

City of Prospect

BRM Holdich

**Review of Facilities Booking
System**

October 2017



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EXECUTIVE SUMMARY

In May of 2017 the City of Prospect issued an expression of interest to engage a suitably qualified technology organisation to complete a formal requirements analysis and initial design of a comprehensive cross-council facilities booking system; to complete a feasibility study into developing the application; and then the development of a non-functional prototype.

Loftus IT were the organisation selected to work on the first phase of the project, which was led by City of Prospect, with input from six other councils wishing to participate.

The initial phase of the project was funded by the Local Government Research and Development Scheme.

A number of workshops were held where a first tranche of functional and business requirements were gathered. High level technical requirements for the system were also documented using a wireframe style methodology as a result of the input from the workshops.

Loftus IT provided Prospect with a report and a number of accompanying documents outlining the:

- Analysis of business requirements;
- Outline of functional requirements and potential platforms;
- Proposed Profit and Loss worksheet showing a range of approaches; and
- Non-functional prototype design.

It has been assumed that participating Councils will now be able to make a decision on the preferred business model in order to move forward to the preparation of a tender for system development services.

BRM Holdich has been engaged to provide a report that will assist participating councils with their deliberations in relation to:

- Costing of design, application development, implementation and ongoing operations of the application and commercialisation elements;
- Results of a risk analysis of the business models presented in the Loftus report and other project, technical and finance related risks that have been assessed and provided; and the
- Analysis of the business models.

There are a number of choices that could be made when selecting an application/system for a particular purpose which could include:

- Off the shelf commercial applications, used as they come out of the box, sometimes referred to as 'vanilla' implementation;
- Off the shelf commercial applications that have been customised or enhanced to meet client needs; or a
- Bespoke application that is developed to a specific set of criteria for the client's particular environment and business context.

Review of Facilities Booking System Report

Organisations generally err on the side of commercial off the shelf applications as having an application written specifically for an organisation can be costly, time consuming and is not without risk.

The Loftus report recommends the development and use of a bespoke application as it was determined that there were no commercial off the shelf software applications that met the requirements as outlined by participating councils.

It is our understanding that this position was arrived at after a market scan was undertaken, by Loftus, using the findings of a requirements workshop.

This phase of the work represents only the first in what Loftus proposes to be a five-phase process. Phases yet to be undertaken would include:

- Detailed Technical Specification and Design;
- Software Application Development;
- Go-Live Launch; and
- Enhancements and Support.

After discussion with well-established independent developers with local government experience, we have determined that it is unlikely that there could be clear and accurate costing and timelines for the completion and delivery of the Facilities Booking System, being referred to as Places and Spaces, until such time as a detailed technical specification and design has been completed. Therefore, we would suggest that the development costings supplied in the Loftus report should be seen as indicative and for guidance only.

To arrive at a more accurate costing, it would be recommended that the next step in the process be to conduct a facilitated workshop with the objective of bringing participating councils to consensus on defining and agreeing a scope from which technical and functional specifications can be accurately developed and therefore costed.

Pricing models shown in the Loftus report give a number of options, based on our analysis of pricing options provided in the Loftus report we would advocate for a combination of 'Option A - Fee per Booking' and 'Option D - Divide by Councils' to be progressed. We consider an addition to the scope of the development to provide Councils with the functionality to set their own bespoke booking fees for each facility to be critical to the potential success of the Project. Financial analysis including pricing sensitivity is discussed in Section 5 of this report.

There are strengths and opportunities associated with the development of such an application in order to improve community access to, and utilisation of, facilities and other council controlled assets. However, there are also associated risks, both technical and financial. Twenty-six risks have been identified and can be reviewed in detail in Appendix One.

This report seeks to clarify strengths as well as risks and contains a number of recommendations to be considered.

1. BACKGROUND

In May of 2017 the City of Prospect issued an expression of interest to engage a suitably qualified technology organisation to complete a formal requirements analysis and design of a comprehensive cross-council facilities booking application, to complete a feasibility study into developing the product and then the development of a non-functional prototype.

Loftus IT were the successful organization chosen to work on this project which was led by City of Prospect with input from six other councils wishing to participate in the project which was funded by the Local Government Research and Development Scheme.

A number of workshops were held where functional and business requirements were gathered. High level technical requirements for the system were also documented as a result of the input from the workshops.

Loftus IT provided Council with a report and a number of accompanying documents outlining the:

- Analysis of business requirements;
- Outline of functional requirements and potential platforms;
- Proposed Profit and Loss worksheet showing a range of approaches; and
- Non-functional prototype design.

BRM Holdich has been engaged to provide a report that will assist the participating councils with their deliberations in relation to:

- Costing of design, application development, implementation and ongoing operations of the application and commercialisation elements;
- Results of the analysis of the business models presented in the report provided; and
- The case for a preferred business model;

in order to progress the project to the next stage.

1.1 Statement of Responsibility

Ultimately it is the business decision of the City of Prospect as to how it will deal with the findings and recommendations from this review. However, recommendations made as part of this engagement have been based on current industry practice and input from well-respected industry luminaries with local government experience.

Our report and its recommendations have been based upon the information given by Council stakeholders and documentation reviewed during the information gathering phase of the engagement.

2. BUSINESS REQUIREMENTS

Our experience working with a number of South Australian Councils supports the business requirements for a platform that helps facilitate the improved community access to, and utilisation of, facilities and other council controlled assets.

