PROJECT:

EAST WEST LINK

An integrated land-use, economic, social and cultural transport outcome.

Urbanismplus, New Zealand Transport Agency, Auckland Transport, and Auckland Council

Other participating consultants: Beca, Ascari, Richard Paling, Pocock Design: Environment and TTM Consulting



EXECUTIVE SUMMARY

Addressing one of Auckland's major transport integration challenges

The design and use of roads and rail have the most profound and long lasting effects on our urban condition with serious consequences for the environment, economy, and social conditions. Their structuring can determine whether the needs of communities, business, and nature are supported and in balance, or whether they divide and disaggregate communities, harm the environment, and impede the movement economy.

The challenge to provide land-use and transport strategies that are truly integrated is amongst planning's most complex tasks. In this case the challenge is at its most extreme - involving some of New Zealand's highest arterial-based freight traffic, a diversity of communities, and a highly sensitive inner harbour wetland ecology. Add to that the organisational complexity of large governance agencies each with a wide array of disciplines and departmental objectives, answerable to local boards, councillors and government ministries. All which are further exacerbated by political pressure to urgently address freight movement needs in the interests of the economy.

PROJECT SCOPE

The area between Onehunga, East Tamaki and the airport is Auckland's industrial heartland and a major freight distribution hub, employing over 130,400 people and generating over \$10 billion a year. East West Link (now called East West Connections) is a joint NZ Transport Agency and Auckland Transport programme to improve freight efficiency, commuter travel, public transport and walking and cycling options over the next 30 years. The programme area covers Onehunga, Penrose, Mt Wellington, Mangere, Otahuhu and East Tamaki The project is identified as a priority in the Auckland Plan given the need to address increasing freight movements, particularly in the Southdown freight terminal area, the country's largest and most productive inland port.

Already the main arterial roads of Church and Neilson Streets have some of the highest freight movement for an arterial road in New Zealand. This is placing the existing transport network under considerable strain currently and this is only expected to be further exacerbated by future growth projections for the region, as more people living and working in the region will result in greater demand for goods and services.

Urbanismplus were commissioned to lead a workshop process in late 2013 to assist in working through some of the complex challenges presented by this project. Urbanismplus involvement was concluded by early 2014 in order to meet compressed timeframes for reporting back to the Auckland Transport and Transport Agency boards.

PROJECT CHALLENGES

The workshop brought together the NZ Transport Agency (NZTA), Auckland Transport (AT), and Auckland Council (AC) to

consider and evaluate options for this project in order to reach a multi-disciplinary consensus on the best option and inform the future direction of the project.

The challenge to integrate land-use and transport strategies is complex under any circumstances, however in this case the challenge was magnified, involving:

- → Strategically important transport links around the Onehunga Penrose area
- → A diverse range of communities within the programme area, including some of Auckland's most vulnerable communities.
- \rightarrow Areas of cultural significance for mana whenua.
- \rightarrow The ecological environment around the Mangere Inlet.
- → A wide array of disciplines and departmental objectives across multiple large and complex governance agencies (NZTA, AT, and AC).
- → Multiple stakeholders and political interests, from central government to local board level.

PROJECT TECHNIQUES

The project is distinguished by the techniques used, in a very compressed timeframe. The project delivered an agreed strategic approach with wide consensus between over 40 specialists from three major agencies by:

- → Applying a multiple workshop process designed to widen and deepen the participants technical and spatial understanding of the area and the challenge, and then collectively generate holistic solutions.
- → Building trust amongst all participants from all agencies by first allowing time to consider the area from their discipline's perspective, discarding all previous transport options, and then allowing them to actively participate in formulating new transport solutions.
- → Collectively developing and applying a comprehensive multi-disciplinary evaluation criteria.
- \rightarrow Ensuring the proposals will stand up to future scrutiny by incorporating rigorous deliverability tests in the evaluation.
- \rightarrow Technically verifying the options by running transport modelling tests overnight during the main workshop.
- \rightarrow Directly engaging with Iwi in a dedicated mana whenua workshop.

The attached document aims to describe the unique challenges of the East West Link project in more detail, and set out the techniques used in the integrated workshop process used to produce a successful outcome.

PROJECT OUTCOME

This project is an outstanding example of NZTA, AT and AC combining to work through the complexities in a concentrated evidence-based process to deliver the best future outcome for the community, the economy, and the environment. Freight movement congestion will be relieved and vulnerable communities will not be impacted. The outputs it generated now form the basis of the next stage of the project which is currently underway.

