

Under the Resource Management Act 1991

In the matter of Notices of Requirement to enable the construction, operation and maintenance of the City Rail Link

Between

**Auckland Transport**

Requiring Authority

And

**Auckland Council**

Consent Authority

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**Statement of Evidence of John Williamson**

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## **Introduction**

1. My full name is John Williamson.
2. I hold a Master of Arts in Economics. I have over 15 years experience applying economics to public sector policy, planning, investment and funding decisions. I have been involved in assessing the economic benefits and costs of a wide range of major transport projects across New Zealand. I have undertaken a large number of studies examining the relationships between transport and the economy to assist in policy development in New Zealand. I have a well established track record of undertaking research designed to assist in expanding the scope of the economic analysis of transport projects and I have undertaken a wide range of research studies in the field of urban economics. A summary of my curriculum vitae is attached as **Annexure A**.
3. I am a consulting economist and director of Ascari Partners Ltd. Prior to establishing Ascari Partners in 2005 I was employed by the former Auckland City Council for 9 years. I am a member of the New Zealand Association of Economists.

## **Executive Summary**

4. My evidence is given in support of the Notices of Requirement issued by Auckland Transport for the City Rail Link (CRL).
5. Enabling people and communities to provide for their economic wellbeing and the efficient use and development of resources are relevant considerations under the Resource Management Act (RMA).
6. By increasing the accessibility of the city centre the CRL will increase the productivity of workers and the level of employment in the city centre. Through firms and workers becoming more productive the CRL will support additional economic activity that will expand the city's economy.
7. There will be some temporary adverse economic effects arising from the construction phase of the CRL in particular, although these can be mitigated or remedied through conditions.

## **Code of Conduct**

8. I confirm that I have read the 'Code of Conduct for Expert Witnesses' contained in the Environment Court Consolidated Practice Note 2011. I agree to comply with this Code of Conduct. In particular, unless I state otherwise, this evidence is within my sphere of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

## **Scope of Evidence**

9. My evidence considers:
- (a) Economics and the RMA;
  - (b) The economic benefits of the City Rail Link (CRL); and
  - (c) My conclusions.
10. My evidence is within my area of expertise, except where I am relying on data and information provided by other persons. Where this is the case I have identified these other persons as sources for this data and information.

## **Economics and the RMA**

### Community Economic Wellbeing

11. Economic considerations are intertwined with the concept of the sustainable management of natural and physical resources, which is embodied in the RMA. In particular, Part 2 section 5(2) refers to enabling "*people and communities to provide for their ... economic ... well being*" as part of the meaning of "*sustainable management*", the promotion of which is the purpose of the RMA.
12. As well as indicating the relevance of economic effects in considerations under the RMA, section 5 also refers to "*people and communities*" which highlights that, in assessing the impacts of a proposal, it is the impacts on the community and not just the impacts on the applicant or particular individuals or organisations that must be taken into account. This is

underpinned by the definition of “*environment*” which also extends to include people and communities.

### Economic Efficiency

13. Part 2 section 7(b) of the RMA directs that, in achieving the purpose of the Act, all persons “*shall have particular regard to ... the efficient use and development of natural and physical resources*” which includes the concept of economic efficiency. Economic efficiency can be defined as:

*“The effectiveness of resource allocation in the economy as a whole such that outputs of goods and services [more] fully reflect consumer preferences for these goods and services as well as individual goods and services being produced at minimum cost through appropriate mixes of factor inputs”.*<sup>1</sup>

14. More generally, economic efficiency can be considered in terms of:
- (a) Maximising the value of outputs divided by the cost of inputs;
  - (b) Maximising the value of outputs for a given cost of inputs;
  - (c) Minimising the cost of inputs for a given value of outputs; and
  - (d) Minimising waste.

### Viewpoint for Economic Assessment

15. The major economic effects of the CRL will be on the residents and businesses of the Auckland region. My evidence reflects this.

### Descriptive analysis

16. My evidence describes a number of important economic benefits and costs that will arise as a result of the construction and operation of the CRL and are relevant to the RMA. It is not a complete, formal cost-benefit analysis.

