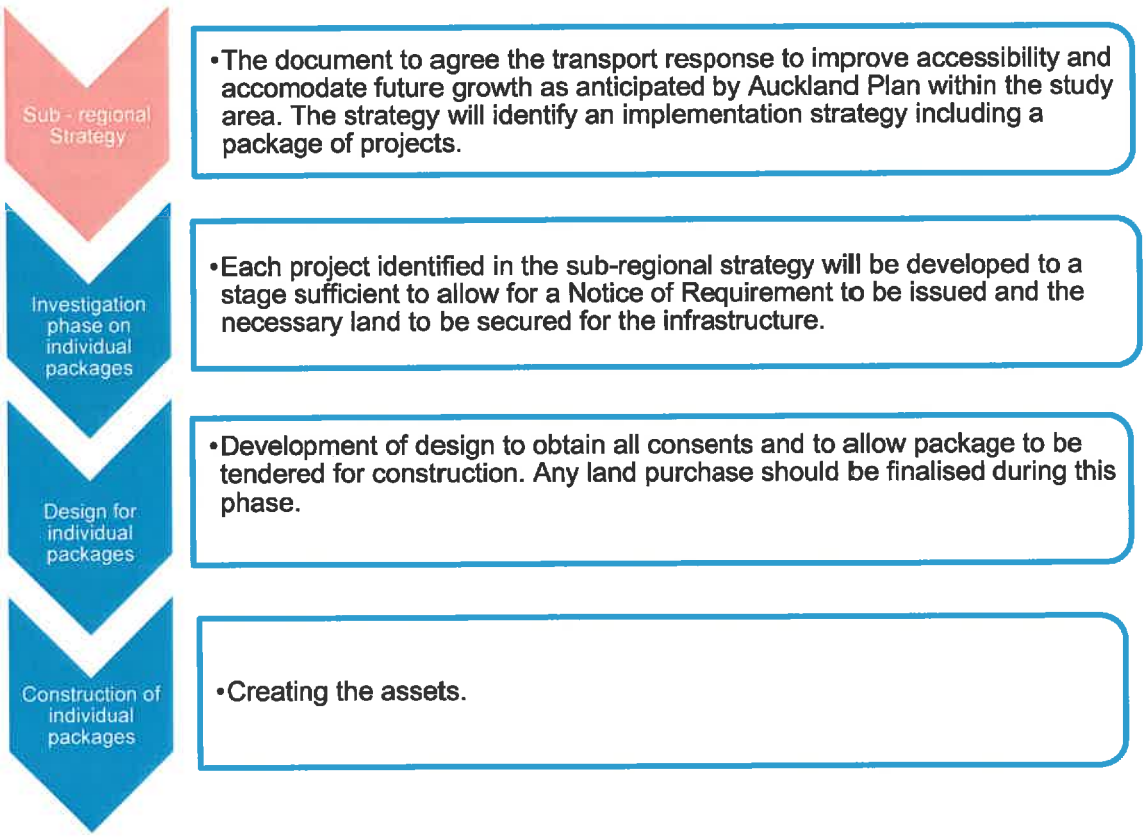
[1] Government's Policy Statement on Land Transport Funding 2012/13–2021/22 July 2011

- The existing connectivity between Onehunga and East Tamaki currently entails a 13.8km route on congested arterials, through 17 signalised intersections. Previous routes identified for the east-west Link could reduce this to 10.3km and four signalised intersections
- The existing single track rail line has numerous level crossings and station locations are poorly linked to the residential area

No firm recommendation on infrastructure requirements or implementation timing has been made to date, and it is proposed to progress a body of work that would allow AT, AC and NZTA to reach agreement on a transport response to increase the productivity of the industrial areas within the area.

Scope of the Study

It is intended to divide the MMEWS project into various phases which are separated by 'Hold Points' as follows:



This first stage will allow AT to progress work that as follows:

- Determine the transport response that ensures good integration between transport infrastructure and the existing and future land use opportunities
- Determine the alignment and intersection/interchange configurations for a new link between SH20 and SH1
- Assess the benefit of a more direct connection between Onehunga Industrial Area and East Tamaki, and if beneficial – the preferred alignment/arrangement
- The configuration of the interchanges on SH20 and SH1

- Options to double track the rail line for rapid transit connections through Onehunga, including the removal of all rail level crossings, and the extension of rail to the Onehunga Wharf
- Options to increase the accessibility (connectivity) between residential community and station locations as well as the opportunity for TOD in the vicinity of each station
- The identification of discrete packages of work as well as a progression plan for infrastructure delivery

Specific Deliverables During This Phase Will Include:

- Sub-regional strategy document that identify budget requirements for the next phases
- Memorandum of Understanding between key partners on responsibility for implementation, funding etc
- Business case to proceed to the Investigation phase, including an Investment Logic Map

Financial Implications (Budget and Funding Sources)

A budget figure of $1.5m is required in the draft LTP to progress the first phase of this project. No NZTA subsidy has been approved and this will be discussed with NZTA on approval of the project mandate.

The study also includes a deliverable to produce a Memorandum of Understanding between various parties to agree funding responsibilities for future phases.

A further $44.5m has been proposed in the draft LTP to progress beyond Phase 1 however, this would require review within the next iteration of the LTP once the outcome of Phase 1 has been agreed

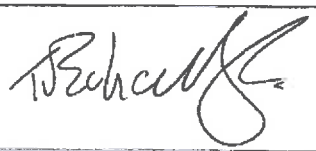
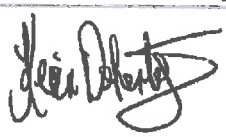
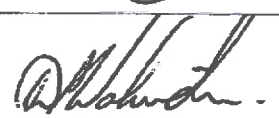
Next Steps

The next steps would be to form a multi-agency project team that consists of representatives of NZTA, AC and AT. The project team would prepare a brief for the sub-regional study phase of this project and tender that to the market.

The outcomes of that study would be presented to the AT Board for further decisions prior to the commencement of subsequent phases.

Attachments

Attachment 1 - Draft Project Mandate

WRITTEN BY	Theunis van Schalkwyk **Project Director Corridor Improvements**	
RECOMMENDED by	Kevin Doherty **Chief Infrastructure Officer**	
APPROVED FOR SUBMISSION by	David Warburton **Chief Executive**	

Saby Virdi (AT)

From: Annlyn Lopez (AT)
Sent: Monday, 6 August 2012 12:10
To: Saby Virdi (AT)
Subject: FW: Board Resolution requested

Follow Up Flag: Follow up
Flag Status: Flagged

i) Multi Modal East West Study – Approval of Project Mandate

Resolution:

i). *The report is received by the Board*

ii). *Approves the draft Project Mandate*

iii). *Approves that funding of $1.5m be included within the first two years of the draft LTP for progression of the sub-regional strategy*

iv). *Agree that this paper be moved to the public agenda following discussion/resolution by the Board*

(Chris Fletcher / Rabin Rabindran)

Auckland Transport

An Auckland Council Organisation

Project Mandate

Multi Modal East West Study (MMEWS)

SH20-SH1-East Tamaki

C100190

21 May 2012 – Version 1.0

Change History and Approval

Approval indicates an understanding of the purpose and content described in this document. By signing this document each individual agrees work should be initiated on this project and necessary resources should be committed as described herein.

PREPARED BY:	WITH INPUT FROM:	REVIEWED BY:	REVIEWED BY:	APPROVED BY:
Theunis van Schalkwyk	Ian Blundell (Senior Transport Planner) Brian Devitt (Project Manager CIO)	Rick Walden	Pete Clark	Kevin Doherty
PROJECT DIRECTOR		MANAGER MAJOR PROJECTS AND PMO	CORPORATE MANAGER STRATEGY AND PLANNING	CHIEF INFRASTRUCTURE OFFICER
13 FEBRUARY 2012	13 FEBRUARY 2012	15 FEBRUARY 2012	15 FEBRUARY 2012	15 FEBRUARY 2012

Revision Status

REVISION NUMBER:	IMPLEMENTATION DATE:	SUMMARY OF REVISION
A	14 FEBRUARY 2012	ISSUED TO RICK WALDEN FOR REVIEW
B	15 FEBRUARY 2012	ISSUED TO PETE CLARK AND KEVIN DOHERY FOR REVIEW
C	18 APRIL 2012	DRAFT COPY SUBMITTED TO AT BOARD FOR CONSIDERATION
1.0	21 MAY 2012	APPROVED BY AT BOARD

Contents

Purpose of Document

The purpose of this document is to provide the strategic justification for starting up the project.

The mandate will be used to:

- Justify the inclusion of budget allocation in the draft LTP
- Basis to create the Project Initiation Document.

1 Background (Problem / Opportunity)

Auckland's population has grown steadily for many decades. Recent projections[1] suggest that by 2040, Auckland could reach a population of between 2.2 and 2.5 million. In addition, employment projections[2] suggest that the total number of employees in Auckland could range between 870,000 and 1.04 million by 2041. This represents growth of around 275,000 employees or 40%. Under this scenario the business services industry is expected to have the largest number of employees.

These anticipated growth rates in population and employment are expected to increase road freight by 60%[3] over the next 30 years.

The existing motorway network to service the sub regional freight trips consists predominantly of north-south running corridors south of the CBD, those being SH20 and SH1. There is a generally accepted need to strengthen the east west connectivity through Auckland, and the region has adopted a ladder approach to the strategic network, with 4 rungs to strengthen the east-west connectivity.

The east-west mobility function immediately north of the Mangere Inlet is currently provided through Neilson Street, and as a result this regional arterial carries high traffic volumes (30,000 vpd) that include a high proportion of heavy commercial vehicles with approximately 10% of all traffic in the peak classified as HCV, and up to 21% during the inter peak.

The street is however heavily congested during peak hours, a result of the combination of inadequate capacity (lanes) and significant friction due to the large number of direct accesses onto the street from adjacent businesses. The side friction is also causing a significant traffic safety problem with 138 reported crashes during 2006-2010 with a quarter of those resulted in injury. The majority of crashes are turning or rear end types.

Neilson Street is heavily congested and the dual mobility and accessibility function is causing a significant safety problem along this route.

NZTA has therefore completed a strategic study to investigate possible connections between SH1 and SH20 and these have been documented in a strategic study report[4] issued in March 2009.

Large industries and the Southdown Freight terminal are located in the area north of the Manukau Inlet between SH20 and SH1. These currently lack adequate connections to other key industrial areas to the east (East Tamaki) and south (Airport/Wiri). No direct connections for instance exist that connect the Neilson Street Corridor with SH1 via south facing ramps.

The lack of connectivity is also evident from industry submissions to various strategic documents, in which they highlight the poor connectivity between key industrial areas of Onehunga, Carbine Road and East Tamaki. There is also poor connectivity between the industrial areas of Onehunga and the airport and Wiri. The industrial areas that lack good connectivity are illustrated in the diagram below.

[1] Draft Auckland Plan – Clause 64
[2] Draft Auckland Plan – Clause 87
[3] Southwestern Corridor to East Tamaki Strategic Study – Evaluation of Route Options – Final Draft, March 2009 – Manukau Harbour Crossing Alliance
[4] Southwestern Corridor to East Tamaki Strategic Study – Evaluation of Route Options – Final Draft, March 2009 – Manukau Harbour Crossing Alliance

Onehunga is poorly connected for efficient freight movements to SH1 south, SH20 south and East Tamaki.

The opportunity exists to significantly strengthen the connection between the areas by introducing an east west link – to the north of the Manukau Inlet - as well as improved southbound connections to the SH20 and SH1 motorways.

The existing connectivity between Onehunga and East Tamaki currently entails a 13.8km route on congested arterials, through 17 signalised intersections. Previous routes identified for the East-West Link could reduce this to 10.3km and 4 signalised intersections.

The second major problem in this area is the poor connectivity of the residential areas of Onehunga / Oranga / One Tree Hill with the RTN public transport system, despite a rail line running through this area.

The rail line is only single track and has numerous level crossings along this stretch. It has been proposed to extend the rail line over the Manukau Harbour to the airport, and some future proofing has been built into the motorway bridge to allow this to occur. The SWAMMCP study also anticipates a rail connection at this point.

The existing single track rail line has numerous level crossings and station locations are poorly linked to the residential area.

The need therefore exists to investigate options to double track the rail line through this area to accommodate high frequency passenger rail services that will connect the RTN with the airport as well as improve passenger transport connectivity for this residential area with the CBD.

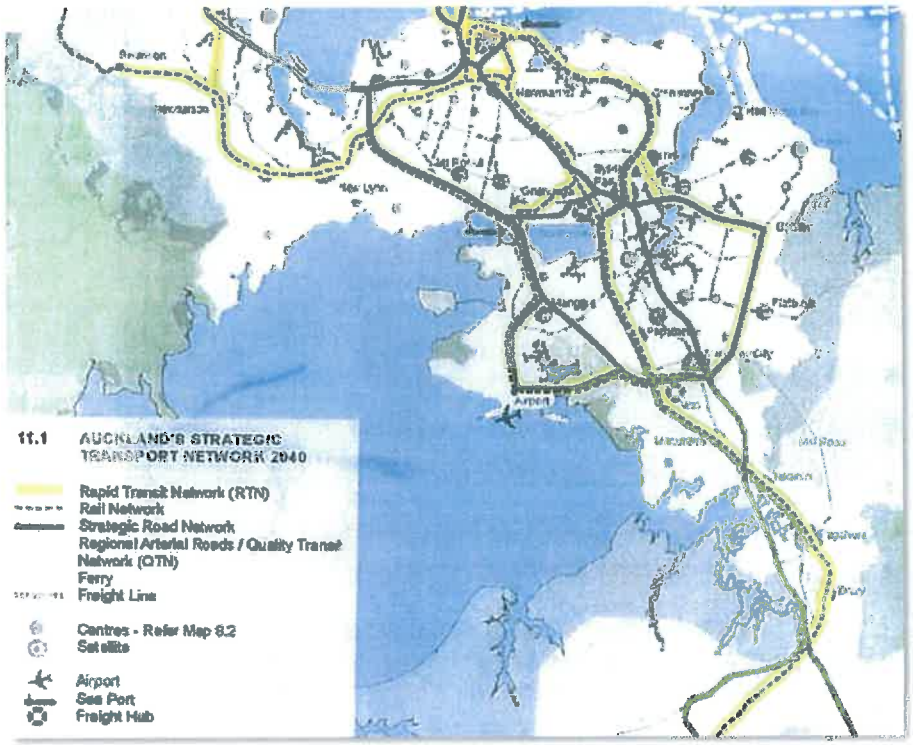
There is also the opportunity to investigate options to improve better linkages between the residential communities and the rail stations.

Double tracking also creates the further opportunity to connect the Port of Onehunga with the rail terminal. It is expected that coastal shipping will play an important role in future with international freight carriers expecting to call to only one port in New Zealand. The differences between Onehunga and Auckland to New Plymouth, Wellington and Nelson are substantial making Onehunga and attractive alternative for smaller ships.

2 Strategic Fit

The draft Auckland Plan has set a specific strategic direction to reduce congestion levels on the strategic freight network to at or below the average of 2006-2009 levels by 2021 (average daily speed of 45 km/h). The current operating conditions on the strategic Neilson Street freight connecting are predicted to drop significantly below this level.

