### New Central Library

VALUE AND PROCESS ENGINEERING ON THE CCC NEW CENTRAL LIBRARY

### Introducing the Library Team

#### Peter Vause

- Development Director Anchor Projects Unit
- Facilities and Infrastructure Rebuild Group
- Christchurch City Council
- ► Email: peter.vause@ccc.govt.nz

- Carolyn Robertson
- Sally Thompson
- ▶ Tony Biland
- Morton Schmidt
- Carsten Auer
- Opus
- Beca
- Davis Langdon / Aecom
- ▶ PWC

### Agenda

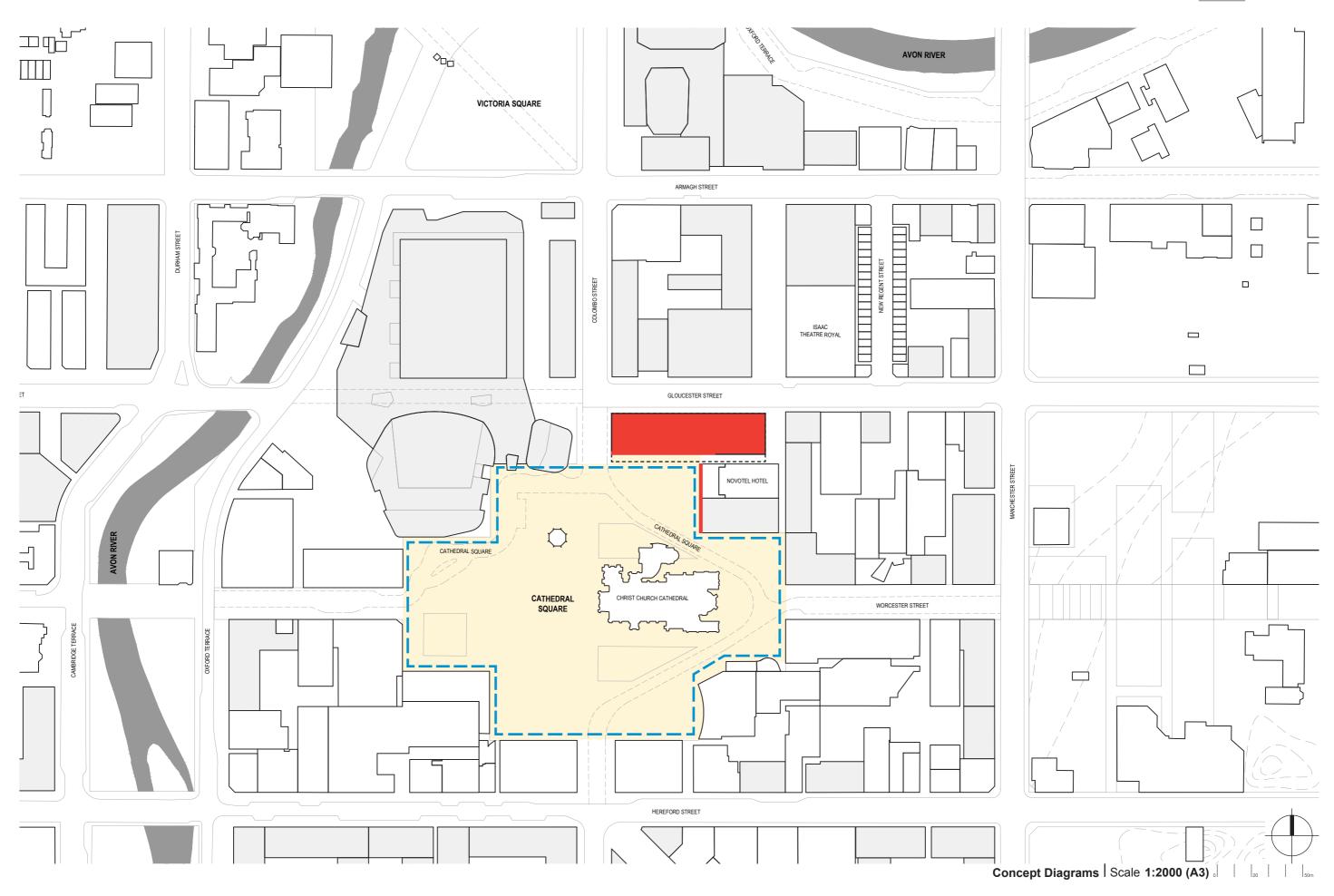
- Value Focus
  - ► Library Services
  - ► Know Your Community
  - A Capital Constrained Environment
  - Clarity of Purpose
  - ► Funding Models

