

Final Report

Cost-Benefit Analysis of Stadium Options

Prepared for

**Auckland City Council
and
Auckland Regional Council**

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Executive Summary

A cost-benefit analysis of two stadium options is presented in this report, which was jointly commissioned by Auckland Regional Council and Auckland City Council ('the councils'). We estimate the resource costs for each project and consider the associated benefit streams. In doing so, the stated objectives of local, regional and central government are adopted. These objectives are summarised in the economic transformation agenda articulated by central government, and in the four "wellbeings" promoted by councils: social, cultural, environmental, and economic.

This analysis was done over a compressed timeframe, for the purpose of supporting a rapid decision that central government has asked the councils to make. This decision concerns costly investment in sunk assets, and is being made with limited information. Two types of information are missing.

The first is cost data. Neither of the projects has a fixed construction price at this stage, so there is a risk for both projects of cost increases. Secondly, a careful analysis of land-use options for Ports of Auckland Limited (POAL) and the waterfront more generally, which is crucial to evaluating the waterfront option, appears to not exist.

These information shortfalls expose councils to the risk of (a) making a poor choice and (b) paying more than is required. Retaining both options for a period could allow these risks to be mitigated, though we recognise that strategy might not be feasible. Our analysis suggests that the social cost of pursuing both options temporarily is around \$1m per month.

We used the most recent point estimates of construction costs as the starting point for our cost-benefit analysis. As the total construction costs have not been finalised for either option, we have provided a range based upon a 50% increase in current estimates. The waterfront stadium, with a point estimate of \$500m is 30% more costly than the Eden Park plan. However, neither of these figures includes land value. This means that a straight comparison of construction costs does not provide an accurate indication of the total costs to the region of proceeding with either of these options.

We develop a more accurate estimate of the true cost of each option by including the value lost if the site were used as a sports stadium rather than for another use. The construction of a waterfront stadium would allow Eden Park to be used for another purpose that could benefit the region. Conversely, the development of Eden Park would allow the waterfront to be used for another purpose.

Reasoning that residential use would be the highest value alternative use for either site, we estimated site values using recent residential land market data. We cannot be certain that the waterfront site is more valuable as residential than in port use, however we believe this is likely. Based on this assumption, and perhaps surprisingly, the Eden Park site appears to be the more valuable, by around \$70m. Lower site preparation costs are an important contributing factor (\$20m for demolition against \$120m for platform works

on the waterfront site). The Eden Park site is also larger, which helps offset its somewhat lower value on a square metre basis.

As well as these costs, any benefits that one option delivers over and above the other also need to be accounted for. In this regard, a waterfront stadium appears likely to attract additional concerts to Auckland, with two events per year (starting in 2012) being our estimate. The value of these is estimated to be in the \$20m to \$40m range in today's dollars. When this benefit is offset against the quantified costs, there are only relatively minor quantified difference between the options, as shown in Table 1, though at the top end of the ranges the waterfront option is clearly more costly.

Table 1 Quantified Costs and Benefits (\$m)

| | Eden Park | Waterfront |
|------------------------|------------------|------------------|
| Construction Cost | 385 – 580 | 500 – 750 |
| Foregone Site Value | 90 | 20 |
| Less Other Use Benefit | | 20 - 40 |
| Net Cost | 475 – 670 | 480 – 750 |

We note that the range of net cost estimates for the Waterfront option almost spans the Eden Park range. This indicates that there is less certainty over the net cost of the Waterfront option.

However, a straight comparison of the quantified impacts does not provide a complete picture. We also investigated a range of other impacts that could not be quantified. We reasoned that there would be less nuisance harm done to stadium neighbours for a waterfront stadium, mainly because city residents are above ground level and somewhat accustomed to living in a busy environment. We also concluded that attendances were likely to be higher for many sports fixtures at a waterfront stadium because it is somewhat easier to reach for many people, and there are more things to do before and after the game.

Finally, we assessed a set of possible catalyst effects. We note that catalysts accelerate change but can do so in beneficial or detrimental directions. Moreover, there may well be different views about whether a particular direction is desirable or not. The possibility of catalysing beneficial change towards each of the wellbeings was considered, as were catalyst impacts on transport investment and port redevelopment. In this analysis, we were looking for causal connections between a stadium choice and some other factor.

Table 2 summarises the results. To the extent that a positive effect is identified, it indicates a preference for a waterfront site. We have classified neither project as having a probable positive catalyst effect on economic wellbeing because, as discussed in the Appendix, stadia tend not to promote economic growth.

It is clear that Auckland's economic future would benefit from lifting productivity and a strong CBD is important to this both in terms of agglomeration effects and in offering a prestige location to productive firms and workers. An iconic civic building on the

waterfront would promote the consolidation of the CBD. Whilst a stadium could fulfil this role, the risk of locating a stadium there is that we may limit our freedom to undertake other catalyst projects that may better promote the consolidation of the CBD and improve economic, cultural or other wellbeings in the future.

Table 2 Qualitative Effects

| Factor | Possible Preference | Probable Preference |
|--|---------------------|---------------------|
| Less spillover nuisance to neighbours | | Waterfront |
| Greater attendance at sports games | | Waterfront |
| Catalyst for social wellbeing | | Waterfront |
| Catalyst for cultural wellbeing | Either | |
| Catalyst for environmental wellbeing | Waterfront | |
| Catalyst for economic wellbeing | | Neither |
| Catalyst for transport investment | Waterfront | |
| Catalyst for change at POAL and waterfront | | Waterfront |

Overall, this analysis points towards the waterfront option as having the greatest potential value but at the same time it is more risky. Not least of these risks is the fact that the waterfront option forces very significant change (ie it is a catalyst) in the direction we know least about: the desired future evolution of the port and the waterfront.

1. Introduction

As part of New Zealand's successful bid to host the 2011 Rugby World Cup, a commitment was made to ensuring that a stadium seating 60,000 people would be available during the event. It was envisaged that this would be achieved by further development of Eden Park. However an alternative option, involving a new stadium on the Auckland City waterfront has now emerged. Central government has requested a decision by Auckland local and regional government as to their preference between these options, by Friday 24 November. To assist their deliberations, Auckland City Council and Auckland Regional Council asked Covec to report on the costs and benefits of the options.

Cost-benefit analysis provides a tool for compiling information that can be used to measure total change in wellbeing. In the short timeframe available for this analysis, not all costs and benefits can be quantified; we have quantified where possible and highlighted issues that cannot be quantified.