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<sup>1</sup> Pass, Christopher and Lowes, Bryan, 1993, *Collins Dictionary of Economics* (2<sup>nd</sup> edition), Harper Collins, page 148.

17. In terms of the specific cost benefit analysis of the project itself, my understanding is that this is a matter for the funding parties to consider in detail, and is not a matter that is regulated through RMA processes.

### **Economic Benefits of the CRL**

#### Enabling “people and communities to provide for their ... economic ... well being”

18. The evidence of Dr Warburton refers to project Objective 3: Significantly contribute to lifting and shaping Auckland's economic growth. He has also made reference to the CRL being named in the Auckland Plan as one of three transport projects that are “critical to Auckland’s future growth” and being specified as “the foremost transformational project in the next decade”. The Plan further states that “the Auckland Council sees the CRL as a key enabler of increasing employment in the city centre and metropolitan centres on the rail network.” The Auckland Council’s Auckland’s Economic Development Strategy (AEDS) identifies the CRL as one of the four transport projects critical to Auckland’s future growth. The AEDS indicates completion of the CRL as a short to medium term priority (e.g. within 10 years). The economic importance of the CRL arises from the outcomes it will contribute towards. My evidence explains how the CRL is expected to contribute positively to Auckland’s economy and in doing so assist the people and communities of Auckland to provide for their economic well being.
19. Cities are now the primary drivers and location of economic growth in the developed world. OECD research, which disaggregated GDP into four main factors revealed that, for the most part, higher incomes in metropolitan areas can be attributed to higher labour productivity levels.<sup>2</sup> It would appear that larger and more dense urban areas are more productive than the economy generally.
20. Auckland fits this pattern. Recent Statistics New Zealand data confirms that Auckland employs 33% of New Zealand’s workforce and

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<sup>2</sup> Kamal-Chaoui, L. and Robert, A. (eds) , 2009. p30.

produces 37% of New Zealand's GDP.<sup>3</sup> The average worker in Auckland is therefore more productive than the average New Zealand worker. Evidence from a study by Maré indicates that value added per worker in the Auckland region is 30 to 50 per cent higher than that of regions outside Auckland.<sup>4</sup>

21. Within cities there is strong evidence of a positive relationship between the accessibility of an area, its employment density and the level of productivity. This relationship underpins patterns of economic development in cities. As areas are made more accessible to workers and firms, employment density rises and they become more productive.
22. The analysis of productivity patterns within Auckland undertaken by Maré (2008) and myself (Williamson et al (2008)) both revealed a strong correlation between accessibility, employment density and productivity.<sup>5</sup> Auckland's city centre is both the most accessible and productive location in the city. Maré's research indicates that value added per worker in Auckland CBD is 120 to 150 per cent higher than for regions outside Auckland. My own research confirms that city centre workers earnings are noticeably higher than those of workers in all other parts of the region at the census area unit level.<sup>6</sup>
23. The CRL was confirmed as the best way to provide enhanced access to the city centre in the City Centre Future Access Study (CCFAS) carried out for Auckland Transport and central government by Sinclair Knight Merz (SKM) in 2012. The study investigated how the future access requirements of the city centre could best be addressed. Three options were considered in detail. Each had a "headline option" of a single mode of public transport supported by additional, but less significant, investments in other public transport modes. These options were evaluated as follows:

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<sup>3</sup> Statistics New Zealand Linked Employer Employee Database (using earnings for 09/11) and Statistics New Zealand Business Demographic Database 2011.

<sup>4</sup> Maré, D.C. (2008) *Labour Productivity in Auckland Firms*, Motu Working Paper 08-12.

<sup>5</sup> Maré (2008) p39.

<sup>6</sup> Maré, D.C. (2008) *Labour Productivity in Auckland Firms*, Motu Working Paper 08-12.