- Process Design Value and risk
  - Procurement
  - Innovation
  - ► The Post Christchurch Psychology of Structural Design
  - ▶ Risk modelling

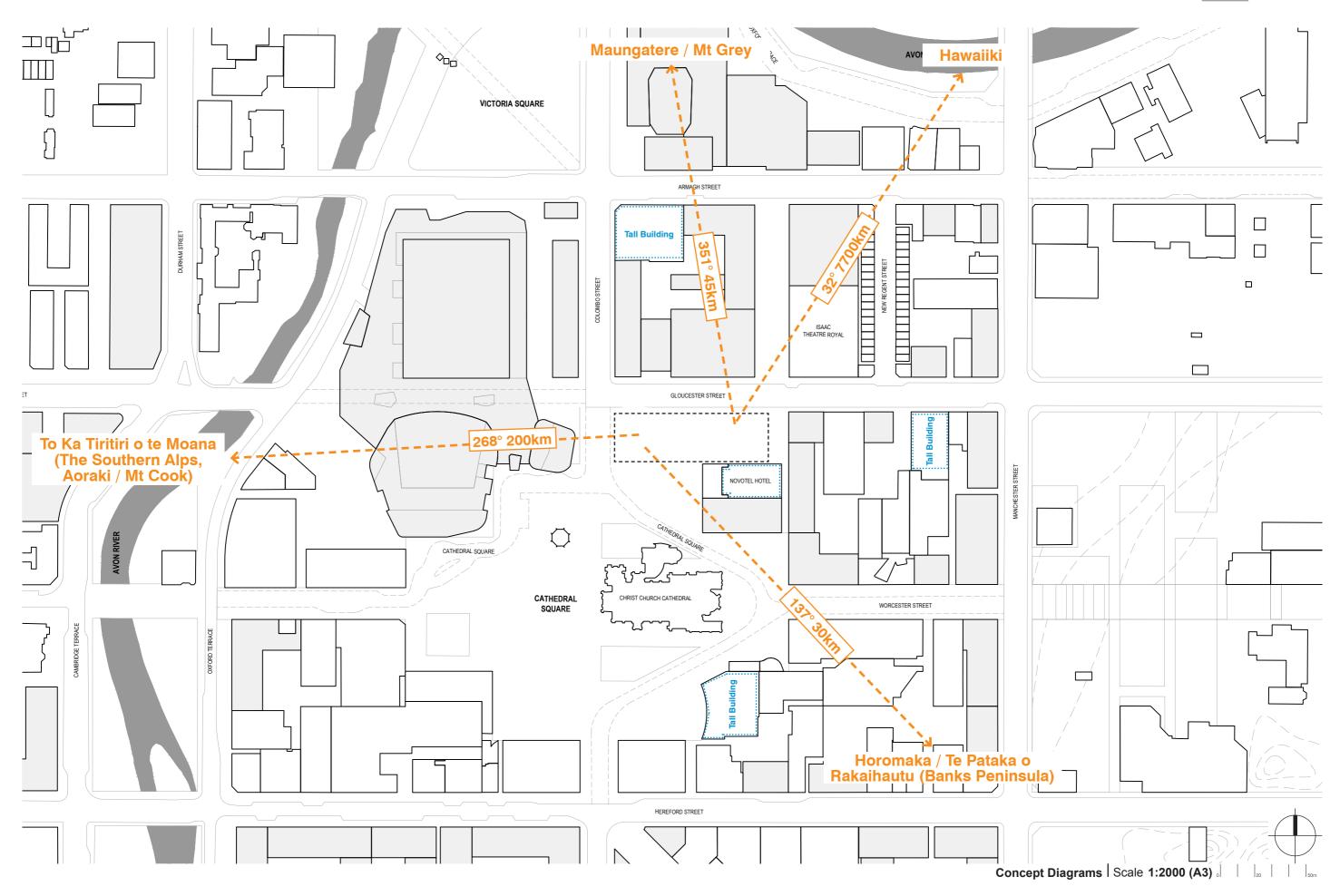
### Project Overview

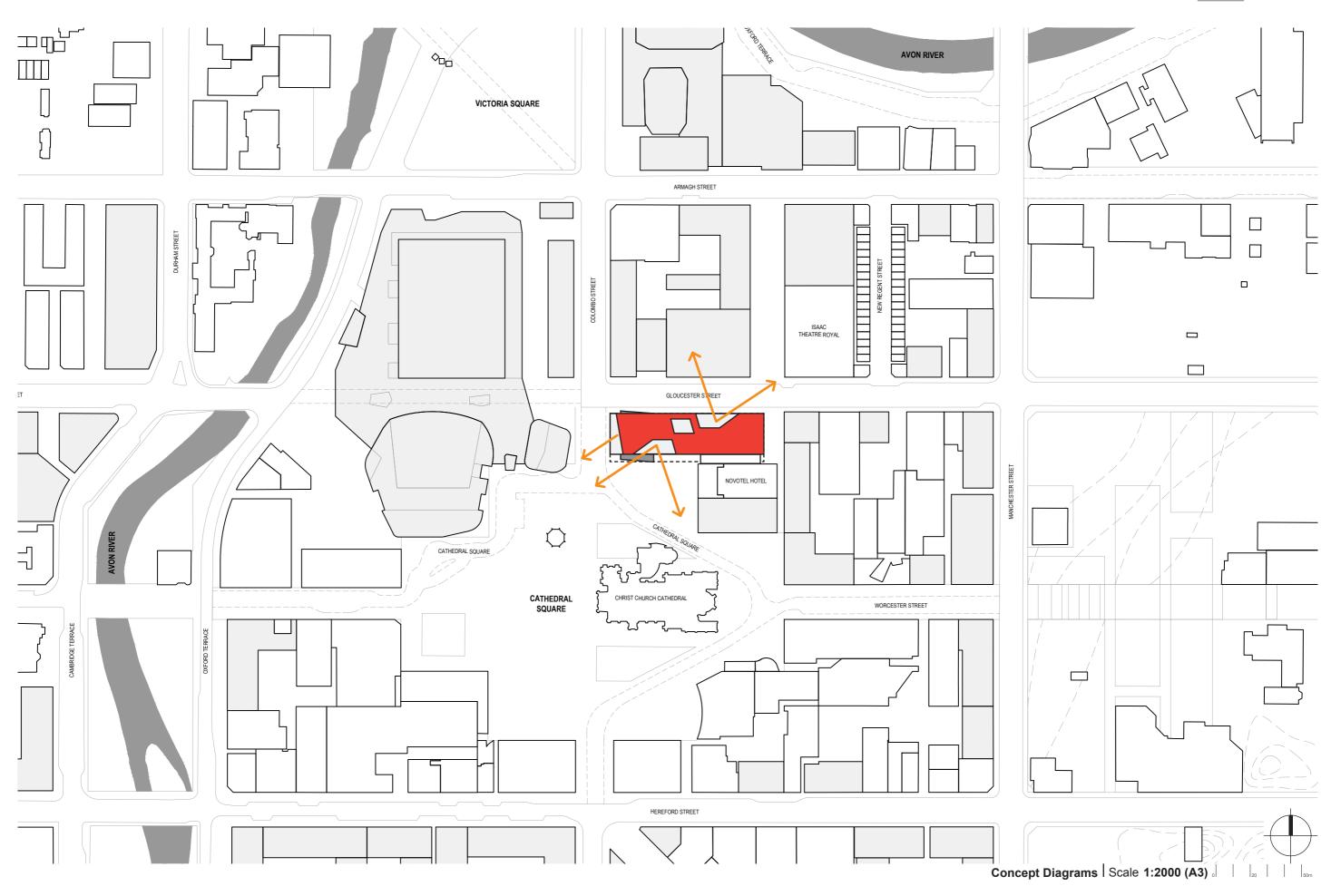
- Anchor Project
- Site
- ▶ Floor area
- ▶ Budget
- ▶ Design Influence











### Value Focus – Library Services

### The future of the library

- What is a public library for?
- ► The library as warehouse for books worth sharing.
- The library is a building for the librarian.
- The library is no longer a warehouse for dead books
- "Do we really need libraries now everyone's got Kindles / Wikipedia / Google?