Based on our general observations and the results reported from the Loftus Business Requirements Analysis, there appears to be strong fundamentals to support the feasibility study and the intended outcomes of the Places and Spaces project.

The following business priorities, identified by Loftus through the workshop process, informed the identified core requirements and functions of the system.

- Core functionality to allow bookings of assets;
- Payment gateway to secure payment and report back to Council systems;
- Booking process to account for each asset's unique requirements;
- Council staff able to add/edit/modify bookings;
- Automation and standardisation of current processes;
- Financial reporting interfaces;
- Access to the application from any place and time.

3. KEY ISSUES

In reviewing the Report, we note that a formal risk assessment in relation to the Project and the pricing options under consideration has not been performed.

We have considered the risks relating to the business models presented in the Report. Our high-level assessment is presented in Section 7.

We consider the key risks and issues in relation to the proposal are as follows.

3.1 Event Bookings System versus Event Management System

The business priorities identified by Loftus have led to the proposed development of what we would describe as an 'Event Bookings System'. Loftus has likened the proposed platform to an AirBNB model; essentially a distribution channel for Councils to allow customers to identify and book Council controlled assets in a central location.

However, the Event Bookings System is only part of an 'Event Management System' required by Councils.

When a booking is made, a number of other event management workflow tasks are created. A simple example is if a customer requests a space in a Community Park for a function, Council would need to advise:

- (a) whether the facility was free at the desired time;
- (b) whether any licenses or permits are required;
- (c) what fees to charge and whether concessional rates are available;

- (d) check for competing functions in the surrounding area;
- (e) ensure amenities are working and available;
- (f) advise the public realm team to ensure sprinklers are turned off and for noisy works to be postponed in the area.

Some Councils will have sophisticated automated formal processes to deal with such workflows whilst others will have manual and less formal processes.

Whilst the proposed project may provide a solution for the bookings element, it does not constitute what we would describe as an Event Management System, hence there is a requirement for Councils to either continue to invest in disparate Event Management Systems (either manual or automated) in addition to the proposed platform to ensure stakeholder requirements are met or to require interface from current systems to Places and Spaces. This would add an additional layer of complexity to the development.

- Use cases like the example above should be developed by participating councils to ensure that requirements are being captured accurately in the scoping phases of the project. We note that including elements of an Event Management System in the Project scope may significantly add to the cost of the Project.
- Need for maintaining additional systems, or indeed, additional interfaces, to Places and Spaces should be eliminated as far as it is possible to do so in order to meet stakeholder needs across participating councils and to simplify development.

3.2 Definition of a 'Facility'

The Loftus Report's pricing models are based on an assumption of 10 facilities per Council.

However, this assumption may not consider that Councils have a wide range of assets; from high value facilities such as town halls and community centres to lower value or free facilities such as tennis courts and spaces in the parks. Some Councils would perhaps have over 100 facilities or areas available for hire at any point in time [unsubstantiated] whilst others would have far fewer.

The suggested pricing models (A, B and C), being a fee per booking, fee per listing or hybrid of the two, discourage the use of the Places and Spaces platform for low value Council facilities.

If the system is only being used for some but not all facilities, Councils will need to retain existing processes and systems for those facilities not on the platform; which will result in duplication of processes.

If the model is to be progressed, we see it as critical that Councils are encouraged and incentivised to put all facilities in the system, whether they are to attract a fee from the customer or not. This will ensure that inefficiencies and duplication of systems and processes is minimised.

- It would be more effective if participating councils were able to place all of their places and spaces for hire (whether a cost is associated or not) into the system so that manual/duplicated processes around the system are not required. This may however, increase the cost of development and maintenance of the system.

3.3 Cross Council Collaboration

The funding model for development costs is reliant on cross Council collaboration and agreement which can be difficult to achieve. It is likely that each Council will have slightly different requirements for the actual development and be starting from different points of sophistication.

- A cross council project team with strong project management may be required to filter development requests and ensure that scope creep in the development process is eliminated or at least minimised.

3.4 Integration of a Payment Gateway

Councils involved in the project are operating with different core business systems. Some may not have published Application Programming Interfaces (APIs) to interact with the proposed payment gateway established as part of the development.

If payment data cannot be automatically integrated, manual processes will be required to reconcile financial information which may limit the benefits of the system.

- Manual processes should be avoided, where possible, to ensure a strong take up of the application. (See Section 6.2 for further detail about APIs.)

3.5 Concessional Rates

Many Councils offer concessional rates for charities, not for profit groups, elderly, people with disabilities or for many other reasons. Often there is an element of discretion in the rates charged for hiring of facilities.

It is not clear whether the proposed booking system has the functionality to easily deal with concessional rates. It is unlikely that there will be alignment across Councils in relation to concessional rates which may be an issue for development.

- The system must have the functionality to handle the use of concessional rates. In turn, it will most likely be necessary for there to be agreement across participating councils as to how concessional rates will be applied moving forward given that there is likely to be disparity currently.

3.6 Integration with Third Party Suppliers and Other Value Add Services

Councils will often package up assets such as Audio-visual equipment or catering equipment with property assets.

The proposed system would need the flexibility to incorporate a wide range of assets and pricing options for Councils to utilise. It is difficult to tell from the Report whether this functionality has been adequately scoped.

- Ensure that functionality that will allow optional assets that can be hired for various facilities are in scope.

3.7 Intellectual Property

Generally, when bespoke software is developed, and the development is paid for by an organisation or a consortium, the intellectual property vests with that organisation or

consortium. Taking this approach allows the participating organisations to commercialise the product. In other words, in the case of Places and Spaces, to on sell the product to other councils or interested organisations.

