

**Before the EPA Board of Inquiry
Ruakura Development Plan Change**

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of a Board of Inquiry appointed under section 149J of the Resource Management Act 1991 to consider a Plan Change requested by
Tainui Group Holdings Limited and Chedworth Properties/Parks Limited

**Summary Statement of Kevin Alfred Broughan
26th May 2014 (version 7)**

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1. **Preamble:** In this statement I first highlight the main points in my submission and evidence. I then respond to or critique submissions made by some others [8, Items 48,54].
2. **Summary.** I no longer wish to pursue issues (1) and (2) in my submission of 18 December. I also confirm my statement of evidence of 26th March 2014, except sections 37 and 39 which are out of scope. The period used for predictions in work supporting the Proposed Plan Change (PPC) of 50 years is too long. I derive significantly smaller projected volumes than in the PPC. The assumptions and methods underlying the job number predictions, demand, and economic advantages of the PPC are tested and found to be unreliable.
3. **Qualifications:** I have the qualifications and experience set out in my Evidence Item 3 of 26 March 2014.
4. **Code of Conduct:** I confirm the statement in my Evidence Item 4. Any representation here is prefaced here by the phrase “in my opinion”.
5. In broad terms, my **summary** covers two major areas of concern. In particular I wish to draw to the attention of the board the negative impact of the PPC on the future expansion of both the University and knowledge-based industry, and to question the applicant’s forecasts of the future viability of their proposal based on their projections of both employment and freight volumes.
6. **Universities** play a fundamental role in on-going development. They continue to thrive as institutions, that attract the best minds of each generation as staff and students. This underlines their importance for society and culture.
7. **The University of Waikato:** is a major Hamilton institution that also serves the central North Island. It occupies a site of 67 hectares, roughly to the SW of the R1 area. Since its establishment in 1964 the University has developed hugely. It offers to doctoral level degrees in Arts, Social Sciences, Education, Management, Science, Engineering, Computing, Mathematical Sciences, Maori Studies, Pacific Studies and Law. It has over 50 substantial buildings on the hill at Hillcrest. The money value of the physical University has been estimated as \$300M (EIC item 6). The University also houses two CRIs and 6 Waikato University institutes.
8. **High Ranking:** The University is ranked in the top 2% of universities world-wide and has 5 subjects ranked in the world’s top 150. It is estimated to contribute \$1b annually to the

Waikato economy. It generates, directly and indirectly, over 5000 jobs (EIC item 6) and has over 12000 students [9].

9. **University growth:** The University will grow significantly over the next 50-100 years. I would expect it to more than double in size in 30 years, with a projected economic impact on Hamilton rising to \$2billion per annum. The University will grow, as society becomes more differentiated, the need for higher level skills becomes more intense, and the offerings become more diverse e.g. developments in agriculture and medical education are possible within the next few decades. The success of the University has been made possible by the development of new programmes. If the planned PPC developments on its NE side go ahead, the growth of the University will be constrained and its value as a cultural amenity will be degraded. The University is already a very successful going concern. Its achievement is real and its contribution certain. Its future looks very promising. The Inland Port, has an uncertain future.
10. **Student enrolments:** The number of students enrolled in NZ universities has continued to increase at a rate significantly faster than population growth. This increase is driven by progress in science and technology, the increasingly complex nature of societies requiring longer periods of study and skill acquisition, better approaches to the way life is organized, and competitive international economics. This trend is in step with world population growth and will continue through the plan change period and beyond.
11. **Protecting existing cultural amenities for future generations:** In my Evidence I show why dealing with the future need for expansion by creating a new separate campus in Tauranga or Hamilton is not, in my opinion, a satisfactory option. I also explain why expanding into the Knowledge Zone sub areas A, B, or C are not suitable either. Area A must be left for Agresearch and related institutions. Areas B and C should be left to the Innovation Park, already highly constrained by the rail line, substation and high tension lines. There are maybe 26 ha of usable land in B plus C, with much of this taken up by roads and parking.
12. **Allocation. The option favoured by this witness** is to allocate to the University a substantial part of the land to the south of the area planned for the port, bordered by Silverdale Road and Sheridan St. This land is contiguous with the actively used parts of the existing campus. Overbridges would make these connections effective.
13. **Value to Tainui.** A stronger, larger and more diversified University is an advantage to Tainui, its people and their aspirations. Tainui should receive a fair income from their land from the Crown. Senior members of the University administration have said they would prefer this development would not go ahead – so that's the fundamental reality.