- (a) Underground rail, connecting to the existing rail network. This would carry the highest number of people, involve the smallest land take and have the most beneficial impact on car commuters and freight. It was the only headline option with any capacity after 2041. It was also the most expensive with a capital cost of \$2.4b.
  - (b) Surface bus, with and without improved access outside the city centre. This would deliver some additional capacity but would reach its limits between 2025 to 2030 and cost up to \$1.13b. Including CBD approaches it would also entail significant land take in suburban Auckland. It was the best of the bus options.
  - (c) Underground bus, with and without improved surface access outside the city centre. This would also deliver some additional capacity but reach its limits between 2025 and 2030. It would cost up to \$ 2.34b. Including works on approaches to the CBD it would entail significant land take in suburban Auckland. It was not considered a viable option.
24. The study concluded that none of the headline options tested would fully address the city centre access requirements. Taking an integrated approach by combining the underground rail option with the best operational aspects of the surface bus option would be the best way to effectively address city centre access for the next 30 years and beyond from the south, east and west as well as the central and southern isthmus. The current AT proposal for the CRL includes associated bus improvements.
25. The CCFAS established the likely success of the CRL (in conjunction with targeted bus service improvements) in achieving the agreed study objectives relating to city centre access and confirmed that it was the best option to do so. The study demonstrated that by converting Britomart Station from a terminating station into a through station and thereby allowing rail service to the city centre to more than double from 20 to 48 trains per hour (by having trains run in both directions through the city centre), the CRL produced the highest benefits of all options across both monetisable and non-monetisable criteria. The CRL, in particular, provided for the greatest multimodal capacity to get people into the city centre and also provided for the highest network speeds

within the city centre. It was the only solution to deliver increased capacity to serve city centre growth beyond 2030.

26. The CRL also provides the most network capacity for freight, private vehicles and public transport into the city centre, allowing for future growth and has the ability to enable additional schemes such as a rail line to the North shore and a rail extension to the Airport.
27. The CRL will enable development, both in the city centre and around the city. By increasing patronage on the rail network as a whole, the CRL can encourage intensification around existing stations on the wider network. The CCFAS confirmed that the CRL would provide the opportunity for economic development around existing regional approaches, while the bus options with regional approaches would negatively affect some town centres.
28. Dr Warburton's evidence describes the impact of the Britomart station as an example of the economic impact of a modern railway station and increased patronage. The CRL and the underground bus options were identified as providing "the opportunity to contribute to urban image, street quality and vitality by facilitating public realm, pedestrian routes, and pedestrian connectivity around proposed stations and through comprehensively redeveloped precincts." Increased numbers of city centre pedestrians under all options will enhance vibrancy but the CRL option allows higher pedestrian numbers within the city centre without the need for higher numbers of vehicles. Options which have more buses at street level (visual and noise intrusion) and more congested traffic conditions are considered to perform worse in terms of urban quality. Because of this the CRL will be more complimentary to comprehensive master-planning of precincts around stations, supporting high value, high quality development of the city centre (including the areas identified in the City Centre Masterplan for redevelopment) compared with the other options.
29. Returning to economics, the concept of agglomeration provides a well understood explanation for the positive relationship between accessibility, employment density and productivity. Agglomeration describes the benefits of higher levels of productivity (and higher

returns to businesses and workers) that arise from increasing the concentration of people and economic activity in larger, denser urban areas.<sup>7</sup> Accessibility to the city centre, as provided by the CRL, is a necessary factor to allow agglomeration effects to be strengthened.

30. The economics literature emphasises three sources of agglomeration:
- Input-output linkages promoting more efficient provision of intermediate inputs to firms;
  - Larger labour markets allowing greater specialisation and better matching of employees to jobs; and
  - Technological or knowledge spill-overs between firms.
31. In a practical sense, agglomeration takes place through features such as the deepening of labour markets, increasing the possibility of skills-matching between workers and firms and the increasing demand for labour encouraging workers to become more specialised. Firms also agglomerate to gain access to a wider set of skills and establish linkages with suppliers and buyers.
32. A critical advantage of a dense city centre is that it assists in the sharing and dissemination of knowledge that often requires face-to-face contact, crucial for building trust and reducing risk.<sup>8</sup> This is why an accessible, intensified CBD served by the CRL will be an important component of a productive and growing Auckland economy.
33. The importance of cities as the drivers of economic growth arises from the structural transformation of modern economies over the

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<sup>7</sup> Ascari Partners Ltd and Richard Paling Consulting (2007a), *Assessing Agglomeration Effects in Auckland: Linkages with Regional Strategies*, report prepared for the Auckland Regional Council. p1.

