Multi-Use Arena Pre-Feasibility Study: Christchurch

CHRISTCHURCH STADIUM TRUST

Foreword

To

Mayor Lianne Dalziel
Christchurch City Council

Hon Nicky Wagner
Minister supporting Greater Christchurch Regeneration

On 2 May 2017, the Christchurch Stadium Trust was commissioned to develop and present a pre-feasibility study for a new multi-use arena in Christchurch.

The Stadium Trust established a subcommittee to oversee the production of this report, chaired by Neville Harris, including trustees Lauren Semple, Tim Scandrett (Councillor) and myself.

It is my pleasure to submit this pre-feasibility study report to you for your consideration.

The report was prepared by Sarah Burnett, who was the Project Director for the construction of the current AMI Stadium. Sarah was supported by expert advisers:

- KPMG (Peter Ball and Chad Gardiner, Brisbane office)
- Populous (Richard Breslin and Chris Paterson)
- Resource Co-ordination Partnership (Waren Warfield)
- WT Partnership (Pete Sammons).

The stakeholder consultation process was led by Adam Feeley.

We acknowledge the support and assistance provided by Mary Richardson (General Manager Citizens and Community),Christchurch City Council, and Kelvan Smith (Director Greater Christchurch Group), Department of the Prime Minister and Cabinet.

We also would like to thank the many people who were consulted and gave their time to answer questions and provide insight.

Trevor Thornton
For the Christchurch Stadium Trust

Trustees: Jim Anderton, Trevor Thornton, Neville Harris, Lauren Semple, Tim Wood, John Filsell, David East.

Contents

1.

Executive Summary

Executive summary

Introduction

Lancaster Park was severely damaged in the 2010/2011 Christchurch earthquakes.

The Christchurch Stadium Trust (the Stadium Trust) was established to develop and own a replacement temporary stadium in Addington, now known as AMI Stadium. Construction was completed in March 2012.

It was originally anticipated that AMI Stadium would only be required for five years, however significant upgrades and maintenance have been carried out to achieve the necessary regulatory consents to operate until 2022.

In 2012, the Christchurch Central Recovery Plan (the Recovery Plan) was issued and it included a new permanent 35,000 seat multi-purpose sports and entertainment venue as an anchor project within a scheme for a future city vision.

The designated site for this facility is a 6 hectare block bounded by Tuam, Madras, Hereford and Barbadoes Streets. The Crown has taken responsibility for acquiring the land across three city blocks adjacent to the Christchurch CBD and intends completing this process imminently.

The Christchurch City Council's Long Term Plan (LTP) 2015-2025 currently has made financial provision for a new stadium, with funding of $253 million allocated over the final three financial years of the LTP, being 2022-25.

Purpose and scope of this report

The Stadium Trust has been requested by the Minister supporting Greater Christchurch Regeneration and the Christchurch City Council to develop and present a pre-feasibility study for the development of a new multi-use arena (MUA/Arena) which addresses the vision, ambition and principles of the Recovery Plan.

The Stadium Trust was asked to analyse and test the scope and potential of the MUA precinct, identify a shortlist of Arena options, and provide recommendations on the most promising options for the facilities, amenities and precinct infrastructure necessary to deliver the vision for the site.

The following assumptions were agreed for the purposes of this report:

- that the Blueprint provided the decision on the strategic need for a MUA in Christchurch; and
- that the site for the MUA is as chosen in the Recovery Plan.

Project Team

The following specialist consultants were engaged to assist this work:

- KPMG (financial and commercial)
- Populous (design)
- RCP (construction, buildability and programme)
- WT Partnership (cost consultant).

Executive summary (cont.)

Approach

Consultation was undertaken with 50 organisations and individuals who could provide both a local and national perspective on the issues which were within the scope of the pre-feasibility study. Those consulted included:

— City business and hospitality interests;

— National and local event promoters and venue managers;

— National and local sporting codes;

— Event industry specialists; and

— Property development interests.

To inform the report findings, the study also conducted and undertook:

— A review of relevant materials held by CERA and Otakaro Ltd;

— Consultation on the Christchurch event 'environment' and how Christchurch is perceived as an event destination;

— Construction cost appraisal and financial modelling; and

— A review of

- regional facilities and venues and the functions and current/future state of those venues;
- national and regional sports, entertainment and event trends;
- Australasia and international event arena design settings and thinking; and
- third party investment opportunities and precinct investment scope.

Arena Events and Content

The performance, success and financial viability of an MUA or stadium complex is driven solely by its use, or content and event calendar. To understand what this might look like for a new venue, reference was had to Christchurch's event inventory and also that of New Zealand's other major venues.

AMI Stadium has hosted an average of 19 event days per year. Regular hirers include:

- Crusaders (avg. of 8 events per annum);
- Canterbury Rugby (avg. of 6-7 events per annum);
- Canterbury Rugby League (avg. of 2-3 events per annum); and
- International Rugby (avg. of 1 event per annum) – although no tests have been scheduled for the 2018 or 2019 international seasons.

The venue has also hosted approximately 1-2 other one-off major events per year (e.g. NRL, A-League, FIFA U20 World Cup, concerts, Nitro Circus).

Given the city's current event calendar and destination strategies, and the temporary stadium's limitations, the major event calendar at best might remain at these levels, but will more likely decline over the foreseeable future.

The event activity and potential revenue opportunities a future Christchurch MUA might contemplate are:

- Turf based sports – predominantly rugby;
- Non-turf based sports and events – concerts, Nitro Circus; and
- Non-event day functions such as dinners, social events, seminars, meetings.

Executive summary (cont.)

Turf-based sports

At the time of the Blueprint, there was a belief that any new MUA needed a capacity of 35,000 seats in order to attract tier-1 rugby tests. That is an expectation, not a requirement.

The process for allocation of major sports events by sports bodies and event owners has, however, undergone significant change in recent years. Cities rather than venues are now invited to bid on a tendered list of fixtures for one or two seasons. New Zealand Cricket and New Zealand Rugby now both adopt this method of fixture allocation. Christchurch has fallen behind other cities and venues in seeking to attract All Black tests, due to the current AMI Stadium not representing a strong commercial proposition for NZ Rugby.

Capacity

A covered MUA in Christchurch with a capacity of 30,000 and rectangular field would offer a financially attractive venue for the All Blacks, despite not having NZ Rugby's desired seating capacity.

Consultation with Canterbury Rugby confirmed their intent to be a cornerstone hirer of the MUA. Their preferred MUA is a covered minimum 30,000 seat capacity, rectangular facility. A roof is considered essential for rugby given Christchurch's climate.

Canterbury and NZ Rugby consider their status to be one of hirer or tenant, and neither body believes it should commit any capital contribution to the MUA.

Consultation with other major sports codes confirmed that the MUA, at a covered 25,000-30,000 seat capacity, would be an attractive location for international rugby league, NRL and football internationals.

Rectangular v Oval

Cricket is established at Hagley Oval. Cricket interests would like a venue that has a capacity to ensure allocation of future tier 1 international fixtures and has floodlights for day/night cricket. However, accommodating oval and rectangular sports in one venue has proven to be problematic and there is a very strong consensus amongst consultees that any MUA be rectangular in configuration.

Executive summary (cont.)

Concerts and other large-crowd entertainment events

Concerts will be the MUA's most profitable events, and deliver significant city-wide benefits. Concert promoters indicated Christchurch has a number of natural advantages for hosting concert events. These include:

- A large resident population;
- An international airport which reduces the cost of transportation of concert infrastructure; and
- A substantial hotel accommodation inventory in the central city.

There was unanimity amongst promoters that a covered venue with a concert capacity of 35,000 - 40,000 would offer a compelling proposition as a New Zealand venue, particularly where a second location outside of Auckland was sought. Concert promoters and venue operators also commented on the huge advantage in terms of cost, event turnaround times and risk which a hard surface (concrete, timber etc) enjoys over a sports-based turf surface. Concerts present significant risk to a sports turf venue due to the need to use the playing field to host stage infrastructure and overlay, and accommodate many thousands of concert goers. This risk is significantly greater with venues exposed to the weather elements.

Exhibitions

Exhibitions such as home and garden shows and food, wine and craft beer festivals are a growth market for venues in New Zealand. These events typically have modest budgets and would not look to be hosted in premium Convention Centre facilities.

Other forms of stadium events in New Zealand have included:

- Moto-cross/Nitro Circus/X-Games/exhibition sport events (eg. visiting English Premiership League team, LA Galaxy at Westpac Stadium); and
- Major public parades, gatherings.

Not all of these events can work on a turf surface. However, a roof and multi-purpose flooring system would add significant flexibility, opening up a wide range of additional use options.

Non event day functions and activation

Most major stadia and arenas in New Zealand have non-event day activity in the form of hosting functions, business meetings, seminars and small scale events. The proposed MUA is well located within proximity of the CBD and will likely be an attractive destination for functions and events. It might be expected that professional services connected to sport, merchandise outlets and sports bodies could be potential tenants within the MUA. However these opportunities have been ear-marked for the Metro Sports Facility in the short-term. New opportunities of this type however are likely to emerge over time.

Event and destination strategy

The viability and success of a major venue is not simply defined by its attributes and performance. Cities in Australasia have over the last 20 years developed economic development strategies around their event hosting. Melbourne and Adelaide are stand-out examples of what is possible. Success in future event tender processes will require an aligned venue and event/destination strategy for the city.

ChristchurchNZ is a recently established (July 2017) tourism, events, city promotion and economic development agency. How it shapes and delivers the city's event and destination strategy will be influential to the success of the MUA.

Executive summary (cont.)

Arena Design Concepts

The most resounding and unequivocal feedback received from event owners/hirers, promoters, industry experts and locals alike is that the MUA needs to be weather-proof. In the past year, a number of concerts and sporting events around the country have been adversely affected by bad weather, both in terms of event attendances and the quality of experience for the fans attending.

ETFE Roof option

Forsyth Barr Stadium's dominant design driver was to ensure the turf would receive sufficient light and air circulation to meet the required grass growth requirements. The stadium therefore sits on the site in an east-west configuration, with the height and profile of the north and south stands adapted to ensure the appropriate sunlight requirements in winter can be met. The translucent roof is made of plastic-like material, ETFE. It does allow for the turf surface to flourish in the enclosed venue. Further testing as to how this option might actually work in Christchurch, and any additional cost to manage turf maintenance risks will be required, with a particular focus on:

- Ventilation – mechanical ventilation might be required in the MUA seating bowl in Christchurch's summer climate.
- Acoustics - Concert promoters confirmed acoustic challenges exist with an ETFE roof as the sound is negatively amplified by the ETFE material at concerts.
- Roof loading – ETFE roof structures tend to be lighter load bearing and there are limits to the lighting, sound and related event equipment which can be supported from the roof.

Multi-Use

Multi-use functionality is considered by all to be the single most important objective of any future Christchurch MUA.

The challenge is to create a MUA with the widest possible utilisation potential, within which sport can be played, noting that this will be on average about 20 times a year. The predominant "mode" should be of an indoor arena, not a sports field or a stadium within which other events need to be tolerated.

A venue with a turf surface cannot deliver full multi-use or optimal functionality as the turf is the "show floor "and must be protected. Significant time and cost is involved in staging events such as a concert on the turf. This impacts on the frequency of events and significantly restricts what events or uses can be hosted in the facility. There are considerable costs in laying a turf protection system over the field of play. As a general rule, protection is not left down for more than 5 days.

Retractable roof

Using a part-retractable roof like Millennium Stadium in Cardiff (to let in light and air for grass) will still restrict multi-use functionality, and the MUA would still primarily be a stadium or sports arena. Retractable roofs are expensive solutions and produce quite mixed outcomes in terms of quality of fields of play.

Covered Arena with a retractable pitch

The most effective and successful means of achieving multi-use is use of a retractable pitch system where the natural turf is removed from the venue on a motorised tray. Moving the turf outside the seating bowl also allows the field to enjoy optimal natural growing conditions.

The inclusion of a concrete pad below the retractable natural turf playing surface enables considerably more frequent use of the venue and a greater variety of events to be held. The technology required to deliver a retractable pitch is now well-established with both the University of Phoenix and more recently Tottenham Hotspur FC adopting this technology.

Executive summary (cont.)

Arena Design options

The design options shortlisted for costing and financial modelling in this report are:

Option 1	25,000 permanent seats, 5,000 temp seats, 75-80% of seats under roof cover
Option 2	25,000 permanent seats, 5000 temp seats, Forsyth Barr Stadium roof
Option 3	25,000 permanent seats, 5,000 temp seats, Solid roof, retractable pitch
Option 4	30,000 permanent seats, 5,000 temp seats, Solid roof, retractable pitch

The seating capacity proposed is 25,000 permanent plus 5,000 temporary, to reflect the occasional requirement to install 30,000 (eg. an All Black test, Super Rugby final or local derby). A concert capacity, utilising the field of play would be 35,000-40,000.

Other Arena options

Three other MUA options were looked at but not taken through a detailed cost and financial modelling process.

$253 million Arena

The Council Long Term Plan has an allocation of $253 million for a new stadium in Christchurch. Analysis suggests that for this cost, only a very modest venue, with the following amenity and attributes, would be achievable:

- 17,500 seats;
- 60% roof coverage of seating bowl;

This option was not considered to support the vision people have for a MUA in Christchurch and it would in effect establish in permanent-mode what is the temporary stadium capacity model.

35,000 seats and retractable roof

The roof is prohibitively expensive at $100 million, as is the total cost of this option at $690 million. The wider community did not support such a large venue.

Blueprint Option – 35,000 permanent seats and 4,000 temporary seats

This option was not included in the shortlist as it would be too expensive and the general consensus among stakeholders (Rugby excepted) was that the capacity was higher than Christchurch needed. Referring to indicative costing done in 2014, this option today could cost circa $600 million.

Executive summary (cont.)

The following table presents :

- a breakdown of the costs for each MUA option – assuming a construction start date of January 2019;
- the projected financial performance of each MUA option for the first three years of operation (in real 2017 NZD terms).

These financial projections represent average year attendances and financial performance given the associated event calendar. A number of other operating model and project assumptions have been made in the course of modelling these projections, particularly in relation to:

- the MUA event calendar and average-year crowd attendances;
- the MUA management model;
- commercial rights allocation and venue memberships; and
- construction cost.

Those assumptions are set out in more detail at **Appendix C and Appendix D**. **Appendix E** presents 10-year financial performance projections.

Operations under Options 1 and 2 are projected to generate losses in all years.

Only Options 3 and 4 are projected to record profitable operations at an EBITDA level (earnings before interest, tax, depreciation and amortisation).

Option	Total Construction and Project Cost (NZ$million)	Design and Construction time (years)	EBITDA $2017 $000 Year 1	Year 2	Year 3
Option 1 - 25,000 seats , 5,000 temp seats 75-80% roof cover	**368**	4	(933)	(1508)	(1,313)
Option 2 - 25,000 seats, 5,000 temp seats Forsyth Barr roof	**465**	4.8	(377)	(464)	(377)
Option 3 - 25,000 seats, 5,000 temp seats Full solid Roof, Retractable pitch	**496**	5	635	549	635
Option 4 - 30,000 seats, 5,000 temp seats Full solid roof, Retractable pitch	**584**	5.5	233	147	233

Executive summary (cont.)

Funding Sources

The Christchurch City Council has an allocation of $253 million in the Long Term Plan for the development of the venue. This is significantly short of the estimated capital funding requirement under all options.

Typically there can be a range of funding options available for infrastructure of this nature including:

- *Debt funding* - The returns projected for the MUA would be insufficient to support repayment of debt and using this as a mechanism to fund the MUA would place significant ongoing financial stress on venue operations.
- *Application of regional rate* – It is not uncommon in New Zealand for regional councils to apply a special regional rate to assist with funding major projects which will benefit the entire region. For example, this approach was taken for Westpac Stadium and similarly for Forsyth Barr Stadium.
- *Pre-sales of commercial rights* - If these rights were pre-sold it would significantly impact the ongoing operational financial performance of the venue. Capitalising these future revenues is not recommended.

Other precinct opportunities

In the longer term there may be opportunities within the precinct, or spaces within the MUA, for alternative commercial developments. A number of potential complementary associated uses were referred to in the consultative process. Proponents speculated that private sector investment in these commercial opportunities might assist with reducing the cost of the project, as well as generating increased activation and use of the MUA and surrounding areas. A high level supply and demand assessment by Telfer Young supported the following conclusions:

— **Apartments:** Residential accommodation is not likely to be feasible within the MUA precinct as a complementary development in the short, medium or potentially longer term.

— **Hotel:** There is no private sector investor interest in the concept of an integrated hotel on the MUA site. The economics of hotel developments are challenging and the reality is that any development of this type integrated into the MUA would require the MUA precinct owner (the Council) to take the development risk.

— **Retail/ hospitality:** There has been an over-investment in this sector in the city. The emphasis should be on building connections to the existing and proposed hospitality precincts in Christchurch, rather than integrating these types of developments within the MUA itself.

— **Commercial / office space:** Due to over-supply in the city, office or commercial accommodation is not commercially viable in the short to medium term, however, this may become viable over the longer term.

— **Car parking:** Likely to be a longer term demand given the current availability of vacant land sites of which many are being used for temporary ‘open’ car parks.

Overall, there appears limited short to medium term demand for the majority of the identified commercial development opportunities. Discussion with stakeholders also suggested that while there may have been an opportunity to co-locate a number of these uses early in the CBD rebuild, much of this opportunity no longer exists as projects have subsequently been progressed on other CBD sites. The prevailing view was that any development risk for these development options would need to be underwritten by the MUA owner/developer, namely the Council.

Corporate sponsorship or investment

The sponsorship market within the sports sector, and specifically within Christchurch, is currently subdued when compared to historical levels. The reality is that in an Australian and New Zealand context there is little evidence of support for equity investment into stadium or arena projects by private sector investment funds, corporates or high-net worth individuals. Public ownership and development is the predominant model.

Executive summary (cont.)

Arena options

In summary, the review points to two options which meet the criteria and the wider objectives held for a MUA:

Option 2 **$465 million**	25,000 permanent seats, 5000 temp seats, Forsyth Barr Stadium roof
Option 3 **$496 million**	25,000 permanent seats, 5,000 temp seats, solid roof, retractable pitch

Model Arena for Christchurch – Covered Arena with a retractable pitch (option 3)

If there is a preference to confine further analysis to one option, a covered Arena with a retractable pitch is the stronger proposition.

This option, with a retractable pitch, has a price premium of $31 million over a Forsyth Barr Stadium model. But the versatility, potential utilisation and event opportunities this option offers presents a positive financial performance. Also the retractable pitch provides the character of an arena as opposed to a stadium, which is still the predominant mode of Forsyth Barr Stadium.

2.

Background

Project background, purpose and scope

Project background

In the 2010/2011 Christchurch earthquakes, the city's main outdoor sporting and entertainment venue, Lancaster Park, was severely damaged. The Christchurch Stadium Trust (the Stadium Trust) was established to develop and own a new temporary stadium in Addington, now known as AMI Stadium. Construction was completed by March 2012.

As part of the recovery planning, the Christchurch Central Recovery Plan (the Recovery Plan) included the development of a new permanent 35,000 seat multi-purpose sports and entertainment venue as an anchor project. This facility was to be part of the new spatial blueprint for the central city. The Recovery Plan's vision for this facility was for it to be a world-class venue for hosting regional, national and international level sporting (e.g. rugby union, rugby league and football) and entertainment (e.g. concerts) events.

The Crown has acquired land for this facility across three city blocks adjacent to the CBD (the site). To date, however, no progress on the development has occurred.

The Christchurch City Council's Long Term Plan (LTP) 2015-2025 currently has made financial provision for a new stadium with funding of $253 million allocated over the final three financial years of the LTP, 2022-25.

The temporary AMI Stadium was originally considered to be required for a period of approximately five years before being replaced by a permanent stadium. It currently has building and resource consents which expire in 2022.

Purpose

In May 2017, the Stadium Trust was requested by the Minister supporting Greater Christchurch Regeneration and the Christchurch City Council to develop and present a pre-feasibility study for a new multi-use arena (MUA/Arena) which addresses the vision, ambition and principles of the Recovery Plan. This document presents the findings of the pre-feasibility study.

The Stadium Trust was established in January 2012 by the Crown (Minister for Earthquake Recovery and Minister of Finance) and includes government and Christchurch City Council appointed trustees. The current trustees are Jim Anderton (Chair), Trevor Thornton, Neville Harris, Lauren Semple, Tim Wood, John Filsell and David East.

Scope of this report

This report has been prepared in accordance with the Terms of Reference.