The project provided an agreed response to improving the transport network in the area and also allowed all parties to gain a comprehensive and shared understanding of the scope of the project, and identify synergies and opportunities within the project.

Please see Appendix A for more details describing the outcome and how it was achieved.

THE MERITS OF THIS PROJECT

The East West Link integrated workshop process tackled a complex and controversial transport problem, in a strategically important location, over a very compressed timeframe. The project delivered a transport response with wide consensus from over 40 specialists from three major agencies.

The project makes a significant contribution to developing systematic techniques that can be used for multi-agency and multi-disciplinary projects, taking an approach that achieves integrated and mutually-agreed outcomes. It can serve as a model for similar challenges throughout New Zealand.

APPENDIX A

CHALLENGES AND INNOVATIVE TECHNIQUES

Integrated land-use and transport planning

Integrating land use and transport planning is a challenge for many projects. The complexity of this project was at its most extreme due to the need to address a strategically significant transport problem while protecting and enhancing existing communities and ecological areas, and culturally important locations.

Organisational complexities

The three large governance agencies, the NZTA, AT, and AC, consisted of a wide array of discipline experts and departmental objectives. The multiple stakeholders and political interests including local boards, councillors, and central government, compounded the complexity.

Building trust, understanding, and collaboration was essential for a successful outcome, necessitating a move away from previous processes used and options developed.

Innovative Techniques

In order to address these challenges, the workshop techniques used are as follows:

- All previously developed responses were parked, allowing for trust to be built between agencies.
- A wide range of disciplines were brought together to redefine the context, allowing for an in-depth, place-based understanding of the issues faced (refer to Figure 1.2).
- Integration between disciplines allowed an in-depth understanding of the combined scope of the project across all communities in the programme area.
- 4. Each discipline developed their own version of compatible transport interventions. A broad range of options were considered by all disciplines using jointly formulated, custom-designed evaluation criteria, that were based on wider criteria than traditional cost-benefit analysis. Criteria included eight discipline themes: Maori values, social outcomes, environmental outcomes, quality transport options, efficient transport network, growth



ABOVE FIG 1.1: WORKHOP PROCESS



ABOVE FIG 1.2: WORKSHOP DISCIPLINE GROUPS



ABOVE FIG 1.3: INQUIRY BY DESIGN WORKSHOP

and a quality urban form, economic growth and enhanced productivity, and value for money (refer to Figure 1.11).

- 5. Options were narrowed and hybrid options were created.
- Preliminary high-level evaluations were undertaken which were modelled by Beca overnight to understand the transport implications (see Average Daily Traffic Flow Difference Plots below).
- Discipline-specific themes as well as multidisciplinary groups debated the options and provided direct feedback against the criteria. A new short list of hybrid options were developed.
- The final evaluation, a partially quantitative, partially qualitative and overall judgementbased (subjective) comparison, of the four final options (and sub-variations) was detailed a workshop report (please see attached).
- After further consideration, a recommendation on a proposed strategic approach was provided based on the outcome of the evaluations (please see attached letter dated 10 January 2014).



ABOVE FIG 1.4: AVERAGE DAILY TRAFFIC FLOW DIFFERENCE PLOTS (produced by Beca)