This report describes the costs and benefits of the main differences between the options. Our analysis adopts the objectives of local government, as specified in the Local Government Act 2002. These are¹ to promote the social, economic, environmental and cultural wellbeing of the community, in the present and for the future.

We also adopt the view of central government that economic transformation to a high-value economy is desirable. The rationale for transformation is set out in Cabinet papers² published in August 2007, along with a strategy for achieving it. A high-value economy ensures the achievement of sustained improvements in well-being over time.

We use these objectives of local, regional and central government to classify items as costs, benefits or neither. The "neither" category is used for items that are pure transfers from one Aucklanders to another, and therefore have no impact on aggregate economic welfare.

The report starts with an examination of the context for the decision. Then we describe the stadium options and the factors relevant to our assessment, and classify and analyse the impact of each factor. A short conclusion is provided.

¹ Local Government Act 2002, s 10(b)

² http://www.med.govt.nz/templates/ContentTopicSummary____23388.aspx

2. Strategic Context for Decisions

The ARC and ACC are being asked to make their stadium decision under extreme time pressure and with relatively poor understanding of the full implications of each option. A disciplined process is required if good decisions are to be made in this difficult context. Before breaking the decision down into its component effects, we need to think about the relevance of wider issues.

There are three main strategic constraints that need to be understood. They can be summarised as concerning:

- Where economic development is heading in Auckland and how that matters for the decisions at hand;
- Where a waterfront stadium decision sits within a full hierarchy of city and regional priorities; and
- The way the timing of a stadium decision affects contracting for a stadium.

These three constraints are described further below. We then analyse their implications for the stadium choice problem.

2.1. Economic transformation

Central government has articulated an economic transformation agenda with five key themes:³

- Globally competitive firms;
- World class infrastructure;
- Innovative and productive workplaces – underpinned by high standards in education, skills and research;
- Environmental sustainability; and
- Auckland – an internationally competitive city

These themes, developed in the Cabinet papers released in August, paint Auckland in a leadership role for the national economy. Successful transformation involves attracting and retaining a pool of highly skilled entrepreneurs and workers. It is generally accepted that moving Auckland further towards world class infrastructure and environmental sustainability will help to make it an attractive home for the kind of people we need for economic transformation.

This context matters for the stadium decision for at least two reasons. First, a waterfront stadium would be a significant piece of infrastructure in its own right, though there are reasonable arguments that some other infrastructure projects should have higher priority. Secondly, a waterfront stadium has the potential at least to make Auckland a more attractive location for the group of people we need to help transform our economy; however, by occupying central space it also may foreclose other options that could make Auckland more attractive.

³ http://www.med.govt.nz/templates/MultipageDocumentTOC____23427.aspx

2.2. Hierarchy of city and regional decisions

The merits of a waterfront stadium must be evaluated in the context of the desired future development of the waterfront area more generally. This must be considered in step with a strategic evaluation of transport infrastructure options, because the desired future role of the port is central to transport demand and transport options. We understand that interlocking development plans do not currently exist for port, rail, road and waterfront development.

This creates a serious risk. Ideally, the official decision-making process would start by comparing port evolution options in the context of transport infrastructure decisions, and would not confront the question of a waterfront stadium until those higher level decisions had been made. If instead, we make a stadium decision before the desired port and transport evolution is understood, we run the risk of foreclosing valuable options or missing out on opportunities. In other words, there is a significant chance that we will regret making a rapid decision now, irrespective of which decision is reached.

Without understating that risk in any way, we now outline what we see as the main issues that need to be considered in any immediate decision.

2.2.1. Issues of interest for immediate decisions

There is good reason to believe that Auckland and Tauranga are currently in competition to become the major container port for the top of the North Island. This rivalry is temporary however: it appears that Maersk will decide the 'winner' on the basis of which option is expected to be most profitable for it.⁴ Setting aside the questionable wisdom of allowing Maersk to make this decision without reference to the spill-over impacts on New Zealand, it is not clear which option Auckland should prefer.

There is no doubt that Ports of Auckland Ltd (POAL) is a major contributor to the Auckland economy, or that some of its economic contribution would be lost if port activity was concentrated on Tauranga.⁵ However, we also note that these economic benefits tend to be overstated and that there would be benefits available from alternative uses for port land, some of which could contribute more significantly to other components of wellbeing. For the ACC and ARC, the relevant questions involve clarifying the options and considering how the Auckland regional community will develop under each.

Regarding option clarification, it does seem apparent that the port could economise on space without undue detriment to its operations. We are not aware of any analysis from a policy perspective of the value of waterfront land in alternative uses, which is a strong indicator of the wellbeing associated with those uses. We recommend that urgent effort

⁴ Since this report was drafted, Maersk has announced continued demand for container services at Auckland.

⁵ Note that this is irrelevant from a national perspective (because it is merely a transfer between New Zealanders). National welfare depends on whether there is a net efficiency gain from rationalisation for the country as a whole.

be devoted to understanding the opportunity costs of retaining waterfront land as port, particularly at the margin. That is, what are the benefits and costs to Auckland of transferring some port land to other uses?

Part of this analysis is to consider how the waterfront could develop under alternative land uses. For example, could it be used to develop such a compellingly attractive waterfront/CBD area, so that a new tier of knowledge-related firms would be encouraged to sprout here?⁶ If so, Auckland might end up much better off than we currently are in all dimensions of wellbeing.

Rather more urgently, would the proposed stadium clash with other foreseeable waterfront development plans? If so, how likely is another plan to emerge, and how costly would the clash be? For example, suppose that all port activities were concentrated to the east end of the waterfront. Would a stadium abutting the western edge of the working port provide a useful buffer between it and other land-uses located west of the stadium? Alternatively, if there was no container port at all, would a stadium be better located to the east of the site currently proposed or are there other high value land use options whose value could not be realised with a stadium located anywhere on the waterfront?

Retaining future options has a value that is widely recognised by private investors. It allows further information to be compiled on what otherwise might be lost could be of immense value to the Auckland community. Retaining two options is also costly of course, so it makes sense to think about how the contracting process would be affected by that strategy.

2.3. Contracting issues

At present, there are two development teams working on separate projects: one for Eden Park and the other for the waterfront option. It appears that neither team will be able to commit to a fixed-price contract until the middle of next year. Committing now, to either project, will therefore expose the community to a material risk of costly error.

The risk comes from several distinct factors:

- Genuine uncertainty over costs
- Genuine uncertainty over benefits; and
- Market power issues

Regarding the first, it seems that the building contractors are simply not yet well enough informed to be able to offer a fixed price for either stadium. This appears to be a timing problem: at this stage, insufficient expertise (eg civil engineering, construction, quantity surveying, project planning etc) has been applied to allow any contractor to offer a fixed price.