Purpose:

- Undertake a preliminary study to determine, analyse and test the scope and potential of the MUA precinct, which has regard to Christchurch's recovery progress and current event/entertainment trends;
- Identify a shortlist of options, and provide guidance and some recommendations on the most promising options for the facilities, amenities and precinct infrastructure necessary to deliver the vision of the site;
- Address and consider the operational and financial viability of a "model arena", with economic attributes to spread the financial burden;
- Consider the MUA business model's sustainability, including the likely utilisation profile, its ability to attract events and generate non-event day revenue (current, future, potential), manage operating costs, draw events/crowds and increase opportunities for commercial investment; and
- In light of current committed funding, identify the key trade-offs and any determinative factors that may influence the scope and scale of the project.

Project background, purpose and scope (cont.)

Key considerations:

- An assessment of the right size and configuration of a MUA in the Canterbury and New Zealand context, taking account of competition effects from other venues — regional, national and international.
- Objectives for the project, critical success factors, and relative importance of key trade-offs.
- Opportunities for the wider MUA precinct and additional investment scope — e.g. sports science/innovation hub, hotel, apartment/ commercial office mixed use.
- Connections to the vision and the city itself, and integration with the wider Christchurch Central Recovery Plan.
- Current committed funding (Council $253m and Crown land contribution) and potential "ballpark" costs.

The following assumptions were agreed for the purposes of this report:

- That the Blueprint provided the decision on the strategic need for a MUA in Christchurch; and
- That the site for the MUA is as chosen in the Recovery Plan.

Out of Scope:

Much of the analysis undertaken is understandably high-level given the project is only at the pre-feasibility stage. Specifically, consideration of the following matters was also out-of-scope for the study:

- Venue and event-specific economics and analysis;
- The MUA construction or delivery mechanism and leadership, procurement approach and funding model;
- The MUA's ownership, operating and management structures; and
- Formal market sounding or expressions of interest.

Project team

Specialist consultants were engaged to provide expert advice, and to facilitate and assist the Stadium Trust to develop and deliver the pre-feasibility study. The contributing consultants are:

KPMG Peter Ball Chad Gardiner (Brisbane)	Financial analysis and modelling	International consultancy practice with previous experience in stadia and arena/event centre business cases. Dedicated sports advisory practice. Published 'A Blueprint for Successful Stadium Development'.
Populous Richard Breslin Chris Paterson	Design concepts and advice	Internationally renowned stadium and event arena designers. Projects include: ANZ Stadium (Sydney), Etihad Stadium, MCG, (Melbourne), Suncorp Stadium, (Brisbane), ICC Sydney Theatre, Eden Park Redevelopment, Westpac Stadium, AMI Stadium, Forsyth Barr Stadium, Emirates Stadium, London Olympic Park, Wembley, O2 Centre (London).
RCP Waren Warfield	Construction Buildability Programme	Feasibility study and construction management/risk advisers. NZ projects incl Eden Park Redevelopment, Westpac Trust Stadium, Northern Events Centre, Hagley Oval.
WTP Pete Sammons	Construction cost advice	Extensive cost planning and project feasibility expertise. Major projects – Auckland Queens Wharf redevelopment, Sky City Convention Centre, Eden Park Redevelopment, AMI Stadium project, 2018 Commonwealth Games feasibility report.

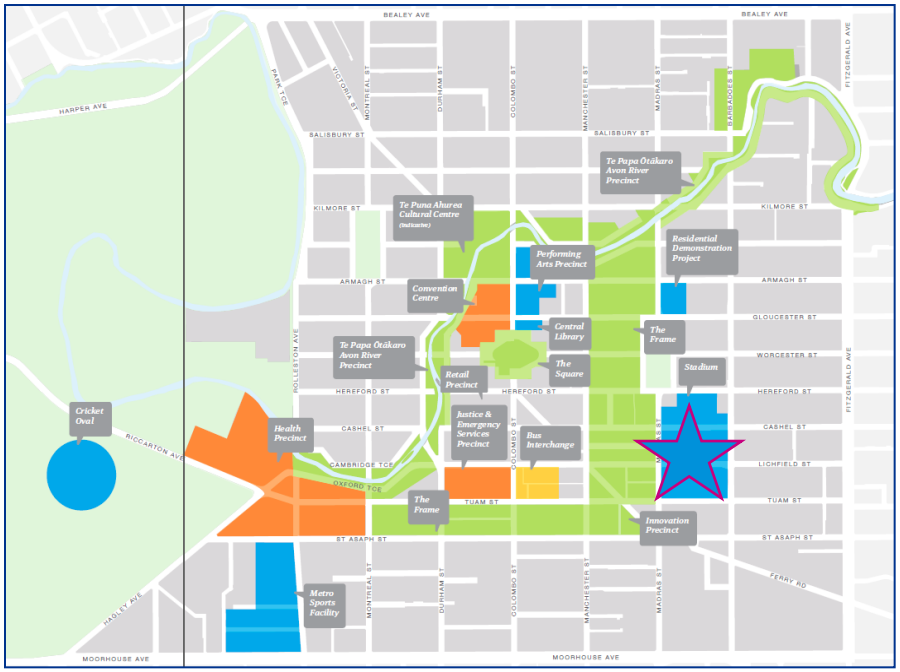
The designated site

Approximately 6 hectares of land in the central city has been designated for the MUA development in the Christchurch District Plan, being the blocks defined by Tuam, Madras, Hereford and Barbadoes Streets.

The site is well located, within close proximity to the Christchurch CBD, including:

- The bus interchange;
- Retail and food precincts; and
- Hotel accommodation.

MUA Site



Source: Blueprint

ARENA SITE

80,730 SQM AREA

EXISTING CONDITIONS:

A. TRANSITIONAL CATHEDRAL
B. PET SHOP
(NOW CLOSED)
C. HAINES RECRUITMENT
(NOW CLOSED)
D. BAR + NG ART GALLERY

Permitted designation activities listed at **Appendix A**

Designation Number	H4
Requiring Authority	Minister for Canterbury Earthquake Recovery
Location	Part blocks defined by Tuam, Madras, Hereford and Barbadoes Streets (refer to planning maps)
Roll-over Designation	Yes (without modification)
Legacy Reference	Christchurch City Plan, Volume 3, Part 12, Clause 2.10A
Lapse Date	10 years from 31 July 2012 unless given effect to (i.e. 31 July 2022)
Underlying Zone	Commercial Central City Mixed Use Zone and Transport Zone (refer to maps)
Map Number	32, 39

MUA site – land ownership

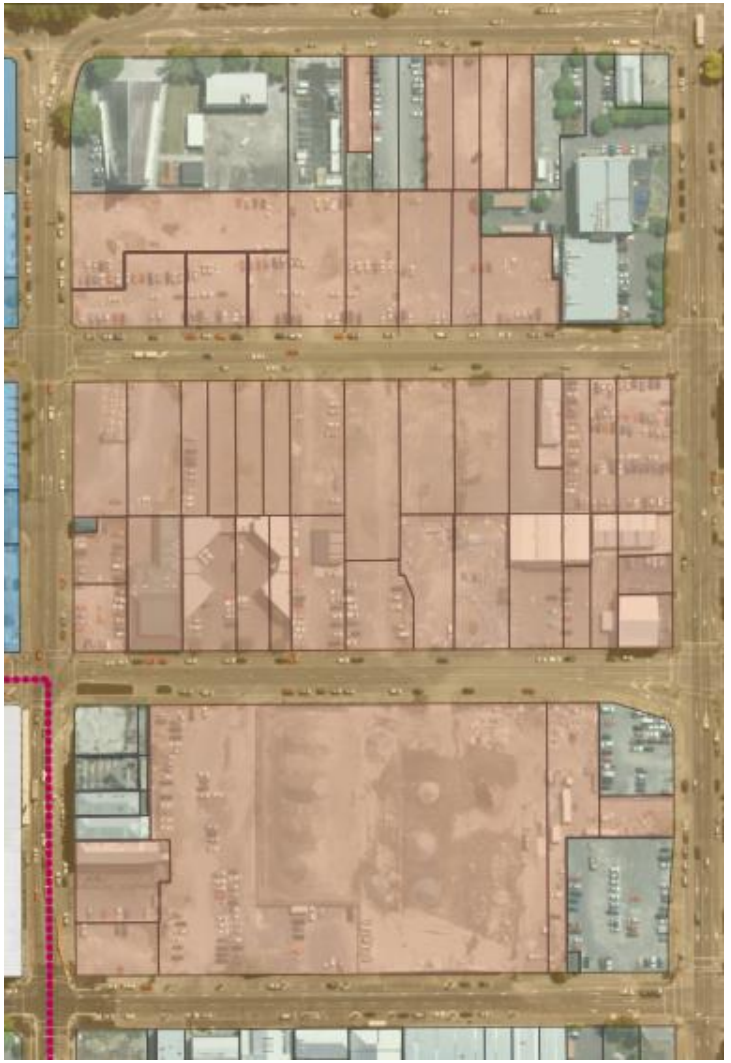
This site map indicates the land currently owned by the Crown and the remaining parcels still in private ownership.

We have identified a number of site issues in addition to land acquisition which would need to be further investigated in the course of a next stage business case. These matters include:

- Ground conditions and contaminated material removal;
- Geotechnical engineering and foundation design requirements;
- Ownership and relocation of substations;
- Consenting and designation rules and requirements (including neighbours);
- Vodafone cabling through or near the site;
- Registered easements (if any) and Council/third party underground infrastructure;
- Relocation of underground services if necessary; and
- Heritage NZ orders associated with remaining /neighbouring buildings (if any).

Key

Owned by the Crown
Privately owned



3.

Vision for an Arena in Christchurch

Christchurch Central Recovery Plan

The Recovery Plan

The Recovery Plan was developed in 2012 by the Christchurch City Council (CCC), the Canterbury Earthquake Recovery Authority (CERA), and Te Runanga o Ngai Tahu. The Recovery Plan sets out three key principles which underpin the strategy for the city's recovery:

"*Canterbury is a powerhouse*" to the NZ economy, with a population of over 560,000 residents and contributing around 12 percent of national gross domestic product (GDP).

"*Christchurch is crucial*" with 70 percent of the region's economic output.

"*The central city is the heart of greater Christchurch*" and is critical to the recovery of greater Christchurch. Therefore it "…needs to offer the facilities, services and amenities that would be expected in any equivalent city worldwide."

The Recovery Plan identifies the opportunity for the central business district (CBD) as:

"…a bold vision, commitment from central and local government to invest in public facilities and to collaborate with other key partners, and a focus on creating the conditions for private sector reinvestment. The result will be a dynamic, productive and beautiful city that is worthy of the people of greater Christchurch."

The Blueprint Spatial Plan and the anchor projects

Incorporated within the Recovery Plan, the Blueprint Spatial Plan (the Blueprint) called for "…*leading urban design principles to shape the new city and locate anchor projects that will encourage investment and growth*… [and] *allow private investors to undertake development opportunities*."

The anchor projects include a "…*large multi-purpose sports and entertainment venue*" which "…*will position central Christchurch as a world-class option for attracting and hosting events*." The proposed features for a Christchurch stadium were stated to be:

- 35,000 seat capacity (with an additional 4,300 temporary seats);
- Corporate suites and lounge spaces for up to 4,000 people;
- A fixed, transparent roof to allow natural turf growth and enable multiple uses; and
- Optimum spectator viewing through a rectangular field of play.

Within the Recovery Plan, there was also reference to other anchor projects which complement or have a connection with the development of the MUA. They include:

- **The Convention Centre Precinct**: The Convention Centre will provide the premier conferencing and exhibition space in Christchurch.
- **The Metro Sports Facility**: In addition to a wide range of aquatic and indoor community sports, the facility will also be a host venue for some elite sports including the Mainland Tactix.
- **The Bus Interchange**: Provides a major point of public transport access within two blocks of the MUA site.

Alignment with Council Goals and Strategies

The MUA development also provides an opportunity to support a number of goals for Christchurch that are identified by the Christchurch City Council in several of their key strategic documents, including:

— Christchurch Long Term Plan 2015-2025;

— Christchurch Visitor Strategy 2016;

— Christchurch Economic Development Strategy 2014; and

— Christchurch Events Strategy 2007-2017.

The relevant goals and priorities of each of these documents are presented below:

Christchurch Long Term Plan 2015-2025

The Strategic Framework for the Long Term Plan currently identifies two Community Outcomes for Christchurch that may be considered relevant to a MUA proposal:

1. ***Strong Communities*** (including):
   - A strong sense of community; and
   - Celebration of identity through arts, culture, heritage and sport.
2. ***A Liveable City*** *(including):*
   - A vibrant and thriving central city; and
   - A well-connected and accessible city.

An additional, relevant Outcome is proposed in the draft Strategic Framework for the 2018-2028 Long Term Plan, namely:

3. **A Prosperous Economy** (including):
   - A great place for people, business and investment; and
   - Modern and robust city infrastructure and community facilities.

Christchurch Visitor Strategy 2016

The aim of the Visitor Strategy is to reclaim Christchurch's pre-earthquake role in national tourism, and to use visitor numbers to drive the city and region's social and economic development. Key priorities identified in the Strategy to do this include:

— Increasing shoulder and off-peak visitor numbers;

— Enabling a bigger range of events to enhance liveability, encourage investment, and attract visitors;

— Prioritising development of the major visitor attractions; and

— Strongly advocating for timely delivery of catalytic anchor projects.

Christchurch Economic Development Strategy 2014

The Economic Development Strategy identifies the main opportunities to make step-changes to Christchurch's economy. Key actions include:

— Creating a culturally attractive and vibrant city centre that attracts new businesses and people, and improves productivity; and

— Delivering the anchor projects.

Christchurch Events Strategy 2007-2017

This strategy was developed by Tourism Resource Consultants and Sports Impact Ltd, working with the Christchurch City Council Events Strategy Project Group. Goals of the Events Strategy include:

— Having a vibrant calendar of events that enhances Christchurch's reputation as a place to live and visit; and

— Increasing the capability of Christchurch to host major events.

A new Events Strategy for Christchurch is in draft and likely to be published in the near future by ChristchurchNZ, the City's new events, tourism and economic development agency.

Desired Outcomes for Christchurch

We consulted with a number of groups and organisations who could provide both a local and national perspective on the issues which were within the scope of the pre-feasibility study, including

- Local councils;
- City business and hospitality interests;
- National and local event promoters and managers;
- National and local sporting codes;
- Event industry specialists; and
- Property development interests.

The list of consultees is attached at **Appendix B**.

There was broad support for the goals identified in the Recovery Plan and the Council's strategic documents, and that the way a MUA might contribute to these goals would be best achieved by a development that:

1. ***Is a fitting replacement for lost heritage****:* Christchurch has not had a permanent sports and concert venue since damage to Lancaster Park. There was a clear consensus that the new venue should be viewed, not as a "nice to have," but as an essential piece of community infrastructure built to a 21st Century standard.
2. ***Re-establishes Christchurch's identity as a sporting capital:*** The Christchurch Visitor Strategy recognises that the earthquakes robbed Christchurch of the three themes that makes up its external identity – a Garden City; its English Heritage (anchored by the Cathedral); and a Sporting Capital. All three need to be reclaimed, and a major sporting facility is an essential element of this.
3. ***Is embraced by the community***: The MUA needs to be able to capture the hearts of the Christchurch community and be a reflection of the city and region.

Community Value – a Liveable City

A consistent message was delivered by many people in our consultation group, that the non-quantifiable social benefits of a MUA in Christchurch should be considered along with any economic analysis. These include:

- **The 'liveability' of Christchurch and its reputation as a 21st century city with "things to do".** Almost everyone spoken to observed that Christchurch currently lacks the volume of major sport, concerts and other events to be the kind of vibrant city that attracts people to visit, live and work.
- **Ability to attract major events.** Many people cited the Ed Sheeran concerts in Dunedin, and Adele concerts in Auckland, as an example of Christchurch's current struggle to compete for musical and sporting events.
- **The attraction and retention of young people to the city who are currently choosing to study and work elsewhere**.
- **Return of city and regional pride and recognition.**
- **Keeping expenditure in the city and within the Canterbury region.** We were told that the days leading up to the Adele concert in Auckland in March 2017 were the busiest of the year at Christchurch airport, as locals travelled to attend the event.
- **The return of private sector investment confidence to the city.** Delivery of the committed anchor projects in the Blueprint is generally considered to be critical to the continued momentum of the recovery.

4.

Arena Content

AMI Stadium event calendar

Designed and built in 100 days, AMI Stadium was constructed using modular buildings, a fabric roof and a scaffolding seat system. It was always intended to be temporary, with an anticipated life of 5 years.
While the stadium amenity is quite basic, it has nonetheless hosted a reasonably strong event calendar in the 2012-2016 period. More recently, however, it has missed out on potential stadium concert opportunities and future international rugby tests.

Given the city's current event calendar and destination strategies, and the temporary stadium's limitations, the major event calendar at best might remain at these levels, but is more likely to decline over the foreseeable future.

The stadium has hosted an average of 19 event days per year over the three years from 2014 to 2016 (excluding community events and the U20 FIFA World Cup matches in 2015). Regular hirers include:

- Crusaders (avg. of 8 events per annum);
- Canterbury Rugby (avg. of 6-7 events per annum);
- Canterbury Rugby League (avg. of 2-3 events per annum); and
- International Rugby (avg. of 1 event per annum) – although no tests have been scheduled for the 2018 or 2019 international seasons.

The event calendar, and that of other New Zealand stadia, does provide a telling insight into the very few days of the year sport and turf-based events are actually played.

The venue has also hosted approximately 1-2 other one-off major events per year (e.g. NRL, A-League, FIFA U20 World Cup, concerts, Nitro Circus).

In 2017, AMI Stadium will host 21 events, assuming Canterbury make the play offs in the Mitre 10 Cup. The stadium will host 2 matches in the Rugby League World Cup.

Opened	March 2012, Cost $34 million
Capacity	17,956 (21,268 with additional temporary seating)
Key hirers	Crusaders (Super Rugby), Canterbury Rugby, Mitre 10 Cup

Event calendar (excl. community events)				
Event type	**2014**	**2015**	**2016**	**2017**
International Rugby	1	1	1	1
Super Rugby	9	7	8	9
Mitre 10 Cup	5	7	7	6-8
Rugby League	0	4	4	2
Football	0	6	1	0
Concert	0	1	0	1
Other	0	1	0	0
Total	**15**	**27**	**21**	**19-21**

New Zealand's Major Multi-Use Venues

To understand where Christchurch might position itself as an event destination, and what form and function any future major venue should take, it is instructive to analyse the profile of New Zealand's principal venues. The table below sets out the capacities and event inventory for these venues. Ultimately any MUA in Christchurch, to optimise its capital cost and financial viability, needs to offer a compelling proposition to event owners and promoters as the no.1 or no.2 venue in New Zealand.

Venue	Location	Permanent Capacity	Ownership	Management	Major events (2016)
Forsyth Barr Stadium	Dunedin	18,000*	Dunedin Venues Property Limited	Dunedin Venues Management Limited	22
Westpac Stadium	Wellington	34,500*	Wellington Regional Stadium Trust		39
Eden Park	Auckland	50,000	Eden Park Trust		21
Mt Smart	Auckland	30,000	Regional Facilities Auckland		13
QBE Stadium	Auckland	25,000	Regional Facilities Auckland		18
FMG	Hamilton	25,000	Hamilton Council		12
Yarrow Stadium	New Plymouth	22,000	Taranaki Regional Council/New Plymouth Regional Council		15
Spark Arena	Auckland	12,000	Live Nation		79
Horncastle Arena	Christchurch	7,200	Vbase		75

Source: Annual Reports & open source

* Both Forsyth Barr Stadium and Westpac Stadium can increase their capacity to 28,000 and 39,500 respectively for rugby internationals.

Arena events and content

The event activity and potential revenue opportunities a Christchurch MUA might contemplate are:

1. Turf based sports – predominantly rugby;
2. Non-turf based sports and events – concerts, Nitro Circus; and
3. Non-event day functions such as dinners, social events, seminars, meetings.

NZ v Tahiti, AMI Stadium
16 October 2012
Source: Fifa.com

Sports Events

The process for allocation of major turf sports events by sports bodies and event owners has undergone significant change in recent years.

Mega event owners such as World Rugby (formerly the IRB), the ICC, FIFA and the Rugby League World Cup (2017) have for some time allocated their fixtures through a tendering and bid process to cities, rather than negotiate and deal solely with the city's stadium. Domestically, since Rugby World Cup 2011, this model has been adopted by the major codes when allocating their international fixtures. Cities, rather than venues, are now invited to bid on a tendered list of fixtures for one or two seasons. New Zealand Cricket and New Zealand Rugby now both adopt this method of fixture allocation.