OPTION	DESCRIPTION	INITIATIVES				
Common to All Options	Essential elements	 Auxiliary lanes on SH20 between Neilson St and Queenstown Rd Freight priority lanes at key intersections, including Great South Rd/Sylvia Park Rd, Sylvia Park Rd/Mt Wellington Hwy Cycle network upgrade (to complete the network developed in the Aecom study up to a budget allocation of \$50m) Bus/rail interchange upgrades at Onehunga, Otahuhu, Penrose and Mangere Town Centre Bus priority and improved bus frequencies on the Frequent Network, linking Onehunga to Mangere, Mangere to Otahhuhu, Otahuhu to Sylvia Park and Sylvia Park to Onehunga Third rail line between Wiri and Westfield 				
AD	Upgrade Neilson/ Church Street	 Upgrade Neilson St and Neilson St/Onehunga Mall intersection New traffic signals at Neilson St access into MetroPort Local access roads connecting MetroPort to local roads south of Neilson St Freight priority lanes at key intersections, including Neilson St/ Church St, Church St/ Hugo Johnston Dr, Church St/Great South Rd 				
A1	Arterial connection between Gloucester Park interchange and Mt Wellington interchange	 New arterial road from Neilson St/Angle St junction to Great South Rd/Sylvia Park Rd junction Upgrade Sylvia Park Rd Include all Option A0 initiatives 				
A2	Arterial connection between Gloucester Park interchange and Carbine Road	 New arterial road from Neilson St/Angle St junction to Carbine Rd Include all Option A0 initiatives 				
A3	Arterial connection between Gloucester Park interchange and Highbrook	 New arterial road from Carbine Rd to Business Parade North Include all Option A0 and A2 initiatives 				
B0	Arterial connection between SH20 and Savill Drive	 New arterial road from 20/20A junction to Savill Dr New signals at Robertson Rd, Freda PI and Vine St Include all Option A0 initiatives 				
81	Arterial connection between SH20 and Mt Wellington interchange	 New arterial road from SH20 to Sylvia Park Rd/Great South Rd intersection Upgrade Sylvia Park Rd Include all Option A0 and B0 initiatives 				
B2	Arterial connection between SH20 and Great South Road	 New arterial road from SH20 to Walmsely Rd/Kaka St junction. Upgrade Great South Rd and Sylvia Park Rd. Intersection upgrade at Great South Rd/Portage Rd junction Include all Option A0 and B0 initiatives 				
C1	Motorway connection between SH20 and Highbrook interchange	 New interchange at Savill Dr and Middlemore Hospital Upgrade existing motorway junctions at Highbrook and 20/20A. Include all Option A0 initiatives 				
D	Upgrade Favona Road	Upgrade Favona Rd/Walmsley Rd Include all Option A0 initiatives				

DISCIPLINES

The project involved experts from related initiatives across Mt Wellington and Penrose areas that overlap with the East West Link to improve freight connections, including the AMETI connection and SMART (rail to the Airport) projects.

A wide range of disciplines groups were also involved including environment/open space/ecology, built form/housing/heritage, economic/ employment, transport (strategic, passenger transport, walking and cycling), social and community, and Maori values.

Auckland Cycle Network 2030: Southern area



- 51% of all manufacturing employment
- 54% of all transport, postal and warehousing employment
- 45% of all wholesale trade employment
- 27% employment growth between 2002 and 2012.

ABOVE FIG 1.7: ECONOMIC ISSUES

tapu sites

ABOVE FIG 1.8: IWI ISSUES



ABOVE FIG 1.10: SOCIAL AND HERITAGE ISSUES

TRANSPORT PROGRAMME OPTIONS		OPTION A0	OPTION A1	OPTION A2	OPTION A3	OPTION B0	OPTION B1	OPTION B2	OPTION C1	OPTION D
Ref.	Focus Area									
в	Support Better Social Outcomes									
B1	Focus on those in most need									
B2	Improve safety and reduce road									
B3	Personal Security									
B4	Community connectivity (1)									
B5	Community connectivity (2)									
B6	Public Health									
B7	Local amenity (1)									
B8	local amenity (2)									
69	Support Better Environmental									
C	Outcomes									
C1	Energy Efficiency									
C2	Water Bollution									
C4	Coastal amenity									
C5	Ecology/Biodiversity									
C6	Natural and built Landscape									
C7	Noise/Vibration									
D	Increased Availability of Quality Transport Options									
D1	Network integration									
D2	Transport Choices - Improved ability of people to get around easily, affordably and reliably, with travel options									
D3	Access to employment and ameni-									
D4	Public transport boardings									
D5	Walking									
D6	Cycling									
Е	A More Efficient Transport Network									
E1	Agreed level of service									
E2	Transport productivity.									
E3	Public transport efficiency									
E4	Improved PT value for money									
E5	Strategic network role									
E0										
E/	Support Growth and a Quality									
F	Urban Form									
F1	ing urban area									
F2	Support new development areas/ intensive land use (1)									
F3	Support new development areas/									
F4	Urban Amenity									
E5	Built environment / Urban Charac-									
G	ter Support Economic Growth and									
G1	Enhanced Productivity									
0										
GZ	Employment - regional									
G3	Employment - local									
G4	Supply chains.									
G5	Freight efficiency									
G6	Freight reliability									
G7	Accessibility for workers									
Н	Value for Money									
H1	Enduring benefits									
H2	Infrastructure efficiency									
H3	Staying and timing of investments									
H5	Value for money									
	tallet for money				I					