The source code is usually provided to the intellectual property owner on at least an annual basis, or when major changes to the application, have occurred. Source code can be provided directly to be stored in safe keeping by the intellectual property owner or can be placed in ESCROW. This protects participating councils should the developer cease to operate or go into receivership once the application has been developed. In which case, the source code could be utilised by another developer to further develop and maintain the application should it become necessary to do so.

The Loftus report appears to be favouring either a partnership arrangement or indeed the developer retaining the intellectual property solely. The partnership arrangement will mean that if this product were to be on sold then there would be a 'profit sharing' arrangement in place with the developer and such arrangements often favour the developer.

If the developer were to solely retain the intellectual property it would mean that whilst the councils are paying for the development and ongoing maintenance of the application they would not be able to commercialise it and/or on sell to other councils, and indeed may not be able to extend the use of the application to other councils, as Places and Spaces would be the property of the developer. It is most likely that a royalty or licensing fee would be charged to extend the application to other councils even if by invitation rather than commercial sale.

- Options should be considered carefully in relation to participating councils' vision for Places and Spaces before a decision on which of the options relating to intellectual property ownership to take.

If the longer-term view is to achieve broader take up of Places and Spaces across other councils then the decision may differ from a longer-term view being to maintain Places and Spaces for the sole use of current participating councils.

If the participating Council seek to own the intellectual property, development costs may increase from those stated in the Loftus report.

3.8 Financial Risk

If one or a number of Councils decide not to proceed with the project or pull out after the commencement of development, it is not clear how other Councils will be impacted and whether the project will continue to be viable. To that end Table one shows a simple breakdown of cost differentials depending on the number of participating councils.

Table One: Stated Cost per Council versus Number of Participants

Number of Participating Councils	Cost per Council
7	\$62,357
6	\$72,750
5	\$87,300
4	\$109,105
3	\$145,500
2	\$218,250
1	\$436,499

We have also identified, due to a number of the identified risks, that it is possible that Councils will require a broader scope of works than currently presented. This may lead to an increase in the development costs of the final system.

- Based on our review, we consider the risk of ‘scope creep’ to be likely from the scope considered in the Loftus report. (See Section 6.1 for further detail relating to scope creep.)

4. ASSUMPTIONS

The following assumptions have been derived from the Loftus report.

Table Two: Assumptions

Key assumption	Measure	BRMH Comment
Software horizon	5 years	
Indicative development cost	\$436,499	Potential for scope creep
Pricing Options	User pays / Council pays	Alternative pricing model suggested.
Number of participating Councils	7	
Number of facilities per council	10	This is low, based on including all Council 'Places' on the platform.
Bookings per week	2	
Adoption rate	10%	Benefit from more detail behind this assumption.
Advertising revenue	\$75 per month	Immaterial
CPI	2.45%	Based on Adelaide All Groups. Reasonable basis.

5. PREFERRED PRICING MODEL AND FINANCIAL ANALYSIS

If the proposal were to proceed we would advocate for a combination of Option A - Fee per Booking and Option D - Divide by Councils to be progressed (as per page 35 of the Report).

This model would require an addition to the scope of development to provide Councils with the functionality to set their own level of booking fee as determined by an individual Council.

The booking fee could be set as either a percentage of total booking fee or a flat fee per facility.

This model allows Council to set their own policy and financial outcomes and avoids the requirement of all participating Councils to be aligned on the financial outcomes desired from the Project.

This model encourages Councils to include all 'Places' in the system (as some can be booked for no cost to the customer) and not just those that attract substantial hire revenue. The suggested model will remove the need for parallel bookings systems for lower utilised facilities.

This suggested model will also increase volume across the system and the opportunity for alternate revenue streams.

5.1 Financial Analysis

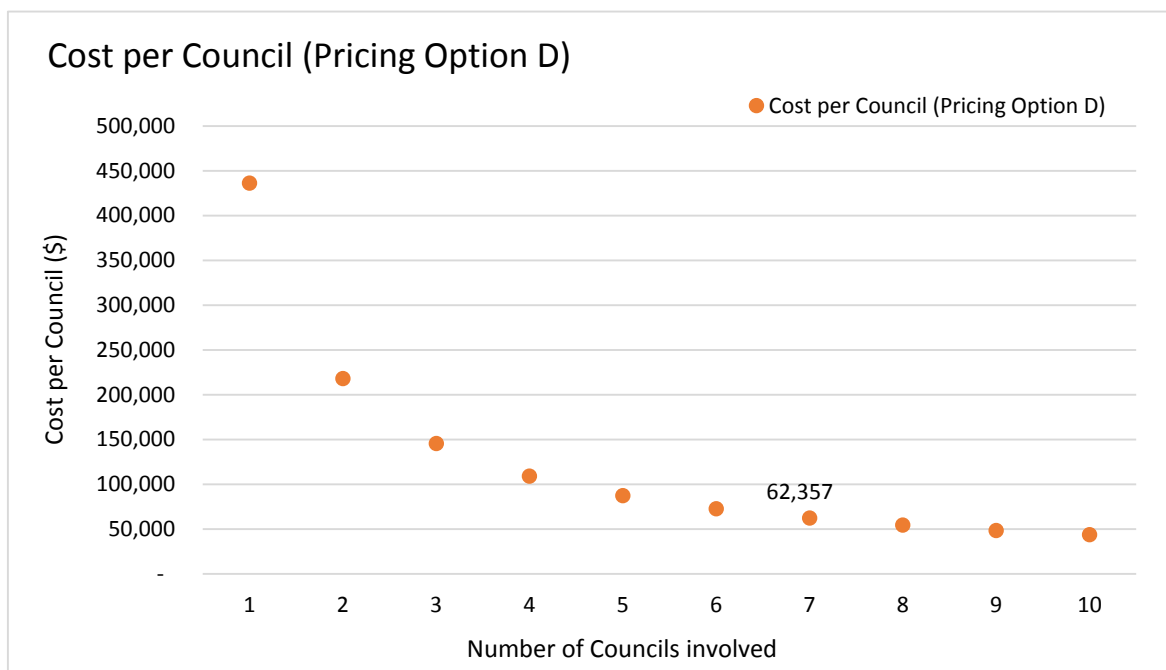
The Loftus Report presents four pricing options; Option A – fee per booking, Option B – fee per listing, Option C – hybrid of A and B and Option D – Divide by Councils.