⁶ A stunning waterfront/CBD would better attract high skill entrepreneurs and workers. The size and timing of the effect would depend on other features of the environment, broadly defined.

Along the same lines, the benefits of each option remain poorly understood for reasons articulated elsewhere in this report. As a result, the councils have genuine uncertainty over which project is likely to be better, and are therefore at risk of selecting a poor option.

Finally, a contract signed in such haste that there is no time for a fixed price to be determined confers substantial downstream market power to the seller. Even without active gaming on the part of a contractor, this could cause the adoption of a cost-plus contractual form, under which the contractor has relatively weak efficiency incentives.⁷ That approach would tend to increase costs, and the consequent financial burden on the community.

All of these risks could be mitigated by retaining both options for a period. The councils would have a window of time to review the port land options. Contractors would get a better understanding of the cost of each stadium option. Importantly, the two teams would remain in competition with one another until a decision is made. This would create important efficiency incentives and should therefore lead to a contract that is better for the community.

There is also a cost associated with retaining two options. In this case, it is the social cost of running both stadium projects side-by-side, possibly for several months, instead of committing to one project this week. An indication of this cost can be gained from recent information provided by the Eden Park Trust Board (EPTB), who have disclosed that it cost \$6m to run their project for a year.⁸ This indicates that maintaining an active project team on two projects instead of one, for six months, would cost an additional \$3m. Even if the next phase was twice as costly as the last,⁹ continued pursuit of both options for six months would cost \$6m or around \$1m per month. These sums appear modest relative to the scale of the overall project.

2.4. Strategic context summary

There appears to be merit in redeveloping the Auckland waterfront, including some shrinkage of the area currently occupied by the port. Any existing analysis of the development options from a public policy standpoint needs to be urgently reviewed. If it is sufficient to support the task, it should be used to test the coherence or otherwise of the waterfront stadium against the feasible range of development options for the whole area.

⁷ The risk of eroding the contractors reputation for quality service is the main efficiency incentive. However this is weak because it is difficult to clearly allocate responsibility for cost over-runs on large projects.

⁸ EPTB Chief Executive, John Alexander, as quoted in the NZ Herald on 11 November 2006. http://subs.nzherald.co.nz/section/story.cfm?c_id=1&objectid=10410265

⁹ For instance, administrative costs relating to the preparation of specific legislation or administering the resource consent process could be incurred.

Secondly, there appears to be value in testing quite robustly with central government the reasons for urgency in deciding between Eden Park and the waterfront option. There are two costs of urgency: the relative merits of the options are poorly understood by councils at this time; and any contractor appointed now will gain substantial leverage over the community before committing to a contract price. Both of these costs could be reduced if both stadium options were retained until the point when costs will be confirmed (ie for up to six months). The downside of that strategy needs to be understood better, because the advantages appear considerable.

3. Options and Assessment Factors

Our analysis is restricted to two stadium options: a redeveloped Eden Park, consistent with the recent application for Resource Consent submitted by the Eden Park Trust Board; and a new “national stadium” located in the space currently occupied by Marsden and Captain Cook wharves. We are aware that other options have been considered, such as temporary additional seating at Eden Park and alternative sites for a new stadium. We have been asked to focus on the two main options only, and endorse this relatively pragmatic approach in view of the time constraints.

3.1. Eden Park

Considerable background analysis exists for the redevelopment of Eden Park. We have been provided with a business plan prepared for the Eden Park Trust Board (EPTB), and were previously engaged to review economic impact analysis submitted by EPTB as part of its resource consent application. This option has also been the subject of separate reports on many issues including:

- Lighting;
- Trees;
- Shading;
- Noise; and
- Traffic.

The spill-over effects on the local community from redeveloping Eden Park are well understood as a result of this work. Measures intended to mitigate spill-over costs include restricting the activities for which the park is used and constraints on the number of night games. Other devices, such as offers to purchase properties that will suffer additional shading, may also be used. However even with these mitigation measures there will undoubtedly be a net cost imposed on the local community by the redevelopment.

The redevelopment project is expected to cost \$385m.¹⁰ Anticipated funding sources totalling at least \$180m are:

- | | |
|--------------------------|---------|
| • Rugby New Zealand 2011 | \$30m |
| • Lotteries Commission | \$50m |
| • ASB Trust | \$20m |
| • Sponsorships | \$30m |
| • Auckland City Council | \$50m |
| • Central Government | unknown |

The EPTB business plan shows that the operating costs of Eden Park can be recovered from ongoing revenues after development has occurred.

¹⁰ We understand that an further \$20m will be required to relocate Auckland Cricket from Eden Park, irrespective of the future of that venue.

If Eden Park is not chosen, it is difficult to imagine it remaining in its present use. A much more likely scenario is that the existing structures will be demolished, and the site converted to residential use, which is a higher value use for this particular site. That is the assumption adopted in our analysis, which incorporates the value of land in its next best alternative use.

3.2. Waterfront Stadium

The waterfront option, also referred to as Stadium Aotearoa, involves constructing a new stadium on a platform sited in the region of the existing Marsden and Captain Cook wharves. This is a recently developed option on which considerably less background analysis exists. No business plan is available at this stage.

Spill-over effects on local residents (eg noise, light etc) are lower for this option than for Eden Park to the extent that most affected residents are further away and as city dwellers they are already affected by more noise and light. On the other hand, the residential accommodation that does exist in the vicinity is in the form of apartments which have much higher density. The total spill-over cost can be thought of as the product of the average cost per person affected and the total number of persons affected.

The expected capital cost of this option is \$500m plus the value of the 'land' it will use. This includes \$120m for piling and platform work. Anticipated funding sources totalling \$385m are:

- Rugby New Zealand 2011 \$30m
- Lotteries Commission \$50m
- ASB Trust \$20m
- Sponsorships \$70m
- Auckland City Council \$50m
- Central Government \$165m

The (post-construction) operating situation of the waterfront option is not clear. It is intended that it be controlled in some way by the city and regional councils. The region as a whole will therefore be financially responsible for the stadium. There is a reasonable expectation that operating costs will be higher than Eden Park because of its location on a platform, but operating revenues are also likely to be higher due to its downtown location.