<sup>8</sup> Storper, M and Anthony J. Venables, 2004. "Buzz: face-to-face contact and the urban economy," *Journal of Economic Geography*, Oxford University Press, vol. 4(4), pages 351-370, August.

past 40 years. Cities are changing from manufacturing centres into concentrations of high value added service activities driven by knowledge, skills and innovation.

34. Service industries tend to derive larger benefits from urban agglomeration than other sectors in the economy.<sup>9</sup> Looking at the picture for Auckland, empirical research confirms that business and financial services are the city's most productive sectors with average earnings equivalent to 123% and 136% of the regional average wage respectively, higher than for any other sector. These sectors are also disproportionately located in the city centre. The dominance of business and financial services is such that these two sectors combined accounted for 52 per cent of city centre employment (34,689 jobs) in 2012. In comparison, the next highest concentration of these two sectors in Auckland is in Ellerslie/Penrose, with 5,849 people employed.
35. This evidence of specialisation is exactly as theory predicts, with activities benefitting from agglomeration concentrating in central, accessible locations to reap productivity benefits. The CRL will support the growth of employment and productivity within Auckland's most productive activities.
36. An important consideration for the CRL is the fact that agglomeration effects increase with scale and density, which is why city centres continue to intensify and cities continue to grow. On the other hand, a pattern of dispersed employment in sectors which benefit from agglomeration will lead to a loss of potential output.
37. Accessibility for people is critical in leading economic development through agglomeration. A reduction in transport costs to an area creates the opportunity for an increase in employment density and therefore productivity. A paper published by the Centre for Transport Studies in London goes so far as to say that "ultimately

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<sup>9</sup> Melo et al (2009) p339. (examined the results of 34 different studies of agglomeration effects)

transport investment is crucial in sustaining cities and supporting urban agglomeration.”<sup>10</sup>

38. This highlights the importance of the CRL for Auckland’s economy. Making the city centre more accessible as a result of the CRL increases the number of workers available to employers and conversely, brings a greater range of employment opportunities within reach of households. These factors improve the match between workers and employment opportunities allowing specialisation and enabling firms to operate more efficiently. Reduced travel times also allow firms and businesses to interact more effectively between themselves, improving productivity through knowledge sharing, which allows innovations to spread.

#### Economic Efficiency

39. In the CCFAS (2012) SKM quantified the efficiency gain from agglomeration and related wider economic benefits of the CRL as having a net present value of \$503 million using NZTA’s standard methodology. This methodology measures the potential productivity benefits arising as a consequence of a reduction in the travel costs incurred by workers.
40. SKM also concluded that the opportunity for workers to move to more productive jobs in the city centre, as a result of increased accessibility provided by the CRL, would add further economic benefits with a net present value of \$238 million.
41. Therefore, by increasing the accessibility of the city centre to workers the CRL will increase both productivity and the level of employment in the city centre. Through firms and workers becoming more efficient and productive, the CRL will support additional economic activity that will expand the city’s economy.

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<sup>10</sup> Graham, D. (2005), ‘Transport investment, agglomeration and urban productivity’, Centre for Transport Studies, London.

## **Economic Costs of the CRL**

42. My evidence has focused heavily on the potential for the CRL to support increased economic activity in the city centre. However, the construction phase of the CRL will impact negatively on some city centre businesses, through limiting accessibility to parts of the city whilst above ground works are undertaken.
43. Primarily these effects will be felt along parts of Albert St, around the three station locations and at the Mt Eden construction yard. The impacts are likely to be highest for businesses reliant on pedestrian access and/or deliveries. Retail businesses will be one activity where these effects will be an important consideration.
44. Experience during the construction of Britomart provides an example of the types of impacts that may arise and the potential magnitude of effects. In this case a small number of retail businesses located close to the main construction site suffered significant negative impacts during the construction phase but there was little or no impact recorded on office type activities.
45. The adverse impacts experienced will be temporary and localised. The Britomart example demonstrates that the increased people activity post construction around stations in particular will transform these locations into significantly more attractive retail areas, offsetting losses incurred during construction.