There is genuine competition and cities, particularly where a stadium has limited capacity, are expected to offer a cash incentive or other value to the event owner in order to present a city plus venue revenue proposition. Christchurch, because of more pressing priorities, and its small stadium capacity has been challenged to lift its competitiveness in this tender environment. New Zealand Rugby has not awarded any test matches to Christchurch for the 2018 and 2019 seasons.

While a new MUA with a high seat yield would offer significant advantage in such negotiations going forward, ultimately success in future tender processes will also require the city to develop an aligned venue and event/destination strategy which is mandated and resourced to secure an ambitious event calendar for the city.

New Zealand Rugby

Christchurch, as the largest city in the South Island, has traditionally hosted one All Black's test match each year. In recent years, however, AMI Stadium has only attracted tier 2 tests (apart from the South Africa test in 2016).

AMI Stadium offers by some margin the lowest financial return to NZ Rugby, due to the costs of installing additional temporary seats, the venue's modest capacity and relatively poor amenity. At the time of the construction of the stadium in 2011, NZ Rugby committed to play tests each year for the then intended 5 year life of the stadium, 2012 to 2016. It is unlikely the venue would have been allocated fixtures on its merits.

Increasingly Christchurch is falling behind other cities and venues in seeking to attract All Black tests, due to a number of factors:

- The venue is too small and does not represent a strong commercial proposition for NZ Rugby;
- Christchurch as a city has been less willing or able to provide financial and value-in-kind incentives to attract All Black tests when compared to other cities/regions;
- A number of other cities have increased the competitive nature of their bids with some augmenting their stadium seat yield with significant cash or contributions to the costs NZ Rugby would normally incur in its staging of the event (eg. temporary infrastructure and event overlay); and
- Christchurch is facing strong competition from Dunedin given Forsyth Barr Stadium has a capacity reaching 28,000, has a roof and Dunedin City Council has been willing to invest in events for the stadium.

Capacity

At the time of the Blueprint, there was a belief that any new MUA in Christchurch needed a capacity of 35,000 seats in order to attract tier 1 tests. That seems to no longer be an absolute pre-requisite, although the venue must be able to offer a highly competitive return to New Zealand Rugby. Forsyth Barr Stadium with 28,000 seats has hosted several tier 1 tests and QBE Stadium (Albany) will host South Africa in September, with a capacity of 25,000 seats.

NZ Rugby indicated a strong preference for a seating capacity of at least 35,000 for All Blacks tests. They did recognise, however, that there is currently only one venue in New Zealand that meets this criterion, namely Eden Park (two venues if Westpac Stadium installs its temporary seating).

One of the key commercial drivers for All Blacks events is total ticket yield (i.e. gross ticketing revenue). Seating capacity is a strong contributor to this metric, however, ticket pricing is equally important. For example, it is understood that the ticket yield for Westpac Stadium and Forsyth Barr is comparable despite Westpac Stadium having an additional 6,500 seats available for sale. This is due to the larger proportion of higher value seats available for sale at Forsyth Barr given both the configuration of the venue (rectangular) and the fact that all seats are under cover.

A covered MUA in Christchurch with a capacity of 30,000 therefore would offer an attractive venue for the All Blacks, despite not having NZ Rugby's desired seating capacity.

A 30,000 seat, covered, and rectangular MUA would offer the best seat yield in New Zealand after Eden Park, and therefore make a compelling case for annual tier 1 test matches. Strengthening this proposition are factors such as:

- Christchurch has the largest population in the South Island;
- Christchurch has an international airport;
- Christchurch has greater accommodation and entertainment options when compared to other competitive locations in the South Island; and
- Canterbury is New Zealand's most successful rugby province.

NZ Rugby saw its role solely as one of hirer. However an annual test match is significant in terms of the financial model for any venue in New Zealand and NZ Rugby could be expected to support a new MUA in Christchurch with a firm commitment of test matches. It has previously made such commitments to Eden Park for the Rugby World Cup redevelopment in 2010 and the AMI Stadium in 2012.

Canterbury Rugby

Consultation with Canterbury Rugby confirmed their intent to be a cornerstone hirer of a new venue in Christchurch.

Currently the Super Rugby format sees the Crusaders host a total of eight home games, plus finals depending upon on-field performance. The Crusaders Limited Partnership indicated they do not foresee any significant changes to the number of home games hosted in the Super Rugby competition each year, even if the structure of the competition was to change. While the Crusaders have indicated they would like to leave open the option to take one home game to another venue each year the study has assumed that all eight home games will be played at the MUA.

Canterbury Rugby has also confirmed their intent to continue to play home games in the national provincial championships at the MUA.

Key considerations from the perspective of Canterbury Rugby include:

- Their preferred MUA is a covered minimum 30,000 seat capacity rectangular facility.
- A roof is considered essential given Christchurch's climate.
- They referenced average crowds of 22,000 at Lancaster Park, with the current crowd averages in their view being affected by the basic amenity of the temporary stadium.
- The fan experience is increasingly important, as is a range of hospitality options with an ability to adapt venue spaces to accommodate shifts in trends or fan expectations. As is the trend in New Zealand, corporate suites at AMI Stadium are proving difficult to sell and the Christchurch market is tailored less to major corporates and more to small to medium enterprises.
- Technology and big screens in the venue were also an important element for rugby to deliver a superior fan experience.
- Growth potential for rugby was said to lie in school and women's rugby.

Source: Superxv.com

Rugby Park

Canterbury Rugby has made a significant investment in upgrading Rugby Park as the Crusader's training facility. It has also established new administration offices for Canterbury Rugby and the Crusaders at the ground. Given these commitments, Canterbury Rugby could not consider basing its operations within any new MUA development, or being an anchor tenant of any commercial spaces in the facility.

Financial

Canterbury and New Zealand Rugby consider their status to be of hirer or tenant, and neither body believes it should commit any capital contribution to the MUA.

International Rugby League

New Zealand Rugby League (NZRL) has only hosted five major international rugby league matches in New Zealand since 2010 (outside of Rugby League World Cup events), with none of these matches being hosted in Christchurch. Going forward, however, the international calendar has been scheduled such that New Zealand will host an average of two home rugby league test matches each year.

Consultation with NZRL suggests that a new venue with a capacity of 25,000-30,000 seats in Christchurch would make it an attractive location for test matches.

National Rugby League (NRL)

AMI Stadium hosted an NRL event between the Panthers and the Warriors in 2016 and is looking to continue to host NRL events in the future.

Consultation with the NRL and one NRL club suggest there is an appetite for clubs to take home games to alternative venues (including venues in New Zealand) for a range of reasons, including securing a guaranteed financial return and engaging with a new market – for fans, corporates and playing talent.

Key criteria for securing events include:

- Financial return;
- Hosting the event towards the start of the season;
- Quality of the venue and playing surface;
- Reasonable population size and corporate market;
- A general predisposition to enjoyment of rugby league; and
- Appropriate event management expertise at the venue.

A new venue with a minimum seat capacity of 25,000 and the wider attributes of Christchurch more generally was considered by NRL stakeholders to offer a favourable proposition for clubs to consider.

Football

Consultation with NZ Football indicated an MUA with a capacity of 25,000 could attract:

- international football;
- A-League events. (This event could be either a pre-season friendly or a regular season game.)

The venue could also host local / provincial football events, however, it was generally considered the venue would be too large and cost-prohibitive for such events.

Five-aside football, known as futsal, is a rapidly growing format of football and could be played at the MUA, dependent on its final design.

World Cups or Tournament Events

- All codes have marquee events, such as World Cups or regional tournaments which can include international qualifying fixtures (eg. Confederations Cup, League Four Nations Cup and age group World Cups). AMI Stadium will host 2 Rugby League World Cup matches in November 2017 and hosted matches in the 2015 FIFA U-20 Men's Football World Cup.
- All codes are developing and promoting new formats and competitions within their sport.
- While attracting some of these marquee events can require significant financial contributions from a venue or host city, having a modern high quality venue can be compelling in its own right to secure top level or play-off games in these events. For example, FIFA requested Forsyth Barr Stadium be included as a venue for the Men's U20 Football World Cup in 2015 even though the venue did not initially put itself forward to host games. The quality and covered nature of the venue was the appeal for FIFA.
- A 30,000 seat capacity would be a minimum size for ensuring the best games in these tournaments were secured.

Ngai Puna Wai

The new Ngai Puna Wai development in Christchurch will host the following turf-based sporting codes in future:

- Canterbury Rugby League
- Hockey
- Athletics

Cricket

Cricket is established at Hagley Oval.

Cricket interests would like a venue that has a capacity to ensure its allocation of future tier 1 international fixtures and has floodlights for day/night cricket. Cricket's international broadcasting market requires day/night fixtures to be played in New Zealand and Hagley Oval does not allow that.

Endeavouring to accommodate oval and rectangular sports in one venue has proven to be problematic, expensive and unsatisfactory in the past. Inevitably the compromise required to be made leaves no one satisfied and presents considerable challenges for a venue to manage.

The Recovery Plan proposed a rectangular venue and there remains a very strong consensus any new MUA be rectangular in shape.

Concerts

Concerts have always, by some margin, been a stadium or arena's most profitable events. Not only does the stadium enjoy significant benefits but there are city-wide effects. Retail and accommodation interests in Christchurch report the Bruce Springsteen concert weekend was the busiest period for them in recent years. AMI Stadium has held just two major concerts since opening in 2012, being the Foo Fighters in 2015 and Bruce Springsteen in 2017. This compares to the five concerts hosted at Forsyth Barr Stadium across 2015 and 2016 alone.

The size and quality of AMI Stadium has made attracting concerts very difficult, particularly when competing with Forsyth Barr Stadium which can guarantee that weather will not impact the event. Promoters consulted, however, indicated Christchurch has a number of natural advantages for hosting concert events over Dunedin (and other locations in the South Island). These include:

- A large resident population;
- An international airport which makes it more efficient and lower cost for the promoter to transport the infrastructure and overlay required to host a major concert; and
- A substantial hotel accommodation inventory in close proximity to venues and other entertainment precincts.

Consultation with concert promoters observed that a roofed venue with a concert capacity of 40,000 (including standing areas on the field), would very quickly attract the major concert events looking for a South Island venue. AMI Stadium hosted 25,000 (in the stands and on the field) for the Foo Fighters and 32,000 for the Springsteen concert.

Indoor/Outdoor

When discussing the value of a covered venue which removed the weather elements from their financial risk, promoters also noted the importance of the roof structure being capable of carrying the sound and lighting systems. In this regard, Spark Arena (formerly Vector Arena) in Auckland was considered favourably. Forsyth Barr much less so. It was observed that getting the roof structure and accessibility to it right can save a concert promoter up to $200,000 and provide a significant competitive edge when bidding for a concert.

Promoters also noted that typically they would look to place a stadium concert in Auckland and one other location in New Zealand. Christchurch would compete with Wellington (Westpac Stadium) or Dunedin for the second concert. A covered MUA capable of hosting 35,000-40,000 concert goers would therefore be expected to be in a very strong position to secure any second New Zealand concert.

Turf v hard surfaces

Concert promoters and venue operators also commented on the advantage in terms of cost, event turnaround times and risk which a hard surface (concrete, timber etc) enjoys over a sports-based turf surface. There is significant risk to a sports turf venue which hosts a concert due to the need to use the playing field to host stage infrastructure and overlay and accommodate many thousands of concert goers. Recently the effects of the Adele concert at an Australian venue led to the cancellation of the remaining AFL games scheduled at that venue. All venue operators referred to the risks to the turf and the additional set up costs as being challenging issues to factor into the hosting of a concert. This risk is significantly greater with venues exposed to the weather elements.

Operating model

There are new dynamics at play in the operating model for the major Australasian concert promoters. Frontier Touring, Live Nation Entertainment (merged with Ticketmaster) and TEG Live (Ticketek) have all sought alignment to, or vertical integration with, a ticketing company. Many venues in Australasia contract and allocate their ticketing rights to one company. Concert promoters are believed to be motivated to place concerts in venues where either their ticket agent has the ticketing rights, or the venue will allow the promoters preferred ticketing agent to manage ticketing to the concert. Forsyth Barr is a Ticketmaster venue and Live Nation, which owns Ticketmaster, would see advantage in that venue over others when allocating concerts. Ideally a venue should look for an agnostic ticketing system which allows it to plug in any ticketing agency system. Venue capacity and amenity are important but equally a venue's operating and business model ought to be flexible enough to adapt to concert industry trends.

Other large-crowd entertainment events

Exhibitions

Review of the event calendar of other New Zealand venues has identified exhibition events as a growth market for venues.

Westpac Stadium, and to a degree Forsyth Barr, host a wide range of exhibitions and shows each year including the Home and Garden Show, Beervana, the Food Show, the Better Home & Living Show and the Armageddon Expo. Daily attendances are reported at between 2,000 and 10,000.

On average Westpac Stadium has hosted six such exhibitions per year over the past three years. Forsyth Barr Stadium has also hosted between two and three exhibitions per year over this period.

Westpac Stadium largely uses the concourse of the venue to host these events, however, the field can also be used as required.

These events typically have modest budgets and would not look to be hosted in premium Convention Centre facilities.

Other events

In addition to concerts, other forms of stadium entertainment and events can include:

- Moto-cross/Nitro Circus (which has been held twice at AMI Stadium);
- X-Games;
- Classic car gatherings, boat shows;
- Military Tattoos;
- Kapa haka competitions;
- Exhibition sports events (eg an English Premiership League team);
- Major public gatherings, parades and celebrations/staging post for large community events eg. marathons, triathalons, fun runs; and
- Pop-up warehouse shopping / sale events.

These events are important to how a community embraces the venue because often the audience is of a different character to the conventional sports fan.

Not all of these events can work on a turf surface. However, a roof and multi-purpose flooring system would add significant flexibility in type and frequency of use, and would open up a wide range of additional utilisation options.

Christchurch hosts a number of large community and festival events in Hagley Park, the success and enjoyment of which is too often weather-dependent. It could be expected that some of these occasions would be more successful if set up in a covered arena, eg, the night noodle market, Lantern festival, Diwali Festival.

E-Sports

Arenas around the world are now hosting computer gaming competitions with large prize pools, which can draw large crowds. This sport is growing in popularity, particularly in South East Asia, and Vector Arena is the only venue in New Zealand at the moment that can cater to the NZ E-Sports Federation's requirements. Christchurch could potentially attract an event with a covered MUA.

Non-event day opportunities

In addition to the turf-based sport, non-turf events and concerts, there is a further source of potential revenue for the MUA – functions and small scale events in and around the venue.

Given that most stadia and arenas do not host major sporting or entertainment events every day, venues typically attempt to generate non-event day activity at the venue through hosting functions, business meetings, seminars and small scale events. Such events are held in the corporate suites and function rooms which are otherwise only in use on game days.

The success of function and hosting activities at stadia is varied and is dependent upon a number of key factors, including:

- Location – whether the venue is central to other amenities and key business and population centres;
- The style and flexibility of facilities;
- Competition from surrounding facilities (e.g. hotels, conference centres);
- The quality and cost of what is offered;
- The venue's point of difference; and
- Transport and parking.

Venues such as Eden Park and Westpac Stadium have strong functions and events businesses. The proposed MUA is well located within proximity to the CBD and will likely be an attractive destination for functions and events. There is a possibility of additional revenue from these events, and these can provide a steady income stream for the venue caterer – which strengthens the value proposition for that provider.

It should be noted there are several local venues which offer similar facilities and services to the MUA's potential non-event day functions, meetings and seminars.

Most hirers or users will look to the venue which works best for their occasion and purpose, so competition effects may be minimised. However, a complementary management approach to the utilisation of these venues will be beneficial to their viability and success.

Community Use

The vision for the MUA is to be more than just a venue hosting sporting, entertainment and other commercial events. It is expected to be a venue that the community of Christchurch and greater Canterbury are proud of, one that they call their own and one which they can use and interact with on a regular basis. The MUA ought to be made be available for a wide range of community uses (for example school sports competitions and junior grade sports) but it is acknowledged that at times there can be tensions because:

- Community users are often unable to pay for use of the venue and its associated services on the day (such as cleaning costs.). The venue owner will often have to subsidise.
- Community use can clash with other uses such as training sessions or designated event days.

Invariably one of the key determinants of the level of community access to a venue is the impact of any damage to the grass playing surface. If this risk is removed or managed, then the community use availability increases significantly.

AMI Stadium, Chch
Stadium challenge
Source: stadiumchallenge.co.nz

Event and Destination Strategy - ChristchurchNZ

The viability and success of a major venue is not simply defined by the venue's attributes and performance. Cities in Australasia have over the last 20 years developed economic development strategies around their event hosting. Melbourne is a stand-out example of what is possible, having built a strategic and economic vision around delivering a year-round calendar of sport and performing arts in the city.

The redevelopment of Adelaide Oval and that city's integration of the venue into a wider event and destination strategy also offers insights into what a modern, iconic venue can offer to a city's economic and destination development strategies. Recent economic impact studies of a number of major events in New Zealand indicate the scale of national and regional benefits these have delivered:

Auckland	7 summer concerts in 2017 Including Adele, Guns N' Roses, Justin Bieber	$37 million and 126,000 visitors *(Source: Regional Facilities Auckland)*
Wellington	2016 Wellington International Arts Festival Royal Edinburgh MilitaryTattoo	$10 million and 100,000+ visitors *(Source: BERL)*
Christchurch	Cricket World Cup 2015 Bruce Springsteen concert 2017	$15 million *(Source: PWC report 2015)* $10 million *(Source: Vbase)*
Dunedin	Forysth Barr Stadium – 6 years	$165 million *(Source: Dunedin Venues Ltd)*
New Zealand	Cricket World Cup 2015 World Masters Games 2017	$110 million & 2,300 jobs *(Source: PWC report 2015)* $53 million and 266,000 visitor nights *(Source: ATEED)*

Within a New Zealand context, Auckland's Tourism, Events and Economic Development agency (ATEED) has been very effective in building an events and entertainment calendar which has integrated the relevant venues and wider city aspirations to present Auckland as a successful event hosting destination.

Given the tendering and bid processes sports event owners have now adopted, and the competitive nature of the concert and entertainment sector, the success of a MUA in Christchurch can only be assured if there is a well-resourced and effective city agency driving a highly coordinated destination and events strategy.

ChristchurchNZ is a recently established (July 2017) tourism, events, city promotion and economic development agency. How it shapes and delivers the city's economic development vision will be influential to the success of the MUA and Christchurch's many other entertainment and hospitality venues.

ChristchurchNZ will also be the city's event procurer and negotiator and its effectiveness in this role will have a significant impact on whether any MUA truly delivers the potential and aspiration the city expects. The business case for a MUA cannot be considered in isolation from the city's event and destination strategy.

Bruce Springsteen, AMI Stadium

5.

Arena Design Concepts and Trends

Venue design concept

In addition to providing comments on how a MUA could support Christchurch's strategic goals for regeneration, consultees were asked to identify operational attributes that were essential in a modern MUA. The comments provided were from the perspective of:

- spectators seeking the best possible experience;
- hirers and users of the venue seeking quality, ease of operation and strong financial returns; and
- venue operators seeking an operationally efficient and cost-effective facility.