Regarding the space occupied, this is currently controlled by POAL which is owned by Auckland Regional Holdings Ltd (ARHL). It generates an existing flow of revenue through port fees associated with wharf usage. We understand that the wharves at issue are not heavily used, so the revenue flow directly associated with them is relatively modest. However the space does have alternative uses that appear more valuable, with residential being one such option. Consequently, in what follows, we estimate the economic value of the space used in this stadium option as the expected future value of converting this space to residential use. That is the land value being foregone under this option. We note that there are other options that might have even higher value to the

region than residential use, such as ones that have high public good benefits in making Auckland a more attractive city and region. These would be uses for which a waterfront location is uniquely valuable. These are not identified at this stage and are therefore difficult to place a value on; however residential use may be an undervaluation.

3.3. Factors to be considered

Several distinct factors need to be considered in order to properly compare the two options. The main headings that will be used are as follows.

- Stadium use issues
 - Rugby, cricket and other sports
 - Concerts
 - Spill-over effects from usage
- Stadium costs
 - Direct capital cost of construction
 - Opportunity cost of land
- Related infrastructure issues
 - Transport issues
 - Impact on the port
- Catalyst effects
 - For each of the four wellbeings
 - For related infrastructure

These headings will frame the comparative analysis below. They allow us to accommodate all of the relevant factors, and to ensure that nothing is double counted.

A brief comment is warranted on the last category (catalyst effects). This is included so that analysis of all other categories can focus on relatively predictable and well defined impacts. Once a commitment has been made to a site, that decision will influence subsequent decisions which will lead to more- or less-desirable outcomes. It will be most convenient to deal with all of these “knock-on” effects in a single section.

Finally, we have also considered some of the issues associated with financing the stadium. These are not strictly relevant to a social cost-benefit analysis of the options, so this discussion is placed in an Appendix. We note that Councils are responsible for the welfare of subsets of society, and can therefore legitimately be concerned with financing issues because they affect the distribution of costs and benefits within society.

3.4. Stadium Use Issues

The starting point for assessing the value of each stadium option is to consider the uses to which it can be put, and the net value associated with those uses. It is clear that the waterfront stadium could potentially accommodate more events than Eden Park. It would have no restrictions on the number of night-time sports events¹¹ and could also

¹¹ Eden Park is currently restricted to 16 night games per year but a decision is pending on an application to increase this to 25. Concerts are not permitted.

host major entertainment acts. Additionally, there may be differences between the stadia in the amount of negative spill-over impact from any given event.

The stadium use issues can be broken down into three categories: sports events; other events; and spill-over effects. We discuss each in turn, but begin by explaining the sense in which greater use of a stadium increases the wellbeing of the community.

3.4.1. Wellbeing and Other Economic Measures

There is an important difference between GDP and wellbeing. This needs to be understood in order to place related work in context. We refer to recent work undertaken for EPTB that contains some information about the 'economic impact' of redeveloping Eden Park,¹² and to some of the international literature on the economic impact of sports teams and stadia.¹³

The key difference between wellbeing and economic impact is that additional attendance by Aucklanders at a stadium is evidence of additional wellbeing even though GDP may not increase.

Economic impact analysis is a way of estimating how much extra GDP will flow from a major event. It is rightly focused on injections of cash into a local economy from elsewhere, and *profit* made from serving those doing the spending. The value added by firms serving this additional demand is the difference between their costs and their sales revenue. Broadly speaking, this is the definition of GDP.

A reasonable working assumption is that (setting aside catalyst effects) neither stadium will make much difference, in and of itself, to Auckland regional GDP. The economic impact work done for EPTB does manage to identify a 'legacy' impact, being a residual contribution that stadium makes to GDP after RWC2011 is finished. However the effect is modest and relies on a multitude of assumptions about the future. The prediction also conflicts somewhat with an economic literature examining actual outcomes (see Appendix) and generally finding that stadia do not promote economic growth.¹⁴

GDP is a poor measure of economic welfare however, partly because it omits so much activity that creates value.¹⁵ More importantly, economic impact analysis systematically ignores the enjoyment local residents gain from attending events. In doing so it understates economic welfare (which depends on happiness in addition to profit), and is therefore too narrow a concept for councils to use when thinking about the stadium issue. When an Aucklander spends money watching a sports event in Auckland, a robust analysis of the GDP impact would disregard that expenditure on the grounds

¹² Estimated Economic Impact of the 2011 Rugby World Cup, Draft Report, June 2006, Horwath Asia Pacific.

¹³ This literature is discussed briefly in an appendix.

¹⁴ The legacy effect is also not a reason to prefer Eden Park since similar (and possibly stronger) effects would operate for a waterfront stadium.

¹⁵ Voluntary work, for example, creates value but is not counted in GDP because there is no market transaction to observe.

that it merely diverts cash from one Auckland business to another. Money that might otherwise have been spent buying coffee or movie tickets is instead diverted to attending a sports event.

This approach misses a crucial point, which is that by attending a sports event instead of the movies, every person (Aucklanders and non-Aucklanders alike) are clearly signalling that they value the sports event more highly. Wellbeing has therefore been enhanced, even if GDP has not increased.

This is not just true for sports events. It is perhaps even more obvious in the case of any concerts that would be attracted by a new stadium. As discussed in section 3.4.3 below, a waterfront stadium is likely to attract major international entertainers that currently do not perform in Auckland. The opportunity to enjoy such performances would make some members of the community happier, and could also have the effect of making Auckland a more attractive location for individuals with high skill levels and incomes.

3.4.2. Sports events

The question we ask in this section is whether one option is likely to deliver greater value as a sports venue. For this purpose, we investigate the number of sports events, and the likely attraction of those events to paying customers.

The business plan for EPTB includes the following projections for sports events per year.

Table 3 Sports Events Anticipated for Redeveloped Eden Park

| Event | Number |
|----------------------------|--------|
| Bledisloe Cup | 1 |
| International Rugby Other | 1 |
| Super 14 | 5.25 |
| Air NZ Cup | 5 |
| International Test Cricket | 1 |
| International ODI Cricket | 2 |
| Other | 1 |

The super 14 entry is based on the assumption that once every four years Eden Park will host a finals match. ODI cricket includes 20/20 cricket.

In our view, it is reasonable to assume that approximately the same event schedule would apply to the waterfront stadium if it were built. The schedule is dictated mainly by rugby and cricket fixture calendars. There are agreements that limit the number of night games at Eden Park, so a waterfront location might attract some additional sports events. However the effect is likely to be minor, and will be disregarded for analytical purposes. We assume therefore that even if the waterfront stadium is materially more

attractive as a venue, there is unlikely to be a significant increase in the *number* of sports fixtures compared with Eden Park.

It may be that more people will attend some events at a waterfront location however. Since projected ground capacities are about the same, the only basis for assuming greater attendances at one stadium or the other would be if:

- (a) ticket prices were different,
- (b) travel costs/convenience were different, and/or
- (c) complementary features made one venue relatively more attractive.