## **Conclusions**

46. The CRL enables residents and businesses of Auckland “to provide for their ... economic ... well being” in that:
  - a. It will increase the level of employment in the city centre due to the city centre becoming more accessible.
  - b. This intensification will enable firms and workers to become more efficient.

- c. This will support an increase in the productivity of city centre workers, contributing additional economic activity to the city's economy.
- d. The costs incurred by city centre businesses disrupted during construction are real but may be mitigated through conditions and the compensation mechanisms of the Public Works Act.
- e. The evidence from Britomart shows that retail businesses close to above ground works are most likely to be directly affected during construction but there will be significant opportunities post construction to enhance retail activities around the station.

John Williamson

2 July 2013

**ANNEXURE A  
CURRICULUM VITAE OF JOHN WILLIAMSON**

**EDUCATIONAL  
QUALIFICATIONS**

Master of Arts in Economics (1st Class Hons), University of Auckland (1997).

Bachelor of Arts, University of Auckland, (Majoring in economics) (1995)

**PRESENT POSITION**

**Employer** Ascari Partners Ltd

**Dates** 07/2005 to present

**Position** Director

**PREVIOUS EXPERIENCE**

**Employer** Auckland City Council

**Dates** 01/01 to June 2005

**Position** Strategy Manager – Infrastructure (Funding Adviser for major transport projects including Britomart)

**Employer** Auckland City Council

**Dates** 01/99 to 12/00

**Position** Policy Analyst

**Employer** Auckland City Council

**Dates** 11/96 to 12/98

**Position** Researcher

**Employer** University of Auckland

**Dates** 11/95 to 11/96

**Position** Tutor and Research Assistant, Department of Economics

## **AREAS OF PRIMARY EXPERTISE**

John is an experienced public sector economist with a strong track record in areas related to transport, public sector governance and funding, the evaluation of policy and planning proposals, cost benefit analysis including the economics of urban areas, the valuation of non-market goods and economic sectoral analyses.

### **Specialisations**

- Transport project evaluations, funding applications and business cases.
- Cost benefit analysis, economic impact assessment and the valuation of non-market goods.
- Economic analysis and modelling of sectors, industries and firms.
- Economic analysis of policy and planning interventions
- Urban and transport economics including the economic development effects of transport
- Transport funding strategies
- Public sector governance and funding.

### **Technical Experience**

John's experience with policy evaluations includes assessing the relative economic benefits of alternative funding policies for local government in New Zealand, assessing the economic costs and benefits of alternative forms of revenue raising for transport funding in Auckland, providing economic advice to assist with the development of the Auckland Plan and previous Auckland Growth Strategies. John assisted MfE to assess the costs and benefits of policy options developed as part of the most recent review of the RMA.

At a project level John has been responsible for business cases and funding applications for a wide range of New Zealand transport projects including; Britomart, the Auckland-Manukau Eastern Transport Initiative, Rotorua Eastern Arterial, Lower Hatea Crossing, Manukau Rail Link, Queen St Bus lanes and Bledisloe Bus Station, Whau Crossing, SH20 Waterview Extension and PENLINK. John is currently leading the Funding Workstream for the City Rail Link.

John's research experience in urban and transport economics has included the development of models that can be used to forecast changes in economic activity resulting from changes in transport accessibility and land use patterns. John has undertaken primary research on the presence and drivers of agglomeration effects in Auckland for the MED and ARC and has undertaken a number of recent studies examining regional economic relationships for the

MED and MOT. John has undertaken research for NZTA looking at the relationships between transport investment, land use change and productivity.

John has recently been involved in assessing the economic structure and potential of the areas directly served by the proposed Auckland East-West connection and is currently contributing to a joint study examining transport and the economy of the East Coast Region on behalf of the Ministry of Business and Innovation (MBIE). John recently undertook the economic and household impacts analysis of the funding options being considered by the Mayor's Consensus Building Group on Alternative Funding.