There were differences of opinion on relative priorities and on some issues, however, overall there was high-level agreement on many of the features that a new MUA would need. These included:

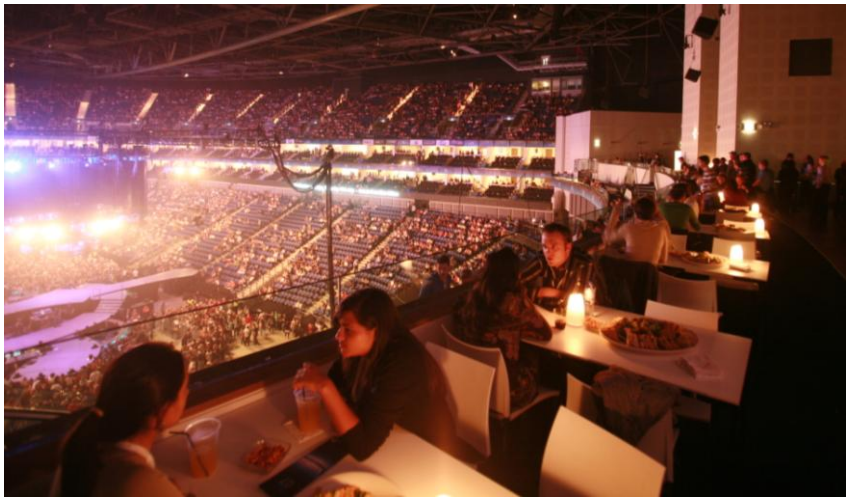
Attribute	Why it is important
Design	The MUA will be a highly visible building in the heart of the city and as such should add visual interest to the environment. It must engage with its surroundings, have active edges and not be a defensive concrete structure. The MUA must be an arena within which rectangular sport can be played.
Covered	The sentiment and support for a roof was so strong that many commentators and consultees believe that if the MUA is not covered, the city should not commit to the facility. Concert promoters and sports interests reflected the same views, and all referenced the success of Forsyth Barr Stadium. Without the roof, the MUA simply couldn't be a competitive, attractive or successful venue. It would be a provincial stadium.
Capacity	The MUA needs to be big enough to secure major events (e.g. concerts and All Black tests), but not so large that it loses atmosphere for smaller events. The MUA should be placed behind only Eden Park for concerts, rugby and other international sport. Many referred to the need for Christchurch to have a larger venue than Dunedin's Forsyth Barr Stadium and to be the South Island's premier venue. Concert promoters said a capacity of 35,000 to 40,000, and sports interests all referred to 30,000 being sufficient. A strong consensus formed around the proposition of a permanent seating capacity of 25,000, with 5,000 temporary seats.
Multi-use	The MUA must be 'multi-use' i.e. flexible and adaptable for a wide range of uses to ensure its utilisation is maximised wherever possible. This includes utilisation at a minimum for sports events, major concerts and entertainment events, smaller sports and community events. The scale of the investment was considered to require more than a sports stadium. Many people felt the narrative should be "Christchurch wants an Arena within which rugby can be played, not a rugby stadium."

International stadia design trends

This study also reviewed international stadia design. Specifically Populous identified the following points of difference most stadia developments were focussing on, many of which substantiate operational and design fundamentals promoted as part of our consultation:

- ***Roof***: Benchmarking of stadium developments across Australia suggests an average coverage of 75% to 85% of seating. The development of Forsyth Barr in Dunedin, however, with a transparent ETFE roof over both the seats and also the field of play has set a new benchmark for roof coverage. Where weather elements are unpredictable, a roof is essential to provide the comfort, amenity and fan experience people expect.
- ***Proximity to the field of play***: One of the key considerations for fan experience is to be as close to the field as possible. Given atmosphere and excitement are created within the seating bowl, it is the driver of great stadium design. Sightlines for spectators need to be dedicated to the primary sport to be played at the stadium, allowing the best view from every seat, rather than compromises due to secondary event types that only happen a few times a year.
- ***Smaller but adaptable capacity:*** Maintaining a good crowd atmosphere is critical for all event sizes, and large events are more typically catered for by additional, temporary seating rather than permanent seats.
- ***Turf systems:*** There have been significant advancements in the development of natural, artificial and hybrid turf systems for elite sport over the past decade. Whilst natural turf systems have been the norm since sport began playing on grass, artificial turf technology has advanced significantly over the past 10 years. While the major international codes have accepted artificial turf surfaces, there remains a reluctance for these to be used at the highest level, particularly for rugby. In the United States, the National Football League plays on a number of artificial surfaces but it is understood that there is increasing evidence that is not as forgiving a surface in terms of player well-being, and players prefer turf surfaces. That may change over time but for now and the medium term, natural surfaces are expected to be preferred.

Photo: O2 Arena, London
Source: Populous



- ***Variety of hospitality options:*** The past decade in stadium design and development has shown that patrons are looking for a variety of experiences and at different price points. The briefs for stadia today in Australia, United States and Europe for hospitality are expansive. The corporate hospitality market for many venues is formed of small to medium enterprises with smaller entertainment budgets, and less demand for exclusive and separated hosting spaces. There is an increasing preference for designs not to hard code corporate boxes but create flexible, adaptable spaces, for example larger informal lounges and outdoor terraces with views of the field.
- **On-site food and beverage:** Venues need to have flexible offerings from pop-up food carts, bespoke dining environments, and restaurants that aim to be destinations in their own right.
- **Use of technology:** Venues need to have significant capacity for cabling or backbone wi-fi infrastructure to meet emerging technologies. Technology is increasingly playing a part in enhancing the experience at a live venue.

Active edge

A consistent message received during the consultation phase of this study was the MUA should not be a “dead-spot” outside of event days.

After a period when large-scale venues were often sited on the outskirts of a city, it is becoming more common for them to be centrally located. However a central location requires more effective integration – venues cannot sit in isolation. Care has to be taken to ensure that any MUA complements its environment from the perspective of urban design, transport planning and adjoining commercial developments. The site chosen certainly delivers this potential and any final design needs to support integration into the city fabric and promote the opportunity for street-edge activation.

Part of the integration process can be the development of a critical mass of facilities around the venue, that will attract people to the precinct before, after and outside of event days.

Adequate external areas are becoming equally as important during major events, as they provide spaces for people to meet post and prior to events, offering significant opportunity to expand on revenue generation. This potential is maximised when these gathering spaces are activated, increasing the fan atmosphere, particularly for those not attending the event but wishing to be a part of the occasion. These spaces can also be used for community festivals and markets, outdoor cinema and fun runs for example.

Within the facility itself and the various active edges (i.e ground floor city-facing spaces), it might be expected that professional services connected to sport, merchandise outlets and sports bodies could be potential tenants. However these opportunities have been ear-marked for the Metro Sports Facility and the Nga Puna Wai Sports Hub. Over time, equivalent opportunities might emerge around the MUA but the case for inclusion of these tenancy types does not appear strong at the present time.

Take the elements out of play

Venues today have to compete with the comfort and quality of the experience provided at home by the greatly expanded content of broadcast and digital media, and the affordability of home entertainment systems.

Creating a sense of atmosphere and emotion is what differentiates the live experience from the home experience. The expectation of a live venue today is one of “no compromise” when it comes to proximity to the action, levels of comfort and levels of service.

The most resounding and unequivocal feedback received from event hirers, promoters, industry experts and locals alike is that the MUA needs to be weatherproof. The Highlanders recently enjoyed dry, open running rugby against the British & Irish Lions under cover at Forsyth Barr Stadium despite miserable winter conditions outside. The week before at AMI Stadium, fog threatened and the wet ground under foot made for challenging conditions for the Crusaders. The America’s Cup parade was also a celebration affected by harsh weather conditions.

Eliminating weather (particularly winter conditions and the Christchurch easterly) provides certainty of experience, greater confidence around crowd numbers and the opportunity to secure more weather-dependent events.

Many non-turf events currently occur within the relatively short summer period, and more activity is needed through the shoulder and off-peak seasons. Both the Christchurch Visitor Strategy and the Christchurch Events Strategy highlight the difficultly in maintaining a calendar of events throughout the year. A major venue which is unaffected by wet or cold weather and therefore able to successfully host year-round events will be a significant factor in supporting strategies for visitor growth.

Compromising on the fan experience is viewed as the biggest risk to the success of the MUA. In order to get fans out of their homes or watching in bars, there is a clear expectation that the venue needs to offer “home theatre in a live environment.”

Photo top left: Adele concert , Mt Smart Stadium 26 March 2017
Source: Dailymail.co.uk
Photo top right: Jade Stadium Chch, Super Rugby Final 27 May 2006
Photo above: Crowd queuing for Guns n Roses concert, Westpac Stadium, 2 Feb 2017 Source: Stuff.co.nz

ETFE Roof option

Forsyth Barr Stadium's dominant design driver was to ensure the turf would receive sufficient light and air circulation to meet the required grass growth requirements. The stadium therefore sits on the site in an east-west configuration, with the height and profile of the north and south stands adapted to ensure the appropriate sunlight requirements in winter can be met. The translucent roof is made of plastic-like material, ETFE. It does allow for the turf surface to flourish in the enclosed venue.

An in-situ turf surface however cannot deliver full multi-use or functionality as the turf is the venue's "show floor" and must be protected. Significant time and cost is involved in staging events such as a concert on the turf. This impacts on the frequency of events and significantly restricts what events or uses can be hosted in the facility. Multi-use in this option is sub-ordinate to the requirement to preserve and protect the sports turf.

Forsyth Barr Stadium, Dunedin
Source: Populous

A number of other matters also require consideration with this option in a Christchurch setting. They are:

Ventilation

In Dunedin's climatic conditions, Forsyth Barr Stadium does not need mechanical ventilation in the seating bowl. Christchurch's summer climate and temperature variations are likely to create significant heat build up in this mode and require expensive mechanical treatment of the environment. Equally the turf maintenance risks are understood to increase with the more intense glass house effects induced by these higher temperatures.

Acoustics

Quality acoustic performance is a vital requirement to make a venue successful, both in terms of the internal environment, and in limiting the amount of noise that can escape into the surrounding environment.

A steel roof will generally contain noise well, and can produce acceptable internal acoustic performance for concerts if a perforated steel liner is applied to the roof surface. An ETFE roof will provide an excellent acoustic outcome for sport, but very negatively impacts on entertainment events such as music concerts as the sound is amplified by the material. Concert promoters confirmed these sound challenges exist under an ETFE roof structure.

Roof loading

ETFE roof structures tend to be lighter load bearing and there are some limits to the lighting, sound and related event equipment which can be supported from the roof.

Multi-use

Multi-use functionality is considered by all to be the single most important objective of any future Christchurch arena. Sport, and rugby in particular, are acknowledged to be the cornerstone hirer and user of the facility, however both to drive its financial viability, and ensure it is an active, vibrant space in the city, the MUA must be able to host a large number and wide variety of events. It must also play to a wider community than the sports sector. There is a risk that the facility, whilst capable of hosting a wider range of events, will compromise its main uses to an extent that the venue does nothing well. In developing a level of flexibility, it is essential therefore to understand the primary, secondary and occasional or ancillary uses of the MUA .

In stadium-mode, the challenge is to create a MUA with the widest possible utilisation potential, within which sport can be played (noting that this will be on average about 20 times a year), not a stadium within which other events need to be tolerated. The following features define the degree to which an option can be considered "multi-use":

— **Adaptability and versatility**: An adaptable arena can host a variety of events with different surface requirements. Venues with a turf-only surface that host events such as concerts, Nitro Circus or X-games need to place a protective surface over the pitch for the duration of these events. Where additional materials such as soil are required as a base for the event, then there is very limited scope for a turf-based venue to host an event. In addition to the operational costs of doing this, there are limitations to the number and type of events that can be held in this manner without significant damage to the condition of the turf. Harder surfaces such as concrete and timber offer almost unlimited scope for events, particularly motorcycle, car or other vehicle displays or competitions. Turf-based venues typically require considerable time and cost to set up for events, which carry a risk of damage to the turf.

— **Effectively operates in all weather conditions**: An open-air stadium, even one with 100% roof coverage of the seating bowl, will be affected by rain on the playing surface as well as rain drifting to parts of the seating bowl. The effects of rain, wind chill, and temperature extremes diminish the experience for those attending, adversely impact on crowd attendances, and potentially affect or compromise the hosting of an event. In contrast, a fully enclosed MUA provides a consistent year-round experience and removes weather effects from all elements of an event. Promoters and event owners also put a premium on venues which take the elements out of play and reduce their financial risk.

— **Scalability**: Scalability refers to the ability of a venue to increase or reduce its capacity to suit each event. For example, venues which are not scalable often suffer a loss of atmosphere when the crowd in attendance is significantly below full capacity. A scalable venue can accommodate additional spectators for major events by installing temporary (or "demountable") seats as well as reducing the capacity for smaller events – most commonly by "curtaining" off the upper seating tiers (e.g. Spark Arena in Auckland is scalable from 1,800-12,000).

— **Flexible configuration**: A flexible venue will be able to be configured differently for events other than the "standard" rectangular configuration for football, rugby, etc. This includes reducing the event surface area for events such as court-based sport, or providing different orientations for concerts such as situating a stage along the side-line of one stand.

— **Ease of event set-up**: Concerts and similar entertainment events will usually require good accessibility in order to quickly bump in and bump out large volumes of equipment, as well as good back of house facilities. A venue without these features can find it more difficult to successfully secure events which require substantial overlay or temporary infrastructure requirements.

Retractable roof

Using a part-retractable roof like Millennium Stadium in Cardiff (to let in light and air for grass) will still restrict multi-use functionality, and the MUA would still primarily be a stadium or sports arena. This option was considered for the purposes of this report but ruled out as prohibitively expensive.

Retractable Field of Play – a point of difference

An alternative to covering a turf surface is to have a grassed playing pitch for turf-based sports which can be retracted, leaving a concrete pad beneath it for all other events. The inclusion of a concrete pad below the retractable natural turf playing surface enables considerably more frequent use of the venue and a greater variety of events to be held. The technology required to deliver a retractable pitch is now well-established with both the University of Phoenix and Tottenham Hotspur Football Club adopting this technology. Other venues include the Sopporo Dome in Japan and the Gelre Dome in The Netherlands.

Whether natural or artificial, turf for sporting events requires ongoing maintenance. Of primary concern to venue and grounds keeping staff is the risk of damage, to what is an elite playing surface, from point loads from stages, heavy vehicles and simply having many people at an event on the turf. There are considerable costs in laying a turf protection system over the field of play. There is also a limit as to how long the grass can be covered. As a general rule, protection is not left down for more than 5 days. To address this issue, a number of venues internationally have implemented a retractable pitch system where the natural turf is removed from the venue on a motorised tray to allow non-sporting events to be hosted within the stadium without impacting the natural turf surface. Moving the turf outside the seating bowl also allows the field to enjoy optimal growing conditions.

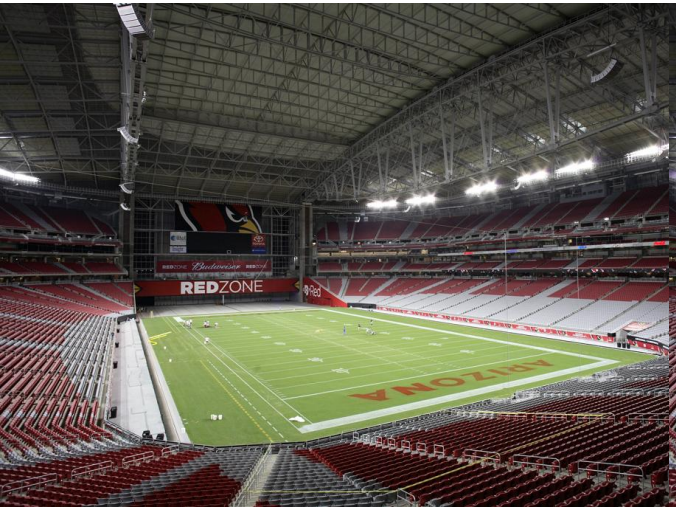
University of Phoenix Stadium

The agility and adaptability of this technology means events turnaround times are quicker, leaving more events days to offer promoters. The turf manager for the University of Phoenix Stadium was consulted on the performance, cost and feasibility of this technology. He particularly referenced the retractable pitch's ability to allow the stadium to host a large number of events of a wide variety, and for the venue to swap event modes very quickly, increasing its utilisation well beyond what a natural turf venue could achieve.

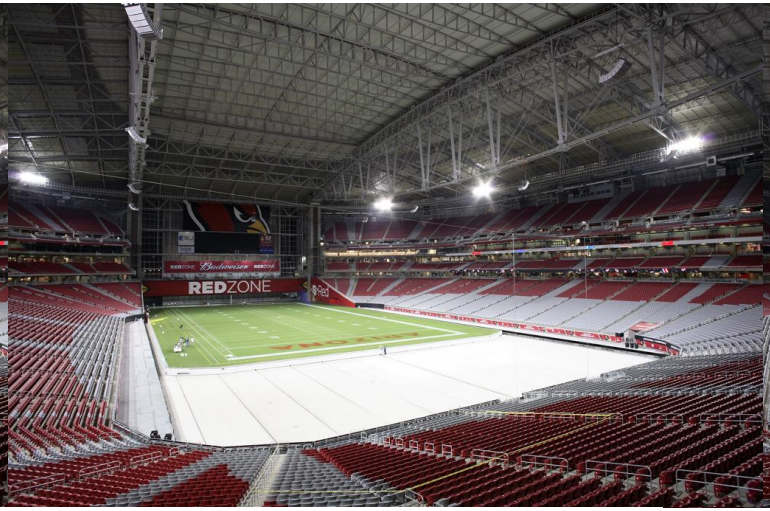
Top right: University of Phoenix Stadium
Above: Exterior view of retractable pitch
Opposite: Interior view of the show floor
Source: Populous

Opposite: Sapporo Dome, Japan
Source: Youtube.com and japantimes.co.jp

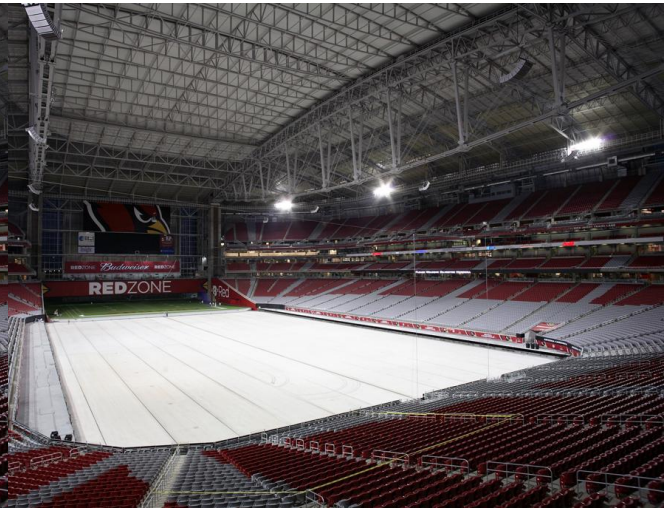
University of Phoenix Stadium retractable pitch



Field within stadium



Field retracting



Field retracted - outside

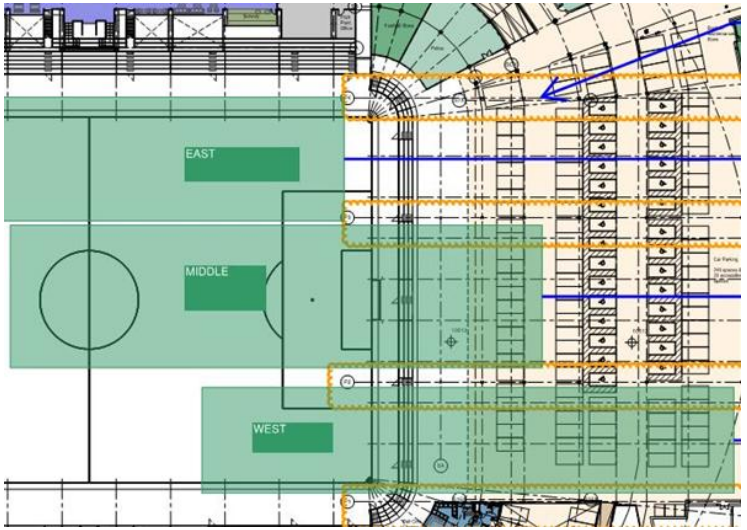
Retractable pitch technology

There are three turf removal systems that are in use, two of which use a mechanical system-

(1) *The single tray option, as per University of Phoenix Stadium – see over*

This is a single tray the size of the field of play and grass surrounds. It slides out of the arena on a series of rails embedded into the concrete platform. The end of the stadium, which has minimal seats and structure, has roller shutters running the width of the façade which are opened when the tray is moving in or out. There are also props that are swung up whilst the tray is moving that help support the façade. This system takes 65 minutes to relocate in or out, requiring four staff to supervise.

Our cost consultants WT Partnership have indicatively priced the single tray option for the MUA at approximately $24 million (NZD).



(2) The multi- tray option, as per Tottenham Hotspur – see opposite

This is multi tray system where the field of play is divided into several trays. With Tottenham it is being broken into three equal trays, along its width. When the trays are retracted it exposes a synthetic American Football field of play. It has been developed as a multi- tray system because the arena has a complete 360 degree seating bowl. The two outer trays move to the side first to the clearance required around the columns, with all three sliding under the stand and under the external public plaza. There is no natural daylight, however there is a network of grow lights to maintain grass growth as well as irrigation and air movement. The field is able to be fully maintained when parked under the plaza. This system is anticipated to take 3.5 hours with four staff to prepare for the movement, two hours to move the pitch, then four hours for pitch finalisation.

(3) The palletised pitch, as originally proposed for Millennium Stadium Cardiff.