This target is of specific importance within the proposed project area with the east-west corridor north of the Manukau Harbour identified as a strategic road link servicing a freight hub. (Refer to diagram below[5]).



The draft AP also includes a directive (directive 11.5) to progress the planning for the East-West Link (now MMEWS) with implementation by 2021.

Investigations into double tracking and level crossing removal have also been included in the scope of the multi modal study to allow for an integrated approach to improvements to the strategic road network and the rail link through Onehunga that forms part of the rapid transit network (RTN) to the airport (Map 11.1 in draft Auckland Plan).

The GPS[6] identifies the impacts that should be achieved through the allocation of funding (from the NLTF) to road projects. The transport programme should prioritise activities that advance the GPS's priorities of economic growth and productivity, value for money and road safety. The table below list the short to medium term impacts - sought in the GPS – and describes how an east-west link north of the Manukau Harbour would enhance transport efficiency and lower the cost of transportation.

[5] extract from map 11.3 in draft Auckland plan
[6] Government's Policy Statement on Land Transport Funding 2012/13–2021/22 July 2011

GPS Impacts	East West Link contribution to the impact
Improvements in journey time reliability	A east-west motorway connection between SH1 and SH20 would significantly reduce travel time for sub regional traffic that are now slowed down by congestion, a convoluted road connection and 17 signalised intersections. Currently no direct link between Southdown and East Tamaki, and new link would reduce distance by 3.4km and the number of signalised intersections to 4.
Easing of severe congestion	A new link would provide additional capacity for the east-west movements. Improved interchange configuration on SH20 would address the congestion experienced on the constraint access to / from this interchange. Additional south facing ramps to SH1 south would remove traffic from congested Mt Wellington Interchange.
More efficient freight supply chains	The Southdown Freight terminal is handling approximately 270,000 Twenty-foot Equivalent Unit (TEU), making it the third busiest freight terminal in New Zealand after Ports of Auckland and Port of Tauranga. The east-west link would significantly improve connections to and from this freight terminal.
Better use of existing transport capacity	New link would remove through traffic from Neilson Street, enabling it to perform the accessibility function to the large number of industry established along this road.
Better access to markets, employment and areas that contribute to economic growth	The east-west link will create improved linkages to/from the Onehunga Port with the rest of the sub-region, especially East Tamaki. Coastal operator *Pacifica Shipping* indicated nearly 500 containers a week are moved through the Onehunga port on the company's coastal ship service, connecting Auckland, Nelson and Canterbury.

The State Highway Strategy[7] adopted a goal[8] for state highways to enable improved and more reliable access and mobility for people and freight. The concept for the Auckland Region is a network shaped like a ladder (illustrated right). This ladder system has 4 east-west 'rungs', with the rung through the Onehunga area the last remaining one to be progressed.

[7] National State Highway Strategy, June 2007 – Transit New Zealand
[8] This is one of five goals listed in the 2007 SH Strategy

3 Seriousness and Urgency

Seriousness refers to the scale and importance of the transport problem to which the project or package responds.

Firstly from a scale point of view – traffic modelling done as part of the Manukau Harbour Crossing Alliance indicated that the network performance in 2021 in this study area will be severely congested and end to end average speeds would fall to below 40 km/h. The congestion on the Great South Road Corridor also results in re-routing of traffic between East Tamaki and the Airport, south around Manukau CBD.

By 2021 the average network speed in this strategic freight corridor will fall below 40 km/h.

The importance of this corridor can further be emphasised by noting that the Southdown Freight terminal is accessed through this corridor. KiwiRail has experienced strong growth at Southdown Freight Terminal over recent years, with a 20 percent increase[9] in container through-put in the past financial year. During the 12 months from July 1 2010 to June 31st 2011, the terminal managed a total of 272,822 Twenty-foot Equivalent Unit (TEU), making it the third busiest container terminal in the country behind the Ports of Auckland and Tauranga.

The National Road Carriers (Inc) have also indicated in their submission to the Government's National Infrastructure Plan that some sections on the corridor between Onehunga and Pakuranga carry more heavy freight vehicles (HCV) daily than any other route in New Zealand's roading network, with the exception of the Auckland Harbour Bridge and Newmarket viaduct, including all but one of the currently listed Roads of National Significance (RONS).

Some sections on the corridor between Onehunga and Pakuranga carry more heavy freight vehicles (HCV) daily than any other route in New Zealand's roading network, with the exception of the Auckland Harbour Bridge and Newmarket viaduct.

Urgency considers the incorporation of external factors that influence the timing of implementation. These are listed below:

- There is a general acknowledgement by industry and roading authorities that something needs to be done soon[10];
- The Auckland Plan has signalled this as a top priority project for Auckland;

[9] http://www.kiwirailfreight.co.nz/news/kiwirail-sees-strong-growth-at-southdown-freight-terminal.aspx
[10] http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10782484

4 Objectives

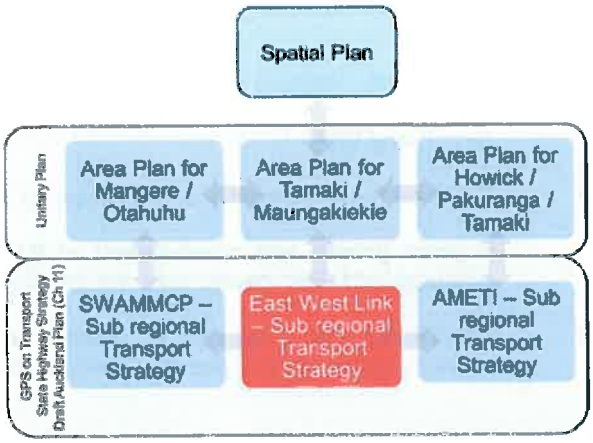
The overarching objective for this multi-modal project is to enhance the connectivity in the geographical area between the SH1 and SH20 corridors, immediately north of the Mangere Inlet.

The study aims to achieve multi agency agreement in implementing improvements identified within the study area that will:

- Significantly improve the travel time and reliability for freight to/from the Onehunga Industrial Area to surrounding industrial areas of East Tamaki, Airport and Wiri;
- Enhance the accessibility of the airport by road and rail;
- Support growth and development of the Onehunga area and ensure potential land use opportunities are integrated with transport investments;
- Provide for the expansion of effective and efficient RTN services to service Onehunga and possibly connectivity of rail to/ from the Airport;

5 Scope

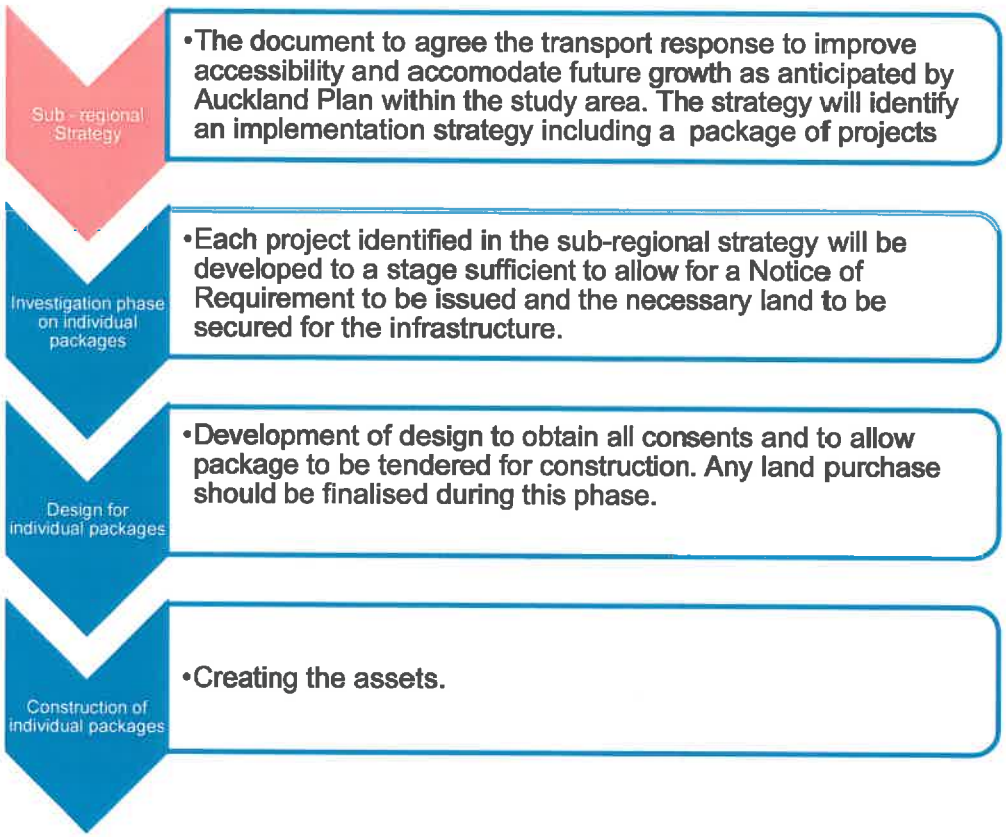
This project would first need to develop a sub-regional transport strategy to inform the various Area Plans in this area as well as completing the 'gap' of sub-regional transport response between AMETI and SWAMMCP. The framework of where this strategy will fit is illustrated below.



The extent of the study area is shown in the figure below, and is bordered by the SWAMMCP project study area in the south and AMETI to the east. The primary study area outlined below defines the area in which corridor(s) will be protected. The area of influence is much wider and it will be necessary to consider the integration with the wider Auckland network. This study will have significant interaction with both those two already commenced projects.

Figure 1: Multi Modal East West Study area (MMEWS)

It is intended to divide the project into various phases which are separated by 'Hold Points". Subsequent phases will only proceed once the outcome of the prior phase has been agreed upon. The suggested Project Phases will be procured separately and are as follows:



The first phase of the project – the sub regional strategy - is intended to determine the following:

- Integration of the transport strategy and area plans within the study area. This would include the identification of current and potential future integrated transport / land use opportunities.
- The alignment and intersection/interchange configurations for a new link between SH20 and SH1 – as well as confirmation if the link should be north or south of the Manukau Inlet;
- The benefit of a more direct connection between Onehunga Industrial Area and East Tamaki, and if beneficial – the preferred alignment / arrangement;
- The configuration of the interchanges on SH20 and SH1
- Options to double track the rail line for rapid transit connections through Onehunga, including the removal of all rail level crossings, and the extension of rail to the Onehunga Wharf.

- Options to increase the accessibility (connectivity) between residential community and station locations as well as the opportunity for TOD in the vicinity of each station.
- The identification of discrete packages of work as well as a progression plan for infrastructure delivery.
- A progression plan of public transport service provision over the next 30 plus years.
- Integration of cycle and walking routes and linkages.

Specific deliverables during this phase will include:

- Sub-regional strategy document
- Memorandum of understanding between key partners on responsibility for implementation, funding etc.
- Consultation strategy
- Business case to proceed to the Investigation phase, including an Investment Logic Map
- Updated Saturn Traffic model, with modelling report that covers base model and recommended strategy.

6 Stakeholders

Only stakeholders who will have a major interest in, or influence on, the project at a sub-regional strategy stage have been identified in this document. These may change as the project progresses through investigation, design and construction phases.

STAKEHOLDER	INVOLVEMENT
Auckland Council	Auckland Council will be preparing / updating the various Area Plans and there needs to be strong integration between the land use and the transport solutions
New Zealand Transport Agency	The East-West Link has been identified as forming part of the regional State Highway Network (a rung in the ladder network), and NZTA could be the principal agent progressing future phases as the asset owner of the link between SH20 and SH1.
Kiwi Rail	The ultimate alignment of rail connections through Onehunga, the future of the proposed Avondale-Southdown link and the balance between freight and commuter rail requires extensive involvement from KiwiRail.

STAKEHOLDER	INVOLVEMENT
Transpower	A number of Transpower corridors run through the area, and future Transpower expansions to their network may impact significantly on transport and land use solutions.
Ports of Auckland	Ports of Auckland is a key trip generator in the area with Onehunga Port and Southdown Freight Terminal located in the study area.
National Road Carriers and Business Forum	The business community has identified the improvement of east west connectivity in the study area as one of their highest priority issues and would be a valuable contributor in understanding the transport problem, specifically for freight, and responding to it with appropriate solutions.
Local Board	The Local Board(s) would be key in providing early input into how any proposals may impact on the specific communities.
IWI	New alignment options may be located within areas of cultural and environmental importance to IWI and their early input into the project would be key.

7 Interfaces

This phase of the project will be managed by CIO's Major projects Team, and will require interface with a number of other internal departments / project teams as listed below:

- Liaison with AT's Strategy and Planning Department
- Liaison with AT's Investigation and Design Department
- Liaison with AC's Urban Design Team
- Liaison with AC's Transport Strategy Department
- Liaison with the AMETI Project Team
- Liaison with the SWAMMCP Project team
- Liaison with AT's Community Transport Team (specifically re cycling)
- Liaison with AT's PT Planning Team

8 Risks

Previous work[11] done by NZTA has indicated a preference for an East-West Link located to the south of the Manukau Harbour. The preliminary work by AT indicated an early preference for an east-west link to the north of the harbour.

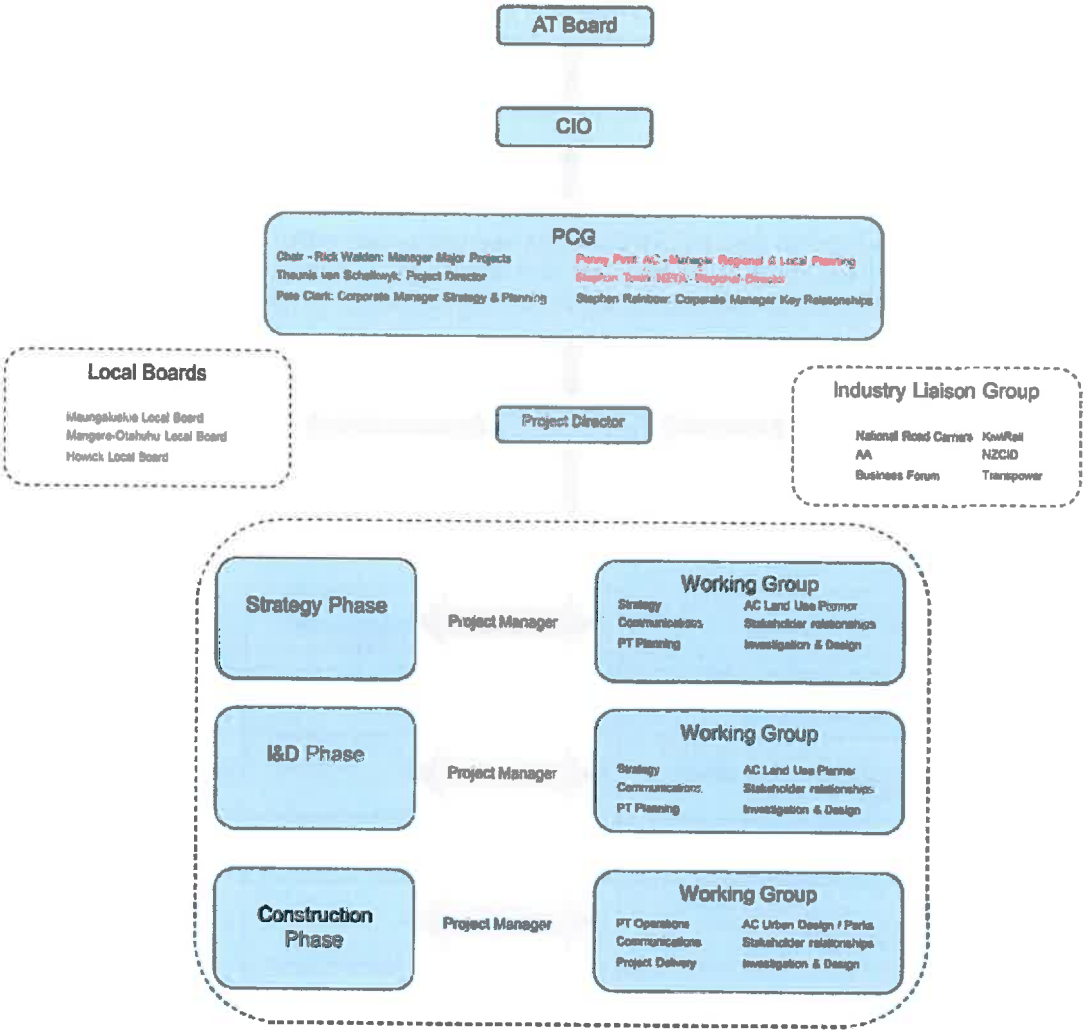
The study area has therefore not been constrained to the north of the harbour but expanded to re-assess both alignment options given the latest strategic directions.