Based on the assumptions in the Loftus report, a pricing option sensitivity for the number of participating Councils is shown in Table Three and in Chart One. As the number of Councils participating in the project decreases, the cost of bookings fees (Option A), listing fees (Option B) and the cost per Council (Option D) increases at an exponential rate as a greater proportion of costs are divided by a smaller number of Councils.

Table Three: Sensitivity relevant to number of Participating Councils

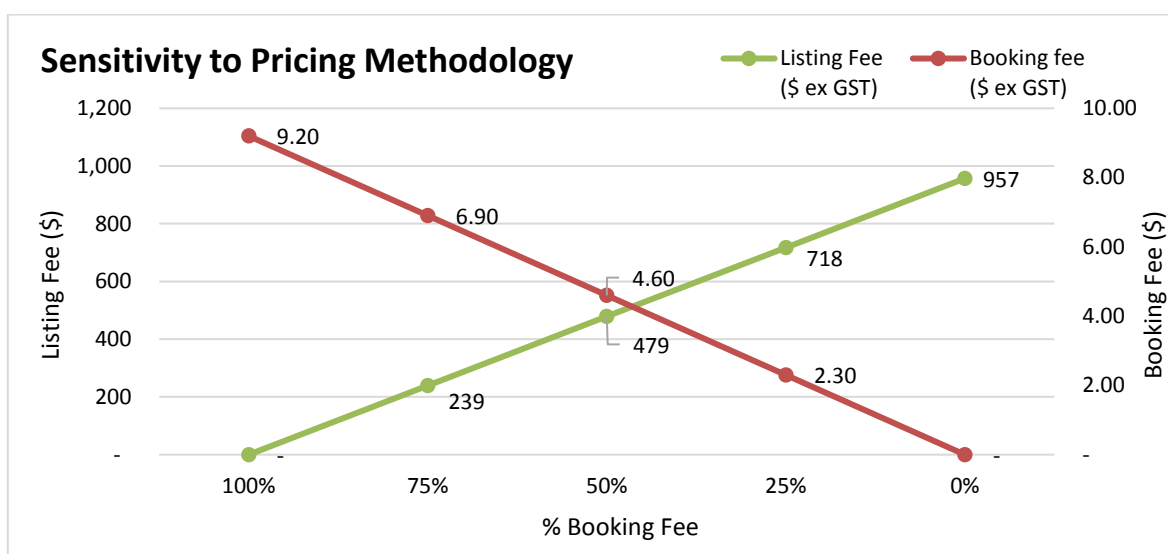
Sensitivity to number of Councils involved			
Number of Councils involved	Booking Fee (Pricing Option A)	Listing Fee (Pricing Option B)	Cost per Council (Pricing Option D)
1	64.41	6,699	436,450
2	32.21	3,349	218,250
3	21.47	2,233	145,499
4	16.10	1,675	109,125
5	12.88	1,340	87,300
6	10.74	1,116	72,750
7	9.20	957	62,357
8	8.05	837	54,562
9	7.16	744	48,450
10	6.44	670	43,650

Chart One: Development cost for number of Council involved



Assuming a hybrid pricing model (Option C) and based on the assumptions in the Loftus report, in order for the Project to cover development cost, as the booking fee per transaction decreases (from \$9.20), the Listing Fee per facility increases.