This is a fairly straight forward system where the field of play is made up of a series of 1m by 1m trays. It is a 'carpet tile' approach. The trays sit on a concrete pad. The trays are either rotated around within the arena, or removed and replaced as needed from a grow yard outside of the arena. The principles of this system are sound, however it requires considerable time and labour to move or replace the individual trays. This cost is significant when an event requires full use of the concrete pad. There is also considerable cost in having a nursery farm for the palletised tray system. The ongoing operational costs have impacted on the use of this system as a regular turf management and protection option. While originally proposed, this system is not used by Millennium Stadium Cardiff. They have insitu turf which is replaced periodically.


HONDA
HONDA
HONDA

6.

Arena Options

Arena Options

From all the consultation and analysis, a strong consensus formed around the following criteria to assess the merits of alternative options for the design and attributes of the MUA:

- **All season, all weather**: The MUA should be covered and provide a high-quality event experience regardless of the prevailing weather conditions.
- **Capable of multiple uses**: The MUA should truly provide Christchurch with the ability to host as many event types and events of as many sizes as possible. It should be equally suited to a concert, sporting event or large community gathering or festival with minimal cost / time to change between event types. It needs to be more than a stadium, was the overriding interest.
- **Suitable capacity:** The MUA must be large enough to attract tier-1 international rugby tests and concerts.
- **Rectangular field of play configuration**: With cricket catered for at Hagley Oval and athletics also assigned to other venues, the configuration of the MUA should be rectangular.
- **Visually attractive and connected to the city**: The MUA must be connected visually and physically to the CBD and be a vibrant, active element in the CBD fabric.
- **Great fan experience:** The MUA should offer the best fan experience for every patron. This includes the latest technology, varied food and beverage offerings, easy access to and around the venue and a wide variety of ticketing / pricing options.
- **Financially sustainable**: The MUA should be operationally profitable and not require annual subsidies or be a recurring burden on ratepayers.

The design options therefore shortlisted for costing and financial modelling are:

Option 1	25,000 permanent seats, 5,000 temp seats, 75-80% of seats under roof cover
Option 2	25,000 permanent seats, 5000 temp seats, Forsyth Barr Stadium roof
Option 3	25,000 permanent seats, 5,000 temp seats, Solid roof, retractable pitch
Option 4	30,000 permanent seats, 5,000 temp seats, Solid roof, retractable pitch

The seating capacity proposed is 25,000 permanent plus 5,000 temporary, to reflect the occasional requirement to take the capacity to 30,000 (eg. an All Black test, Super Rugby final or local derby). A concert capacity, utilising the field of play, would be 35,000-40,000.

These capacity configurations would place the MUA ahead of Westpac Stadium and Forsyth Barr in terms of seat yield.

Multi-use functionality is an imperative and these four options are able to achieve that, although at quite different levels of versatility and risk. The limitations of a fixed grass surface have been discussed especially in regard to the events that can be staged and the cost/turnaround time equation for events. The risk to the MUA's critical asset, the turf is significantly greater where a substantial event calendar is expected or required. Only options 3 and 4 offer optimal multi-use possibilities.

All options have been reviewed by the design team and are capable of working within the site, and in a form that doesn't constrain the expectations of performance of the venue.

Option 1 – 25,000 permanent seats, 5,000 temp seats, 75-80% of seats under roof cover

Option 1 is a 25,000 permanent seat rectangular MUA with north-south orientation.

The capacity of the stadium could be increased to 30,000 to cater for blockbuster events (e.g. All Blacks test) through the use of temporary seating at the open end of the stadium.

The venue will include:

- A fixed (hybrid) grass playing surface suitable for rugby, league and football events;
- Roof coverage of 75%-80% (to the drip line) of permanent seats;
- A diverse, modern and flexible premium product offering;
- Facilities and services largely in line with comparable modern second tier stadia (e.g. video screens, food and beverage, etc.); and
- Player and officials facilities in line with major international sporting code requirements.

The estimated capital cost for this option is $368 million.

Project details	
Capacity	Sports mode - 25,000 (plus 5,000 temporary seating) Concert mode – 40,000 (includes use of field for concert -goers) Reduced mode – not available
Premium seating	2,500 (10% of total)
Roof coverage	75%-80% of seating, no roof over field of play
Retractable field of play	No
Technology	Video screens only
Construction cost (escalated on completion $)	$368m (source: WT Partnership)

Option 2 – 25,000 permanent seats, 5000 temp seats, Forsyth Barr Stadium roof

Option 2 is a 25,000 permanent seat rectangular MUA with a east-west orientation.

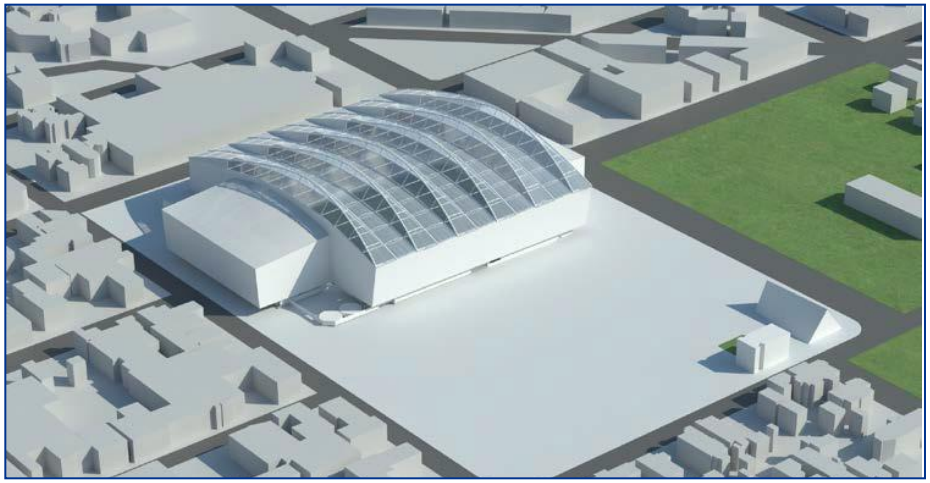
The capacity of the stadium could be increased to 30,000 to cater for blockbuster events (e.g. All Blacks test) through the use of temporary seating at the open end of the stadium. Under this Option the venue would have a full fixed ETFE roof, similar to that of Forsyth Barr Stadium. The inclusion of the roof under this Option will provide a superior event experience and increased functionality when compared to Option 1.

The venue will also include:

- A fixed (hybrid) grass playing surface suitable for rugby, league and football events;
- A diverse, modern and flexible premium product offering;
- Facilities and services in line with comparable modern second tier stadia (e.g. video screens, food and beverage, technology, etc.); and
- Player and officials facilities in line with major international sporting code requirements.

The estimated capital cost for this option is $465 million.

Project details	
Capacity	Sports mode - 25,000 (plus 5,000 temporary seating) Concert mode – 40,000 (includes use of field for concert-goers) Reduced mode – not available
Premium seating	2,500 (10% of total)
Roof coverage	100% of seating and field of play (transparent ETFE)
Retractable field of play	No
Technology	Video screens plus industry standard technology
Construction cost (escalated on completion $)	$465m (source: WT Partnership)



Option 3 – 25,000 permanent seats, 5,000 temp seats, solid roof, retractable pitch

Option 3 is a flexible, multi-use, roofed MUA designed to facilitate the widest possible utilisation for sporting and non-sporting events. The venue will include a fixed steel roof, including over the field of play, with 170 ton loading at the open end to cater for major indoor arena style concerts.

- **Capacity:** Permanent capacity of 25,000 for sporting events (increasing to 30,000 with temporary seating) and capacity for 40,000 for concert events (including standing areas on the field).
- **Reduced mode:** Designed to enable the hosting of smaller events (eg. 10,000 guests).
- **Retractable pitch:** Retractable (hybrid) grass playing surface which can be moved outside to ensure appropriate sunlight and growing conditions.
- **Concrete pad:** A concrete slab will be laid to enable a high degree of flexibility for a wide range of events to be hosted when the turf pitch is outside the venue.

The venue will also include:

- A diverse, modern and flexible premium product offering;
- Facilities and services in line with comparable modern second tier stadia (e.g. video screens, food and beverage, technology, etc.); and
- Player and officials facilities in line with major international sporting code requirements.

The estimated capital cost for this option is $496 million.

Project details	
Capacity	Sports mode - 25,000 (plus 5,000 temp. seating) Concert mode – 40,000 (includes use of field for concert –goers) Reduced mode – 10,000
Premium seating	2,500 (10% of total)
Roof coverage	100% of seating and field of play (solid)
Retractable field of play	Yes
Technology	Video screens plus industry standard technology
Construction cost (escalated on completion $)	$496m (source: WT Partnership)

Option 4 – 30,000 permanent seats, 5,000 temp seats, solid roof, retractable pitch

Option 4 is a flexible, multi-use, roofed MUA designed to facilitate the widest possible utilisation for sporting and non-sporting events.

The venue will include a fixed steel roof, including over the field of play, with 170 ton loading at the open end to cater for major indoor arena style concerts.

- **Capacity:** Permanent capacity of 30,000 for sporting events (increasing to 35,000 with temporary seating) and capacity for 45,000 for concert events (including standing areas on the field).
- **Reduced mode:** Designed to enable the hosting of smaller events (eg. 10,000 guests).
- **Retractable pitch:** Retractable (hybrid) grass playing surface which can be moved outside to ensure appropriate sunlight and growing conditions.
- **Concrete pad:** A concrete slab will be laid to enable a high degree of flexibility for a wide range of events to be hosted when the turf pitch is outside the venue.

The venue will also include:

- A diverse, modern and flexible premium product offering;
- Facilities and services in line with comparable modern second tier stadia (e.g. video screens, food and beverage, technology, etc.); and
- Player and officials facilities in line with major international sporting code requirements.

The estimated capital cost for this option is $584 million.

Project details	
Capacity	Sports mode - 30,000 (plus 5,000 temp. seating) Concert mode – 45,000 (includes use of field for concert-goers) Reduced mode – 10,000
Premium seating	3,000 (10% of total)
Roof coverage	100% of seating and field of play (solid)
Retractable field of play	Yes
Technology	Video screens plus industry standard technology
Construction cost (escalated on completion $)	$584m (source: WT Partnership)

Capital cost comparison

The following table presents a breakdown of the costs for each MUA option.
Cost include escalation.

Cost item ($NZmillion)	Option 1 25,000 seats 5,000 temp seats 80% roof cover	Option 2 25,000 seats 5,000 temp seats Forsyth Barr roof	Option 3 25,000 seats 5,000 temp seats Full Solid Roof Retractable pitch	Option 4 30,000 seats 5,000 temp seats Full solid roof Retractable pitch
Enabling and site preparation works	11	11	11	11
Site remediation, services, concrete pad	29	28	45	51
Main stands and seating bowl	146	169	178	213
Roof options Roof over 80% seating bowl Full Transparent roof (ETFE) Full roof	44	115	104	125
Pitch options Pitch-natural Pitch under ETFE roof Retractable pitch	3	4	3 24	3 24
FF&E Fit Out, ICT, technology, lights	99	100	104	135
External concourses	36	38	27	22
Total Construction and Project Cost *Source: WT Partnership*	**368**	**465**	**496**	**584**
**The above costs assume a construction start date of January 2019 and includes professional fees, contingency, delivery project team and escalation. Excludes land price. Assumes piling foundation system.*				
Design and Construction time (years)	4	4.8	5	5.5

Projected financial performance - summary

The following table presents the projected financial performance of each MUA Option for the first three years of operation (in real 2017 NZD terms).

These financial projections represent average year attendances and financial performance given the associated event calendar. A number of other operating model and project assumptions have been made in the course of modelling these projections, particularly in relation to:

- the MUA event calendar and average-year crowd attendances;
- the MUA management model;
- commercial rights allocation and venue memberships; and
- construction cost.

Those assumptions are set out in more detail at **Appendix C and Appendix D**.

Appendix E presents 10 year financial performance projections.

Option 1	25,000 + 5,000, 75-80% of seats under roof cover
Option 2	25,000 + 5000, Forsyth Barr Stadium roof
Option 3	25,000 + 5,000, solid roof, retractable pitch
Option 4	30,000 + 5,000, solid roof, retractable pitch

Operations under Options 1 and 2 are projected to generate losses in all years. Only Options 3 and 4 are projected to record profitable operations at an EBITDA level. While Options 3 and 4 are projected to generate operating cash surpluses, these surpluses are not sufficient to fully fund estimated longer term asset refurbishment costs (e.g. a 20-25 year venue refresh).

Christchurch Financial projections ($000's, real 2017$ terms)												
	Option 1			Option 2			Option 3			Option 4		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Revenue												
Event revenue - core sports	2,204	1,819	2,204	2,556	2,470	2,556	2,556	2,470	2,556	2,650	2,563	2,650
Event revenue - other	380	190	-	1,263	1,263	1,263	2,589	2,589	2,589	2,839	2,839	2,839
Other revenue	1,100	1,100	1,100	1,475	1,475	1,475	1,685	1,685	1,685	1,685	1,685	1,685
Total revenue	3,684	3,109	3,304	5,294	5,208	5,294	6,830	6,744	6,830	7,174	7,087	7,174
Expenses												
Staffing cost	553	553	553	794	794	794	1,025	1,025	1,025	1,076	1,076	1,076
Repairs & maintenance	1,899	1,899	1,899	2,510	2,510	2,510	2,664	2,664	2,664	3,219	3,219	3,219
Other expenses	2,165	2,165	2,165	2,368	2,368	2,368	2,507	2,507	2,507	2,645	2,645	2,645
Total expenses	4,617	4,617	4,617	5,672	5,672	5,672	6,195	6,195	6,195	6,940	6,940	6,940
EBITDA	**(933)**	**(1,508)**	**(1,313)**	**(377)**	**(464)**	**(377)**	**635**	**549**	**635**	**233**	**147**	**233**
Events	18	18	17	24	23	24	36	35	36	36	35	36

Other Arena Options

Three other MUA options were looked at but not taken through a detailed cost and financial modelling process. They are, however, options which could be expected to be part of any debate about a future MUA and therefore some commentary about them can inform that debate.

A $253 million Arena

The Council Long Term Plan has an allocation of $253m for a new stadium in Christchurch. Analysis suggests that for this cost, only a very modest provincial venue, with the following amenity and attributes, would be achievable:

- 17,500 seats;
- 60% roof coverage of seating bowl;
- 1 video screen, no ribbon advertising boards; and
- Reduced amenities and premium product.

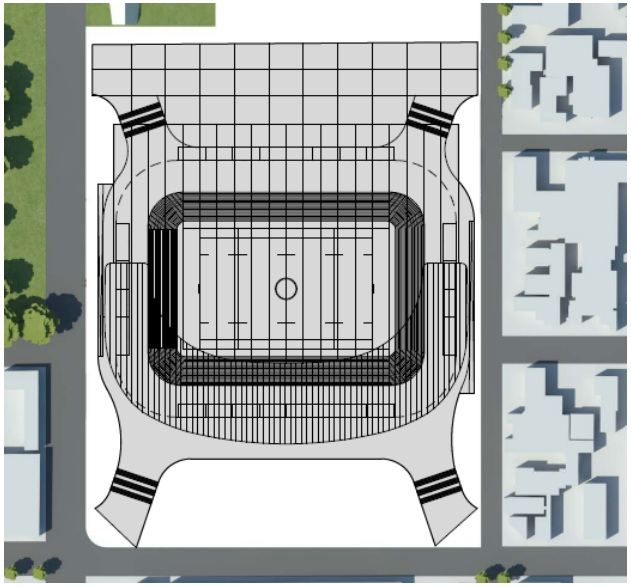
This option, although within the available budget, was not considered to support any of the city planning objectives or the vision people have for a MUA in Christchurch. It would in effect establish in permanent-mode what is the temporary stadium capacity, set up and model. It would fail badly any test of multi-use and simply not compete for All Black tests, major sporting fixtures and concerts.

35,000 seats and a retractable roof

This option was considered (at the capacity rugby interests favoured), using a part-retractable roof like Millennium Stadium in Cardiff to allow light and air to the turf field. It would have restricted multi-use functionality and be primarily a stadium or sports arena. The roof is prohibitively expensive at $100 million, as is the total cost for this option of $690 million. The wider community did not support such a large venue.

Blueprint option

The Central City Recovery Plan envisaged a 35,000 permanent capacity venue (with 4,000 additional temporary seating) with a transparent ETFE roof across the entire venue, similar to the roof at Forsyth Barr Stadium. This option was not included in the shortlist as it would be too expensive and the general consensus among stakeholders (Rugby excepted) was that the capacity was higher than Christchurch needed. Referring to indicative costing done in 2014, this option today could cost circa $600 million.



Model Arena for Christchurch – Option 3

Option 3

This covered Arena with a retractable pitch fulfils the “Arena within which rugby is occasionally played” objective. The retractable pitch has a price premium of $31 million over a Forsyth Barr Stadium model. But the versatility, potential utilisation and frequency of events this option offers presents a more compelling forecast financial performance. A fixed roof with good load-bearing systems and a concrete surface provides unlimited potential to host the fullest range of events and uses. Importantly, it allows the venue to open itself to year round use at community level and in a form which is demonstrably not a sports stadium. As such, it ought to engender wider public appeal as a facility capturing the vision and aspiration the Recovery Plan espoused. More than that, the retractable field technology is a proven game-changing innovation and if included in a striking MUA design, will set the venue apart as one of a kind.

The capacity of 25,000 plus 5,000 temporary seats resonated with a significant majority of people, including sport and event promoters. Atmosphere and fan experience are increasingly valued by events and the consensus was 25,000 seats would retain this character for most events. Very few times of the year would the extended 30,000 seat capacity be required. This option’s rectangular configuration and roof would provide an extremely competitive seat yield proposition to rugby and other major sports codes. It would carry a strong expectation of securing annual tier-1 test matches.

Option 1

This design fails much of the aspiration and expectation the city has for a new MUA. It has the least potential to achieve the multi use objectives, being principally a sports stadium design. With marginally more roof cover, it has a limited point of difference to Lancaster Park. It also has returned the weakest financial performance of the options. From all consultation, it is unlikely to find any favour with major event hirers and the community. While new, it would nevertheless be seen as a provincial venue competing with the likes of Hamilton, Napier and New Plymouth for tier-2 type events. It’s reliance on a turf surface would also limit its utilisation and wider appeal to the community. Certainly the cost is prohibitive at $368 million for what the venue delivers.

Option 2

The Forsyth Barr Stadium equivalent option offers the capacity and potential financial attractiveness to rugby and concert promoters. There are potential risks and cost implications around turf management and heat build-up in the Christchurch environment which would need closer investigation. It has significant limitations in relation to its versatility and variety of use because of the need to protect the turf. It is essentially a covered sports stadium. Because of these limitations, its projected use and event opportunities affect its financial performance, which is not as strong as the preferred model. The cost to build at $465 million is $30 million less than the preferred option, but noting any mechanical requirement to treat the air will potentially eliminate this cost differential.

Option 4

A covered 35,000 MUA with a retractable pitch provides Christchurch with the best opportunity to secure events, and offer a financial return to an event promoter or owner potentially equivalent to Eden Park. It would present credentials of an order to be considered New Zealand’s premier venue. However, the cost of providing the additional 5,000 permanent seat capacity is questionable when these seats are likely to be used one or twice, at most, a year.

Funding sources

The Christchurch City Council has an allocation of $253 million in the Long Term Plan for the development of the venue. This is significantly short of the estimated capital funding requirement under all options. The following table presents the estimated funding shortfall under each option.

Current funding shortfall ($m)				
	Option 1	Option 2	Option 3	Option 4
Development cost	368.0	465.0	496.0	584.0
Council contribution	253.0	253.0	253.0	253.0
Shortfall	115.0	212.0	243.0	331.0
Source: WT Partnership, Christchurch City Council Long Term Plan				

Note: The $253 million from Council is allocated in the last three years of the Long Term Plan – 2022/23-2024/2025. If the MUA was not to be built until this time, the cost escalation would result in higher capital costs and a larger shortfall.

A range of funding options were referred to in the consultation phase. These included:

— *Debt funding*: Many stadia across New Zealand have been funded partly through borrowings. In most instances, however, the operating surpluses of the venue are insufficient to repay the principal or even cover interest payments. There is evidence of Councils repaying loans on behalf of venues as it becomes apparent the venue will not have sufficient means to do so from operational returns. Similarly the returns projected for the MUA would be insufficient to support repayment of debt and using this as a mechanism to fund the MUA would place significant ongoing financial stress on venue operations. For example, a loan of $30m at an interest rate of 5% would result in annual interest payments in the order or $1.5m. This would exhaust the operating surplus of the venue with no ability to repay principal.