AC also has plans to activate the waterfront for recreational use and any alignments along this (as was proposed by previous studies) may work against this desire.

[11] Southwestern Corridor to east Tamaki Strategic Study – Evaluation of Route Options, Final Draft March 2009 - MHX

9 Project Governance

A suggested project governance structure is illustrated below:



10 Timing and Cost

The draft Auckland plan has identified $1.25 billion up to 2030 as potential costs to improve the east west link (Neilson Street upgrade and strategic road connection between east Tamaki and SH20). This is listed as an unfunded project with Auckland Council and NZTA as potential funding agencies.

Identified timing of the initial expenditure is the first $ 250 million prior to 2015, with the remaining $1 billion between 2021 and 2030.

While a notional amount ($44.5m) has been proposed within the latter half of the current draft LTP this will need to be removed and confirmed as part of the next LTP iteration once the MMEWS package of projects has been identified and prioritised.

The scope of this sub-regional study is very similar to the SWAMMCP project and a reasonable assumption would be to adopt a similar cost structure for budget purposes. Future phases would need to be budgeted once the sub-regional strategy has identified the packages and the implementation strategy.

The costs can be summarised in the table below:

PHASE	$$ COSTS ESTIMATE	COUNCIL BUDGET APPROVED	NZTA SUBSIDY APPROVED	% ACCURACY
SUB-REGIONAL STRATEGY	$1.5M	$0	$0	80%
INVESTIGATION PHASE ON INDIVIDUAL PACKAGES	N/A	$0	$0	
DESIGN FOR INDIVIDUAL PACKGAES	N/A	$0	$0	
CONSTRUCTION OF INDIVIDUAL PACKAGES	N/A	$0	$0	
PROJECT COST "WHOLE OF LIFE"	DRAFT AUCKLAND PLAN SHOW TIMING OF THE INITIAL EXPENDITURE (250 MILLION) PRIOR TO 2015, WITH THE REMAINING ONE BILLION BETWEEN 2021 AND 2030	$0	$0	50%

Auckland Transport
An Auckland Council Organisation

Strategic Case

Strategic Assessment to proceed to Programme Development

[Multi Modal East West Solution - MMEWS]

NZ TRANSPORT AGENCY
WAKA KOTAHI

Auckland Council
Te Kaunihera o Tāmaki Makaurau

Approval

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DATE: 19 FEBRUARY 2013	DATE: 18 MARCH 2013	DATE: 20 MARCH 2013	DATE: 26 MARCH 2013

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DRAFT 0.1	18 Jan 2013	Issued to MMEWS project team for comments
DRAFT 0.2	21 Feb 2013	Issued to MMEWS PCG for comments
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1.0	**26 March 2013**	**Approved by Implementation Executive Group**

Contents

Glossary of Terms

Abbreviation	Term
AC	Auckland Council
AMA	Auckland Motorway Alliance
AMETI	Auckland Manukau Eastern Transport Initiative
AP	Auckland Plan
AT	Auckland Transport
CBD	Central Business District
CCO	Council Controlled Organisation
EMA	Employers and Manufacturers Association
FTN	Frequent Transit Network
GDP	Gross Domestic Product
GPS	Government's Policy Statement on Land Transport Funding 2012/13–2021/22 July 2011
HCV	Heavy Commercial Vehicles
IRS	Investment Revenue Strategy
IEG	Implementation Executive Group
ITP	Integrated Transport Programme (Draft)
JTOC	Joint Transport Operations Centre
KPI	Key Performance Indicator
LB	Local Board
LTMA	Land Transport Management Act
MMEWS	Multi Modal East West Solution
NRC	National Road Carriers
NZTA	New Zealand Transport Agency
NZTS	New Zealand Transport Strategy
OBL	Onehunga Branch Line
PBC	Programme Business Case
PT	Public Transport
RLTP	Regional Land Transport Programme
RLTS	Regional Land Transport Strategy
RTN	Rapid Transit Network
SH(#)	State Highway (#)
SMART	South Western Muiltimodal Airport Transit project
TEU	Twenty-Foot Equivalent Unit
Vpd	Vehicles per day

Executive Summary

This strategic assessment outlines the context and case for change in relation to a proposed investment programme to improve east west connectivity through Auckland's industrial belt (Onehunga/Penrose/Mt Wellington/East Tamaki).

The purpose of this document (strategic assessment) is to provide the senior management with a high degree of confidence that investing in Multi Model East West Solution (MMEWS) project aligns with strategic priorities and will respond to a true need. It also provides the senior management with early opportunity to determine if the proposal warrants the on-going development of a programme business case.

The programme business case will be co-sponsored by Auckland Transport (AT) and the New Zealand Transport Agency (NZTA) in partnership with Auckland Council (AC). It will be developed under the overarching strategic direction of the Auckland Plan (2012) with strong linkages to Central Government's Government Policy Statement on Land Transport Funding 2012/13 - 2021/22 (GPS2012).

A number of key stakeholders external to AT, NZTA and AC also have influence on the project outcomes. These include: Kiwi Rail; Port of Auckland; Port of Tauranga; Auckland Business Forum; National Road Carriers and Iwi.

A facilitated Investment Logic Mapping workshop was held with the project partners (AT/NZTA/AC) and key stakeholders to gain a better understanding of the transport problems affecting the study area, as well as the potential benefits to be realised in successfully responding to these problems. The stakeholder panel, which included senior management from NZTA, AT, AC, KiwiRail, Port of Tauranga, Employers & Manufacturers Association identified and agreed the following key problems.

- **Problem one**: Inefficient transport connections increase travel times and constrain the productive potential of Auckland and the upper north island (45%).
- **Problem two**: A lack of response to changes in industry's supply chain strategies contributes to greater network congestion, unpredictable travel times and increased costs (30%).
- **Problem three**: The quality of transport choices is inadequate and hinders the development of liveable communities (25%).

The potential benefits that could be realised through successful investing to address the identified problems were then identified through a second facilitated Benefit Mapping workshop. The stakeholder panel identified and agreed the following potential benefits for the proposal, including the relative weighting in brackets which indicates the relative importance of fully realising the benefit:

Benefit 1: Greater business connectivity (25%).

Benefit 2: Greater economic throughput in and out of the area (20%).

Benefit 3: Greater control over congestion (20%).

Benefit 4: More predictable travel times and lower average travel times (15%).

Benefit 5: Improved safety (10%).

Benefit 6: Improved accessibility (10%).

MMEWS has been assessed to achieve a HH(M) ranking against NZTA's Investment and Revenue Strategy (IRS).

The project team now requests approval from the senior management to progress with the development of a programme business case. The primary purpose of the programme business case will be to:

- Confirm the case for change and the need for investment through the collection and analysis of demonstrable evidence;
- Recommend a preferred programme and a preferred way forward;
- Identify the key asset and non-asset based projects that will support the programme outcomes; and
- Seek early approval of the governance boards to develop subsequent project based business cases.

PART A – THE STRATEGIC CASE

1 Introduction

This strategic assessment outlines the context and case for change in relation to a proposed investment programme to improve east west connectivity through Auckland's industrial belt (Onehunga/Penrose/Mt Wellington/East Tamaki). An investment programme known as the Multi Modal East West Solution (MMEWS) is being considered collaboratively through a cross-agency project by representatives from Auckland Transport, Auckland Council, and NZ Transport Agency.

The study area for the MMEWS project is shown in Figure 1 below.

Figure 1: MMEWS Project Area

The purpose of this strategic assessment is to seek approval to progress the programme business case for investment in the MMEWS area in accordance with Treasury and NZTA guidance on Better Business Cases. To do so, this document:

1. Outlines the strategic context and fit for the proposed investment;
2. Identifies the key problem or rationale for investing; and
3. Identifies the potential benefits of investing.

The next deliverable will be the programme business case, that will collect evidence to confirm (or otherwise) the case for change and also identify the preferred programme / project mix.

Once the programme business case is approved by the governing body, separate more detailed business cases for each project within the programme will be developed in the future as the programme is progressively developed and implemented by the agencies concerned in the years ahead. The process is illustrated in the diagram below.

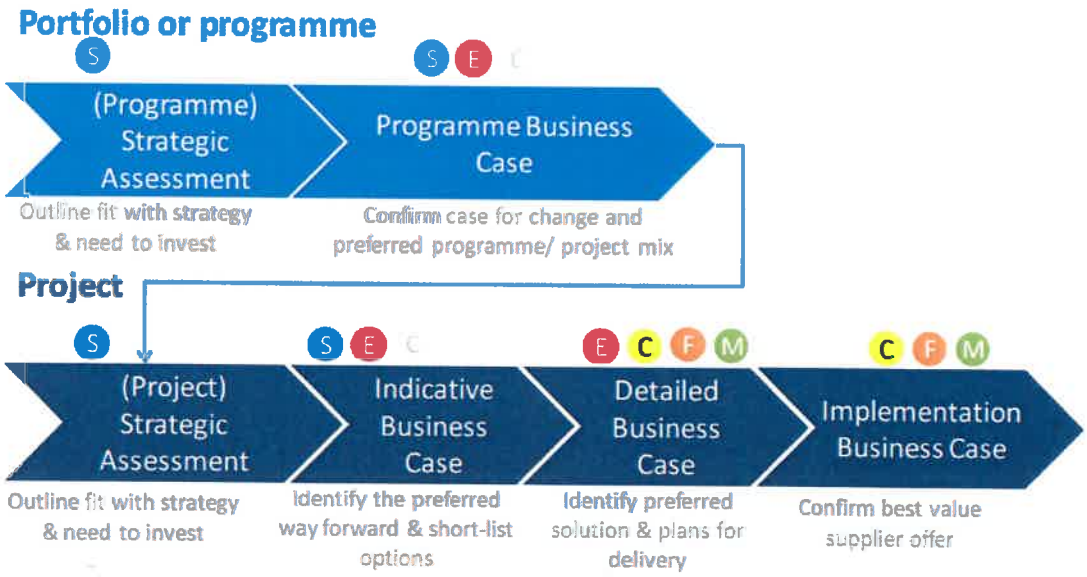


Figure 2: Overview of Better Business Case Process.

S — Strategic Case -Is the proposed investment supported by a compelling case for change?

E — Economic Case -Does the preferred investment option optimise value for money?

C — Commercial Case -Is the proposed deal commercially viable?

F — Financial Case -Is the proposed spend affordable?

M — Management Case - How can the proposal be delivered successfully?

2 Strategic Context

The programme business case is co-sponsored by Auckland Transport and the New Zealand Transport Agency and has been developed in partnership with Auckland Council. It will be developed under the overarching strategic direction of the Auckland Plan (2012) with strong linkages to Central Government's Government Policy Statement on Land Transport Funding 2012/13 - 2021/22 (GPS2012).

A brief overview of the priorities and operating environment for each of the project partners and the outcomes they seek to achieve are discussed below.

2.1 Organisational Overview

The New Zealand Transport Agency and Auckland Transport are together responsible for the planning, development, operation, and maintenance of the road transport network throughout Auckland. On 03 March 2011, the governing boards of each agency signed on to a Partnership Charter for Transport Operations which commits the agencies to working together as "One Team". This is a commitment to ensuring a coordinated approach is taken to investment in and operation of Auckland's transport network – a "One Network" approach.

2.1.1 Auckland Transport

Auckland Transport is a council-controlled organisation of Auckland Council. It has the responsibility for all of the region's transport services (excluding state highways) – from roads and footpaths, to cycling, parking and public transport.

The organisation is responsible to give effect to the strategic direction for transport in the Auckland Plan. It has developed an integrated transport programme that identifies the following overarching outcome: **Auckland's transport system is effective, efficient and provides for the region's social, economic, environmental and cultural wellbeing.**

It further identifies the following six impacts through which the organisation aims to achieve this outcome:

1. Better use of transport resources to maximise return on existing assets;
2. Auckland's transport network moves people and goods efficiently;
3. Increased access to a wider range of transport choices;
4. Improved safety of Auckland's transport system;
5. Auckland's transport system effectively connects communities and provides for Auckland's compact urban form; and
6. Reduced adverse environmental effects from Auckland's transport system

2.1.2 New Zealand Transport Agency (NZTA)

The NZTA is responsible for giving effect to the Government Policy Statement (GPS2012), which sets out the government's strategic direction for investment in the land transport network. This role extends from planning and funding activities, supporting public transport,

building the networks that connect communities, to ensuring the people and vehicles that use the system are safe to do so.

One of the key responsibilities for the NZTA in Auckland is the effective operation of the city's motorway network.

The Land Transport Management Act (LTMA) 2003 requires the NZTA to assess all potential projects against the GPS, the relevant Regional Land Transport Strategy and the New Zealand Transport Strategy's five (5) current key strategic priorities listed below:

1. Improving customer service and reduce compliance costs.
2. Planning for and delivering Roads of National Significance.
3. Improving the road safety system.
4. Improving the efficiency of freight movement.
5. Improving the effectiveness of public transport.

2.1.3 Auckland Council

The Auckland Council is a new model of local government for New Zealand, designed to strengthen regional leadership while providing effective local and community democracy.

Auckland Council has two complementary and non-hierarchical decision-making parts:

- The governing body, consisting of a mayor elected by all Aucklanders and 20 councillors elected on a ward basis
- 21 local boards, with members elected by local board area.

The governing body and the local boards will share the decision-making responsibilities of Auckland Council:

- The governing body will focus on the big picture and on region-wide strategic decisions
- Local boards will represent their local communities and make decisions on local issues, activities and facilities.

Auckland Council will deliver services through the council organisation and council-controlled organisations. Transport functions are delivered through Auckland Transport.