Chart Two: Option C Pricing



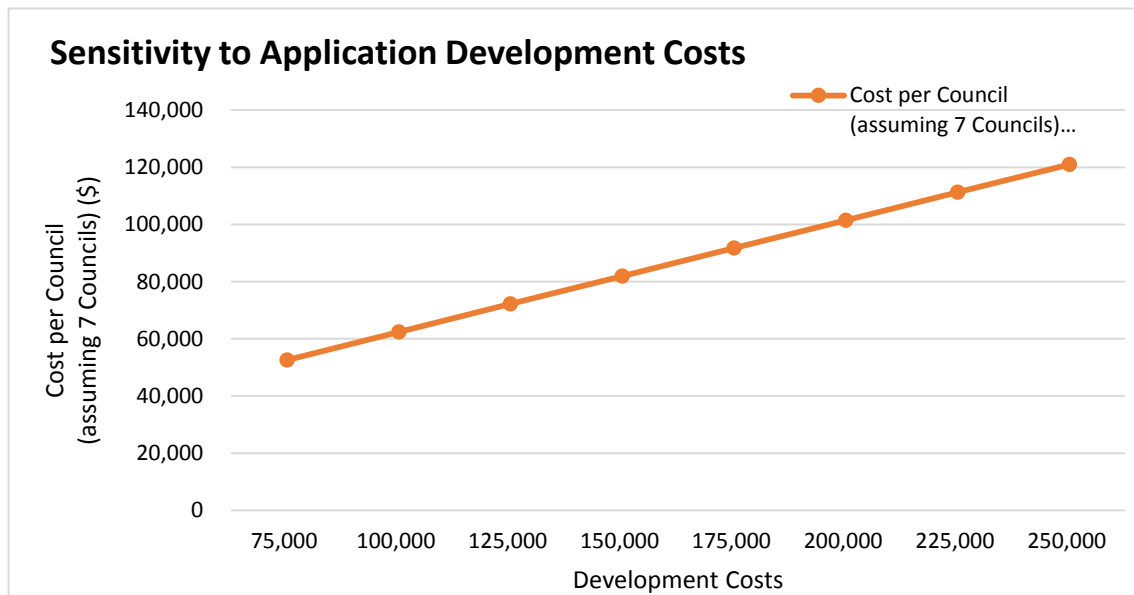
Given the number of Councils and competing interests involved in the project, we consider the risk of scope changes and increases in development costs to be significant. If this occurs, participating Councils need to be aware of the potential increased costs of the project (Option D). In the Loftus report, Application Development Costs are assumed to be \$100,000. At this level of Development Cost, total Project costs (inclusive of support costs, platform costs etc.) are \$436,449 and cost per participating Council is \$62,357.

Table Five and Chart Three quantifies the financial impact on the participating Councils of various changes to development cost.

Table Five: Sensitivity to Development Costs

Sensitivity to Application Development Costs	
Development Cost (\$)	Cost per Council (assuming 7 Councils) (\$)
75,000	52,583
100,000	62,357
125,000	72,130
150,000	81,904
175,000	91,677
200,000	101,451
225,000	111,224
250,000	120,998

Chart Three: Sensitivity of cost per Council to changes in Development Costs



5.2 Cash versus Accounting Treatment

The financial modelling shown in the Loftus report is based on accounting assumptions. Specifically, development costs are assumed to be amortised over the five-year project time horizon, consistent with accounting principles.

In reality, it is likely that the development costs will need to be funded by the participating Councils during and immediately following completion of development (during year 1). Participating Councils should ensure that acceptable payment and funding terms are negotiated with the selected developer.

5.3 Project Phasing

Participating Councils should note that the financial modelling assumes that all places and spaces are loaded into the system at the start of the modelling period and revenue is immediately derived.

Realistically, it is more likely that it will take some time for places to be loaded, for Councils to update processes accordingly and for customers to become used to interacting with the new system.

This is likely to delay the modelled revenue stream to some extent meaning that revenue is likely to lag behind development expenditure. This impact has not been modelled in the Loftus report.

6. DESIGN AND APPLICATION DEVELOPMENT

After thorough review of the Loftus IT report and materials supplied by Council, together with discussion with Prospect's Manager Knowledge and Information, we undertook to verify the suggested approach to the design and development aspects of the project, over and above those elements discussed earlier in our report. In addition, we undertook a series of confidential discussions with suitably qualified independent developers who have local government experience in South Australia.

Whilst there are a range of positive opportunities and real strengths related to the bespoke development of Places and Spaces there are equally as many weaknesses and threats to such a development. While performing the technology component of our risk assessment (further detail can be found in Section 7 of this document) a number of potential weaknesses or threats were identified and are outlined below.

6.1 Potential Scope/Budget Creep

IT projects are often plagued with what is commonly called 'scope creep' which most often leads to a budget deficit and timeline blow out.

This is particularly true of bespoke software development projects where scope creep occurs, rather than enforcing change control for any additional features or functionality outside the documented and approved original project scope.

The Project Management Institute describes scope creep as *"adding features and functionality without addressing the effects on time, costs, and resources, or without customer approval"*.

In other words, the work to incorporate any changes to the original scope must be undertaken within the original timeframe and budget estimates which would then leave less time for the approved scope to be completed. This increases the levels of risk to the project in relation to ensuring that the product delivered is the product that was authorised in the first instance.

- We would recommend that the next step in this project be the definition of the development scope. In order to achieve this, a facilitated workshop, run by an appropriately qualified, independent third party should be undertaken the main output of which would be a document laying out the agreed scope which can then be signed off by all participating councils.

Once the scope has been agreed, and it is understood that any change to that scope would need to be managed as a change after implementation, participating councils would be in a position to go to market to procure the services of a development house with the appropriate skillsets and development project management capability.

A well-defined scope will allow the developers to create technical and functional specifications from which to work and to accurately cost the project in terms of budget and time.

6.2 Differing Core Business Systems

Councils participating in this project are operating with different core business systems. Some of which may not have published Application Programming Interfaces (APIs) to interact with the proposed payment gateway established as part of the development.

Furthermore, where APIs are not published, a specialist development skill set is required which may not have been considered as part of the initial requirements gathering and costing exercises.

- It must be understood by the potential developers that participating councils do not all utilise the same core business systems, one of which does not have a published API and therefore, differing skills to develop the interfaces will most likely be required.

When moving to selecting a developer for the Places and Spaces project it will be important to include this information to ensure that developers do have the appropriate skillset available and are able to accurately price development.