14. **Port activity**, general industrial areas, warehouses, heavy traffic, towers of containers, noise and light pollution will constrain and degrade the facilities in the knowledge zones A, B, C and D. This will result in loss of amenity. These Knowledge zones should be given enough expansion room to double to double in size over the next 50 years.
15. Future proof repeated in their documents many times over the last decade words such as what we see in 2014: **“Industries: Ruakura - high technology and innovation and a more general employment area.”** Details are in my Evidence Item 23. They are setting the strategy for new developments, not the existing ones.

16. **Hamilton urban growth strategy**: of 2010 also stressed the value of building on the existing strengths of the Ruakura area: (Proposed District Plan, website, 22 March 2014)

“To build on our strengths, we are proposing to develop an innovation precinct in the Ruakura area of the city, specialising in research, innovation and high-technology businesses. This will see the integration of the future development of Waikato Innovation Park and complementary industrial development in the area with the research facilities at the Ruakura Research Centre and the University of Waikato, as well as some general employment based on identified demand... We cannot afford to wait that long if we want to maintain Hamilton’s competitive advantage and secure these high-tech businesses in the city.”

Clearly HCC wants to see innovative, high-tech companies, job rich, job smart, keeping young and older Kiwis in NZ and adding value to the local and national economies. In my opinion, the port and logistics areas need not be in conflict with these industrial uses, but it should not replace them. Indeed, there is sufficient land in R1 labelled “logistics” to satisfy the needs of the port, and other industrial land to the north which could be used for logistics if needed.

17. The argument that the inland-port will give rise to **opportunities for research and students** is seriously overstated. Unless something deliberate is done to prevent this occurring, we will have areas focused on logistics and warehousing, i.e. “freight villages” in the two industrial areas juxtaposed to the proposed port. **The video** of TGH makes clear the intention for land use in the PPC, and this should be compared with the requirements of the planning documents. High-technology industry is to be limited to the Knowledge Zone. In reality, Agresearch is already small with a very significant land use proportion required for animal containment. I estimate less than 16 ha is available for expansion in the Knowledge Zone. This excludes land under high tension lines, or for the retail centre and associated roading and parking. To imply 110 ha is available in the Knowledge zone for high-tech is therefore clearly an overstatement.
18. In my evidence I make proposals for **changes to the planning rules** for the allocation of industrial land in the PPC areas. Since I was not able to participate in the expert witnessing conferencing, I respectfully request the Board give these proposals serious consideration.

They are in item 29 and seek a **“high-technology” or “advanced manufacturing” zoning classification for the land labelled “industrial”**. This would make the rules consistent with RMA 7(c) which includes the enhancement of future cultural amenity values of the established entities in the Knowledge Zone, not just the protection of their existing physical values.

19. **Science and technology parks** - are often planned and managed as collections of businesses which engage in high-tech or advanced manufacturing. They are normally near universities and may include government research laboratories and institutes as well as incubators. The aim of having these operations together is to foster synergies, the exchange of ideas, people and technologies between the entities in the park. These synergies produce new ideas, and the enhancement of economic growth and competitiveness in the wider economy. They also provide a variety of employment opportunities for citizens, including university research students. These parks started with Silicon Valley in California. It has a population of 1.7m but a GDP as large as NZ. The advanced manufacturing related to Massachusetts Institute of Technology has a GDP greater than that of NZ. The United States has about 55 parks. Other advanced economies also have these parks.

20. The current Innovation Park is for business incubators and product prototype development. A **science technology park is a much broader** concept, which could include facilities for biotechnology, software, electronics, communications, pharmaceuticals, and other research, as well as development and advanced manufacturing operations. The success of this Park would depend on having adequate buffering from the port, excellent infrastructure and support structures, attracting major players from NZ and abroad to locate part of their operations there. A steady stream of high-quality graduates in science, engineering, computer science and management would assist with this goal.