2.2 Alignment to Existing Strategies

As mentioned above – MMEWS will be developed under the overarching strategic direction of the Auckland Plan (2012). The Auckland Council has developed the Auckland Plan – a spatial plan which sets the strategic direction for Auckland and its communities. The plan integrates social, economic, environmental, and cultural objectives and outlines a high-level development strategy to give direction and enable coherent, coordinated decision-making by Auckland Council and other parties.

The Auckland Plan recognises a large part of the study area of MMEWS as a major employment area which is regionally significant, particularly with the inland port and location of large numbers of transport and manufacturing businesses.

In the Auckland Plan, Onehunga is identified as a town centre - medium density with medium to low rise (Engagement Draft Unitary Plan proposes a height limit of 8 stories), balance of residential and employment 0.8:1. The surrounding residential area in the suburbs is identified for intensification (moderate change). It is important to note that residential is not planned for the northern coastal edge. Growth in economic activity in this area will result in increased movement of vehicles. This creates a significant challenge given the current high levels of movement and congestion.

The Auckland Plan recognises the importance of a "one network" approach to planning and implementation of transport solutions, which need to be multi-modal. This is in the context of a transformational shift in Auckland to improved public transport.

From a transport perspective, the Auckland Plan enables transport infrastructure decisions to be integrated with land use planning decisions so as to minimise the negative impacts of transport on communities while allowing for optimum efficiencies to be achieved for the operation of the transport network. Chapter 13 of the Auckland Plan provide strategic direction on how investment in transport should be directed to create better connections and accessibility within Auckland, across New Zealand and to the world. It includes among a set of 5 transport related targets, a specific target to reduce congestion levels on the strategic freight network to at or below the average of 2006-2009 levels by 2021 (average daily speed of 45 km/h).

The AMETI and East West Link (now MMEWS) is a combined project that is ranked 2nd priority in the Auckland Plan because of their transformative effects on productivity and economic development. The Auckland Plan further includes Directive 13.5 that requires the progression of the planning for the East-West Link with implementation by 2021, subject to funding.

The AMETI and East-West Link components are closely related because of their geographic location and interdependencies, particularly in relation to freight and east-west traffic movements. The Auckland Plan proposes to integrate AMETI and the East-West Link to build on the synergies between them, to maximise funding opportunities and to align investment in transport and land use development.

The Auckland Plan identifies a range of principles for integrated land use and transport planning as set out in Box 13.1, which includes ensuring that long-term land use and activities drive long-term transport functionality, (taking into account the existing and proposed transport network) and that transport investment aligns with growth as envisaged in the Auckland Plan. One final consideration is that the Auckland Plan requires that major projects are evaluated in terms of their cost effectiveness, taking into account wide benefits and costs.

From a central government perspective the Government's Policy Statement on Land Transport Funding 2012/13–2021/22 July 2011(GPS 2012) requires the transport programme to prioritise activities that advance economic growth and productivity, value for money and road safety. It includes specific impacts sought through transport investment.

3 Identifying Key Stakeholders

Stakeholders who will have a major interest in or influence on the project at a sub-regional level have been identified and the initial project drivers have been discussed with these stakeholders. The stakeholder group may change as the project progresses through investigation, design and construction phases.

3.1 Project Partners

Auckland Transport and NZTA are jointly leading the development of the MMEWS study and as such are primary partners in this endeavour. Auckland Council is also a partner in the development of the programme business case in order to ensure that land use and planning is properly accounted for in the development of the strategic response to the identified problems in the MMEWS study area. Each project partner is responsible for ensuring their own internal business units and teams are kept informed and provided opportunities for input and feedback as appropriate.

An **Implementation Executive Group** (IEG) has been established to coordinate strategic direction for the project as well as it's integration with other large projects in the area (AMETI and SMART). The IEG is comprised of senior officials from each of the project partners who ensure the strategic direction of this project remains align with the overall organisational direction.

Auckland Transport: Auckland Transport is the primary project partner charged with leading the development of the business case. Internal teams which are key to ensure a robust business case process are: Major Projects, Strategy and Planning, Investigation and Design, Community Transport, and Public Transport Operations.

NZ Transport Agency: NZ Transport Agency is a project partner. The NZ Transport Agency is currently working with Treasury to develop a transport specific business case approach, which is proposed to be employed for the MMEWS project. Internal teams which are key to ensuring proper buy-in to the business case process are: Transport Planning, Network Operations and Safety, Planning and Investment, Access and Use, Joint Transport Operations Centre (JTOC), and Auckland Motorway Alliance (AMA).

Auckland Council: Auckland Council will be preparing / updating the various Area Plans to consider appropriate land use and associated policies which will give effect to the strategic direction set in the Auckland Plan. Auckland Council input will provide strong integration between the land use and transport solutions proposed. Internal teams which are key to ensuring proper buy-in to the business case process are: Built Environment, Economic Development, Transport Strategy, and Regional and Local Planning.

Local Boards (Howick, Maungakiekie-Tamaki, Mangere-Otahuhu and Otara – Papatoetoe): The Local Boards are part of Auckland Council and will be crucial in providing early input into how any proposals may impact on the local communities directly affected by the MMEWS study.

3.2 Key Stakeholders

A number of key stakeholders external to AT, NZTA and AC also have influence on the project outcomes. These organisations and their anticipated role and interest in the project are summarised below:

Kiwi Rail: Issues such as the current and future operations of the Southdown freight terminal, alignment options to connect the Onehunga branch line with the proposed Airport link, the future of the proposed Avondale-Southdown rail link, and the balance between freight and commuter rail requirements require extensive involvement from KiwiRail.

Port of Auckland: The Port of Auckland is a key trip generator in the area through the amount of freight that is shifted between the Port and the businesses located within the study area. Port of Auckland also owns property in the study area.

Port of Tauranga: Port of Tauranga is a key trip generator in the area as owners of the MetroPort inland port, which is centrally located in the study area.

Auckland Business Forum: The business community has identified the improvement of east west connectivity in the study area as one of their highest priority issues and would be a valuable contributor in understanding the nature and scale of the problem, and the potential benefits of investment in the area.

National Road Carriers (NRC): Like the Auckland Business Forum, the NRC has long advocated for improvements to the transport network in the MMEWS study area, including the provision of a new link between SH1 and SH20. The working knowledge of the day-to-day operation of the transport network, as understood through their collective membership of operators, will be highly valuable in understanding the nature and scale of the transport problem, and the potential benefits of investment in the area.

Transpower: A number of Transpower corridors run through the area and future Transpower expansions to their network may impact significantly on transport and land use solutions.

Iwi: The investment programme may require new alignment options, and these could be located within areas of cultural and environmental importance to Iwi (for example Manukau Harbour, Tamaki Basin and Volcanic Cones) and as such, their early involvement and input to the project will be key.

A number of key stakeholder (except Transpower) workshops were held with the above organisations to understand their transport issues in the area.

4 Outlining the Need for Investment

4.1 Operating environment

Growth in Population and Employment

Auckland's population has grown steadily for many decades. Recent projections in the Auckland Plan 2012 suggest that by 2040, Auckland could reach a population of between 2.2 and 2.5 million. In addition, employment projections suggest that the total number of employees in Auckland could range between 870,000 and 1.04 million by 2041. These anticipated growth rates in population and employment are expected to increase road freight by at least 60% over the next 30 years.

It is further projected that 40 percent of the forecasted growth in employment in New Zealand between 2006 and 2041 will be from Auckland, where Auckland is defined as the four former cities of North Shore, Auckland, Waitakere, and Manukau.

The growth in population and employment will put increasing pressure on the strategic transport network in the Auckland region. For highway users the backbone of this is provided by the State Highway (SH) network – SH1 running on a north-south axis through the region and SH20/SH16/SH18 provides the Western Ring Route. There is currently limited high quality strategic connections between these two routes in particular between the airport and airport business area to the south west and the key business areas of Mount Wellington, East Tamaki and Otahuhu to the east which is putting pressure on the road network in the vicinity of the Manukau Harbour.

At a more local level the latest data indicated approximately 66,450 people lived in the MMEWS area (2012). Between 2006-2012 the population in the MMEWS area increased by 16.1% as compared to 8.6% for the Auckland region. The work places in the area have maintained their economic share in Auckland over the past decade and contribute 11.3% of Auckland's GDP. Looking at the MMEWS area specifically, there is a significant difference between workplace GDP and residence based GDP, which suggest that the MMEWS area relies heavily on inbound commuting employees. The key sectors have also remained the same over the last decade, with manufacturing / construction, wholesale / storage / transport and business service / finance / government constituting 79% of the total GDP for the MMEWS area.

The MMEWS study area, specifically the area to the north of the Mangere Inlet, has grown into the industrial heartland of Auckland's economy. This area is home to NZ's third largest container port, some of NZ's largest freight operators, and a host of growing logistics firms. The business generated within this industrial belt is key to sustaining and driving Auckland's economy and as such, business groups such as the Auckland Business Forum and National Road Carriers have lobbied local and central government for improvements to the strategic network in the area.

Although the Neilson Street area is seen as an attractive location for logistics type operations as it provides good access to both rail and the SH network to east and west, the connections to neighbouring industrial areas are constrained, both by conditions on the road networks at the ends of the routes, conditions on the wider transport network within the Auckland region and the rather circuitous connections especially for many movements to the east of the corridor. These affect movements to areas to the west and south such as Rosebank and the rapidly growing airport industrial area, and to the west to areas like Highbrook. The problems

with the network also affect the longer distance movements between areas such as the airport and Mount Wellington and Highbrook, where no high quality through route exists. No direct connections for instance exist that connect the Neilson Street Corridor with SH1 via south facing ramps. The existing connectivity between Onehunga and East Tamaki currently entails a 13.8km route on congested arterials, through 17 signalised intersections. Previous routes identified for the East-West Link could reduce this to 10.3km and 4 signalised intersections.

East-West movements north of Mangere Inlet

The main east-west route through the employment belt for both local and longer distance traffic is currently provided along Church Street/Neilson Street. As a result, this regional arterial carries high traffic volumes ranging from 30,000 vpd near Onehunga Mall to the west to 48,000 vpd in Church Street to the east. These flows include a high proportion of heavy commercial vehicles with approximately 11-13% of all traffic in the peak classified as HCV, and up to 22% during the inter peak.

The route serves a combination of through traffic and local traffic serving the activities located in the area. It is estimated that about 20 per cent represents through movements with the balance serving the locations along the Neilson Street/Church Street route or accessed via the roads leading off it.

Operating conditions in the interpeak period when the majority of freight traffic travels are averaging about 37 km/h for the complete route westbound and 31 km/h in the eastbound direction. These would give total travel times between Great South Road and Onehunga Mall of between 6 and 7 minutes.

At the peak, congestion occurs at the two ends of the corridor where this connects with SH20 and SH1. Delays at Onehunga Mall can reach 10 minutes for westbound traffic with congestion starting in the mid afternoon and remaining until about 6pm. To the east the delays at individual locations are not so large although in total particularly for traffic accessing SH1 to the south which involves a circuitous route with 6 sets of traffic lights the cumulative delays would increase journey times by 4-5 minutes in the evening peak.

Freight traffic patterns are such that heavy commercial vehicle flows start falling from about 4 pm, reflecting the requirements of customers and also the desire to avoid congested conditions across the Auckland road network. In the interpeak these heavy vehicle flows would typically account for 20-25 per cent of total flows but in the evening peak this falls to 9 to 12 per cent of the total traffic flow. Although smaller than in the middle of the day, these flows are still substantial with up to 350 heavy vehicles travelling east along Church Street between 4 and 6:30 pm and facing the high levels of congestion.

East-West movements south of Mangere Inlet

Previous studies have identified that PM congestion along Great South Road and surrounding networks restricts the accessibility to the Airport from East Tamaki. This causes re-routing of the majority of traffic to the SH1/20 connection to the south as well as to SH20B.

The local board has also expressed concern with the operating conditions on Massey Road which is used as a connecting route between East Tamaki and the general area of the airport. The route has not been designed with movement function in mind and has similar movement vs. accessibility issues as experienced north of the Mangere Inlet.

Concerns were also raised with the high amount of heavy vehicle movements on this route, which run predominantly through a residential area, with direct access to residential properties of the road.

Safety

The performance of the road network is also affected by the relatively large number of vehicles using the rights of way south of Neilson Street particularly in the east, the location of many of the major logistics activities including the Metroport inland port, the KiwiRail Southdown Freight terminal and a number of major transport and logistics companies including Toll and Tappers. The volumes using these rights of way which have relatively poor access onto Neilson Street are substantial with over 2000 heavy vehicles per day using the Metroport access and 1000 per day using The Gate access. These movements which include a high proportion turning across the opposing traffic stream are considered to be particularly hazardous and are seen as a serious problem by firms in the area.

A total of 2,877 crashes were recorded over the last 5 years. Of these 7 were fatal and 80 serious injuries.

There are also a large number of at-grade level crossings on the Onehunga Brach line. These have been associated with 1 fatal and 1 serious injury crash over the last 5 years. The number of incidents recoded at the level crossings has however more than doubled after more frequent services has been introduces on the OBL.

Passenger Transport

The area is services by a mixture of bus and rail public transport services. The Rapid Transit Network (Onehunga Branch line) reopened in 2010 and extends into the study area and currently attracts about 700,000 passengers per year or an average of 60,000 per month. From the Census results for 2006 before the line was reopened, about 6 per cent of all journeys to work by residents of the Onehunga Penrose area were undertaken by public transport, mainly by bus. This compares with an average of about 9 per cent of journey to work trips being undertaken by public transport for the Auckland City area as a whole. The new Census will provide an opportunity to update these figures.

The rail line is only single track and has numerous level crossings along this stretch. The SMART study proposes extending this branch line over the Manukau Harbour to connect the existing rail network with the airport and surrounding business land. By this stage the line will be double tracked providing a more frequent and robust service than is currently operated and so will be able to play a greater role in providing for residents and workers in the area. The work on upgrading the track will need to be supported by measures to improve the perceived accessibility of the stations.

4.2 Defining the Problem

With competing interests between industrial and residential growth in an already developed area, there is a real need to understand the key constraints on the transport network in order to more fully comprehend the strategic solution that will improve connections in the area while accommodating and enabling the continued growth envisioned by the Auckland Plan. It is vital for the region's economy that reliable and resilient transport infrastructure is in place to support the ongoing growth and expansion of industry and related activities now and into the future.

A facilitated Investment Logic Mapping workshop was held with key stakeholders on 8 November 2012 to gain a better understanding of the nature and scale of transport problems affecting the study area. The stakeholder panel, which included senior management from

each of the Project Partners (NZTA, AT, Auckland Council, KiwiRail, Port of Tauranga, Employers & Manufacturers Association) had participated in these workshops identified and agreed the following key problems. In brackets are the relative weighting assigned to the problems in terms of the importance of addressing the problem.

Problem 1	Inefficient transport connections increase travel times and constrain the productive potential of Auckland and the upper north island (45%).
Problem 2	A lack of response to changes in industry's supply chain strategies contributes to greater network congestion, unpredictable travel times and increased costs (30%).
Problem 3	The quality of transport choices is inadequate and hinders the development of liveable communities (25%).