6.3 Time Horizon before Enhancement, Re-development or Extension

The time horizon has been set at five years, however, there needs to be clarification as to whether this is the potential lifespan of the application before a total re-write may be required, or a new product selected, or whether this is the length of time proposed before any enhancement, extension or re-development could occur.

If it is the latter, it would be entirely impractical given the speed of change currently occurring on the digital landscape and the need to be able to flexibly respond to community needs.

- Verify with potential developers that enhancements and modifications are permitted during the five-year time horizon as it is unlikely that participating councils would not have changing requirements over that time period.

6.4 Secure Development Practices

During the development of an application such as Places and Spaces, it is of paramount importance to ensure that secure development practices are incorporated into each phase of the software development life cycle.

Unsafe development practices can result in costly vulnerabilities in the application that could lead to the theft of personally identifiable data.

In order for applications to be designed and implemented, secure coding practices and a focus on security risks must be integrated into the development process. This has not been mentioned in the Loftus report and should certainly be included in any scoping activity. It should not be taken for granted that this, being good practice, will occur without it being specified.

OWASP (Open Web Application Security Project) is seen as being the definitive protocol on which to base secure development however, there are a number of other well-regarded protocols such as NIST, MITRE etc.

- One of the recognised secure web development protocols should be stipulated in any request for tender documentation and in any resulting agreement with a developer to ensure that participating councils, are as much as is possible, protected from poor development practices that could lead to system vulnerabilities or data breach.

6.5 Customer Experience

A positive Customer Experience for an application like Places and Spaces is very important and should be taken into consideration during the scoping and at each stage of the development and testing phases of the project.

A poor customer experience can come about as a result of a customer being unable to use his or her choice of mobile device or browser. This can come about by the choice of development techniques. For example, cross browser compatibility to ensure that most browsers, and therefore mobile devices, are catered for as well as laptops and desktops must be considered in the specification phases of the development.

Customers will turn away from platforms that do not allow them to access the functionality from their device of choice in a manner that they have grown used to when booking services in other environments.

- During the planning phases of the project it is important to have the services of a Customer Experience expert to work with participating councils to determine the best look and feel for customer satisfaction when using the application. Most development houses will have a specialist in this space.

Piloting an alpha version of the application with a small group of users may also be beneficial and will allow feedback to be incorporated into the version that will be released to the community.

6.6 Management of Development Project

Development projects that have positive outcomes with on-time, on-budget and in-scope delivery usually have a project manager on both the client side and another on the vendor side. The same person generally cannot play the role for both vendor and client as inevitable conflicts of interest will arise.

Given the number of participating councils in the Places and Spaces project, it would require a project manager to be appointed who would be the single point of contact for the vendor and for all councils. The ideal person would have project management experience and would report into a Project Control Group (PCG) in order to effectively oversight the project. The PCG should be established for the project as noted in Section 7.2 of this document.

In conjunction with the PCG the project manager will actively work with the developers and participating councils to deliver the project on-time and on-budget whilst managing stakeholder expectations.

- Appoint a project manager with relevant experience and a strong understanding of the requirements of participating councils to work collaboratively to manage stakeholder expectations, scope, budget and timelines.

6.7 Alignment of Future Modifications

Over time there may be differing requirements from participating councils in relation to modifications and enhancements. There will need to be ongoing planning and collaboration across the life of Places and Spaces in order to establish alignment of requirements and future developments.

- This process will need to be actively managed through a single point of contact who will collect requirements for modification/enhancement and determine alignment across participating councils.

Modifications should be scoped, costed and a release schedule of not more than twice annually be agreed.

Appropriate change control processes should be put in place and adhered to by all parties.

6.8 Data Migration

All participating councils will be collecting information in relation to current and forward bookings for the places and spaces across their communities. This information will need to be migrated to the new system. It may be possible for this to be done via an automated process which could save time but will come at an additional development cost but equally may need to be undertaken manually.

- Inclusion of data migration into the initial development costs will require the method of current capture at each participating council to be understood and the potential method of migration, either automated or manual, will need to be considered and costed.

If it is determined that migration will need to be manual then costing associated with the appropriate resourcing should be included and timelines considered. This may be different for each of the participating councils.

7. RISK

7.1 Inherent Risk

The risk associated with the project at this stage of its development has been identified and assessed at a high level. This is not intended to be a comprehensive risk management plan but a level of assessment has been undertaken on the identified risks and mitigations have been suggested.

The Prospect Corporate Risk Management Policy, adopted March 2014, has been used as a basis for the risk assessment. This Policy seeks to establish systems and processes to manage the risks associated with Council's activities.

According to the Policy, risk is defined as 'the threat an event or action will adversely affect an organisation's ability to achieve its business objectives'

The high-level risk assessment identified 26 risks. The inherent ratings for the risks associated with the Project are shown in Table Three.

Table Three: Project Inherent Risk Assessment by Category

Inherent Risk Level	Extreme	High	Moderate	Low	Total
Financial	0	3	0	2	5
Legal	0	1	1	0	2
Reputational / Political	0	0	2	1	3
Service Delivery	2	3	6	1	12
Project Delivery	0	3	1	0	4
Total	2	10	10	4	26

Table Three shows that of the 26 identified risks, two were rated as ‘Extreme’ and 10 were rated as ‘High’ prior to the application of any risk controls.

- After the application of risk controls Table Three shows that no risks had a residual rating of ‘Extreme’ or ‘High’.