We note that EPTB intends to increase ticket prices substantially following its redevelopment and therefore consider that similar ticket prices across stadia should be assumed for this analysis.

Travel costs favour the waterfront option, because the existing layout of transport networks directs traffic towards the CBD whereas Kingsland is off to the side, albeit on an important arterial route. This effect will tend to generate higher crowds at a waterfront sports event.

The third effect is that complementary features could be relevant. There is a reasonable argument that attendance will be more attractive if there are other options readily available for earlier and later in the evening. Kingsland has minimal capacity for hosting evening entertainment, especially relative to the CBD including the Viaduct area.

Thus, travel costs and complementary features of the CBD both suggest that a waterfront stadium could attract more patrons to sports events than Eden Park, even after it is redeveloped. We also note that, in the short run at least, a new stadium would have novelty value that would be likely to attract more people; this would apply to a more limited extent to a redeveloped Eden Park.

In analysis completed recently for EPTB of the 'legacy' effect of redeveloping Eden Park, the assumptions in Table 4 were made about the attendances at sports events of different types. These assumptions all relate to events held after RWC2011.

Table 4 Attendance Assumptions for Eden Park

| | Status quo | Redeveloped |
|----------------------------|------------|-------------|
| Bledisloe Cup | 47,839 | 60,000 |
| Other International Rugby | 47,839 | 55,000 |
| Lions Test | 47,839 | 60,000 |
| Lions Provincial Match | 47,839 | 55,000 |
| Super 14 | 21,485 | 25,986 |
| Air NZ Cup | 14,702 | 21,055 |
| International Test Cricket | 25,711 | 25,711 |
| ODI Cricket | 25,999 | 34,000 |
| ODI World Cup | 35,700 | 42,500 |
| Other Event | | 55,000 |
| Other | 23,297 | 23,297 |

It can be seen that most events are not expected to result in a 'full house'. As a result, there is scope for a waterfront stadium to create more value from the same events. Lower transport costs and more complementary facilities suggest this may well occur.

3.4.3. Other events

One advantage a waterfront stadium has over Eden Park is the ability to host concerts. In recent years, Auckland has not hosted a range of musical and other events partly because of venue shortcomings. To investigate this effect an interview was conducted with Luke Heyde, Director of Touring with Dainty Consolidated Entertainment. This firm has booked virtually all of the major acts to tour New Zealand in the last three decades and was recently named #1 promoter in Australia and #11 in the world by the US magazine Pollstar.

It seems clear that Auckland would get additional major entertainment if the waterfront stadium was built. The stadium would make Australian tours more viable for major artists, and make New Zealand much more attractive as an additional date for artists considering visiting this part of the world. An average of an additional 2 major artists per year was expected, commanding ticket prices that average NZ\$150 including GST across a crowd of 60,000.¹⁶ The associated value to the community would be at least equal to the annual ticket revenue from such concerts which is \$18m p.a.

It will be useful to compare this differential source of value with some of the cost data we have. To do that, we need to capitalise the future flow of such benefits, and express it in today's dollars, because this is the way costs are expressed. We assume the concerts start in 2012, run for five years, and we use a 5% discount rate.¹⁷ This results in a gross benefit for the waterfront stadium of around \$60m. This is close to an upper bound on the value of such events because it allows for considerable price discrimination in ticket sales and makes no allowance for the value of alternative uses of ticket revenue in the hands of concert-goers. We reduce the upper bound to \$40m to allow for alternative uses, and combine it with a lower bound estimate of \$20m for comparative purposes.

One complicating factor exists with general entertainment events, which is the increasing tendency for them to benefit from some kind of financial inducements. For example, New Zealand Major Events (NZME)¹⁸ is a division of the Ministry of Tourism that operates a funding pool to help attract major events to New Zealand. Discussions with personnel at NZME indicates that it is quite common for payments to be made to attract particular events to New Zealand. Along the same lines, we understand that Wellington authorities have recently been going out of their way (in ways that are not entirely clear) to encourage acts at its stadium.

¹⁶ Seats behind the stage are not sold, but about the same number of tickets can be sold for the flat area in front of the stage. The result is that stadia tend to have about the same concert capacity as they do for a sports event.

¹⁷ This is a rough estimate of the social rate of time preference in New Zealand.

¹⁸ <http://www.majorevents.govt.nz/>

This practice has some potential to be detrimental to overall welfare of New Zealand. For example, the criteria used by NZME would need to be very robust to avoid excessive subsidies. Similar levels of discipline would be required if Auckland and Wellington were to begin competing more directly for events. These effects are not directly germane to a choice between stadium options however.

3.4.4. Other uses

A waterfront stadium could be designed so as to provide improved cruise liner berthage facilities. Other uses that may be more likely at a waterfront stadium could include large trade fairs¹⁹ and ongoing commercial activities such as bars, restaurants, retail outlets or a museum.

3.4.5. Spill-over effects

The use of a sports stadium creates spill-over effects (externalities) for those in the surrounding areas. Without further information regarding the extent to which the light and noise would emanate from the proposed waterfront stadium while in use, it is difficult to evaluate the relative spill-over effects. Both stadia would have lights under the roof line to minimise light pollution from night events and both would have translucent outer structures to minimise shading.

One externality which has the potential to be reduced by the use of a waterfront stadium is the noise and disturbance experienced by nearby residents resulting from people arriving and leaving an event. Given the fact that most inner-city residents are above street level, the level of residential disturbance before and after an event is likely to be lower, although it is probable that a section of Quay Street would need to be closed during these periods.

3.5. Stadium Costs

The costs of each option are considered in this section. We break the costs into two main categories: the capital cost of construction; and the opportunity cost of the land. Financing issues, including ongoing operational viability issues, are not directly relevant and are discussed in an Appendix.

3.5.1. Capital cost of construction

The capital cost of construction is not known with certainty for either option. However the existing point estimates suggest that the waterfront stadium is more expensive. Eden Park is projected to cost \$385m while the waterfront option is quoted 30% higher at \$500m.