Focus of each problem is indicated in the table below;

Problem 1	Focuses on ***strategic issues*** and the role of an east-west connection in the transport network serving the whole of the Auckland region and upper North Island.
Problem 2	Focuses on the ***local issues*** affecting economic activities in the area with a particular focus on the transport and logistics activities for which the area offers particular benefits and which form a key part of economic activity.
Problem 3	Focuses on ***local issues*** of the residents of the area.

Problem 1 Problem 2 Problem 3

The Investment Logic Map, produced as part of the workshop, is attached as **Appendix A**

4.3 The Benefits of Investment

The potential benefits that could be realised through successful investing to address the identified problems were also identified through a facilitated Benefit Mapping workshop held on 26 November 2012. The stakeholder panel identified and agreed the following potential benefits for the proposal, including the relative weighting in brackets which indicates the relative importance of fully realising the benefit:

Problem 1	Benefit 1: Greater business connectivity (25%). Benefit 2: Greater economic throughput in and out of the area (20%).
Problem 2	Benefit 3: Greater control over congestion (20%). Benefit 4: More predictable travel times and lower average travel times (15%).

Problem 3	Benefit 4: More predictable travel times and lower average travel times (15%). Benefit 5: Improved safety (10%). Benefit 6: Improved accessibility (10%).

Further work has been done since the workshop to expand on the problem and benefit statements and to identify potential investment KPI's, as well as establishing a base line and expected target against each KPI. These are summarised in the Benefit Management Plan attached as **Appendix B**

5 Strategic Assessment

The MMEWS programme has been created to give effect to strategic responses identified in a number of already approved strategies. The following section demonstrate how the MMEWS programme align to these relevant national, regional, sector and organisational strategies of the Auckland Council, Auckland Transport and NZTA.

The table below illustrates how the MMEWS programme aligns with strategic direction of the Auckland Plan and the GPS as well as further alignment with local and regional plans like AT's draft Integrated Transport Programme and Statement of Intent; the Onehunga Precinct Plan; Church-Neilson Street Precinct Plan; East Tamaki Business Precinct Plan; Tamaki Maungakiekie Local Board Plan; and the draft Otahuhu Mangere Area Plan.

	Objectives and wider strategic context in which AT/NZTA operate		The problem or business need that is causing AT/NZTA to consider a new investment
	Strategic document	**Targets / directives /impacts and priorities**	
Road network improvements	Auckland Plan	Reduce congestion levels on the strategic freight network to at or below the average of 2006-2009 levels by 2021 (average daily speed of 45 km/h)	The Onehunga Mall/ Gloucester Park interchange is currently a significant bottleneck on the strategic freight network. The traffic in the Onehunga / Penrose area has a very convoluted route to gain southbound access onto the southern motorway. East Tamaki has no direct route to connect this industrial area with the Airport / business area at the airport. The Southdown Freight terminal, located in this area, including Metroport is handling approximately 270,000 Twenty-foot Equivalent Unit (TEU), making it the third busiest freight terminal in New Zealand after Ports of Auckland and Port of Tauranga. The programme is therefore targeted at finding optimum investment requirements aimed at reducing the travel time and improving journey time reliability for freight in the study area to optimise the overall operation and utilisation of the freight supply chain both for movements into and out of the area and longer distance strategic movements. It targets improved connections to and from the inland port and freight terminal at both a local level (access onto Neilson Street) and a more strategic level. It also aims to improve east west connectivity through Auckland's industrial belt (Onehunga/Penrose/Mt Wellington/East Tamaki), and improve connectivity between East Tamaki and the Auckland Airport. Unforeseen events on the state highway (especially crashes in peak hour) can significantly delay journey times for commuters and freight. Improving the linkages between SH20 and SH1 would strengthen the ability for SH20 and SG20 to support each as a network to accommodate unforeseen events.
	Auckland Transport (AT) – Statement of Intent AT - Integrated Transport Plan	Transport network moves people and goods efficiently	
	Government's Policy Statement on Transport.	Improvements in journey time reliability	
		Easing of severe congestion	
		More efficient freight supply chains	
		Better access to markets, employment and areas that contribute to economic growth	
		A secure and resilient transport network	
	Onehunga Precinct Plan (Key Outcome by 2050)	Work with NZTA to achieve an upgrade of the interchange to SH20.	
		Work with NZTA regarding a state highway connection between SH20 and SH1 to ensure positive outcome for Onehunga community.	
	Otahuhu – Mangere Area Plan	Put in place transport initiatives to make the existing transport network and freight movements more effective, particularly on local arterial roads.	
		Provide a strategic 'east-west' dedicated road link for freight that links East Tamaki and southwestern motorway to the airport.	
	East Tamaki Business Precinct Plan (Outcomes)	Connections are provided that promote business to business activities and land uses both within the precinct and beyond.	
		The efficient movement of both goods and people is facilitated.	

	Objectives and wider strategic context in which AT/NZTA operate		The problem or business need that is causing AT/NZTA to consider a new investment
	Strategic document	**Targets / directives /impacts and priorities**	
Public Transport Improvements	Auckland Plan	Double public transport trips by 2022 and increase PT's share of trips into the CBD to 70% by 2041.	The MMEWS area currently has very low uptake of public transport, especially in an east-west direction. The AP proposes a metropolitan centre at Sylvia Park, and also significant growth in the town centres of Onehunga and Mangere. This will increase a demand for travel between these nodes and the new public transport network plan proposes two FTN routes to connect these centres. (one route to the north of the Mangere Inlet and one to the south). These routes currently have a low level to non-existent infrastructure to support FTN type routes, and also have very limited facilities to support integration between the FTN and rail stations. Investment is required to ensure the reliability of bus travel times along these routes, as well as to enhance the attractiveness and ease of use. For example, congestion at the Gloucester Park interchange provide a reliability issues to bus schedules whilst a large number of bus stops on these routes have no bus shelters or seating. Integration between bus and rail is also difficult due to placement of bus stops relative to rail stations, and the quality / type of infrastructure to support transfers between these modes. The SMART project is also considering the expansion of RTN services from the airport to Onehunga, and these would have an impact on the operations along the Onehunga Branch Line.
	Auckland Transport (AT) – Statement of Intent AT - Integrated Transport Plan	Increase access to wider range of transport choices	
	Government's Policy Statement on Transport	More transport choices, particularly for those with limited access to a car	
	Onehunga Precinct Plan (Key Outcome by 2050)	Advocate to KiwiRail to designate land to protect future rail routes to the Airport and Avondale, including provision for double tracking.	
		Short term - Improve pedestrian facilities between existing Onehunga bus station and Onehunga Rail station. In long term – co-locate bus and rail interchange facilities.	
		Provide an appropriate park and ride facility for passenger transport users	
	Onehunga Precinct Plan (Key Outcome by 2050)	Provide a new rail network link from Onehunga to the Airport	
		Provide frequent bus services from Onehunga, Mangere Bridge, Mangere Town Centre and Otahuhu to the Airport	
	East Tamaki Business Precinct Plan (Outcomes)	Identify amenity improvements to walking and cycling connections to support the provision of public transport services.	
		Undertake a service review to ensure public transport provision maximises opportunities to serve demand and reflect work patterns	

	Objectives and wider strategic context in which AT/NZTA operate		The problem or business need that is causing AT/NZTA to consider a new Investment
	Strategic document	**Targets / directives /impacts and priorities**	
Safety Improvements	Auckland Plan	Reduce road crash fatalities and serious injuries to no more than 410 by 2020.	The key east-west corridors in the study area has no clear hierarchy and as a result has a combined function of providing local accessibility to individual land uses, as well as mobility for through traffic. These movements which include a high proportion turning across the opposing traffic stream are considered to be particularly hazardous and are seen as a serious problem by firms as well as the local community in the area. The MMEWS project area has a total of 2,877 crashes recorded over the last 5 years. Of these 7 were fatal and 80 serious injuries. There are also a large number of at-grade level crossings on the Onehunga Brach line. These have been associated with 1 fatal and 1 serious injury crash over the last 5 years. The number of incidents recoded at the level crossings has however more than doubled after more frequent services has been introduces on the OBL.
	Auckland Transport (AT) – Statement of Intent AT - Integrated Transport Plan	Improve safety on Auckland's transport system	
	Government's Policy Statement on Transport	Reductions in deaths and serious injuries as a result of road crashes	
	Onehunga Precinct Plan (Key Outcome by 2050)	Improve pedestrian safety at intersections of Onehunga mall with Arthur Street, Church Street and princess Street	
		Improve traffic safety at the intersections of Selwyn Street with Arthur Street and of Church Street with Neilson Street.	

NZTA's Investment and Revenue Strategy (IRS)

The NZTA's IRS is a tool which guides investment decisions in giving effect to the GPS 2012. It enables smarter decisions by ensuring investment is directed to the activities which will be most effective in delivering on national priorities and long term outcomes. In short, it helps to invest in the right things, at the right time, delivered in the right way and for the best possible price.

It is anticipated that the MMEWS project will address or respond to the IRS in the following ways:

	IRS Assessment Criteria	MMEWS alignment
Strategic Fit (High)	New and improved infrastructure for state highways/local roads; potential for a nationally significant contribution to economic growth and productivity through significant improvements to (one or more): • Journey time reliability • Easing of severe congestion in major urban areas • Relieving capacity constraints • More efficient freight supply chains • A secure and resilient transport network	The MMEWS study is largely intended to deliver improvements to known areas of congestion along high volume strategic urban routes. The study is targeted first and foremost at providing greater journey time reliability for freight, and providing improved connectivity especially along strategic freight routes and for strategic freight movements. Improvements to the linkages in the transport network will provide for greater network resilience
Effectiveness (High)	• Is a key component of an NZTA supported strategy, endorsed package, programme or plan • Is part of a whole of network approach • Improves integration between transport modes • Provides a solution that successfully integrates land transport, land use, other infrastructure and activities • Supports networks from a national perspective • Provides a solution that significantly contributes to multiple GPS impacts • Is optimised against multiple transport outcomes and objectives	The project takes a one-system approach; is a joint AT/NZTA project considering potential state highway and local road solutions; considers better utilisation of the RTN; and considers cycle connectivity and pedestrian safety and amenity. The project seeks to address the poor quality of transport choices to/from and within the study area, which is potentially hindering the development of liveable communities.
Efficiency (Medium)	**High:** BCR greater than or equal to 4 Benchmarking shows above-average efficiency (of cost-	BCR ratios have not been considered as part of the strategic case assessment. This is likely something that will be covered in the development of the

	effectiveness) **Medium:** BCR greater than or equal to 2 and below 4 Benchmarking shows average efficiency (of cost-effectiveness) **Low:** BCR greater than or equal to 1 and below 2 Benchmarking shows below-average efficiency (of cost-effectiveness)	Programme Business Case, with some rough order ranges of BCRs assigned to the various programmes. It is assumed that given the current state of congestion along some of the key routes in the study area that a moderate BCR could be generated by the better performing programmes. Given the strategic importance of the study area to the economic well-being of the region and NZ as a whole and the likelihood for fairly significant benefits to the wider economy from any investment, the assessment of wider economic impacts (that would be derived if the project investment objective outcomes are met) are considered to be an appropriate approach to be used in the assessment of the proposed programmes.

PART B – READINESS TO PROCEED

6 Programme Business Case Scoping

Sponsor	**Auckland Transport**

Anticipated size of the investment (high level only):	
Programme Capital Cost	The Auckland Plan shows timing of the initial expenditure ($250 Million) prior to 2015, with the remaining $1 Billion between 2021 and 2030

6.1 Right Sizing the Capacity/Capability of the Team

6.1.1 Programme Business Case Dates

Start Date for developing the Programme Business Case (PBC):	June 2012
Start Date for the PBC Review:	August 2013
Date for Final Approval Decision:	Last quarter of 2013

6.1.2 Estimated Cost to Develop the Programme Business Case

A total amount of $1.5 Million has been budgeted for the development of the programme business case.

6.1.3 Project Team

The programme business case will be developed through an in-house project team, made up of representatives from the three partner organisations. Consultants will be employed to assist the team with data collection, traffic modelling, economic benefits assessments, and any other areas deemed necessary and appropriate by the project team. The diagram below illustrates the governance structure and makeup of the project team.

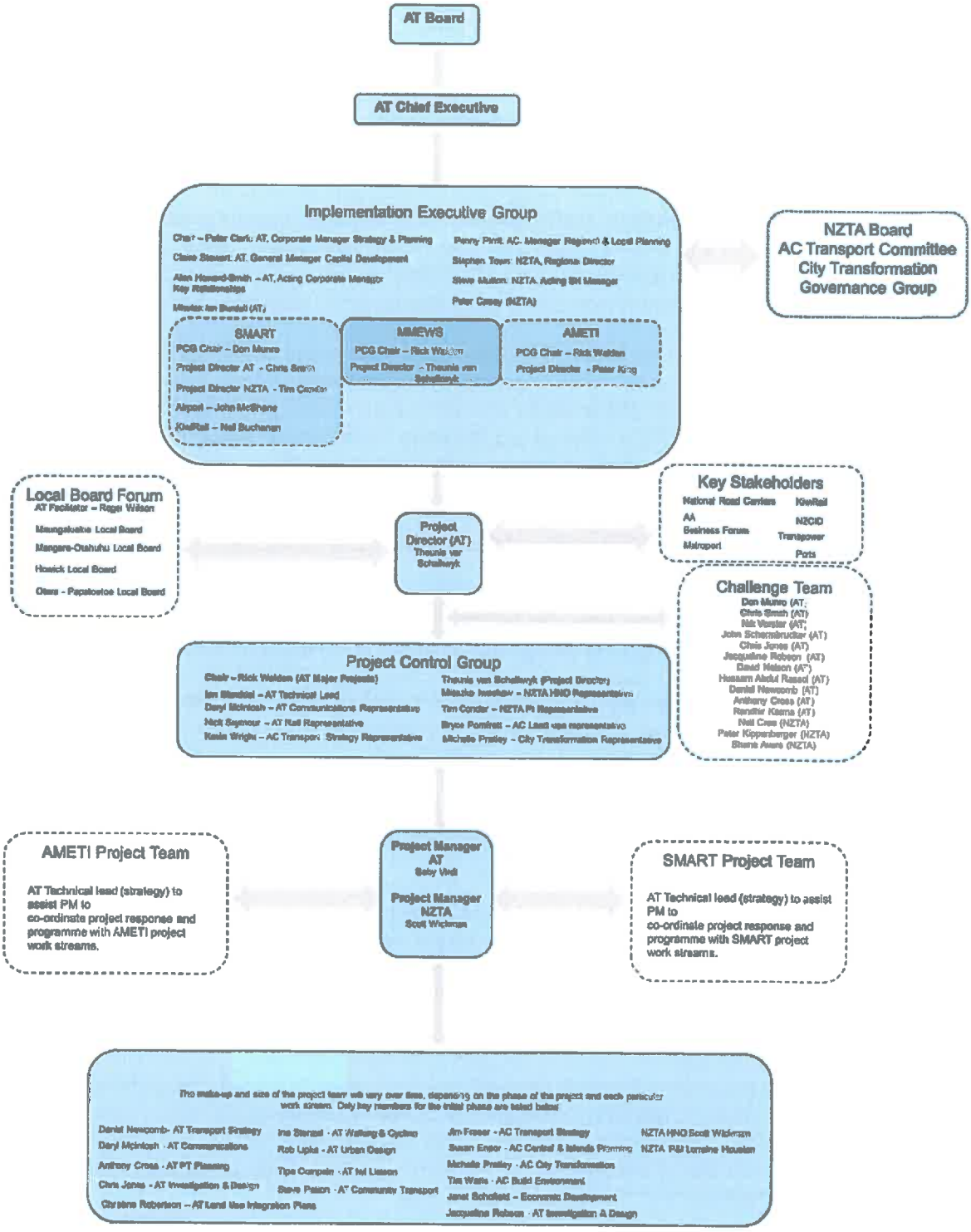


Figure 3: Project Governance Structure

6.2 Right Sizing the Effort

6.2.1 Strategic Case

The Strategic Assessment has articulated the problem and benefit statements as described in this document. The effort moving forward is now in confirming this through demonstrable evidence To do this requires the following work streams:

Origin Designation Traffic Survey: To provide a robust foundation for the basis for the analysis and problem definition. The information captured would provide a comprehensive framework for the identification of transport issues and problems within the area, identifying the patterns of movements and the problems which these potentially face at the current time.