— *Application of a regional rate*: It is not uncommon in New Zealand for regional councils to apply a special regional rate to assist with funding major projects which will benefit the entire region. This approach was taken for Westpac Stadium and for Forsyth Barr Stadium.

— *Pre-sales of commercial rights*: Wellington Regional Stadium Trust generated up-front revenue of approximately $45m from the pre-sale of commercial rights at the venue including venue memberships, corporate suites, and naming and sponsorship rights. Consultation suggests the commercial market in Christchurch could not support such an aggressive pre-sale of commercial rights. In addition, capitalisation of future revenue would significantly impact the ongoing operational financial performance of the MUA.

Corporate sponsorship or investment

The sponsorship market within the sports sector, and specifically within Christchurch, is currently subdued when compared to historical levels. A number of factors are driving this trend:

- High levels of competition for sponsorship dollars within the sports sector;
- Higher expectations of the 'return' on a sponsorship investment;
- Increasing opportunities and preference for sponsorship outside the sport sector (e.g. arts and cultural activities, social and environmental initiatives, charitable endeavours);
- Sponsors looking at Christchurch have moved on from the earthquake sentiment factor and are now applying a commercial lens to their commitment to this market; and
- Christchurch's business profile is dominated by SMEs, so limited large locally-based corporates with the capacity to be major sponsors.

The reality is that in an Australian and New Zealand context there is little evidence of support for equity investment into stadium or arena projects by private sector investment funds, corporates or high-net worth individuals. Public ownership and development is the predominant model.

Precinct co-investment potential

There is anticipated to be the potential for some land to be available on the designated site (the precinct) or spaces within the MUA for alternative or complementary commercial developments. These opportunities across the precinct have been widely discussed during the consultation phase. Proponents speculated that private sector investment in these commercial opportunities might assist with reducing the cost of the project, as well as generating increased activation and use of the MUA and surrounding areas. A number of potential complementary associated uses (often based on precedents from other stadium development projects internationally) were referred to in the consultative process, including:

- Residential apartments built around the venue perimeter;
- A hotel built within the MUA itself, and potentially sharing facilities (kitchens, hospitality spaces);
- Retail, hospitality and mixed-use;
- Commercial / office spaces; and
- Car parking.

Property development interests noted that to be successful, adjacent developments of this nature need to demonstrate the market has sufficient demand in its own right prior to consideration of demand generated by the venue. Importantly, it is not the demand from the venue that typically drives the feasibility of associated developments. However, any associated/adjacent development should also ideally be complementary to the MUA's operations to maximise utilisation/activation and return. Most importantly, any adjacent or integrated development must not compromise the utility or functions of the MUA. Many stadia and arena globally suffer compromise or constraint to their use by neighbouring developments and occupiers. Ownership or control of these complementary developments therefore, whether apartments, hotel or retail, is almost always vested in the MUA owner so measures can be put in place to meet event hirers' requirements.

ARA Institute of Canterbury

Ara has over 17,000 enrolled students at its campus, which is one block from the MUA site. Discussions with Ara highlighted a number of potential synergies with the MUA, including:

Student Accommodation: Ara currently can offer accommodation to a limited number of students. The lack of nearby accommodation is a barrier to Ara attracting out of town students, international students in particular. While a number of property developers have approached Ara with student apartment proposals, all have asked Ara to underwrite the financial risk, which it is unwilling to do.

Use of facilities: There may be some potential for Ara students to train at or use the MUA, including Ara's sports science and recreation programme, event management and hospitality courses.

Car parking: Ara has approx 700 grade car parks which are primarily used weekdays between 9-5. These could potentially become available for use by the MUA for evening or weekend events.

Precinct co-investment potential (cont.)

Telfer Young, a national valuation and property advisory firm, provided a high-level supply and demand assessment of the key commercial opportunities for the precinct. This review took into account the desirability of the designated site when compared to other sites available in the Christchurch CBD, and noted with some emphasis that there is still significant available affordable land for private development opportunities. The following commentary presents the key findings from their analysis, by development type.

Residential accommodation

While the earthquake did significantly impact the city's available residential stock, building activity since has largely restored the supply/demand balance, with house prices stabilising. Further, some proposed projects have not progressed due to not being feasible (e.g. Residential Demonstration Project).

Fletcher Living has been engaged to develop a total of 900 units in the East Frame, adjacent to the MUA site, and this has some way to go to achieve traction. While it is understood that central-city apartment living is standard for most major cities around the world, those consulted suggested Cantabrians are still hesitant to move into apartment accommodation, especially when they can secure modern houses on well-located, good-sized sections for the same or lower prices. Further, the MUA site, to the east of the CBD is considered to be in a less preferred location than land on the western side of the CBD. Given these factors and the dwelling preferences, for now, of Christchurch people, Telfer Young concluded residential accommodation is not likely to be feasible within the MUA precinct as a complementary development in the short, medium or potentially longer term.

Unlike Auckland where housing affordability, proximity to work and city living attraction are driving apartment developments, for the moment Christchurch has yet to offer a compelling case for significant numbers of people to prefer CBD apartment living.

Apartment living rarely sits comfortably with an arena or stadium complex. Residential neighbours of stadia expect quiet enjoyment of their homes and tend to lead to a venue's night events, concerts and operating hours being restricted. Eden Park's viability is tested by this very issue, as are many other stadia globally.

Hotel

Central hotel / accommodation stock in Christchurch was significantly impacted by the earthquakes (75% loss). This, combined with the accommodation pressures from the general rebuild and the establishment of an international airport in Queenstown, has resulted in fewer visitor nights in Christchurch. Much of the lost stock is in the process of being replaced, however, some industry observers suggested vacancy rates are still soft as Christchurch re-establishes itself as a viable destination and key gateway South Island centre. A number of stakeholders in the accommodation industry suggested planned and 'under development' hotel facilities are likely to lead to excess capacity in the short to medium term. Should there be a resurgence in visitor activity (i.e. Christchurch returning to its 'fair' share) there is likely to be ongoing demand for hotel accommodation across the City into the future. However the development of a hotel on the MUA site would be in direct competition with all other CBD hotels which are within walking distance to the site and potentially in more desirable tourist or visitor locations across the CBD.

Those promoting the concept of an integrated hotel/MUA scheme point to similar developments at Twickenham and a small number of other venues. However, these venues exist in densely populated areas where there is significant weekly demand for the hotel's services beyond the stadium's event days and attractions. The economics of hotel developments are challenging and the reality is that any development of this type integrated into the MUA would require the MUA precinct owner (the Council) to take the development risk. The Press has recently reported market soundings done by hotel consultant Howarth Ltd in relation to the Christchurch Convention Centre project found "little enthusiasm among hoteliers to get involved in an integrated development". The overwhelming consensus of those consulted was that there is no private sector investor interest in the concept of an integrated hotel on the MUA site. In the few cases where this form of development has occurred, the stadium owner has controlled the development and effectively underwritten it. Private developers do not see the business case for co-investment in a stadium complex.

Precinct co-investment potential (cont.)

Retail / hospitality:

The Blueprint identified a core retail / hospitality precinct to the south of Cathedral Square which has had the effect of compressing development into that area, including the BNZ Centre, the ANZ Centre, the Crossing and The Terrace. Similarly, most new buildings within the CBD have a component of ground floor retail / hospitality and a number of proposed developments may also include similar amenity (e.g. Town Hall, Convention Centre, Court Theatre). There is evidence to suggest a current oversupply of this development type with higher than equilibrium vacancy levels. Overall, small scale retail / hospitality could be considered within the site, however, would need to positioned well to engage the broader CBD (e.g. frontage on the western fringe to Madras Street).

Among many business people there was an often expressed concern that there has been an over-investment in the retail and food and beverage sector and some rationalisation will occur until an equilibrium settles. They argued the emphasis should be on building connections to the existing and proposed hospitality precincts in Christchurch, rather than integrating these types of developments within the MUA itself and risking cannibalisation of the opportunities to no-one's advantage.

Commercial / office

Analysis by Telfer Young suggests that the current level of commercial / office accommodation (incl. committed projects and projects under construction) has almost reached pre-earthquake levels with a significant increase in the proportion of A grade building stock. Telfer Young forecasts a reduction in development activity of this nature as supply and demand normalise. Further, there will be other projects competing for 'aligned' sports and entertainment tenants including the Metro Sports Facility. Overall, Telfer Young do not consider office / commercial accommodation on the site to be commercially viable in the short to medium term, however, this may become viable over the longer term. Market surveys report an oversupply of commercial space in the order of 20-25% and which may take 5-8 years and longer to be absorbed.

A number of developer interests reported they are not looking at new or further opportunities. The commercial and office market is changing, with rents reducing and there is no case for integrating such a development in the MUA concept.

Car parking

As the central city is re-established, there is demand for additional short-term car parking. In relation to the potential for this on the MUA site, it is likely to be a longer term demand given the current availability of vacant land sites of which many are being used for temporary 'open' car parks. Further, key parking demand drivers such as the new hospital are located on the other side of town. While the stadium itself would drive demand for parking (largely outside of peak business hours), leading practice stadium development is to have minimal car parking on-site and to encourage patrons to use public transport. Further, discussions with surrounding activities suggest event parking could be available outside of typical business hours (e.g. the Ara Institute of Canterbury has student and staff parking (700 spaces) which could be available for stadium patrons).

Conclusion

Overall, there appears limited-to-nil short to medium term interest in the majority of the identified commercial development opportunities. Discussion with stakeholders also suggested that while there may have been an opportunity to co-locate a number of these uses early in the CBD rebuild, much of this opportunity no longer exists as projects have subsequently been progressed on other CBD sites. The prevailing view was that any development risk would need to be underwritten by the MUA owner/developer, namely the Council.

In the longer term, 15-20 years, as the MUA precinct is built up around and its place in the city is understood, there may arise opportunities for unlocking the value of any commercial space for the purposes of diversifying revenue streams or re-investment. Numerous race courses in Australia are pursuing this strategy, and at a local level Addington Raceway, Riccarton Raceway, Ellerslie and Alexandra Park in Auckland have successfully exploited commercial development opportunities with surplus land in their larger footprint.

Appendix A: Designation

Christchurch District Plan: Designation H4 Stadium (incorporating Spectator Events Facility)

Stadium (incorporating spectator events facility).

- Rectangular field for sporting events, training and practice (such as rugby, rugby league, football)
- Multiple use for concerts/ events
- Up to 35,000 fixed seat capacity including removable seats to create stage
- Roof cover
- Event lighting
- Player/entertainer facilities
- Corporate suites/lounges/conference facilities
- Broadcasting, technology and other services
- External plazas and circulation concourse
- Offices
- Retail/food and beverage
- Amenities
- Kitchen and catering facilities
- Car parks
- Signage
- Storage sheds, workshops and ground keeping facilities
- Visitor attraction facilities (such as hall of fame or museum)
- Ancillary activities

Conditions

N/A

Appendix B: Pre-feasibility Study Consultees

Multi- Use Arena Pre-Feasibility Study: Consultation

1	Christchurch City Council	18	Mainland Football	35	Bryan Pearson
2	Development Chch Ltd	19	Canterbury Rugby League	36	Christchurch & Canterbury Tourism
3	Otakaro Ltd	20	Netball NZ	37	Hospitality NZ
4	Waimakairiri District Council	21	Netball Mainland	38	ATEED
5	Selwyn District Council	22	Canterbury Hockey Association	39	Conventions & Incentives NZ
6	Regenerate Chch	23	Sport Canterbury	40	Frontier Touring
7	Sport New Zealand	24	National Sports Museum Trust	41	Spark Arena/Live Nation
8	NZ Rugby	25	ESports Federation	42	Tourism Industry Aotearoa
9	Crusaders Limited Partnership	26	AMI Stadium	43	Christchurch International Airport
10	Canterbury Rugby Football Union	27	Canterbury Cricket	44	Central City Business Assn
11	Westpac Stadium	28	NZ Warriors	45	Peter Guthrey
12	Auckland Regional Facilities	29	NZ Rugby League – Southern Zone	46	Multi Purpose Arena Trust
13	NZ Cricket	30	V Base	47	Employers Chamber of Commerce
14	NZ Football	31	Colliers	48	Ngai Tahu Property
15	ARA	32	Peter Grumley	49	Fletcher Residential – East Frame
16	Addington Raceway	33	Andy Levy, Arizona Cardinals	50	Lauren Semple
17	Wests Tigers	34	NRL		

Appendix C: Operating and financial assumptions

Operating model and project assumptions

The following sections present the key overarching operating model and project assumptions.

Average year: As per the discussion further articulated in relation to attendance, to some degree the operating performance of sporting venues is dependent on the on-field performance and therefore crowd support of the key hirers. Further, on-field performance and crowd support is likely to vary year by year and is therefore difficult to predict with any degree of certainty. Accordingly, for the purposes of this analysis we considered the "average year" of operation of the venue taking into account the characteristics and capacity of the proposed venue.

Venue management: The scope of works for this pre-feasibility study explicitly excludes consideration of a preferred management model for the MUA. For the purposes of the analysis, however, a number of implicit assumptions have been made regarding venue management, including:

- The venue is assumed to be managed by the venue owner (e.g. a charitable trust or Council entity) – therefore no private sector venue management fee has been included; and
- The venue manager is assumed to outsource many of the key operating activities to specialist third parties including ticketing, cleaning and security, which is common practice across the industry.

Coordination with other venues: The event calendar presented in this report is based on the assumption that the venue is to complement and not compete with other venues in Christchurch, including:

- The Convention Centre;
- Metro Sports Complex;
- Nga Puna Wai;
- And other Council facilities (e.g. Town Hall).

It should be noted, however, that for these venues to avoid cannibalising each others event calendar there will need to be some degree of coordination of ownership and / or management across the venues. Evidence in other jurisdictions indicates the absence of this coordination may lead to self-defeating competition for events.

Catering model: There are two general models for the delivery of catering services at major venues, either an in-house model or an outsourced model. There does not appear to be any general consensus in relation to a preferred model across Australia and New Zealand venues with some venues considering catering as a specialist offering outside their scope of expertise and other venues undertaking catering in-house to retain the entirety of the profits from this activity.

For the purposes of this study an outsourced arrangement has been assumed whereby the venue will transfer the catering rights at the venue to an external catering company in exchange for a commission on gross catering revenue.

Venue memberships: Venue membership is not a new product in the New Zealand market and the event calendar of the proposed MUA does appear favourable for such a product, assuming the diversified event calendar can be secured. This assumption would need to be tested further during the next stage of analysis of this project.

For the purposes of the pre-feasibility study modelling, however, no venue membership product has been assumed. Venue memberships, however, may not generate a significant increase in revenue to that presented in the financial performance section due to the assumed structure of hiring and commercial agreements.

Operating model and project assumptions (cont.)

Project timing

The following table presents the assumed construction timing for the project.

Project timing			
	Pre-construction (months)	Construction (months)	Total (years)
Option 1	18	32	4
Option 2	18	40	4.8
Option 3	18	42	5
Option 4	18	48	5.5
Source: WT Partnership			

Based on these timings, the venue opening under each option is assumed to be (approximately):

- Option 1: August-September 2021;
- Option 2: April-May 2022;
- Option: June-July 2022; and
- Option 4: December 2022-January 2023.

The remainder of this section presents the key assumptions relating to the event calendar, average attendances, and commercial rights.

Event Calendar (cont.)

Event calendar

The event calendar is perhaps the single most important driver of a venue's financial performance. The event calendar is the key driver of annual attendance levels and therefore key event day revenue streams such as ticketing and catering revenue. The number of event days (and annual event attendance) is also a key driver of other revenue streams such as naming rights, sponsorship, signage and supply rights (e.g. pourage rights). The value of the majority of these revenue streams rests largely in the level of exposure to event day patronage (and broadcast levels) and therefore the event calendar. The calendar of events has been developed with the following key assumptions in place:

- The MUA will not host events currently earmarked for other Christchurch venues
- Canterbury and New Zealand Rugby will be important venue users, and as such would be party to a long-term hire agreement prior to developing the MUA.

Rugby

- It has been assumed that under Options 2, 3 and 4 the MUA will attract 1 All Blacks event each year. Under Option 1 it is assumed that the MUA will attract 1 All Blacks event every second year given the venue is not fully roofed. .
- Super Rugby – it has been assumed that all eight home games will be played at the MUA.
- National Provincial Competition - A total of six home events per year has been assumed under all project options.
- No finals have been assumed for the purposes of the financial modelling as these events are at risk each year and dependent upon the on-field performance of the team.

Rugby League

Assuming one test match each year would be played in Auckland, it has been assumed that Christchurch could attract the other test match every second year under Options 2, 3 and 4. Under Option 1 it has been assumed the venue will attract an international rugby league test match every 3 years.

No local / provincial rugby league events have been assumed for the new MUA.

Football

Consultation with NZ Football suggest the venue could attract between one international football event every year and one event every 2 years. To be conservative one event every two years has been assumed.

Concerts

- One concert every three years has been assumed under Option 1 given it does not have a roof.
- Two stadium concerts per year have been assumed under Option 2 and three stadium concerts per year under Options 3 and 4.

Exhibitions

This type of event will be a key target of a new Christchurch MUA, particularly under Options 3 and 4 where the pitch can be removed from the venue to expose a flexible concrete pad. For the purposes of the modelling it has been assumed the venue will host no exhibitions under Option 1, two exhibitions per year under Option 2 and six exhibitions per year under Options 3 and 4. The additional events under Option 3 and 4 are due to the ability to remove the pitch and use the concrete pad.

Event Calendar (cont.)

Major International Events

The right to host such events is competitive and subject to many considerations, of which venues just one. As such, the financial modelling does not incorporate any such events. If New Zealand was to secure such events and host games in Christchurch this would further improve the financial viability of the venue.

Other major commercial events

A roof and the ability to remove the playing surface would add significant flexibility in type and frequency use, and would open up a wide range of additional utilisation options.

It would be unrealistic to assume the venue would host each of these events on an annual basis, however, it would be reasonable to assume the venue will host a number of such events each year, with the mix of events changing each year.

For the purpose of this pre-feasibility study, it has been assumed that one additional major commercial event will be hosted every two years under Option 1, two additional major commercial events will be hosted each year under Option 2 and four additional major commercial events will be hosted each year under Options 3 and 4. The additional events under Option 3 and 4 are due to the ability to remove the pitch and use the concrete pad.

Other events – reduced mode

Options 3 and 4 are designed to allow the venue to be reconfigured into a 10,000 seat MUA capable of hosting smaller concerts and entertainment events.

Analysis of the event calendar at Horncastle Arena over the period since January 2014 suggests a total of approximately 6-7 such events each year have attendances in excess of 6,500 (over one or multiple shows). Further we understand that the venue has turned away multiple events each year due to high utilisation levels.

For the purposes of this study, a total of 5 commercial indoor reduced mode events will be attracted to the venue each year. Many other community events of this nature will also likely be attracted to the venue.

Community Use

It is assumed that community use will be moderate under Option 1, high under Option 2 and very high under Options 3 and 4 due to the increased flexibility of the venue and the fact many events can be hosted under these Options without impacting the turf.

Event calendar (cont.)

Projected event calendar				
	Option 1	**Option 2**	**Option 3**	**Option 4**
Rugby				
International	0-1 (1 every 2 years)	1	1	1
Super Rugby	8	8	8	8
Domestic	6	6	6	6
Subtotal	**14-15**	**15**	**15**	**15**
Rugby League				
International	0-1 (1 every 3 years)	0-1 (1 every 2 years)	0-1 (1 every 2 years)	0-1 (1 every 2 years)
NRL	1	1	1	1
Domestic	Nil	Nil	Nil	Nil
Subtotal	**1-2**	**1-2**	**1-2**	**1-2**
Football				
International	0-1 (1 every 2 years)	0-1 (1 every 2 years)	0-1 (1 every 2 years)	0-1 (1 every 2 years)
A-League	0-1 (1 every 2 years)	0-1 (1 every 2 years)	0-1 (1 every 2 years)	0-1 (1 every 2 years)
Domestic	Nil	Nil	Nil	Nil
Subtotal	**0-2**	**0-2**	**0-2**	**1**
Other events				
Concerts	0-1 (1 every 3 years)	2	3	3
Exhibitions	Nil	2	6	6
Other major events	0-1 (1 every 2 years)	2	4	4
Subtotal	**0-2**	**6**	**13**	**13**
Subtotal events – Capacity mode	**15-21**	**22-25**	**29-32**	**29-32**
Other events – Reduced mode	**Nil**	**Nil**	**5**	**5**
Total events	**15-21**	**22-25**	**34-37**	**34-37**
Community utilisation	**Moderate**	**High**	**Very High**	**Very High**

Summary of event calendar

The adjacent table presents the proposed event calendar in the average year for the new MUA under each project option. The number of events is projected to range from approximately 15-21 events per year under Option 1 (i.e. very limited uplift from the current event calendar at AMI Stadium) to up to 34-37 events under Options 3 and 4. The key difference between the projected event calendar under each Option is the number of non-sporting (e.g. rugby, league and football) events with Options 3 and 4 providing the highest degree of flexibility to host a varied event calendar.