At first glance, these sums appear surprisingly close to each other, especially given that Eden Park is a redevelopment whereas the waterfront option is a completely new build. Their similarity is at least partially a reflection of the extent of the work envisaged for Eden Park, which requires demolition work in addition to construction, and requires

¹⁹ Trade fairs at Eden Park would be limited to 2000 patrons per day.

careful sequencing so that the Park retains the ability to seat 33,000 people throughout the construction phase.²⁰ Apart from pedestrian and transportation facilities, the following changes are required to the grandstands at Eden Park:²¹

- A new South Stand to replace the existing South and Southwest Stands
- Removal of the existing light towers from the southern side of the ground and incorporation of playing field floodlighting into the roof structure of the new South Stand
- A new East Stand to replace the existing Terraces forming a continuous bowl with the South Stand
- Retention of the ASB Stand and construction of a two bay extension to the ASB Stand (which is already consented but not built) to replace the Panasonic Stand
- Retention of the West Stand, minor refurbishment to the ground level of the stand, the addition of an internal concourse, and extensions to connect to the ASB Stand and new South Stand
- New office facilities, corporate boxes, members, sponsors and VIP lounges, and new function facilities and incidental/associated facilities incorporated into the grandstands

There is substantial project risk associated with each option. Timing constraints are the main contributor to project risk. Both sites have challenging construction timeframes when viewed in the context of the available working hours. Noise nuisance will prevent around the clock work at Eden Park, whereas the waterfront option involves a larger construction project but has more flexible (and therefore more available) work hours.

On the currently available information, there are only relatively weak reasons on which to argue that the capital construction cost of one project is less certain than the other. While this suggests similar allowances be made for construction cost risk, a question arises as to whether to do that in percentage terms or absolute dollar values. To take account of the larger scope of construction work on the waterfront option, and the fact that the business case appears less fully developed, we recommend that the same percentage ranges around the existing cost estimates be used for both projects.

3.5.2. Opportunity cost of land

When an area of land is used as a sports stadium, there is an 'opportunity cost' incurred. This cost arises because the area in question cannot be used for another activity which generates economic or other benefits. In this situation, building a waterfront stadium or continuing to use Eden Park would mean that these areas would not be available for another use, such as for residential purposes. The land prices used to estimate the value of each site are approximate figures gathered from informal discussions within the real estate sector.

²⁰ This restriction reduces the value of the Eden Park option. The total cost of this restriction is estimated to be less than \$5 million.

²¹ Drawn from page 12 of EPTB, Application for Resource Consent and Assessment of Environmental Effects for the redevelopment of Eden Park (located at Reimers Avenue, Kingsland)

Waterfront option

If a waterfront stadium is not built, it would be possible to erect a concrete platform and use that site for other purposes, including residential, industrial or public use.

We cannot be certain that the waterfront site is more valuable as residential than in port use, however we believe this is likely. Based upon recent transactions of waterfront and nearby inner-city properties and applying typical waterfront residential development height restrictions (24 metres), the estimated price of freehold land over the proposed stadium site could be in the vicinity of \$2,500 to \$4,000 per m².

The proposed area upon which the Stadium would be developed is 6.8 hectares. Allowing for the cost of building the platform (\$120 million) and reducing the available site by, say, 50% to allow for the public space, roads and similar infrastructure that would be required,²² the value of this site could range from around -\$35 million to \$20 million if it were used for residential purposes. Given recent prices trends for residential waterfront property, and the prime location of this site, we believe the value is likely to be towards the higher end of this range.

Eden Park

If Eden Park were not re-developed, it would be possible to demolish the existing stadium and use the site for another purpose, such as residential use. This would be similar to Athletic Park in Wellington, the site of which was redeveloped as a retirement village after the stadium was demolished.

Existing residential land in Mt Eden is estimated to be worth at least \$1,000 per m². This estimate excludes the value of any buildings or improvements to any land in the area and allows for the existing building height restrictions. If a new residential development on the Eden Park site were less restricted than the neighbouring houses, higher density residential structures could be built. This could potentially increase the value of the land to around \$2000 per m².

The area of the Eden Park site is 9.4 hectares. Allowing for the cost of demolishing Eden Park (\$20 million²³) and reducing the available site by 40% to allow for the public space, roads and similar infrastructure that would be required, the value of this site could range from around \$35 million to \$90 million if it were used for residential purposes.

Conclusion

The values of each site depend heavily upon a range of factors, some of which are under the control of the Auckland City Council and Auckland Regional Council, such as building height and residential density restrictions. This complicates a comparison of

²² Notice that this open space is not lost to the public under a residential development or a waterfront stadium. It is our understanding that a higher proportion of land would be required for public use at a waterfront location than for other sites.

²³ This figure was derived from informal discussions within the construction industry. POAL was not consulted.

the values. However, our preliminary analysis suggests that there is a larger opportunity cost of re-developing Eden Park. The difference could be around \$70m.²⁴

3.6. Related infrastructure

As a major civic building, decisions over a stadium need to be taken in the context of any related infrastructure decisions facing the councils. Transport and port facilities are of greatest relevance in this instance.

3.6.1. Transport

The merits of each stadium option depend to some extent on the ease with which they can be served by transport. Surge capacity for public transport is particularly important.

It is difficult to separate the options on this dimension, though detailed modelling of the type we have not had time for may be capable of revealing differences.

The transport factors operating in favour of Eden Park are:

- The apparently comprehensive transport plan prepared to date
- Its proximity to rail infrastructure; and
- Coherence between Eden Park transport plan and the overall plan for the region

While planning is less well advanced for the waterfront option, it does have the advantage of being located adjacent to what is envisaged as the major hub for Auckland's public transport: Britomart. Additionally, the motorway system is built around spaghetti junction. This gives residents from across the region relatively ready access by private vehicles to car-parking in the downtown area.

In practice, careful event management will be required at either location to avoid major transport difficulties. This includes attention to the timing of events (though flexibility is not always available due to the dictates of international television audiences), and to traffic management on event days.

We expect that transport to and from events will be able to be managed effectively at either site. We have no reliable information that would lead one location to be preferred on the basis of transport issues.

3.6.2. Port issues

The central relevance of plans for port redevelopment has been discussed in section 2.2 above. We emphasise that there is a major risk from deciding the fate of the waterfront option without first forming a view on the preferred evolution of the port facilities.

²⁴ This difference is approximately the same value whether lower or higher land prices are used. For simplicity and based upon our expectations, we have used the higher values for quantitative comparisons in Table 1.

In the absence of careful strategic analysis of the port's future land use, we have reduced our analysis of port issues to an estimate of the value of the land on which a waterfront stadium would sit. A brief summary of the relevance of that estimate is provided here.

There is a widespread view that POAL could operate effectively with less 'land' than it currently occupies. If so, some of its existing land resource could be freed up for an alternative use, either now or at some future date.²⁵ There are many ways this could happen, including through POAL diversifying into property development and supplying the fruits of that endeavour to ARH in the form of dividends.