7.2 Residual Risk

Table Four: Project Residual Risk Assessment by Category

Residual Risk Level	Extreme	High	Moderate	Low	Total
Financial			2	3	5
Legal			1	1	2
Reputational / Political				3	3
Service Delivery			4	8	12
Project Delivery			2	2	4
Total			9	17	26

The risk assessment for the Project demonstrates the importance of implementing appropriate mitigation strategies if the Project is to achieve its objectives.

For each of the 26 risks identified, the risk register identifies one or a number of risk controls, assesses the residual risk levels and assesses the effectiveness of these risk controls. (The risk register can be found at Appendix One.)

We acknowledge that quality risk assessment and mitigation is an iterative process. While a high-level risk register has been developed, good risk management involves constantly monitoring and assessing risk and regularly updating the risk register to reflect changes in risk as the Project progresses. Accordingly, if the Project progresses a risk workshop should be held for a detailed assessment and analysis of Project risk.

Review of Facilities Booking System Report

- The use of a Project Control Group (PCG) to provide oversight to the Project could be an important mitigation strategy to manage Project risk.

The delivery of the Project within budget and timeframes, and managing stakeholder expectations will be strongly linked to the effectiveness of the PCG and its ability to provide high level oversight and drive strong project governance. Consistent with good risk management practices, the PCG should include a standing item on the monthly meeting agenda to review and update the Project risk register and to monitor the progress and implementation of agreed risk controls.

APPENDIX ONE: RISK REGISTER

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		Project Name: Facilities Booking Project									
		Prepared by: Mark Booth						Reviewed by: Jo Stewart-Rattray			
		Date Prepared:						Review Date: 04/10/2017			
Risk	Potential Causes	Potential Consequence	Consequence Rating	Likelihood Rating	Overall Risk Rating	Risk Controls	Revised Potential Consequence Rating	Revised Likelihood Rating	Revised Overall Risk Rating		
FINANCIAL											
Integration of services with Partners/Contractors could lead to reconciliation issues between services rendered and payments made	Initiative seeks to integrate business processes, without sufficient controls discrepancies could arise	Payments to service providers may become out of sync requiring manual reconciliation and correction of payments	Moderate	Possible	High	1. Quality control of systematic integration to minimise risk of error. 2. Put Reconciliation processes in place.	Minor	Rare	Low		
Changes to payments for services (such as Permits and Venue bookings) could lead to control issues	The portal includes a component to allow for online payments utilising existing payment gateways	New services introduced could circumvent existing controls by fraudulent activities.	Moderate	Rare	Low	1. Quality Assurance testing processes and Peer reviews are in place to validate system changes 2. Reconciliation processes will be put in place to ensure payments and services reconcile	Minor	Rare	Low		
Budget could be spent without delivering the planned outcomes from the Project	If appropriate Governance and Project Assurance processes/controls failed, budget could be expended without delivering the desired outcomes	Budget would not be effectively spent	Moderate	Possible	High	Implement Governance structure to oversee Project delivery	Moderate	Unlikely	Moderate		
Estimates of solution use may be underestimated leading to additional ongoing platform licensing costs		Ongoing cost estimates could be exceeded.	Minor	Unlikely	Low	Ongoing budget estimates will be reviewed after solution implementation	Insignificant	Unlikely	Low		
LEGAL											
Security breaches with new solutions could result in a breach to personally identifiable information being leaked	Introduction of new online services will include customers being able to access/update their details with Councils. A security breach/hack of these services could lead to personally identifiable information being violated	1. Customers could seek legal action for damages 2. Trust with the community would be greatly diminished	Major	Possible	High	1. Regular security audits and vulnerability assessments are undertaken. 2. Enter into agreements with the Cloud provider to mitigate risks of security breach 3. Security patches to known vulnerabilities from vendors will be applied regularly 4. Technical controls are put in place to minimise the impact in the instance that a security breach did occur.	Moderate	Unlikely	Moderate		
Potential for Breach of Disability Discrimination Act relating to online services	Online services could be added without any thought to providing accessibility to citizens with a disability	Potential for a claim against Councils	Major	Unlikely	Moderate	All online services introduced will undergo accessibility testing to provide the best possible experience for citizens with a disability	Minor	Unlikely	Low		