The event calendar projected under Options 3 and 4 is marginally below that of Westpac Stadium in Wellington, however, Wellington also hosts between two and three cricket events each year which will not be able to be hosted at the Christchurch venue. The projected event calendar also compares favourably to that of Eden Park under Options 2, 3 and 4, given the restrictions on concerts and other events at Eden Park as it is located within a residential area.

The event calendar under Option 1 is comparable (in total event days) to that of Forsyth Barr Stadium before consideration of community utilisation, although the Forsyth Barr event calendar is superior in quality with more concerts and likelihood of an annual All Blacks test. The proposed event calendar under Options 2, 3 and 4 would be favourable in both quantity and quality of events when compared to Forsyth Barr Stadium, particularly given it is assumed a number of events would be transferring to the new Christchurch venue from Forsyth Barr under these three Options.

Options 3 and 4 also allow for reduced mode events and are also likely to support the highest community utilisation given the playing surface can be protected outside during community events.

It should be noted that there is not expected to be a difference between the event calendar under Option 3 and Option 4.

The forecast event calendar presented in the adjacent table outlines the average number of major events anticipated to be held at the venue each year. In reality, the event calendar may vary (higher or lower) from the estimate provided.

Supporting the event calendar

Understanding of industry trends and stakeholder consultation has identified two key activities which will be important to ensuring the previously outlined event calendar can be achieved and sustained. These include:

— Developing a wider events strategy for Christchurch; and

— Securing key content prior to development of the venue.

Events strategy

Increasingly event promoters, including sporting event promoters (e.g. national sporting codes), are entering formal or informal tendering processes for those venues and cities seeking to attract events. For example, NZ Rugby undertakes a formal tender process in relation to where it will host international test match events whereby it considers the entire offering, including event yield and other financial incentives provided by the host venue and city.

Similarly, cities are increasingly viewing major events as an opportunity to attract tourists / visitors to their communities which in turn generates increased economic activity. Many cities have therefore developed and implemented strategies around event retention and attraction which are aligned to their broader economic development activities.

Dunedin is a good example of this with anecdotal evidence suggesting the Dunedin City Council has offered significant financial incentives to attract events – including All Blacks games and concerts - to Forsyth Barr Stadium to both increase utilisation of the venue and to attract new visitation from outside the City. Specifically, the annual report for Dunedin Venues Management Limited for the 12 months to August 2016 suggests that approximately 60% of those attending the two concerts hosted in that year were from outside Dunedin.

Securing content

One of the lessons from other stadium development projects across Australia and New Zealand is that key event content, particularly sporting content, should be secured prior to committing to the development. Venues of this nature represent significant cost and are often funded by governments, however, tenants also benefit greatly without (in most cases) contributing to the cost.

In this context, it is important for government to secure long term content for a venue prior to committing to the development cost. Without this commitment, the government is placed in an inferior bargaining position when negotiating use of a new venue. For example, the Western Australian Government is currently developing a new 60,000 seat stadium in Perth which will predominantly host the city's two AFL teams, along with other major cricket, rugby, football and entertainment events. The cost of the project is in excess of $AUD 1bn. The Australian government is yet (at the date of writing), to finalise the hiring agreement with the AFL teams who are using the veiled threat of not moving to the new venue to seek an improved arrangement for use of the venue.

Prior to commitment of funds to the project, it would be essential practice for the project to secure long term hire agreements with cornerstone tenants. An All Blacks test is perhaps the most critical event to secure, especially given that the hosting of this event is a prime consideration when assessing the most appropriate capacity of the venue. NZ Rugby has contractually committed to test matches to Eden Park for 10 years to 2020 as part of the package to upgrade Eden Park in preparation for the 2011 Rugby World Cup.

Attendances

It can be difficult to compare and assess attendances in any given year as there are a wide range of influencing factors, including:

- On-field performance;
- Broader event experience (e.g. pre and post event offering);
- Quality of the venue;
- Increased competition from other entertainment products;
- Ongoing improvements to home experience (e.g. virtual reality);
- Broader trends in sport attendance; and
- Transport considerations; and
- The cost of attending.

Specifically, on-field performance is a key driver of attendance. Accordingly, for the purposes of this analysis we have developed attendance projections for an "average year".

In addition to the above factors, we have undertaken research into the impact of venue redevelopment and also weather on attendances.

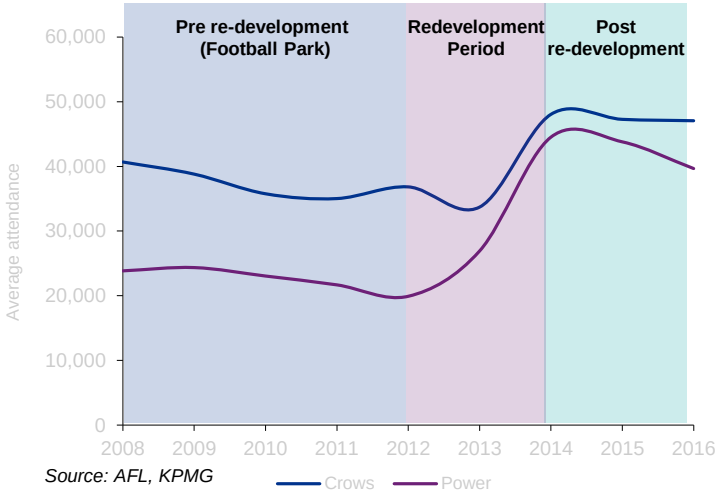
The impact of venue redevelopments on attendance

Academic research into attendance uplift from a stadium redevelopment is limited in both the New Zealand and Australian context. However, narrative may be drawn from overseas studies and KPMG research.

A study in the US (Clapp and Hakes, 2005) used panel data of Major League Baseball team attendance from 1950 to 2002, determined that the attendance honeymoon effect of a new stadium, after separating quality-of-play effects, increases attendance by 32% to 37% the opening year of a new stadium. Attendance was found to remain statistically above the average pre-redevelopment levels for 6 to 10 seasons at newer ballparks.

KPMG research into the Australian context of recently redeveloped stadia focuses on the Adelaide Oval. With a broader backdrop of declining AFL attendances over the past 10 years, the average post-development attendance for Port Adelaide Power increased by 89% in the opening year compared to the pre-redevelopment period (22,264 v 42,660). The Adelaide Crows attendance increased 27% immediately post the redevelopment (37,418 v 47,458).

Adelaide Oval AFL Tenants annual attendance, 2008-2016



Source: AFL, KPMG

Other factors, such as on-field performance (both teams performed very strongly in the year of opening), the venue being new for hosting AFL and the location adjacent to the CBD will have also influenced these uplifts. Annual attendance to the Power and Crows since opening year, however, has been steady or in decline – albeit higher than pre-redevelopment attendances.

Attendances (cont.)

Based on this analysis, the 'honeymoon' effect appears to be substantial. As discussed, however, there are a number of other factors at play when analysing attendances. Therefore, and also to be conservative, a 'honeymoon' uplift of 15% could be achievable for the new venue.

The impact of weather on attendance

Using data available to KPMG, it is possible to interrogate the impact of weather conditions on attendances for a major Australian sporting code. The results from this analysis allow an understanding of the impact of weather on sporting event attendances which can be applied similarly in the context of Christchurch.

The data available covers all events since 2012 with each event being categorised as a being played in 'dry' conditions, 'showers' or 'rain'. Analysis suggests the attendance differential between the average attendance for all event types and the average attendance for when there is 'showers' or 'rain' is in the order of 16%. The average 'dry' conditions attendance was approximately 2% higher than the overall average.

This analysis for events held in New Zealand demonstrates a similar trend with an attendance differential between the average attendance for all event types and the average attendance for when there is 'showers' or 'rain' is in the order of 13%. The average 'dry' conditions attendance was approximately 3% higher than the overall average.

In addition, stakeholder feedback has been unanimous that the weather in Christchurch can have a significant impact on attendances and that being able to protect events from the weather would result in significantly improved event attendance.

Therefore it is expected that under Options with a full roof, there will be a positive impact on the average attendance relative to partial-roof options. For the purposes of the pre-feasibility study it has been assumed that an attendance uplift of 5% (in addition to the uplift due to a new venue) could be achievable under Option 2, 3 and 4.

Combined impact

In total, the combined impact on attendances is assumed to be in the order of 20% (for Options 2, 3 and 4). This does represent a significant increase on current attendance levels, however, stakeholders suggest the temporary nature and quality of the current venue, along with the weather in Christchurch, have a major impact on attendances and therefore this uplift does not appear unreasonable.

The general consensus from stakeholders consulted in the development of this study, however, suggested the impact of the roof would be at least, if not more, sizeable than the impact of a new venue in its own right. As such, for the purposes of this study it has been assumed that the average attendance uplift associated with a new MUA is 10%. In addition, the further uplift associated with a roof is assumed to be 10% (only applicable for Options 2, 3 and 4).

These uplifts have been applied to regular sporting events at the venue e.g. Super Rugby and Mitre 10 Cup. Other events are more one-off in nature and attendance uplifts have been considered separately.

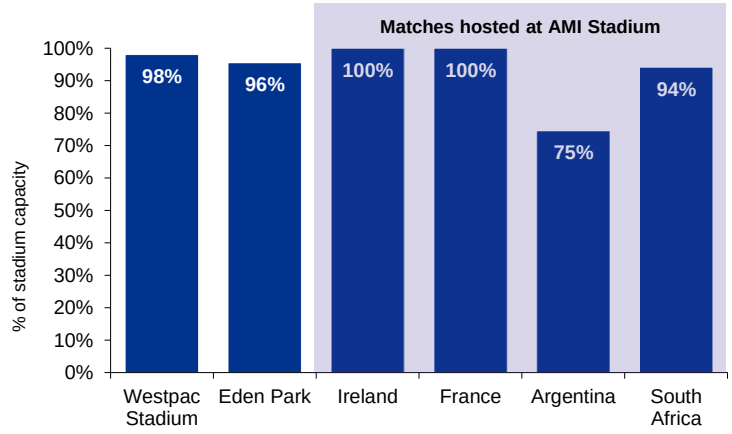
Attendances (cont.)

International rugby

The majority of international rugby tests in New Zealand achieve average attendances that are 95% or greater of capacity. The chart opposite shows the recent average attendances as a proportion of total capacity for Westpac Stadium and Eden Park. The four following columns show the average attendances to AMI Stadium for the four most recent All-Black test matches. Fixtures against Ireland, France and South Africa were sell-out (or close to sell-out), with the exception of Argentina – an opposition with a relatively low world ranking (9th in World).

It is expected that under all Options Christchurch will attract a good quality test and therefore attendances for All Blacks games will reach the capacity (including temporary seating) of the new MUA. This will result in attendances of 30,000 under Options 1, 2 and 3, and 35,000 under Option 4.

% of capacity sold at venues for All-Black test matches



Source: NZ Rugby, Christchurch Stadium Trust

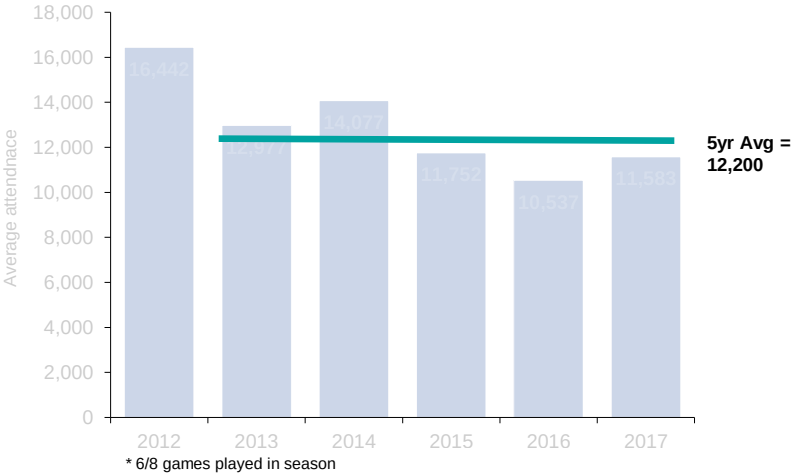
Super Rugby

Average attendance in New Zealand to Super Rugby games in 2016 was approximately 15,300 - slightly higher than the average attendance to AMI Stadium over the past five years (12,200). The chart opposite shows the declining trend in attendances from an average crowd of 16,400 in 2012 to 10,500 in 2016. There has been an improvement in 2017 to an average attendance of 11,600 (6 out of 8 games played).

Average attendances to the Hurricanes (Wellington) and Blues (Auckland) over the past three years were both in the order of 14,700.

An uplift of 10% on the five year average attendance (i.e. 12,200) would result in an average attendance of approximately 13,400. This has been assumed under Option 1. A 20% uplift would result in average attendances of approximately 14,600. This has been assumed under Options 2, 3 and 4.

Crusaders average attendance, 2012-2017*



* 6/8 games played in season

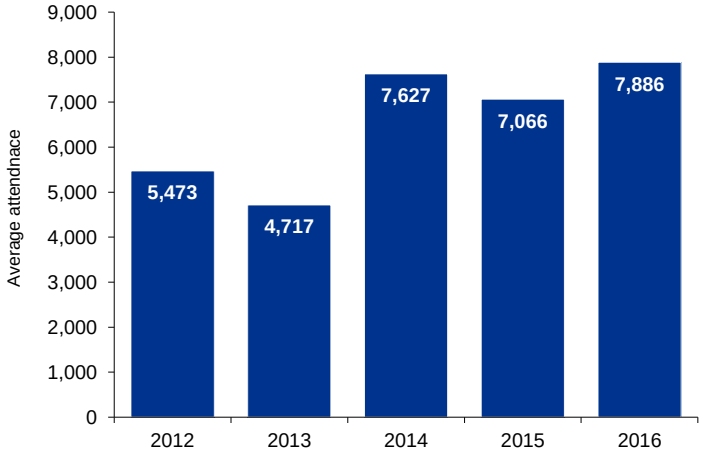
Source: Christchurch Stadium Trust

Attendances (cont.)

Provincial rugby

The Mitre 10 Cup recorded an average attendance of 4,637 across New Zealand in 2016. Canterbury Rugby have recorded average attendances of approximately 7,700 over the past three years (as seen in the chart below) and an average attendance of approximately 7,900 in 2016, 70% higher than the national average.

ITM / Mire 10 Cup average attendances, 2012-2016



Source: Christchurch Stadium Trust

An uplift of 10% on the three year average has been assumed under Option 1 resulting in projected average attendances of approximately 8,500. An uplift of 20% has been assumed under Options 2, 3 and 4, resulting in projected average attendances of approximately 9,200.

International rugby league

With the small number of international rugby league games played in New Zealand (and zero at AMI Stadium) since 2010, there is little reference data for this event type. The five games played in New Zealand over this time have seen an average attendance of 27,500. These results may be skewed upwards relative to a standard test match as 3 of the games have been played against Australia, and four of the five were part of the Four Nations. In the games against opposition other than Australia (held at Whangarei and Dunedin), the average attendance was 16,388.

Discussions with NZ Rugby League suggest targeted attendances for events against Australia would be in the order of 25,000 to 30,000 with target attendances for events against other countries below 20,000.

With the new international calendar, the Kiwis are expected to play two test matches at home each year.

Assuming the major test match each year (e.g. v Australia) would be held in Auckland, Christchurch would be hosting a lower level test. On this basis, average attendance under Option 1 is assumed to be 17,500 with the average attendance under Options 2, 3 and 4 assumed to be approximately 19,250 (i.e. 10% uplift).

Attendances (cont.)

International Football

As with international rugby league, there have been few international games played in New Zealand in recent years.

Attendance to international football fixtures vary significantly based on a range of factors including (but not limited to):

- Importance of game;
- Opposition fan base within the region;
- Anticipated team selection (i.e. Premier League players may attract higher attendances).

The most recent game held in New Zealand (v Fiji) was held at Westpac Stadium and recorded an attendance of 8,332. This is in contrast to an earlier game against Mexico played at Westpac Stadium in 2013 that attracted a crowd of 33,626. The one game played at AMI Stadium since 2012 was against Tahiti, with a crowd of 10,751 in attendance.

Consultation with NZ Football suggests they are targeting average attendances in the order of 15,000 to 20,000, with larger attendance for major matches e.g. world cup qualifiers. Therefore, it has been assumed that the average attendance for a NZ Football event at the new venue will be 15,000 under Option 1. The average under Options 2, 3 and 4 is assumed to be 16,500 (a further 10% uplift).

Concerts

Attendances at concerts vary depending on the popularity of the performing artist. For example Adele's recent 2017 appearances at Mt Smart Stadium saw sell-out attendances of approximately 45,000 per night over the three nights.

A roofed venue is of more value to concert organisers than to sports events. This is on account of the improved fan experience as those viewing from the pitch are covered from the elements and weather proofs the event.

If a venue is reputed for its fan experience (through better viewing, better comfort, protection from the elements, etc), there is likely to be some increase in the average attendance.

For the purposes of the modelling, concerts are projected to sell out (i.e. average attendance of 40,000 or 45,000 respectively) under Options 2, 3 and 4. A marginally lower attendance of 38,000 has been assumed for concerts under Option 1.

Review of Horncastle Arena events suggest concerts typically only do one show in Christchurch. As such, events are only likely to go to this MUA if they cannot be accommodated at Horncastle Arena (i.e. likely attendance is in excess of Horncastle Arena capacity of 8,000-9,000). Average attendances for entertainment events in arena mode is assumed to be 8,000.

Attendances (cont.)

Exhibitions

Attendance to exhibitions is a function of a number of factors, including (but not limited to):

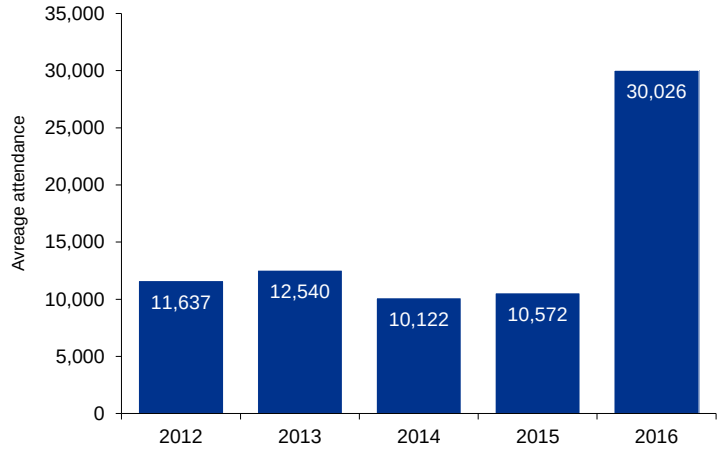
- Local population base; and
- Volume and type of businesses in the area.

Similarly, the type of exhibitions that a venue is likely to attract is dependent on space requirements (e.g. Caravan shows tend to use a large amount of space).

A review of the average attendances experienced at Westpac Stadium over the past five years (outlined below) show that the number of patrons generally fluctuates between 10,000-12,500. An exception to this was 2016, with a peak average attendance of 30,000 driven by the Edinburgh Royal Military Tattoo (considered in the annual report as an exhibition) which had 4 shows and 82,000 attendees.

Analysis of larger exhibitions (>6,500 pax) currently being hosted at Horncastle Arena indicates the average attendance for such exhibitions is approximately 9,750. Given the smaller population base at Christchurch relative to Wellington, it is appears reasonable that the average attendance will be at the lower end of the range when compared to Westpac Stadium. As such, the projected attendance per exhibition at the new venue is assumed to be 10,000.

Average exhibition attendance, Westpac Stadium, 2012-2016



Source: Wellington Regional Stadium Trust Annual Reports

Attendances (cont.)

Summary of attendances

The following table presents the potential attendances in an average year for the new venue under each project option.