We can estimate the present value (ie in today's dollars) of such diversification in the future. This is done by estimating the current market value of that land, ie the price it would fetch at auction. That value reflects all of the future opportunities available to a diversifying POAL, or some other buyer.

Mention should be made of risks arising from climate change in the context of port-related decisions. Waterfront property is vulnerable to complete or partial loss in the event of rising sea levels. There is some risk of this imposing major costs on downtown Auckland, and obviously inducing regret if we had sited a stadium there.

3.7. Catalyst effects

A catalyst is something that accelerates change (good or bad) without being changed itself. The RWC is a catalyst because it compels us to consider the implications of hosting a lot of major international event.

How should we think about the catalyst effects in the stadium choice problem? A thematic approach appears most helpful. This involves developing a particular view of one aspect of the future at a time, and then asking whether either stadium option will accelerate change towards that future. We applied this process to the four aspects of wellbeing that councils aim to promote, and then separately to the port and transport networks of Auckland.

3.7.1. The wellbeings

The wide diversity of public interests are summarised in the four forms of wellbeing that councils promote. Each of these could form the basis of an aspiration and one could then consider whether and how each stadium option would catalyse change towards that future.

Either stadium would catalyse social benefits to some degree, because each is expected to attract more people to stadium events, which must contribute something towards social cohesion. The social impacts will depend heavily on the usage patterns, and hence

²⁵ The estimate of the opportunity cost of the waterfront site in Section 3.5.2 effectively allows for the cost of lost port activity that would occur if that area was used for a stadium. However, the fact that port activities would need to be consolidated sooner than would otherwise be undertaken means that transitional costs would be brought forward.

on the building's ability to accommodate a variety of uses. This points in favour of the more flexible and accessible waterfront site.

If one was setting out to catalyse cultural change in Auckland the objective would probably be to do something as inclusive as possible. Neither stadium would be an obvious contender for this role and a waterfront stadium could use the best site for whatever would catalyse cultural change.

Similar considerations apply to environmental change. A stadium doesn't do much, but might take up a prime site. To the extent that creation of a waterfront stadium would be undertaken in a 'carbon neutral' manner, as has been reported, it may better promote environmental wellbeing.

The "next level" for Auckland's economy is surely tilted towards high income knowledge-intensive activities of the type often described these days in economic development circles. It is clear that Auckland's economic future would benefit from lifting productivity and a strong CBD is important to this both in terms of agglomeration effects and in offering a prestige location to productive firms and workers. An iconic civic building on the waterfront would promote the consolidation of the CBD. Whilst a stadium could fulfil this role, the risk of locating a stadium there is that we may limit our freedom to undertake other catalyst projects that may better promote the consolidation of the CBD and improve economic, cultural or other wellbeings in the future.

3.7.2. The infrastructure

The councils have reasonably clear understandings of the way they want transport networks to evolve. Good stadia are generally well served by public transport, so a stadium could conceivably catalyse public transport investment. On the other hand, a stadium may actually force public transport investment that has little significance beyond that required for the stadium's own needs (eg the passenger walkways linking Eden Park with Kingsland Station). While the future pattern of transport investment need not accelerate as a result of either stadium, there is the potential that the waterfront stadium could be the catalyst for some investment in transport infrastructure. Specifically, it could expedite alterations to Grafton Gully and Quay Street. These alterations could allow the diversion of heavy vehicles that are travelling north away from Quay Street and onto State Highway One via Grafton Gully. This could provide for the development of a section of Quay Street, perhaps into a pedestrian area.

A further potential catalyst effect of a waterfront stadium is that it could introduce more of a public transport mindset if a higher proportion of stadium users travel by public transport to and from events there compared with what would occur at Eden Park.

The strongest catalyst effect appears to concern the port. This decision is already forcing us to think about the port in ways that have not been required recently. If the waterfront option is selected, the process of changing POAL appears very likely to accelerate, so a definite catalyst effect exists. Ironically, the future of the port appears to be the future

for which we lack most insight. We are therefore quite poorly equipped to determine whether igniting this particular catalyst will be beneficial or not.

4. Conclusion

We set out to assess the cost and benefits of the two stadium options. For the very small number of items shown in Table 5, some quantification was feasible. The net quantified cost is remarkably similar for both options.

Table 5 Quantified Costs and Benefits (\$m)

| | Eden Park | Waterfront |
|------------------------|------------------|------------------|
| Construction Cost | 385 – 580 | 500 – 750 |
| Foregone Site Value | 90 | 20 |
| Less Other Use Benefit | | 20 - 40 |
| Net Cost | 475 – 670 | 480 – 750 |

There may be more upside risk on the construction costs of the waterfront option, though an early commitment to either option will add construction cost risk. On the basis of these quantified features alone, it is therefore difficult to argue strongly for one stadium or the other.

Table 6 summarises our evaluation against those factors we considered but could not quantify. To the extent that a positive effect is identified, it indicates a preference for a waterfront site. However a risk warning is attached to the catalyst effect for the cultural, environmental and economic wellbeings. This is because a waterfront stadium may limit our freedom to undertake catalyst projects for these objectives.

Table 6 Positive Qualitative Effects

| Factor | Possible Preference | Probable Preference |
|--|---------------------|---------------------|
| Less spillover nuisance to neighbours | | Waterfront |
| Attendance at sports games | | Waterfront |
| Catalyst for social wellbeing | | Waterfront |
| Catalyst for cultural wellbeing | Either | |
| Catalyst for environmental wellbeing | Waterfront | |
| Catalyst for economic wellbeing | | Neither |
| Catalyst for transport investment | Waterfront | |
| Catalyst for change at POAL and waterfront | | Waterfront |

We recognise that councils have been asked to make a decision this week. A reasonably clear view of the desired future pattern of waterfront development could make an enormous difference to quality of this decision. We estimate that the social cost of the time required to pursue this strategy is in the order of \$1m per month.

Appendices

A1 Economic literature on stadia

An extensive economic literature shows that spending public money on stadia does not promote economic growth. It is summarised by this quote from Siegfried and Zimbalist (2000):²⁶

Few fields of empirical economic research offer virtual unanimity of findings. Yet, independent work on the economic impact of stadiums and arenas has uniformly found that there is no statistically significant positive correlation between sports facilities and economic development.

While important and relevant, this quote should be viewed in context. Two factors are particularly relevant

- the linkage between teams and stadia; and
- the relative value of public goods and resource costs.

The literature referred to mainly originates from the USA, where many cities have contributed funds to stadia and to lure professional sports teams, often in joint packages. Unlike stadia, professional sports teams are highly mobile. The use of a sunk asset such as a stadium to attract the attention of a mobile sports team is surely of questionable wisdom.