Key to rating for Options				
\checkmark	Significant positive effects			
$\checkmark\checkmark$	Moderate positive effects			
✓	Minor positive effects			
	No effects / similar to existing situation			
×	Minor negative effects			
**	Moderate negative effects			
***	Significant negative effects			

ABOVE FIG 1.11: COLLECTIVELY DESIGNED EVALUATION CRITERIA

PROJECT OUTCOME

A good outcome backed up by technical rigor

Technical transport confidence combined with a wider interdisciplinary focus fixed on a response which, through attention to localised design, achieved the desired transport outcomes and minimised social disruption, impacts on culturally significant locations, and environmental damage (refer to image, Page 12 of the Workshop Report for the full evaluation of the preferred option). The process was able to prove technically that there is an option that better integrates landuse and transport outcomes than those originally being considered.

Multi-agency consensus and efficiency

This work allowed a collaborative multi-agency agreement on the future direction of the project, unlocking complex problems in an extremely efficient timeframe (initiated in August/September 2013 with workshops being undertaken in November/December 2013 and the report finalised in early 2014).

Additional Opportunities

The integrated process allowed for a comprehensive understanding of the issues and opportunities to be gained by the wide ranging disciplines involved. Additional opportunities for local communities were identified, including improvements for (refer to Figure 1.13 on the next page):

- \rightarrow walking;
- \rightarrow cycling;
- → public transport;
- \rightarrow general traffic;
- → land uses;
- \rightarrow environment and open space;
- \rightarrow community facilities; and
- → identity and interpretation.

How it was achieved

The integrated workshop process used involved different disciplines from multiple agencies. Discipline groups were able to get an in-depth understanding of the wider scope of the project, allowing synergies to be identified and investigated within the workshop process. A customdesigned assessment criteria, developed collaboratively ensured buy-in across all agencies. As options were assessed and modified, they were able to be modelled by Beca to ensure the transport implications were rigorously tested and deliverable.

The process provided for a mutually agreed final evaluation of the options that was partially quantitative, partially qualitative, allowing all stakeholders to take an agreed view on the future direction of the project.



ABOVE FIG 1.12: THE A0 + A1 PROVISONAL OPTION

THE MERITS OF THIS PROJECT

The East West Link integrated transport workshop developed a multi-disciplinary, collaborative approach across NZTA, AT, and AC to inform the future direction of this complex project.

The project is a successful example of integrated landuse and transport planning, including:

GOOD OUTCOMES

→ Outcomes: the process allowed for a collaborative approach across agencies to inform a response with technically, socially, and environmentally positive outcomes.

SYSTEMATIC PROCESS and INTEGRATION

- → Land-use transport integration between agencies: effectively working as a joint client by bringing together NZTA with AT and AC, with all participants having access to all material, participating in the evaluations, and reviewing the draft reports.
- → Unlocking complexity efficiently: by undertaking the full process, from inception to report production, in a six month period.
- → Wide engagement of discipline groups: representing social, environmental, economic, and transport, including environment/open space/ ecology, built form/housing/heritage, economic/ employment, transport (strategic, passenger transport, walking and cycling), social and community, and Maori values.
- → Joint evaluation criteria: that was customdesigned and agreed in advance by all disciplines.
- → Transport rigor and deliverability: was achieved through the modelling of the key options, run by Beca, and by carefully assessing deliverability as part of the assessment criteria.

STRONG ENGAGEMENT

- → True engagement: by setting aside previously developed responses and giving disciplines an opportunity to understand the unique and complex context of the area in depth, propose transport responses from their discipline perspectives, assess, modify and optimise options, and develop detail designs.
- → Direct lwi engagement: which happened in a dedicated workshop following the initial workshops.

NZTA, AT, AC and Urbanismplus have together tackled a complex and nationally significant transport problem in order to manage a variety of competing organisational and community requirements. The integrated approach produced a positive outcome while building trust and understanding between agencies and disciplines.

The East West Link project should be considered as making a significant contribution to developing systematic techniques that can be used for multiagency and multi-disciplinary projects, approaching them in a way that achieves integrated and mutuallyagreed outcomes.





ABOVE FIG 1.13: DISCIPLINE BENEFITS