21. I now wish to offer a critique on the Castalia combined report (June 2013). This is attached to the EIC of Mr Boyle (the Castalia report page 9). This implied that by 2061, an estimated 11,000 new jobs would be created at Ruakura, with 8,000 of these being provided by the Intermodal Terminal plus Logistics (IMT/L) development. It is not clear how long it would take for this figure to be achieved, because in the footnote on page 9 they say this rate is consistent with a US\$1b investment in South Carolina’s inland port giving 11,000 jobs corresponding to a TGH investment of NZ\$1.3b, by the planned commissioning date of 2020. They give more details of the South Carolina development on page 37, and there footnote the Future Proof Implementation Committee submission to the Proposed Waikato Regional Policy Statement (November 2010) [4]. However the assumptions of Future Proof (Ken Tremaine - private communication 22 May 2014) are no longer valid, so we should base our critique entirely on the Castalia figures. Even Berl [3, page 15] find **the circle of attribution regarding job numbers confusing**.

22. **The South Carolina port**, with a catchment of 93 million people, and a German example, which was also given by Castalia, where the total population is about 20 times that of NZ using a similar catchment radius, are not comparable with Ruakura. With a maximum population within a radius of 140km of Ruakura of less than 2 million, the Ruakura catchment is less than 2.2% of that of South Carolina. In my view this must place serious doubt on the validity of the predictions contained within the Castalia report.
23. In my opinion, **relating job creation to investment or land area** is not necessarily valid, because there are many unpredictable factors. For example increased automation will reduce job numbers, especially for port and warehouse activities. Yet in his reply to a Board of Inquiry (BOI) question on 13 May, Mr Sundakov indicated that job density was the main method used to calculate job numbers: 20 jobs per ha on 400 ha gives 8,000 jobs.
24. In my opinion, if **job creation** is used as a justification for PPC, then the concept being described is **far from being the best possible** use of the industrial land. Block G, the building I work in at the University has over 140 staff plus full time graduate students on less than 0.2 ha. The Gallagher Group building in Kahikatea Drive Hamilton has more than 400 staff on less than 1 ha. A recent report claimed job densities in the vicinity of Sydney of 204 per ha in the Rosebury industrial area and 127 in the Alexandria industrial area [1].
25. Again in my opinion, 405 ha of industrial land, properly conceptualized to include a range of knowledge based and high-technology industries, with or without a smaller port than that described in the PPC, will be able to provide a significantly wider range and much **larger number of jobs** than those based on an IMT/L alone. In addition, it would be much more likely to provide employment for the graduates produced by the University than a development built entirely around freight handling.
26. Grouping together the occupations professional, scientific, technical, education, training, health care and social assistance, and using current Electoral Commission data, we find a total of 31% of the employed population living in Hamilton East and 25% in Hamilton West. For manufacturing it is 9% versus 13%. Transport, postal and warehousing is a surprisingly small 2.4% for the East and 3.5% for the West. Thus Hamilton industries are dominated by education, (with 30,000-40,000 tertiary students mainly at Wintec, the University and the Wananga,) and health, (with the large Waikato District Health Board principal campus at Pembroke St). Hamilton needs to **expand its industrial base** and create a wider range of opportunities for its citizens.
27. Since NZ has an economy based on exports, the range of activities being promoted by NZTE on their web site is a good place to start considerations for industrial development. There we see listed clean technology, ICT, education, agribusiness, services, food and beverage, high value manufacturing, biotechnology, creative film and TV, health, aviation, and wine. Singapore rose from 3rd world to being a 1st world economy in just 30 years, initiated by the development and active promotion of an industrial park suitable for these kinds of

industries. If there is to be advanced manufacturing in the Hamilton area, it must surely be sited at Ruakura, with the listed industries strongly promoted, as well as the port.

28. **The number of jobs in a category like freight is dependent on the demand.** Taking a 30 year projection period as does NZTA and PwC [2], I considered the data in the National Freight Demand Study of March 2014 [7], which covered the period 2012-2042. This study is more recent and comprehensive than the 2008 version used for the Castalia report.