Secondly, Siegfried and Zimbalist do not argue that stadia can not be welfare enhancing at all. There are papers that investigate some of the less readily quantified benefits of stadia, and do identify real benefits. The question is whether those benefits are large enough to warrant incurring the costs. Good examples are provided by the abstracts to two papers which are reproduced below.

An analysis of the economic rationale for public subsidisation of sports stadia²⁷

Proposals to provide public subsidy to sports stadia are being debated in many locales. This paper examines a number of types of benefits asserted by proponents of subsidies: direct municipal revenues from stadium events; multiplier benefits increasing income and sales in the area; the attraction of unrelated business activity; and, intangible benefits. The business attraction argument is subjected to empirical test with regression analysis. In only a small fraction of the cases examined does manufacturing activity in an SMSA correlate significantly with the presence of a new or renovated stadium. We conclude that measurable economic benefits to area residents are not large enough to justify stadium subsidies and that the debate must turn to immeasurable intangible benefits like fan identification and civic pride.

²⁶ Siegfried, J and A Zimbalist (2000) "The Economics of Sports Facilities and their Communities", Journal of Economic Perspectives, 14, 95-114.

²⁷ Baade¹, RA and Dye¹, RF (1988) "An analysis of the economic rationale for public subsidization of sports stadiums", Annals of Regional Science, 22, 37-47.

The Value of Public Goods Generated by a Major League Sports Team: The CVM Approach²⁸

This article reports an application of the contingent valuation method to measure the value of public goods generated by a professional sports team, the Pittsburgh Penguins of the National Hockey League. The data and analysis indicate that a major league sports team can produce widely consumed public goods such as civic pride and community spirit and that the value of those public goods may be substantial. However, in the case of the Penguins, the value of the public goods is far less than the cost of building a new arena. Although the analysis of public goods generated by other teams in other cities might lead to different results, the results of this article call into question the widespread practice of government funding of sports stadia and arenas because it appears that the costs borne by taxpayers exceed the benefits received.

A2 Financing issues

This section is qualitatively different from the preceding ones in that it is not strictly part of a cost-benefit analysis of the stadium options. Rather it is an attempt to clarify understanding of the proposed financing arrangements and their implications, so that the councils can make sound decisions.

The developments appear very similar in respect of their financing, the basic structures for which are set out in sections 3.1 and 3.2 above. In both cases, Auckland City Council expects to contribute \$50m to precinct development. The major differences between stadia are in sponsorships (where the waterfront option is expected to yield an additional \$30m) and in the central government contribution.

At this stage it is particularly important to understand the contributions of central government and the ARC. We also consider the ongoing operational viability of the stadium options.

4.1.1. Central Government Contribution

There is considerable uncertainty over the central government contributions. Several messages have been received, and they are not all consistent with one another. For example, a contribution of \$165m has been offered to the waterfront stadium. However central government has also proposed legislating in a way that allows regional bed and departure taxes to be levied to fund a stadium. Finally, an intention has been expressed to hand over a 'debt free' stadium to local and regional government.

If special taxes on accommodation and air travel are the sole source of central government funding, then the waterfront stadium will be fortunate to be debt free in 2012. We have reviewed, and generally agree with, modelling work by ACC Treasury on the relationship between the level of bed and departure taxes and the amount of debt

²⁸ Johnson, BK, Groothuis, PA, and Whitehead, JC, (2001) The Value of Public Goods Generated by a Major League Sports Team: The CVM Approach" *Journal of Sports Economics*, 2, 6-21.

repayable over given timeframes.²⁹ At reasonable tax levels (ie not larger than \$5 per night or departure) it will take a full 5 years to repay \$165m even at a modest 7.5% interest rate. Any cost over-runs, or declines in tourism, will extend the repayment period.

Even if a five year repayment period is feasible, the timing of tax receipts means that the stadium is unlikely to be debt free if handed over at the time of RWC2011. It is questionable whether one could reasonably start collecting such taxes before the stadium was built: part of their rationale is that travellers are assumed to gain some benefit from the stadium. As a result, a significant upfront capital contribution would be required if central government is to transfer a debt free stadium into local and regional control.

Councils might reasonably view the introduction of such taxes as conferring a legacy benefit, in the sense that they may persist beyond the date at which a stadium is debt free, and thereby offer a source of funding for other tourism related projects. Whether this is genuinely a legacy of a stadium depends on whether such a tax could be levied without a stadium.

We strongly recommend that Councils view the introduction of such taxes as potential sources of funding independent of the stadium decision. For example, if the Eden Park site were preferred, such taxes might able to be raised to fund a convention centre on the waterfront.

4.1.2. ARC Contribution

Donation of the land on which a waterfront stadium will sit is expected to be ARC's contribution to that option. As discussed above (section 3.5.2) the value of this land is higher than its present contribution to POAL dividends.

4.1.3. Ongoing operational finances

It is highly desirable that the chosen stadium be capable of covering its costs on an ongoing basis once the RWC2011 has finished. EPTB argues that it can do so at that location. The question is whether the same can be claimed for the waterfront option.

Provided a debt free and unencumbered stadium is delivered to the city it should be as financially viable on an ongoing basis as Eden Park. Maintenance costs on the waterfront platform may be higher, but there should also be greater revenue earning opportunities³⁰ on the waterfront site. Thus, unless there is a capital debt overhanging the waterfront site, operating costs are unlikely to provide a basis for preferring one site over the other.

²⁹ Our data suggests that the ACC analysis under-estimates the number of taxable nights, in aggregate and for international visitors. However the effect is not large enough to be concerned with for this analysis.

³⁰ These reflect the real value of the stadium to the community, as indicated by willingness to pay.

4.1.4. The role of debt

We note that the former Stadium Australia, built for the Sydney Olympics and now known as Telstra Stadium, is in the process of being taken over by its bank (ANZ). It appears to have been making an operating profit but not enough to service its bank debt of \$140m.

Debt levels are therefore a key issue for the ongoing solvency of a waterfront stadium. We note that central government intends to transfer ownership of a 'debt free' waterfront stadium to the city and regional councils. There are two problems with this intention:

- The term 'debt free' is ambiguous because it does not specify whether, or to what extent, some sources of stadium revenue will have already been collected at the hand-over date (eg forward sales of sponsorships, catering contracts etc).
- Since at least some of the central government contribution is expected to flow from new targeted taxes, and these will take around 10 years to pay off expected debts (see section 4.1.1) 'debt free' implies a central government advance to the stadium which is subsequently repaid through the tax streams.

It will obviously be important to clarify these issues with central government.