Economic Assessment: The rationale for this project is strongly driven by the need to meet existing and future needs of business within the project area. Therefore, an important part of the investigation phase will be to develop a good understanding of how congestion and/or the poor connectivity is constraining the ability of the area to maintain or increase its contribution to the economy (through employment and output). The economic assessment investigation will look to provide evidence on questions like:

- What is the potential of this area to further contribute to GDP growth of Auckland / New Zealand?
- How is the economic function of the project area influenced by the transport system? How might this change with changes to the transport system and growth in Auckland?
- How will improving travel times for freight help businesses to lower their cost of business, or to achieve higher productivity or to increase their output or to enable business growth in this area?
- How important is improved connectivity between specific locations e.g. Onehunga and East Tamaki to business productivity?

Traffic Modelling: High level traffic modelling will be undertaken to understand the predicted operating environment on some of the key routes into and out-off the study area. It will provide enough evidence on a high level to understand the impact of the Auckland Plan's projected changes in land use on the transport network over the next 3 decades.

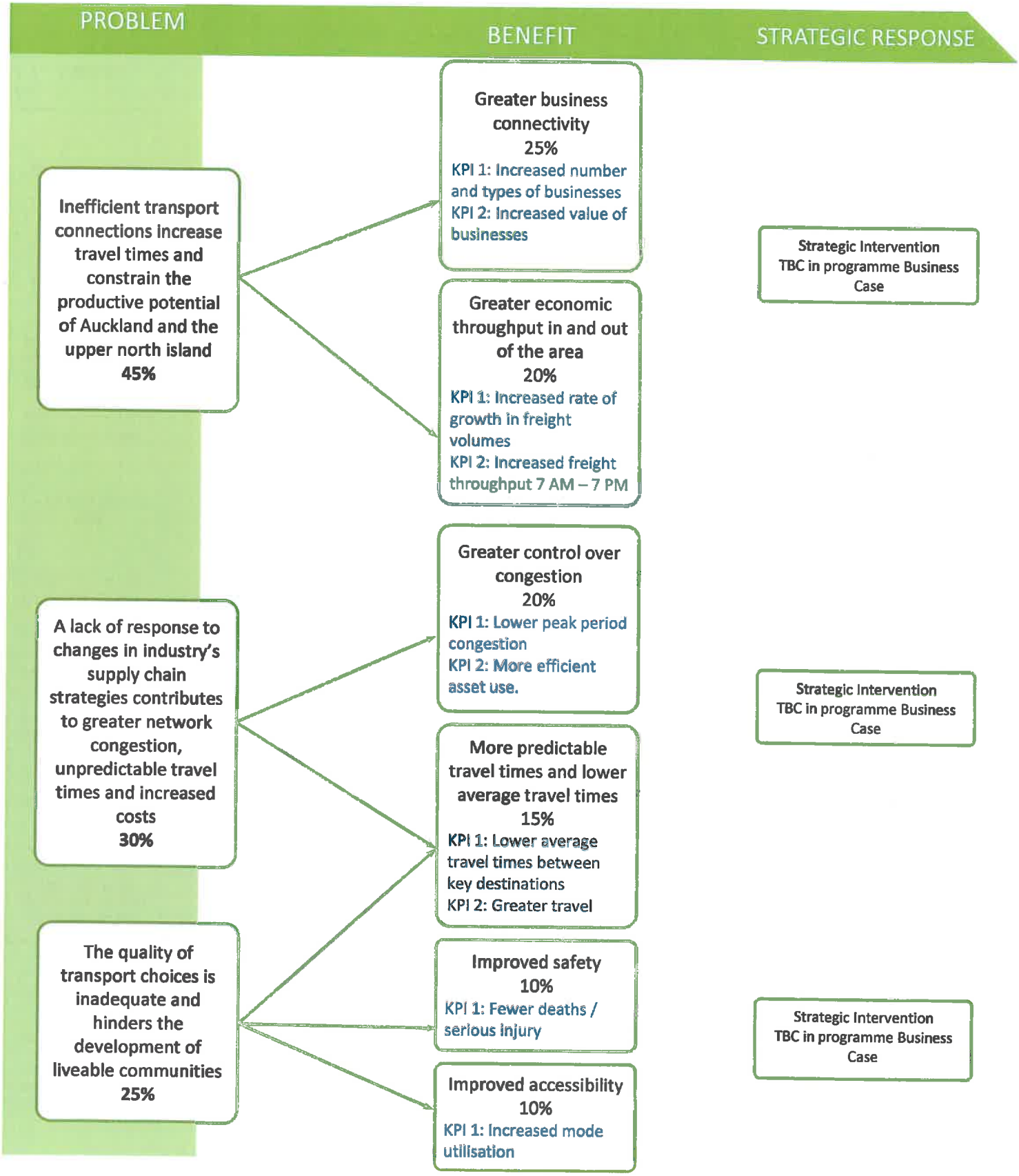
6.2.2 The Recommended Preferred Way Forward

The programme business case will develop a range of potential programmes (mix of projects), and develop high level cost estimates and BCR's for these. Each programme will then be evaluated against the investment objectives and critical success factors before the presentation of a recommended programme to the various governing bodies (AT Board, NZTA Board and AC Transport Committee.

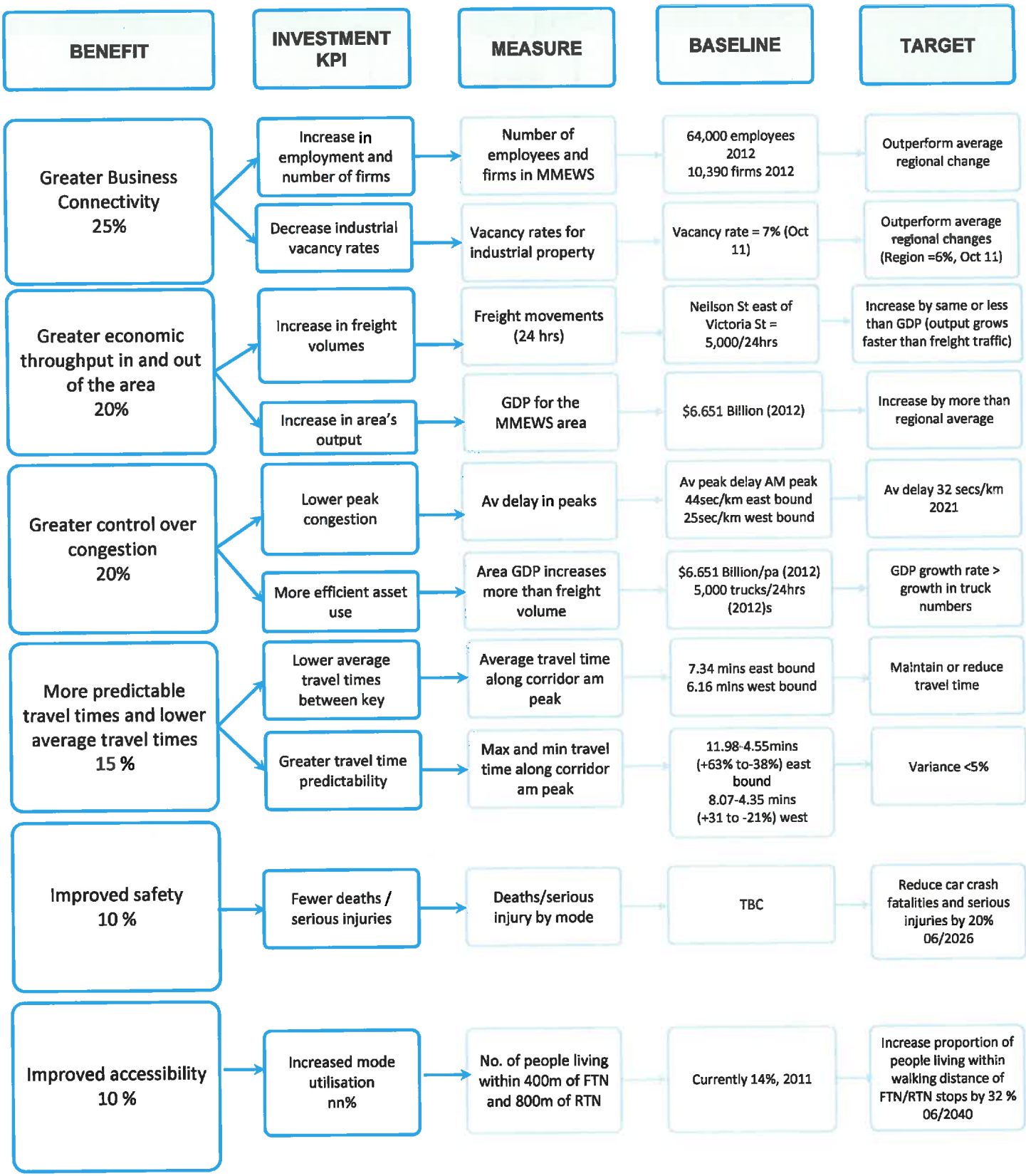
MULTIMODAL EAST WEST SOLUTION (MMEWS)

Resolving a critical gap in Auckland's transport network.

Appendix A - Investment Logic Map



Appendix B – Benefits Map



AMETI and EAST-WEST Link Project Update

Recommendations

It is recommended that the Board:

i. Receives the report.

Executive summary

The AMETI and East West Link project (AEWL) has progressed planning to formulate an integrated response to address transport issues for the eastern part of Auckland. The 'East West Link' component has recently been added to the project and additional data collection enabled Auckland Transport to better understand the issues pertaining to the east-west movements through the study area.

An investment strategy is now being considered to provide a more resilient network that strengthens the east-west movement and directs as much as possible traffic away from identified 'congestion spots'.

This will be done by:

- Creating a Rapid Transit Network (RTN) busway corridor between Panmure and Botany, to provide a reliable, fast and high capacity public transport option between the eastern suburbs and the city centre.
- Improving the Onehunga/Penrose area connections to the state highway. This will require an upgrade on the Gloucester Park interchange on state highway 20 (SH20) as well as improved south facing connections from the area to state highway 1 (SH1).
- Strengthening the east-west movements to bring average operating speeds closer to the 45 km/h target set in the Auckland Plan.

This paper provides a strategic overview of the combined AMETI and East West Link project A comprehensive detailed overview of the AMETI project will be presented to the June Board meeting, and the East West Link project detailed overview will be presented to the Board in July. It is intended to give quarterly updates to the Board on these projects going forward.

Attachment 1 illustrates diagrammatically the network improvements to be investigated further as part of the AEWL project.

Attachment 2 is a copy of a presentation on AMETI and the East-West Link Project given to the Business Forum in May. The project team can present this to the Board if requested.

Alignment with strategy

A key objective of AMETI is to provide people with better transport choices and thereby attracting more people onto public transport. This will free up road capacity for freight and business traffic.

The Auckland Plan added the 'East West Link' component to the AMETI project. This expanded the project's objectives to provide for efficient freight movements between SH20 and SH1, and between industrial areas and the port and airport. The Auckland Plan has also included directive 13.5 which states: *"Jointly progress planning for AMETI and the East-West Link and implementation by 2021."*

This directive flows through to the Integrated Transport Programme (ITP) and the project is identified as part of the transport programme to deliver the Auckland Plan. AEWL is identified as one of the highest priorities for infrastructure investment in the region.

Background

The transport network in the AEWL study area connects 30% of the Town Centres defined in the Auckland Plan with each other and the rest of the city. The network connects three metropolitan centres namely, Sylvia Park, Botany and Manukau. Sylvia Park and Botany are both predicted to grow significantly over the next three decades and the demand for travel on the network in the study area is therefore also predicted to increase significantly.

Issues

Existing network performance

The Auckland region has grown linearly, expanding both to the north and south. The growth has resulted in a huge volume of north-south through traffic on the two motorway spines running through the study area. In 2012 the combined Annual Average Daily Traffic (AADT) for SH20 and SH1 through the centre of the study area was over 220,000 vehicles per day. (In comparison the Harbour Bridge has an average daily volume of around 160,000 vehicle per day.)

The significant through traffic, lack of efficient public transport options from the Eastern Suburbs, geographical constraints due to water bodies, and freight movements combine to cause acute congestion at strategic locations. This is illustrated in Attachment 2 - Conflicting movements and congestion spots.

Evidence collected on the network's performance shows the north-south motorways operate generally above the 45km/h target speed through this study area. The east-west movement however operates at a significantly lower speed, with average speeds on certain sections approaching 10 km/h.

The poor east-west performance is due to a number of factors.

- Commuters have limited access to viable alternatives to car use, resulting in over reliance on cars as the mode of transport.
- The network has limited or inadequate connections for these high traffic volumes to access the state highway network.
- Route options to the Eastern Suburbs are geographically constrained due to water bodies and the rail corridor.
- East-west movements occur on corridors that fulfil a dual access and movement function.

The South Eastern Arterial (SEART) area is the most severe conflict area where heavy commuter traffic from the Eastern Suburbs and freight and business traffic from Onehunga and the west converge on the southern motorway at Mt Wellington.

Further growth anticipated in Auckland Plan

Significant growth is predicted to occur on the eastern and western ends of the study area. The eastern suburbs have experienced significant residential growth over the last decade and this is projected to continue through the Flat Bush development area. This growth is expected to generate a significant number of trips to, from and around the eastern part of the study area. This is predicted to overload the two routes across the Tamaki Estuary – Panmure Bridge and Waipuna Bridge.

New employment areas (Airport zone and Highbrook) have also developed on the eastern and western sides of the state highways. Development in Highbrook industrial park is well advanced and the airport business zone is expected to grow over the next three decades. The growth at the airport is predicted to attract approximately a quarter of its employees from the suburbs in the study area located east of SH1.

The projected business and residential growth on the eastern side and employment growth on the western end of the study area is expected to further add to the traffic problem by increasing the volume of east-west traffic through the study area.