29. **Here are all the details of my independent calculations:** I took the freight weight volumes for transport between and within Auckland, Bay of Plenty and the Waikato in millions of tonnes per year, and reduced them by the proportion of goods which would not be carried in containers. In particular I took out liquid milk, manufactured dairy, export logs, sawmill inputs, waste, coal, petroleum, limestone, cement, fertilizer, concrete, and aggregate. The proportion of all freight left was 44% in 2012 and 45% in 2042. To convert this to TEU's I used a figure of 21.6 tonnes per full container. This is a minimal number with many containers being heavier and leads to a notional current and projected container TEU traffic between and within the 3 regions set out in the table below. For example the figure 50 in the first row represents 50,000 TEU's travelling from the Auckland region to the Waikato. Of course much of this freight will not be in containers, so this phenomenon and the low weight assignment per container, should more than compensate for the proportion of internal Auckland freight which could end up going through Ruakura. That proportion is hard to estimate, but adding a round trip or the equivalent to the freight costs of a container adds over \$600 per TEU [2], so is a significant disincentive for Auckland freight customers to use Ruakura.

30. **Here are the results of these calculations:**

2012/44% TEUx1000	Auckland	Waikato	Bay of Plenty
Auckland	798	50	60
Waikato	90	496	65
Bay of Plenty	40	38	420
2042/45% TEUx1000	Auckland	Waikato	Bay of Plenty
Auckland	1428	78	81
Waikato	147	748	81
Bay of Plenty	61	52	570

31. **Projected demand:** The figures in the table give 358,000 container equivalent movements to and from Waikato, Auckland and Tauranga (6 modes in all) in 2012, rising to 500,000 in 2042. This includes all freight between the three regions but not the internal region freight. Given the competition from other current and potential inland ports and freight hubs, and competition from direct trucking or rail, a market share of 5% rising to 25% by 2042 would be reasonable. This would give about 18,000 TEU's per year in 2012, rising to 125,000 TEUs per year through Ruakura by 2042, an insufficient figure to justify the inland port envisaged by the applicants. Each container is counted only once here, and even if we double these numbers we get a smaller port.
32. I agree with TGH that a higher market share seems too high, especially since major firms and competitors will potentially always be able to develop their own facilities. **Expecting a market share of 23% by year 4** of the operation also seems much too high – see the Castalia Table 2.2 page 6.
33. The TGH numbers are given in page 29 of Appendix A to Appendix A of Mr Boyles EIC. We see Ruakura will compete for 758,000 containers in 2008-2009, **in my opinion too high a starting value.**
34. **The Castalia figure**, in their Table A.4, includes container movements between Auckland and Northland, movements within Auckland, and movements within the Waikato. In my opinion, these should not be included. For example freighting a container from Auckland to Ruakura where it is unpacked, and then trucking the goods back to Auckland would be uneconomic. The growing population on the North Shore might warrant new arrangements in future for freight, such as a small inland port serviced from North Port, but it is hard to see Ruakura playing a role.
35. The Castalia report, Table A.4 page 29, took up to 25% of the freight between Northland and Auckland. It also **included up to 25% of the internal Auckland region freight.** This assumption makes a large difference to their final projections. The total internal Auckland freight would include all internal courier traffic, all freight associated with Auckland International Airport, all house moving freight, all distribution from Auckland manufacturers (e.g. TipTop) to Auckland outlets. To assume a large proportion of this freight might go from Auckland to Hamilton and back is not credible – see Item 7-3 of the Aurecon report referenced in my Evidence at Items 29,38. The basic freight figures used by Castalia, and relied on by Mr Boyle and TGH, are not, in my opinion, reliable.
36. **The overall freight task** is predicted by NZTA to increase by less than 58% over the next 30 years, not to double. According to the PWC study [2], “incremental changes at the Port of Auckland and the Port of Tauranga, and the Ports of Northland, together with the two

attached inland ports at Wiri and Southdown (Metroport), are sufficient to carry the freight burden adequately in the medium term and beyond". They point out that inland ports in NZ have been slow to reach capacity:

"Metroport reached 55% utilisation in 2011, more than a decade after opening, while Wiri continues to struggle to achieve significant volume. Growth at Wiri has been limited as the convenience, speed and cost of road transport has proven superior to potential cost efficiencies from rail."

The future capacity for Metroport, which started at 3.5ha, is close to 400,000 TEU's per year (Port of Tauranga web source). They have recently purchased significant additional land and claim "unlimited" capacity to service Auckland (NZ Herald 14 August 2013). Wiri started at about 15ha with a suggested capacity for saving 100,000 truck movements per annum (Ports of Auckland web site).