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Risk	Potential Causes	Potential Consequence	Consequence Rating	Likelihood Rating	Overall Risk Rating	Risk Controls	Revised Potential Consequence Rating	Revised Likelihood Rating	Revised Overall Risk Rating
ENVIRONMENT									
Capital availability opportunity cost	Councils do not fund initial investment due to other priorities	Insufficient funding for Project	Major	Rare	Moderate	Business Case describing Benefit Cost Ratio has undergone extensive review	Minor	Unlikely	Low
REPUTATION/POLITICAL									
Negative media attention may result from changing Customer services	Lack of quality or providing a bad user experience in introducing online services	Negative media attention	Minor	Unlikely	Low	Implement Quality Assurance and User Experience processes to ensure a positive experience by customers	Minor	Rare	Low
Systematic errors may lead to service delays	Systematic integration solutions provide an automated way of requesting services from external service providers. Failures in this system can result in delays in service fulfilment	Negative perception of Council services	Minor	Possible	Moderate	1. Quality Assurance processes to minimize risk of failures. 2. Manual checks in place to ensure that work requests do not get 'stuck'	Insignificant	Rare	Low
New Customer-Centric Services may lead to an adverse perception by members of the Community	Ineffective communication processes could lead to a perception by the community that levels of service are being reduced	Negative perception of Council services	Minor	Possible	Moderate	Ensure appropriate Communication/Marketing of new services	Minor	Unlikely	Low
SERVICE DELIVERY									
Failures in Online services may disadvantage members of the community (such as events organisers) impacting service delivery	Online services are likely to become relied upon as a part of every day business. A failure in these online services will have an adverse impact on the community.	Online services may be unavailable requiring fallback to manual processes	Minor	Possible	Moderate	For critical services high availability solutions will be design to minimize the risk of unplanned interruption of services	Minor	Unlikely	Low
Engagement with customers on citizen-centric services may be insufficient to ensure adoption of new solutions	Online services may be designed/built without appropriate consideration for how customers will utilise the services	Planned adoption and service delivery goals may not be met, requiring fall back to manual processes	Minor	Possible	Moderate	Customer Journey Mapping and other User needs analysis tools will be used to engage with the Community to maximise the adoption of new solutions	Minor	Unlikely	Low
Marketing/Communications with the Community may be insufficient to support adoption of changes	Inappropriate/insufficient communications to drive behavioural change required for the adoption of online services	Planned adoption and service delivery goals may not be met, requiring fall back to manual processes	Minor	Possible	Moderate	Ensure appropriate Communication/Marketing of new services	Minor	Unlikely	Low
Changes to business practises/processes to achieve financial benefits may have an adverse impact on customer service	Over emphasis on achieving financial goals by switching to online services may lead to a perceived reduction in service levels	Complaints from members of community in relation to service levels	Minor	Unlikely	Low	User experience design practises will ensure the whole Customer journey is considered in designing new online services	Minor	Rare	Low
Utilisation of Cloud solutions could be hampered by disaster impacts to solution connectivity	Disasters interstate could lead to an interruption in services	Service interruption in the event of a natural disaster	Major	Rare	Moderate	Business Continuity Planning will consider the consequence of both local and interstate disasters	Minor	Rare	Low

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Risk	Potential Causes	Potential Consequence	Consequence Rating	Likelihood Rating	Overall Risk Rating	Risk Controls	Revised Potential Consequence Rating	Revised Likelihood Rating	Revised Overall Risk Rating
Addition of the new online service may introduce a security vulnerability therefore allowing hackers to breach the system	Vulnerability could be introduced as part of the service	Interruption of online services	Minor	Possible	Moderate	1. Regular security audits and vulnerability assessments are undertaken to minimise risk. Audit findings are acted upon without delay. 2. Security patches to known vulnerabilities from vendors will be implemented	Minor	Unlikely	Low
New procedures/methodology/practices not followed	Changes to procedures may not be adopted by impacted staff	Inconsistent service delivery	Minor	Possible	Moderate	Business Readiness capability to be developed to support the adoption of new solutions	Minor	Unlikely	Low
Design intent of solutions not met	Ineffective design processes	Service delivery improvement objectives are not met or result in a reduced level of service	Moderate	Possible	High	Ensure scope is defined, agreed and adhered too.	Moderate	Unlikely	Moderate
Project scope creep occurs	1. Consensus not reached and agreed in relation to scope. 2. Changes to functionality made once project has commenced	Budget and time overruns	Major	Likely	Extreme	Well defined, agreed and approved scope with any changes being managed as changes after system Go Live	Moderate	Unlikely	Moderate
Intellectual Property vesting with the developer	Misunderstanding of the consequences	Inability to be able to on sell to other councils	Moderate	Possible	High	Ensure IP vest with Councils	Minor	Unlikely	Low
Inability to enhance or develop product to keep up with market needs	Accepting recommendations from Report	Inflexible product unable to keep up with market/Council needs	Major	Possible	High	Agree with developer that at least annual enhancements are able to be made under the agreement	Moderate	Unlikely	Moderate
Application being vulnerable to security breaches	Use of insecure development practices	Breach of systems including loss of personally identifiable information of customers	Catastrophic	Possible	Extreme	Contract developer to use secure coding protocols such as OWASP	Moderate	Unlikely	Moderate

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Risk	Potential Causes	Potential Consequence	Consequence Rating	Likelihood Rating	Overall Risk Rating	Risk Controls	Revised Potential Consequence Rating	Revised Likelihood Rating	Revised Overall Risk Rating
PROJECT DELIVERY									
System may not meet requirements or deliver optimal benefits	System design may not achieve objectives or are not aligned with business drivers determined for the application	Budget has been expended on a system that does not achieve the desired results	Moderate	Possible	High	1. Ensure design is derived from the requirements of participating council stakeholders to maximise benefits/outcomes 2. Scope is understood and approved by all participating councils	Minor	Unlikely	Low
Insufficient engagement with all stakeholders to ensure that all expectations are able to be met/managed	Poor engagement practices	Expectations of key stakeholders are not managed leading to a lack of adoption	Minor	Possible	Moderate	Methodology involves collaborative approach to design with all Councils and the developer to maximise benefits/outcomes	Minor	Unlikely	Low
Participating council stakeholders may not be committed to benefits realisation	Lack of understanding of benefits may result in lack of commitment	Benefits may not be realised	Moderate	Unlikely	Moderate	Participating councils commit to project and sign off on scope and proposed benefits to be realised	Moderate	Unlikely	Moderate
Sufficient information to effectively quantify benefits may not be available	Historically, it has been difficult to measure benefits such as customer sentiment, or model customer behaviours	Proposed benefits may not be captured, measured, monitored and therefore unlikely to be realised	Minor	Likely	High	Participating councils commit to project and sign off on scope and proposed benefits to be realised	Minor	Possible	Moderate