High level network response

Four stage intervention

These issues on the transport network will be addressed through an integrated investment programme based on the four stage intervention process as identified in the ITP. The programme of investment will firstly ensure that the existing infrastructure is operated optimally. Thereafter it will target improvements that make better use of the exiting transport infrastructure, and/or direct investment to manage the demand in the area more efficiently.

The growth is however of such a magnitude that it requires further investment in new infrastructure on the transport network once all these above interventions have been applied.

Providing additional capacity or a better grid?

The investment strategy could be directed to provide additional capacity at the congestion spots, or to provide a better grid of transport links to prevent the focussing of all trips through a few critical nodes.

Additional capacity at the congestion spots relies heavily on the performance of the SEART/Mt Wellington motorway interchanges. Any incident within these interchanges will impact significantly on the entire network's performance. The strategy is therefore to improve the network's resilience by providing viable transport choice and additional links that direct as much traffic away from these 'congestion spots' as possible.

Key network improvements

- Create a RTN corridor between Panmure and Botany, to provide a reliable and fast high capacity public transport option between the eastern suburbs and the city centre. The proposed urban busway between Botany and Panmure, via Pakuranga will allow greater mode choice for trips from the Eastern Suburbs. Preliminary modelling for this option indicates that on the Panmure Bridge by 2026 the busway will be carrying around 5.7 million passengers per year. (*By comparison the Northern Express busway currently carries around 2.3 million passengers per year.*)
- Improve the Onehunga/Penrose area's connections to the state highway. This will require an upgrade on the Gloucester Park interchange as well as improved south facing connections of the area to SH1.

- Strengthen the east-west movements between the eastern suburbs including Highbrook and SH20.

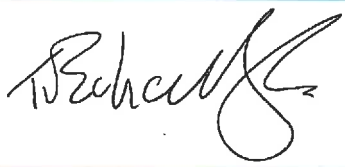
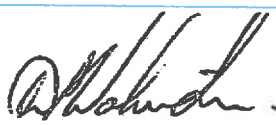
Next steps

Auckland Transport's current investigations focus on improving the efficiency of the network in the Onehunga area by improving connections to the existing networkand new connections to allow for trips away from the identify points of acute congestion.

Attachments

Number	Description
1	Network Improvements to be investigated further
2	Conflicting movements and congestion spots

Document Ownership

Prepared by	Theunis van Schalkwyk **Project Director Corridor Improvements**	
Recommended by	Rick Walden **Manager, Major Projects & PMO** Claire Stewart **GM Capital Development (Acting)**	 
Approved for Submission	David Warburton **Chief Executive**	

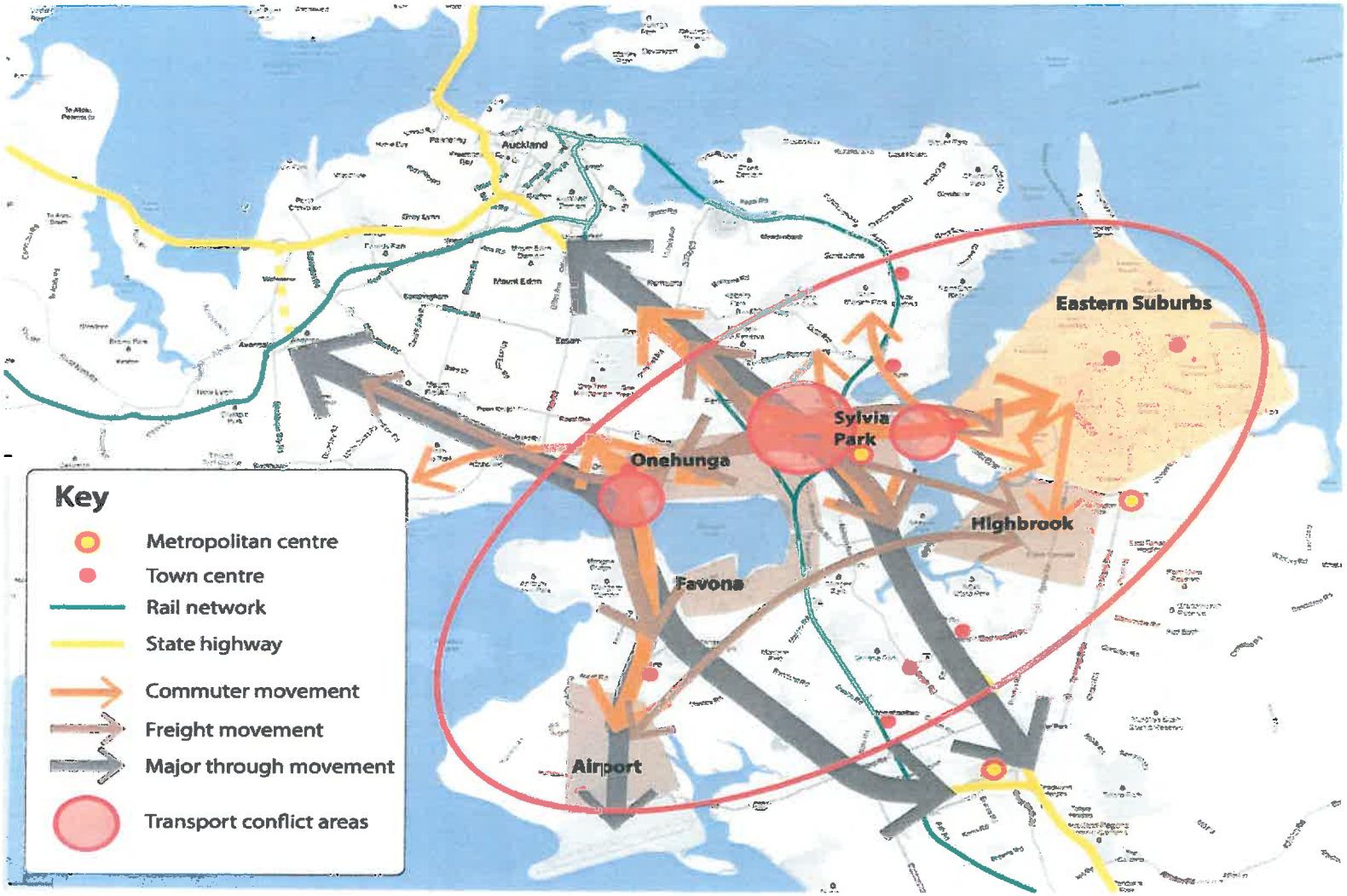
Glossary

Acronym	Description
AADT	Annual Average Daily Traffic
AEWL	AMETI East/West Link
AMETI	Auckland Manukau Eastern Transport Initiative
ITP	Integrated Transport Programme
PT	Public Transport
RTN	Rapid Transit Network
SEART	South Eastern Arterial

Attachment 1: Network Improvements to be investigated further

Auckland Transport
An Auckland Council Organisation

Attachment 2: Conflicting movements and congestion spots.



Auckland Transport
An Auckland Council Organisation

EAST-WEST Link Project Update

Recommendations

It is recommended that the Board:

i. Receives the report.

Executive summary

The East West Link is a group of transport projects that forms part of the Auckland Plan's overall AMETI & East West Link project (AEWL). Initial programme options for the East West Link component have been identified and these are outlined in this report. The options all focus on:

- Improving the Onehunga/Penrose area's connections to the state highway. This requires an upgrade of the Gloucester Park interchange on state highway 20 (SH20) as well as improved south facing connections from the area to state highway 1 (SH1).
- Strengthening the east-west movements to bring average operating speeds closer to the 45 km/h target set in the Auckland Plan.
- Improving the public transport level of service through investment to support / enhance the frequent network through this area.

Option assessment is still in the early stages but the draft estimates indicate potential investment requirements in the order of $1 billion, shared between At and NZTA . The cost estimates could increase as measures to mitigate environmental and social impacts are added to each option.

The Government has recently included the East West Link in its transport plan for Auckland (announced in the Prime Minister's speech on 28 June 2013) and has therefore asked NZTA to advise which elements of AMETI and the East-West Link can be accelerated with additional funding, and how that funding can best be targeted across both projects.

The project team is working with NZTA on a strategy to respond to this request and will report back to the Board in August 2013 on its intended approach to accelerate AMETI and the East West Link as a joint initiative.

Strategic context

The AMETI & East West Link (AEWL) is a project identified in the Auckland Plan which has included a directive (13.5) which states: *"Jointly progress planning for AMETI and the East-West Link and implementation by 2021."*

This directive flows through to the Integrated Transport Programme and the project is identified as part of the transport programme to deliver the Auckland Plan.

AEWL is identified as the second highest priority for infrastructure investment in the region. The focus of this report is the East West Link, a component of the overall AEWL project that focuses on providing efficient freight movements between SH20 and SH1, and between industrial areas and the port and airport.

The Prime Minister outlined in his speech on Friday 28 June 2013 the Government's intent to accelerate the two linked projects:

- AMETI which is currently in the early stages of construction with a 20 year build period and
- The East West Link which is currently in the early business case development stage with four options being examined.

Figure 1 below illustrates the AMETI project area as well as the project area covered by the East West Link.

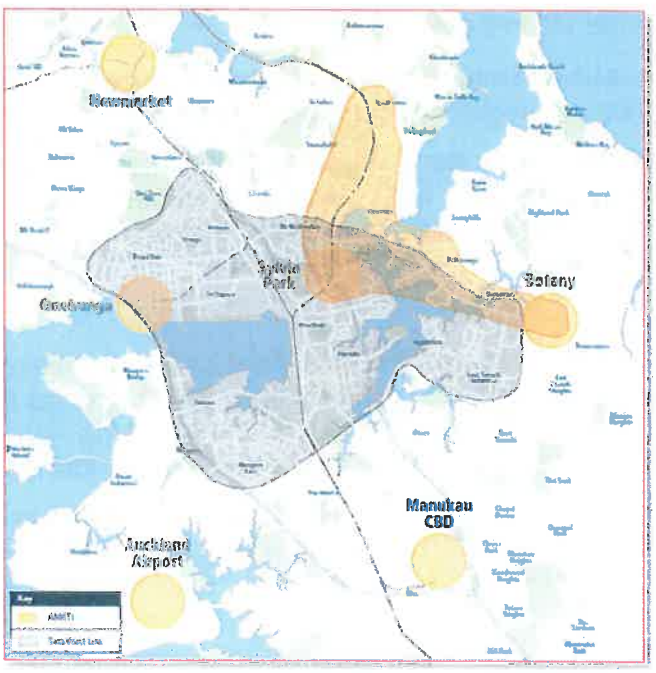


Figure 1: AMETI and East West Link Project areas

Key Objectives

The key objectives for the East West Link component of the overall AEWL project are as follows:

- Improving access between the industrial areas, the State Highways and the ports (airport, inland ports and seaport)
- Providing improved access and transport choice for people travelling to key commercial centres including Onehunga, Sylvia Park and Ellerslie/Penrose.

- Improving freight access by minimising through traffic on roads servicing the industrial areas.
- Providing better access between State Highway 20 to the west, State Highway 1 and East Auckland.

Background

Auckland Transport and NZTA are working collaboratively to deliver the East West Link component of the overall AEWL project. The two agencies have completed a strategic assessment that outlines the context and case for change in relation to the proposed investment programme to improve east west connectivity through Auckland's industrial belt (Onehunga/Penrose/Mt Wellington/East Tamaki).

A number of key stakeholders external to Auckland Transport and NZTA also have influence on the project outcomes. These include: Kiwi Rail, Transpower, Port of Auckland, Port of Tauranga, Auckland Business Forum, National Road Carriers and Iwi.

A facilitated Investment Logic Mapping workshop was held with key stakeholders to gain a better understanding and consensus of the transport problems affecting the study area, as well as the potential benefits to be realised in successfully responding to these problems. The stakeholder panel, which included senior management from NZTA, Auckland Transport, Council, KiwiRail, Port of Tauranga, Employers & Manufacturers Association identified and agreed the following key problems.

- Problem one: Inefficient transport connections increase travel times and constrain the productive potential of Auckland and the upper north island.
- Problem two: A lack of response to changes in industry's supply chain strategies contributes to greater network congestion, unpredictable travel times and increased costs.
- Problem three: The quality of transport choices is inadequate and hinders the development of liveable communities.

The potential benefits that could be realised were then identified through a second facilitated workshop. The stakeholder panel identified and agreed the following potential benefits for the proposal:

- Benefit 1: Greater business connectivity.
- Benefit 2: Greater economic throughput in and out of the area.
- Benefit 3: Greater control over congestion.
- Benefit 4: More predictable travel times and lower average travel times.
- Benefit 5: Improved safety.
- Benefit 6: Improved accessibility.

The East West Link component has been assessed to achieve a HHM ranking against NZTA's Investment and Revenue Strategy.

The project team has progressed the development of a programme business case and has identified initial programme options for analysis.

Issues and options

Four programme options were identified for further analysis. A common investment approach to all of the options will be to focus on improving the performance of the frequent transit network in the East West Link project area. This entails investment in bus priority measures, improved infrastructure at each bus stop, neighbourhood bus interchanges as well as bus to rail and bus to bus interchanges at centres.

Figure 2 below illustrates the proposed FN routes (in blue) included in all the initial programme options. The figure also illustrates how these routes will integrate with the AMETI busway project.

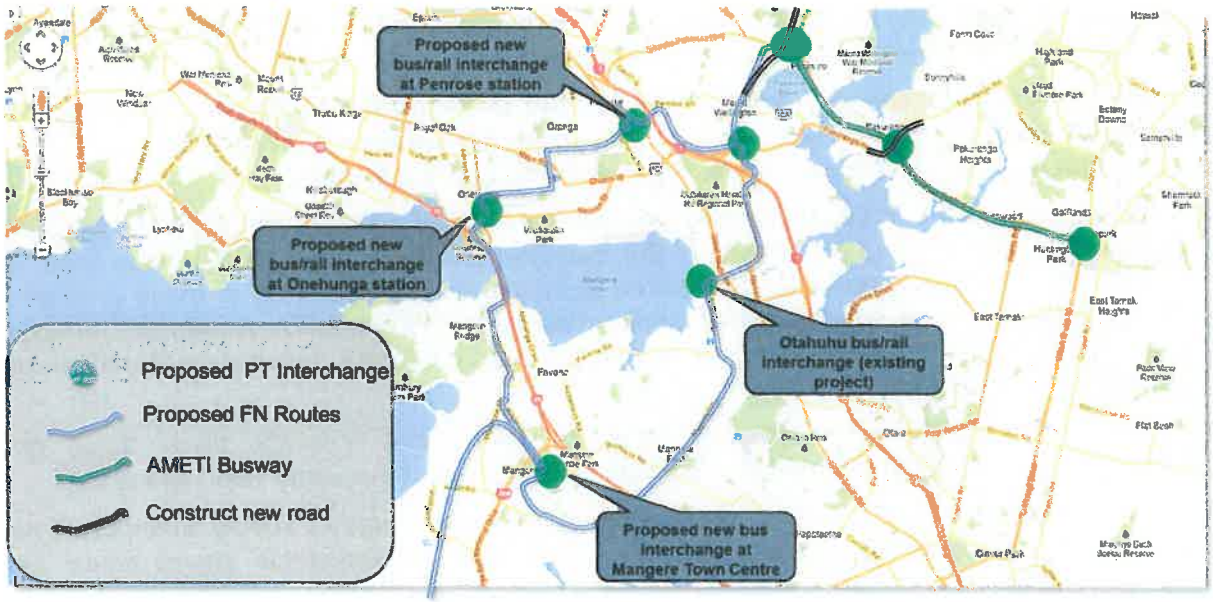


Figure 2: Proposed routes to receive infrastructure investment to support FN services

The programme options also include road capacity improvements in addition to the improvements to the public transport network transport mentioned above. These focus on improving the efficiency of the transport network for freight by improving connections to the existing motorway network as well as providing new connections to direct trips away from the identify points of acute congestion. The options are described below.