An inland port, Northgate, could be constructed at Horotiu. It is close to rail, a state highway and away from residential areas. It has room for a 30-50ha freight hub on a 109ha industrial park site, and is further along the consenting path than Ruakura. It is said to require an investment of \$100m, and will be attractive to companies that want to buy land and invest in specialized plant. Maybe each of these ports is potentially smaller than Ruakura, or has some other disadvantage, but each one will take market share, force down the price that can be charged to customers, and in my view reduce the viability of large-scale Ruakura.

37. We look to **Future Proof** to provide strategic guidance on the types of industrial developments in the different industrial nodes around the Waikato region. In their submission for the Proposed Waikato Regional Policy Statement of 28 February 2011 [4] section 1.5 we read "**transport modelling assumptions** have been made and these are detailed in sub-section (g) below." Indeed sub-section (g) is headed "Transport modelling assumptions" but this submitter has not found any such assumptions, only job creation and household number assumptions, both seemingly unjustified.
38. **Economic benefits analysis:** I comment on the evidence of Mr Boyle and Mr Sundakov. I have doubts regarding the reliability of the economic benefits analysis. For example the factor of 5 improvement in GRP which is regarded as "too high" by Berl [3], as is the "too high" an increase in productivity of 2% per employee per annum, rather than 1% which is more typical. The evidence of Mr Denholm at item 20 is also relevant, and his doubts about the numbers supporting the development are similar to mine.
39. Taking the Castalia figures as they stand, **I have doubts about the conclusions.** For example they have a calculation on page 13 Table 4.1 that derives the difference between what they call the "Absolute gross regional product in 2061" of "small scale Ruakura" and "full scale Ruakura" as being 1%, a difference between \$84.5b and \$85.5b. This very small difference would indicate to me that a small scale Rurakura was a less risky undertaking.

40. Unresolved issues and conclusion:

- (a) How the future needs of the University for additional land are to be appropriately accommodated within the R1 area, consistent with the RMA.
- (b) How the industrial land in the PPC area is to be made consistent with the need of the Waikato and Hamilton for high-tech advanced manufacturing, repeatedly stated by Future Proof and summarised in the 42A report page 13. See also 3.10.3.
- (c) That the Board commission an independent study of the 30 year projected level of freight demand for an IMT/L facility at Ruakura, in order to determine the reliability of projections.

In conclusion, in my opinion the PPC should be required to be revised, including taking the resolution of these issues into account.

References

- [1] ELDP: 2010 Report 1 – Sydney city subdivision, Employment lands development program, NSW Government, Planning and Infrastructure, 2011.
<http://www.planning.nsw.gov.au/en-us/planningyourregion/employmentlands.aspx>
- [2] PWC Upper North Island port and port-related infrastructure supply and demand study, A report to the Upper North Island Strategic Alliance, November 2012
<http://www.waikatoregion.govt.nz/Services/Regional-services/Regional-growth-and-development/Upper-North-Island-Strategic-Alliance-UNISA/>
- [3] Berl Review of Castalia reports on Ruakura and implications, Report to the Waikato Regional Council, April 2012
<http://www.waikatoregion.govt.nz/PageFiles/21512/2%20May/May%2002%20Item%2011.pdf>.
- [4] Future Proof Future Proof Implementation Committee submission to the proposed Waikato Regional Policy Statement, November 2010
<http://www.futureproof.org.nz/page/76-future-proof-submissions-and-related-documents>
- [5] Future Proof – Knowing our future by planning today 2014 www.futureproof.org.nz/56-What-are-out-focus-areas-+Business-and-industrial-land+Industrial-land
- [6] National Freight Demands Study 2008, NZ Ministry of Transport,
<http://www.transport.govt.nz/research/nationalfreightdemandsstudy/>
- [7] National Freight Demand Study 2012, NZ Ministry of Transport,
<http://www.transport.govt.nz/research/nationalfreightdemandsstudy/>
- [8] Memorandum No 1 of the Board of Inquiry, Inquiry Procedures, 27 November 2013, Board of Inquiry, Proposed Ruakura Plan Change.
- [9] Website <http://www.waikato.ac.nz/about/facts.shtml>