Projected average attendances				
	Option 1	Option 2	Option 3	Option 4
International Rugby	30,000	30,000	30,000	35,000
Super Rugby	13,400	*14,600	*14,600	*14,600
Provincial Rugby	8,500	9,200	9,200	9,200
International Rugby League	17,500	19,250	19,250	19,250
International Football	15,000	16,500	16,500	16,500
Concerts – Capacity mode	38,000	40,000	40,000	45,000
Exhibitions	na	10,000	10,000	10,000
Concerts – Reduced mode	na	na	8,000	8,000
Source: KPMG				

**Sensitivity analysis – Super Rugby attendances*

While this analysis has made assumptions in relation to the average attendances that could be expected at each event type, we appreciate others will have a differing view. Those views are likely to argue for higher average attendances on the basis that recent attendance figures are affected by the basic amenity of the temporary stadium. On this basis, we have undertaken an additional sensitivity focused exclusively on uplifting the attendance assumptions for Super Rugby games. The sensitivity has assumed the following average attendances for Super Rugby games played at a fully roofed venue (i.e. Options 2, 3 and 4):

- 17,500 (i.e. 70% of total capacity); and
- 20,000 (i.e. 80% of total capacity).

The projected results of the analysis assume no change in overhead expenses resulting from this increase in average attendances and are presented below.

Overall, an increase in attendances from the base assumption of 14,600 to 17,500 is projected to result in an increase in EBITDA of approximately $230,000. If this were to be the case, it is projected that Option 2 would still continue to generate an operating deficit each year. The EBITDA of Option 3 and Option 4 is projected to increase to approximately $865,000 and $463,000 respectively.

An increase in attendance levels to 20,000 is projected to result in an increase in EBITDA of approximately $411,000. Under this sensitivity it is projected that Option 2 would achieve a marginal operating surplus. The EBITDA of Option 3 and Option 4 is projected to increase to approximately $1.0m and $645,000 respectively.

Super Rugby sensitivity - Incremental EBITDA analysis - Year 1 (NZ$'s, real 2017 terms)				
	Option 1	Option 2	Option 3	Option 4
Base Case				
Revenue	3,684	5,294	6,830	7,174
Expenses	4,617	5,672	6,195	6,940
EBITDA	**(933)**	**(377)**	**635**	**233**
17.5k Option				
Revenue	3,684	5,524	7,060	7,403
Expenses	4,617	5,672	6,195	6,940
EBITDA	**(933)**	**(148)**	**865**	**463**
Incremental EBITDA	**-**	**230**	**230**	**230**
20k Option				
Revenue	3,684	5,706	7,242	7,585
Expenses	4,617	5,672	6,195	6,940
EBITDA	**(933)**	**34**	**1,047**	**645**
Incremental EBITDA	**-**	**411**	**411**	**411**

Commercial rights

The hiring agreement between the event owner / organiser and the venue owner / manager is a critical driver of the financial performance of the venue.

There are a range of potential revenue sources that both the venue manager and hirers can derive from the operations of major venues. Likewise, venue managers and hirers face a range of associated costs. The table below presents the primary event revenue and cost sources along with the typical allocation of such items between the venue manager and hirer.

Potential sources of revenues / expenses associated with stadium and arena operations

Revenues			Expenses		
Item	**Owner**	**Hirer**	**Item**	**Owner**	**Hirer**
Premium seating	X / ✓	✓	Event Day Expenses	X / ✓	X / ✓
GA seating	✓	X / ✓	Overhead Expenses	✓	X
Food & beverage	X / ✓	✓	Merchandise Costs	X	✓
Ticketing fees	X / ✓	X / ✓	Rent / tenancy	X	✓
Merchandise	X / ✓	✓			
Naming Rights	✓	X / ✓			
Signage / Advertising	✓	X / ✓			
Supplier Rights	X / ✓	X / ✓			
Venue Memberships	✓	X / ✓			

✓ = Primary Allocation
X / ✓ = Potential Revenue Sharing
X = No Allocation

While there are some generally accepted industry benchmarks for rental levels and cost apportionment (e.g. GA, premium product, etc.) and the treatment of venue related event costs, most hiring arrangements are complex and will depend on the facilities available to the hirer to sell, the size of the venue and the competition between venues.

Ultimately the final agreement between the hirer and the manager is the outcome of negotiations, where the deal may be made in a number of different ways to provide returns, and share risks and incentives across both parties, recognising that a manager and hirer relationship is a mutually beneficial agreement.

A review of current hiring agreements at AMI Stadium demonstrate the following key characteristics:

- Venue receiving a fixed hiring fee;
- Venue retaining the catering commission;
- Hirer retaining the majority of premium seating product;
- Hirer retaining all ticketing revenue;
- Hirer retaining the majority of key commercial rights e.g. pourage, ticketing, signage, etc.; and
- Venue responsible for event day costs.

Our experience of similar hiring agreements, particularly in an Australian context, suggests there could be a higher degree of revenue, cost and risk sharing. Under this approach the venue is able to participate in times of success, but also shares the pain with hirers during more challenging times. It is clearly in the interest of the venue to ensure the hirer is financially sustainable (otherwise the venue has no content), however, the significant expense of developing and operating a stadium also requires the venue manager to receive an appropriate share of venue revenues.

The analysis presented in this report represents contemporary hiring arrangements with a higher degree of sharing of revenue, costs and risks.

Appendix D: Financial Performance

Basis of financial performance projections

Revenues

Stadia and arena have a wide range of potential revenue streams, including:

- Gate / ticket revenue;
- Food and beverage;
- Ticketing rights and ticketing fees;
- Naming rights sponsorship;
- Other signage and sponsorship rights for 'spaces' within an arena;
- Pourage rights (alcoholic and non-alcoholic);
- Other supplier rights (specifically food and beverage, audio visual.)
- Merchandise;
- Non-event day functions and events;
- Car parking; and
- Office / storage lease revenue.

Expenses

There are also a range of expenses resulting from management and utilisation of major venues, including:

- Event day expenses - all expenses directly related to hosting an event, including (but not limited to) security, event cleaning, ushers, traffic management, and event presentation.
- Venue overhead expenses - all other venue operating costs which cannot be directly attributable to an individual event including employee expenses, regular repairs and maintenance, turf maintenance expenses, insurances, promotion and marketing, legal and accounting, and general administrative expenses.

It should be noted that this analysis is only based on true 'cash' operating costs and does not include any provisions for depreciation and amortisation, debt repayment or life cycle costs. These costs are covered separately later in the report.

Adopted assumptions

Basis of assumptions

The financial projections are based on assumptions for each of these key revenues and expenses. These assumptions have been developed based on historical data for AMI Stadium (where available), benchmarks from other comparable Australian and New Zealand venues available to KPMG and publicly available information.

The benchmark data supporting many of the assumptions is available to KPMG as commercial-in-confidence, and as such, the sources of exact data points remain confidential.

Financial results are presented in FY17 real New Zealand dollar terms and are exclusive of GST.

Average year

As per the discussion in relation to attendance, to some degree the financial results of sporting venues are dependent on the on-field performance and therefore crowd support of the key hirers. Further, on-field performance and crowd support is likely to vary year by year and is therefore difficult to predict with any degree of certainty. Accordingly, for the purposes of this analysis we have provided financial projections for the "average year" of operation of the venue taking into account the characteristics and capacity of the proposed venue.

Projected financial performance

The table on the following page presents the projected financial performance of each Option for the first three years post opening. Values are presented in real 2017 NZD terms.

As outlined earlier, financial projections represent average year attendances and financial performance given the associated event calendar.

Key observations from the projections include:

- Revenue is projected to be highest under Option 4 ($7.1m-$7.2m depending upon the event calendar): approximately 5% higher than Option 3, 35% higher than Option 2 and between 95% and 130% higher than Option 1 (depending upon the year). The event calendar and attendances are the key drivers of this performance.
- In particular, other net event returns (e.g. concerts and entertainment events) are projected to be significantly higher under Option 3 ($2.6m) and Option 4 ($2.8m) when compared to Option 1 and Option 2 given the higher number of concerts and other events that can be hosted as a result of the retractable pitch and concrete pad.
- Venue overhead expenditure is also projected to be highest under Option 4 ($7.0m): approximately 12% higher than Option 3, 22% higher than Option 2 and 50% higher than Option 1. Staffing, repairs & maintenance, and insurance expenditure is the key difference between options.
- Overall, Options 3 ($0.5m-$0.6m) and 4 ($0.1m-$0.2m) are the only Options projected to generate an operating surplus, presented as earnings before interest, tax, depreciation and amortisation (EBITDA).
- Operations under Options 1 and 2 are projected to generate losses in all years.

In summary the analysis projects that only Options 3 and 4 will be able to record profitable operations at an EBITDA level, with Options 1 and 2 failing to break-even.

Appendix E presents 10 year financial performance projections under each Option, in nominal NZD terms.

Projected financial performance (cont.)

Christchurch Financial projections ($000's, real 2017$ terms)												
	Option 1			Option 2			Option 3			Option 4		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Revenue												
Event revenue - core sports	2,204	1,819	2,204	2,556	2,470	2,556	2,556	2,470	2,556	2,650	2,563	2,650
Event revenue - other	380	190	-	1,263	1,263	1,263	2,589	2,589	2,589	2,839	2,839	2,839
Other revenue	1,100	1,100	1,100	1,475	1,475	1,475	1,685	1,685	1,685	1,685	1,685	1,685
Total revenue	3,684	3,109	3,304	5,294	5,208	5,294	6,830	6,744	6,830	7,174	7,087	7,174
Expenses												
Staffing cost	553	553	553	794	794	794	1,025	1,025	1,025	1,076	1,076	1,076
Repairs & maintenance	1,899	1,899	1,899	2,510	2,510	2,510	2,664	2,664	2,664	3,219	3,219	3,219
Other expenses	2,165	2,165	2,165	2,368	2,368	2,368	2,507	2,507	2,507	2,645	2,645	2,645
Total expenses	4,617	4,617	4,617	5,672	5,672	5,672	6,195	6,195	6,195	6,940	6,940	6,940
EBITDA	**(933)**	**(1,508)**	**(1,313)**	**(377)**	**(464)**	**(377)**	**635**	**549**	**635**	**233**	**147**	**233**
Events	18	18	17	24	23	24	36	35	36	36	35	36

Sensitivity analysis

Another consideration for decision makers is the inherent uncertainty surrounding the project and the assumptions, inputs and analysis undertaken at the pre-feasibility stage. To assess the potential impact of changes in key variables, sensitivity analysis has been conducted to evaluate the effect on the operating performance (EBITDA) of the venue given potential changes to revenue and expenditure. This analysis is important as an option with a higher net operating result may also suffer from higher potential variance, making the option less desirable depending on the risk appetite of decision makers. Results can be found in the table below, which represents the first year of operations for the venue.

Revenue

The first of the two variables considered in the sensitivity analysis is revenue, which considers the effects of a decrease of 10% and an increase of 10% in the overall revenue line item (no change to expenditure).

- A 10% increase in revenue levels is projected to result in a positive operating result for Options 2, 3 and 4. Option 1 is projected to have a negative EBITDA of $0.6m.
- A 10% decrease in revenue levels will result in all Options incurring an operating loss. Option 3 will have the smallest loss (approximately $39,000).

Expenditure

The second variable considered in the sensitivity analysis is expenditure, which considers the effects of a decrease of 10% and an increase of 10% in the overall expenditure line item (no change to revenue).

- A 10% increase in expenditure levels is projected to result in a negative operating result under all Options, with the exception of Option 3 is projected to essentially breakeven.
- A 10% decrease in expenditure levels is projected to result in Options 2, 3 and 4 recording an operating surplus. Option 1 is projected to record a loss of $0.5m.

Combined effects of revenue and expenditure increases / decreases

Finally, the following table presents an overall “high” and “low” scenario by combining increases and decreases in revenue and expenditure.

- In the “high” scenario (top right corner of each Option in table below), the greatest operating surplus is projected to be recorded under Option 3 ($1.9m), with surpluses also projected under Options 2 and 4. Option 1 is still projected to record a negative operating result (-$0.2m).
- In the “low” scenario (lower left corner of each Option in table below), all Options are expected to record a negative operating result, with the smallest loss projected to be incurred under Option 3 (-$0.7m)

In summary, Option 3 is expected to record a surplus under all but two of the nine sensitivity combinations. Option 1 is the only option projected to record a negative operating result under all sensitivity combinations.

Christchurch Stadium - Sensitivity analysis on EBITDA (Year 1)

		Revenue											
		Option 1			Option 2			Option 3			Option 4		
		-10%	Base	+10%	-10%	Base	+10%	-10%	Base	+10%	-10%	Base	+10%
Cost	-10%	(782)	(471)	(160)	(331)	84	710	580	1,255	1,929	219	927	1,636
	Base	(1,244)	(933)	(622)	(898)	(377)	143	(39)	635	1,310	(475)	233	942
	+10%	(1,706)	(1,395)	(1,084)	(1,465)	(839)	(424)	(659)	16	690	(1,169)	(461)	248

Life cycle costs

In addition to regular repairs and maintenance (included in the financial performance projections), major infrastructure assets such as stadia and arena have an ongoing requirement for major capital replacement to keep the venue fit-for-purpose as elements within the venue come to the end of their economic useful lives.

These costs are referred to as life cycle costs. Typically, life cycle costs are 'lumpy' across the life of the asset. For example, there may be minimal spend in the early years of the venue, followed by a major refurbishment / upgrade in years 10 to 15.

Our experience suggests that on average life cycle costs range from between 1.5% to 3.5% of the asset replacement value (ARV) per year over the life of the venue. Asset replacement value reflects the cost to replace the asset, excluding the value of enabling and site preparation works and external works (and associated fees, contingency and escalation) which would not be incurred again.

The following table provides an indicative assessment of the average annual lifecycle cost provision that would be required assuming a rate of 1.5%.

Indicative average annual life cycle costs ($m)				
	Option 1	Option 2	Option 3	Option 4
Asset replacement value (ARV)	299.5	395.7	420.1	507.6
Life cycle costs (1.5%)	4.5	5.9	6.3	7.6
Source: WT Partnership, KPMG				

As presented in the table, life cycle costs can be significant. Specifically, the projected operating loss at the venue would range from -$5.5m under Option 1 to -$7.4m under Option 4 if these costs were incurred in year 1 (figures are nominal NZD terms in year 1 of operations).

This is not uncommon for venues of this nature. We understand that in the Australian and New Zealand context very few stadia generate sufficient operating surpluses to fully fund life cycle costs. It is good practice, however, to ensure that operating surpluses are retained in a 'sinking fund' to assist with future capital replacement activities. This is strongly recommended for the operations of the MUA.

Appendix E: 10 year financial projections

Option 1

Option 1: 10 year - Christchurch Financial projections ($000's, nominal terms)										
Option 1	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Revenue										
Event revenue - core sports	2,433	2,059	2,556	1,884	2,971	1,979	2,821	2,387	2,964	2,184
Event revenue - other	419	215	-	678	-	237	486	249	-	786
Other revenue	1,214	1,245	1,276	1,308	1,340	1,374	1,408	1,443	1,479	1,516
Total revenue	4,066	3,518	3,832	3,869	4,312	3,590	4,716	4,080	4,443	4,487
Expenses										
Staffing cost	610	625	641	657	673	690	707	725	743	762
Repairs & maintenance	2,096	2,149	2,202	2,257	2,314	2,372	2,431	2,492	2,554	2,618
Other expenses	**2,390**	**2,450**	**2,511**	**2,574**	**2,638**	**2,704**	**2,772**	**2,841**	**2,912**	**2,985**
Total expenses	5,096	5,224	5,354	5,488	5,626	5,766	5,910	6,058	6,210	6,365
EBITDA	(1,030)	(1,706)	(1,523)	(1,620)	(1,314)	(2,176)	(1,195)	(1,978)	(1,766)	(1,878)
Life cycle costs	4,492	4,604	4,719	4,837	4,958	5,082	5,209	5,340	5,473	5,610
Operating result	**(5,522)**	**(6,310)**	**(6,242)**	**(6,457)**	**(6,272)**	**(7,258)**	**(6,404)**	**(7,318)**	**(7,239)**	**(7,488)**

Option 2

Option 2: 10 year - Christchurch Financial projections ($000's, nominal terms)										
Option 2	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Revenue										
Event revenue - core sports	2,822	2,795	2,964	2,936	3,115	3,085	3,272	3,241	3,438	3,405
Event revenue - other	1,394	1,429	1,465	1,501	1,539	1,577	1,617	1,657	1,699	1,741
Other revenue	1,628	1,669	1,711	1,753	1,797	1,842	1,888	1,935	1,984	2,033
Total revenue	5,844	5,892	6,140	6,191	6,451	6,504	6,777	6,833	7,120	7,179
Expenses										
Staffing cost	877	898	921	944	968	992	1,017	1,042	1,068	1,095
Repairs & maintenance	2,770	2,839	2,910	2,983	3,058	3,134	3,213	3,293	3,375	3,460
Other expenses	**2,614**	**2,679**	**2,746**	**2,815**	**2,885**	**2,957**	**3,031**	**3,107**	**3,185**	**3,264**
Total expenses	6,261	6,417	6,577	6,742	6,910	7,083	7,260	7,442	7,628	7,819
EBITDA	(417)	(525)	(438)	(551)	(460)	(579)	(483)	(609)	(508)	(639)
Life cycle costs	5,936	6,084	6,237	6,392	6,552	6,716	6,884	7,056	7,232	7,413
Operating result	**(6,353)**	**(6,609)**	**(6,674)**	**(6,944)**	**(7,012)**	**(7,295)**	**(7,367)**	**(7,665)**	**(7,740)**	**(8,053)**

Option 3

Option 3: 10 year - Christchurch Financial projections ($000's, nominal terms)										
Option 3	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Revenue										
Event revenue - core sports	2,822	2,795	2,964	2,936	3,115	3,085	3,272	3,241	3,438	3,405
Event revenue - other	2,858	2,929	3,002	3,078	3,154	3,233	3,314	3,397	3,482	3,569
Other revenue	1,860	1,906	1,954	2,003	2,053	2,104	2,157	2,211	2,266	2,323
Total revenue	7,539	7,630	7,921	8,016	8,322	8,422	8,743	8,849	9,186	9,297
Expenses										
Staffing cost	1,131	1,159	1,188	1,218	1,248	1,280	1,311	1,344	1,378	1,412
Repairs & maintenance	2,940	3,014	3,089	3,167	3,246	3,327	3,410	3,495	3,583	3,672
Other expenses	**2,767**	**2,836**	**2,907**	**2,980**	**3,054**	**3,130**	**3,209**	**3,289**	**3,371**	**3,455**
Total expenses	6,838	7,009	7,184	7,364	7,548	7,737	7,930	8,128	8,332	8,540
EBITDA	701	621	737	653	774	686	813	720	854	757
Life cycle costs	6,301	6,458	6,620	6,785	6,955	7,129	7,307	7,490	7,677	7,869
Operating result	**(5,600)**	**(5,837)**	**(5,883)**	**(6,133)**	**(6,181)**	**(6,443)**	**(6,494)**	**(6,770)**	**(6,823)**	**(7,112)**

Option 4

Option 4: 10 year - Christchurch Financial projections ($000's, nominal terms)										
Option 4	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Revenue										
Event revenue - core sports	2,925	2,900	3,073	3,047	3,228	3,201	3,392	3,363	3,563	3,533
Event revenue - other	3,134	3,212	3,292	3,375	3,459	3,546	3,634	3,725	3,818	3,914
Other revenue	1,860	1,906	1,954	2,003	2,053	2,104	2,157	2,211	2,266	2,323
Total revenue	7,918	8,019	8,319	8,424	8,740	8,851	9,183	9,299	9,648	9,770
Expenses										
Staffing cost	1,188	1,217	1,248	1,279	1,311	1,344	1,377	1,412	1,447	1,483
Repairs & maintenance	3,553	3,642	3,733	3,826	3,922	4,020	4,120	4,223	4,329	4,437
Other expenses	**2,920**	**2,993**	**3,068**	**3,144**	**3,223**	**3,304**	**3,386**	**3,471**	**3,558**	**3,647**
Total expenses	7,661	7,852	8,048	8,250	8,456	8,667	8,884	9,106	9,334	9,567
EBITDA	258	166	271	175	284	184	299	193	314	203
Life cycle costs	7,613	7,804	7,999	8,199	8,404	8,614	8,829	9,050	9,276	9,508
Operating result	**(7,356)**	**(7,637)**	**(7,728)**	**(8,024)**	**(8,119)**	**(8,430)**	**(8,530)**	**(8,857)**	**(8,962)**	**(9,305)**