Option 1

This option (illustrated in Figure 3 below) aims to improve the Onehunga industrial area's access to the state highway network by:

- Removing the bottlenecks at the Gloucester Park interchange and the Onehunga Mall intersection.
- Improving connections to State Highway 1 by connecting Panama and Carbine Roads with State Highway 1 through new south facing ramps at Panama Road.

The option will also improve access to MetroPort by signalising its entrance to Neilson Street, and providing an additional entrance to it by completing the local roading network to its west.

Through traffic along SEART and Neilson Street will be minimised by strengthening the east-west connection to the south of the Manukau Inlet.

This entails the provision of a new connection between Ti Rakau and East Tamaki, improvements to Highbrook Drive, a new connection between Highbrook Interchange and Great South Road as well as four laning Favona Road (to arterial standard) between Great South Road and State Highway 20.

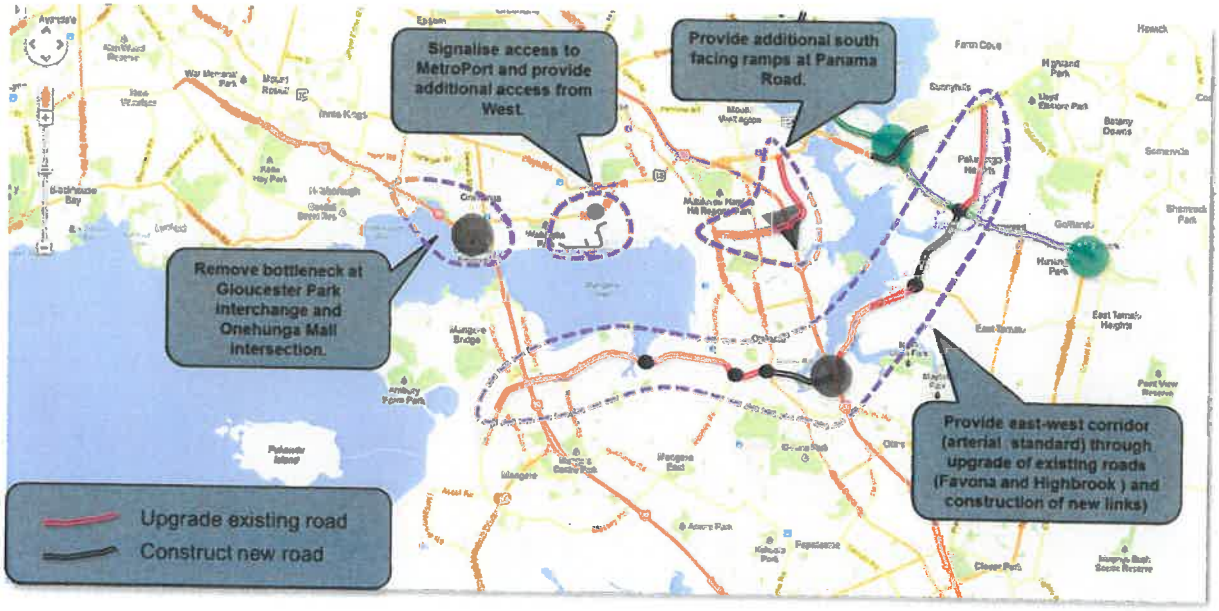


Figure 3: Schematic layout of programme option 1

High level traffic modelling indicates the option generally improves travel times between Onehunga and the airport by 4-5 minutes and between Onehunga and East Tamaki by 3-4 minutes.

Removal of the bottleneck at Onehunga Mall/ Gloucester Park will have the effect of increasing flows on SEART and increasing capacity on Neilson Street. The proposed east west corridor will also direct more traffic along Massey Road rather than diverting it to the Favona Corridor.

Option 2:

This option has all the network improvements included in Option 1 with the addition of a stronger linkage between MetroPort and State Highway 1by way of a new connection between them, located north of the Manukau Inlet (see Figure 4 below).

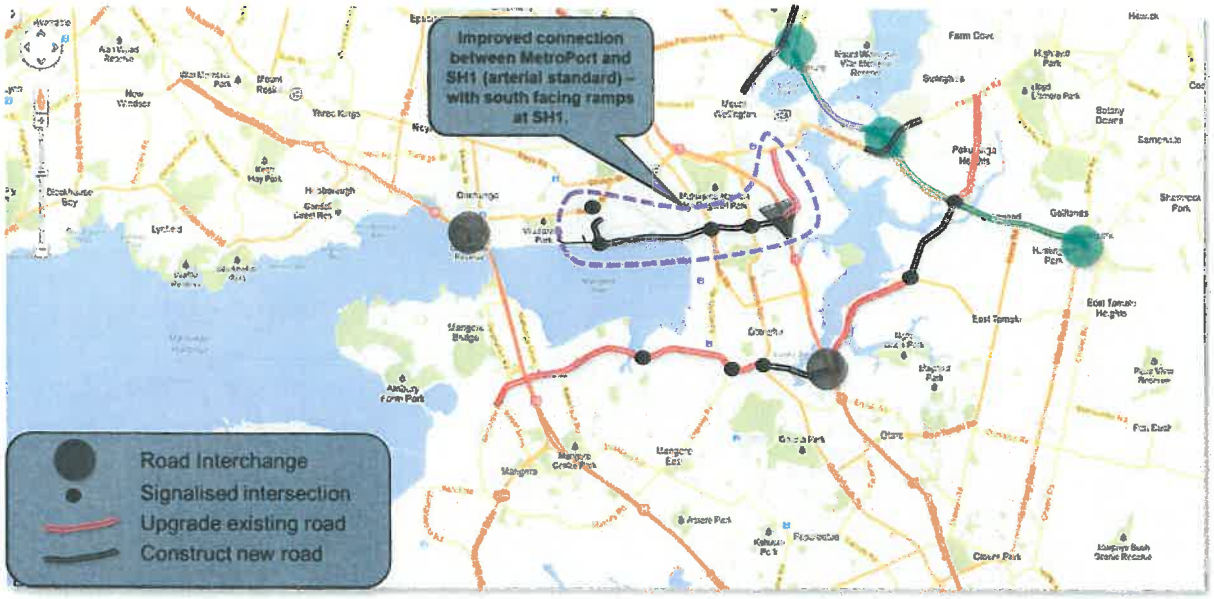


Figure 4: Schematic layout of programme option 2

High level traffic modelling indicates similar network wide travel time improvements to option one, but the travel times between Onehunga and East Tamaki would improve by 4-5 minutes.

Option 3:

This option focuses on providing a spine that connects the industrial belt of Onehunga, Mt Wellington and East Tamaki. It also improves the industrial area's access to the state highway network by upgrading Gloucester Park interchange and improving connections to State Highway 1 through new south facing ramps.

Figure 5 below illustrates the east-west corridor through the industrial belt.

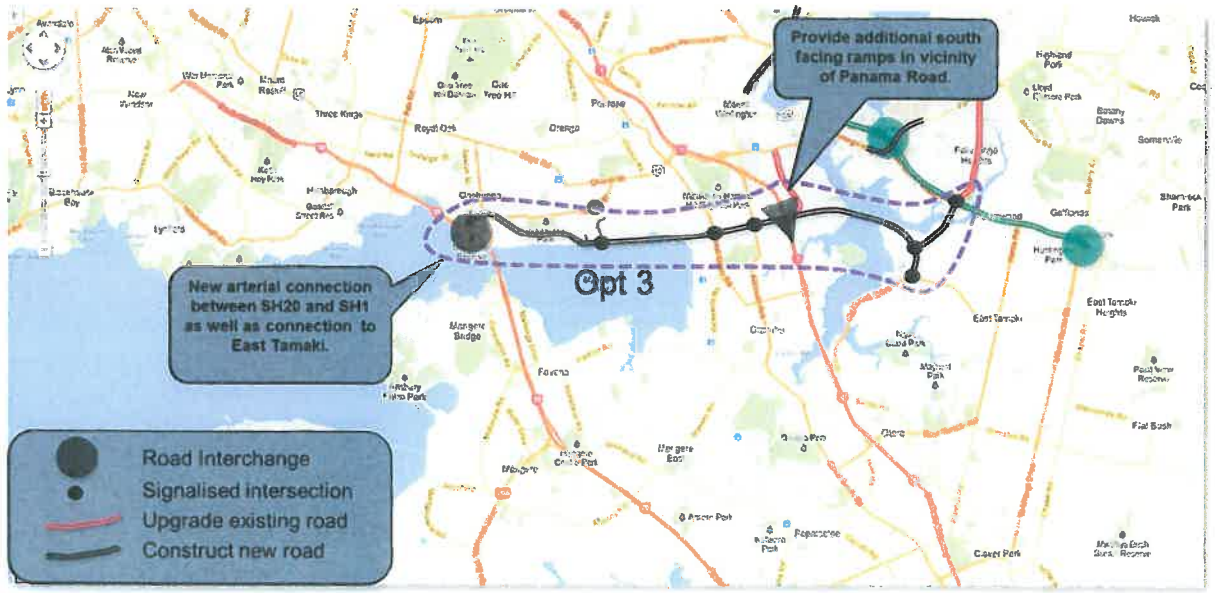


Figure 5: Schematic layout of programme option 3

High level traffic modelling indicates the option generally improves travel times between Onehunga and the airport by 4-5 minutes and between Onehunga and East Tamaki by 10 minutes. The option also improves travel times between Rosebank and East Tamaki by 7-8 minutes.

The new road link between SH20 and SH1 would attract approximately 50,000 vehicles per day and the link between SH1 and East Tamaki would carry approximately 25,000 vehicles per day. This link would be successful in diverting through traffic away from the Neilson Street and SEART corridors, and thereby reducing the SEART/Mt Wellington interchange congestion.

It also slightly reduces the through traffic on Massey Road which would enable this corridor to be utilised as a public transport corridor.

Option 4:

The option provides improved connections to Onehunga north of the Manukau Inlet – similar to those proposed in Option 1 - by upgrading Gloucester Park interchange, signalising the MetroPort entrance and providing south facing ramps at Panama Road.

In addition to those, the option also focuses on providing a high capacity corridor south of the Manukau Inlet between the two state highways with the main aim to provide a more resilient strategic network as well as a corridor that creates enough capacity to decongest the surrounding arterials.

The option therefore proposes to extend SH20A to connect up with SH1 at the Highbrook Interchange, effectively providing a motorway link between the airport, SH20 and SH1. It would then extend further east to Pakuranga by providing an arterial connection to Ti Rakau Drive (See Figure 6 below).

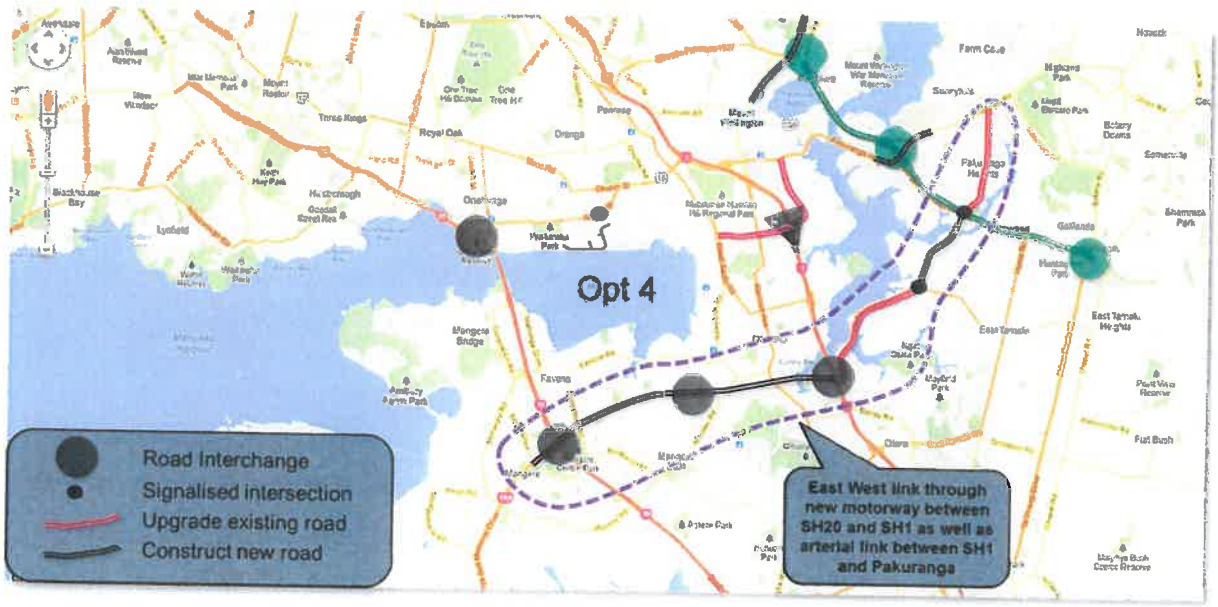


Figure 6: Schematic layout of programme option 3

High level traffic modelling indicates the option generally improves travel times between Onehunga and the airport by 4-5 minutes and that the travel times between the airport and the eastern suburbs of Howick, Pakuranga, Panmure and Glen Innes improve by more than 10 minutes.

The option also reduces the travel times between East Tamaki and the airport by 8-9 minutes and similar improvements are predicted between Rosebank and East Tamaki.

The new road link between SH20 and SH1 would attract approximately 70,000 vehicles per day and would be successful in diverting through traffic away from the Neilson Street, SEART, Favona and Massey Road corridors. It also slightly reduces the traffic on Great South Road and Mt Wellington Highway in Otahuhu.

Next steps

The four programme options in this report will be discussed with key stakeholders, including Iwi and the Local Boards over the next two of months. Their input together with high level social and environmental impacts will augment the technical analysis to date and will inform the makeup of the final programmes (mix of projects).

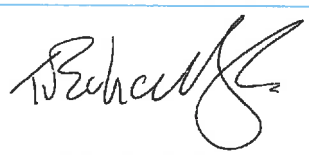
The high level cost estimates will then be finalised and each programme will be evaluated against the investment objectives and critical success factors before the presentation of a recommended programme option to the Board in December.

The community will have an opportunity to provide feedback during public consultation in 2014.

Attachments

Number	Description
	Nil.

Document Ownership

Prepared by	Theunis van Schalkwyk **Project Director, Corridor Improvements, Key Agency Initiatives**	
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Glossary

Acronym	Description
AEWL	AMETI East/West Link
AMETI	Auckland Manukau Eastern Transport Initiative
NZTA	New Zealand Transport Agency
FN	Frequent Transit Network
SEART	South Eastern Arterial