- The library ought to be the local nerve centre for information.
- "Libraries should be more like coffee shops" a place, where people come together to do co-working and coordinate and invent projects worth working on together.
- The next library is filled with so many web terminals there's always at least one empty

#### Coffee is only the start of the future of our libraries



#### A different service model

- Different service models
- ▶ Floor area distribution
- Benchmarking

#### Floor Area Distribution

Previous Central Li	brary				
Front of House	3720 m				
Support Staff	900 m2				
Service delivery	775 m2				
Building Services	1155 m2				
Total	6865m2				
Initial Master P	an Brief	Detailed Desig	gn Brief	Concept De	esign
Initial Master P	lan Brief 6480 m2	Detailed Desig	gn Brief 6020 m2	Concept De	esign 6580 m2
			,		_
Front of House	6480 m2	Front of House	6020 m2	Front of House	6580 m2
Front of House Support Staff	6480 m2 1050 m2	Front of House Support Staff	6020 m2 900 m2	Front of House Support Staff	6580 m2 556 m2
Front of House Support Staff Service delivery	6480 m2 1050 m2 680 m2	Front of House Support Staff Service delivery	6020 m2 900 m2 380 m2	Front of House Support Staff Service delivery	6580 m2 556 m2 422 m2

### Benchmarks

NCL Concept Design		Halifax		Urban media space	
Front of House	67%	Front of House	61%	Front of House	58%
Support Staff	7%	Support Staff	7%	Support Staff	23%
Back of House	4%	Service delivery	8%	Service delivery	8%
Building Services	22%	Building Services	24%	Building Services	11%
Total	9856m2	Total	10115 m2	Total	17960







# Value Focus – Know Your Community

- ► Your Library Your Voice
- Plan for People
- Understand the intended role of the Library
- Keep abreast of new and emerging societal,information and technology trends

- Be clear about the spaces that must be included and those that will not including rationale
- Build in flexibility and adaptability to respond to rapid changes and enable repurposing

### Your Library, Your Voice

4 overarching themes were identified from 2,400 comments

A Welcoming Place

Dynamically
Connected for
Discovery & Learning

A Fusion of Spaces for every Function

Equipped for Every Purpose

## Value Focus – In a Capital Constrained Environment

- ▶ The importance of Clarity
- Delivering value
- Competing with other projects
- Importance of robust business case
- Strategic Focus Why not How
- Investment Logic Mapping
- Better Business Case model
- Limit it to 10 Pages

### Value Focus – Funding Options

- What will it cost ratepayers
- Lease v Own

## Process Design – A Response to Value and Risk

### Process Design – Procurement Route

- ▶ D&B Procurement Why
  - ► A vehicle for service delivery
  - Performance focussed
  - ▶ Innovation
  - ► Close out escalation and supply chain risk

#### Escalation & Risk

- Cost estimate includes \$16 m to cover risk:
  - ▶ \$9.46 million to cover the risk of future cost escalation.
  - ▶ \$6.54 million for contingencies
- ► The best way to mitigate these risks is to "lock in" contractors and sub contractors through award of a contract.
- PWC has carried out risk modelling.

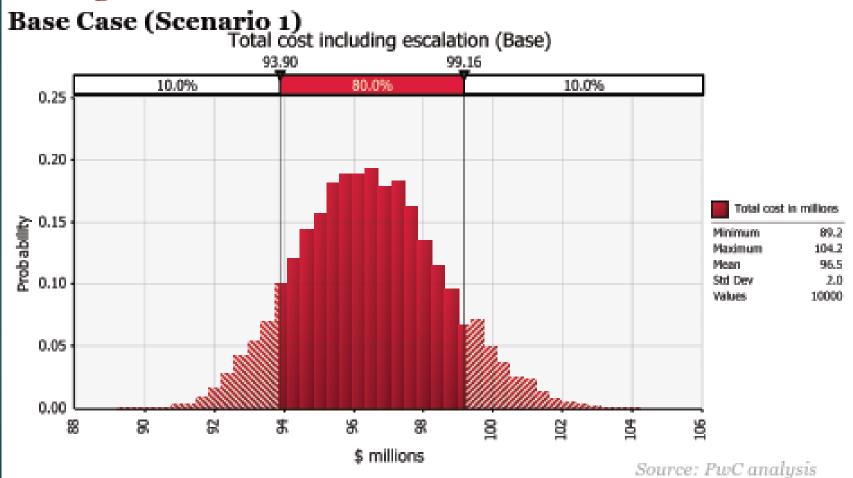
## Process Design – A Response to Value and Risk

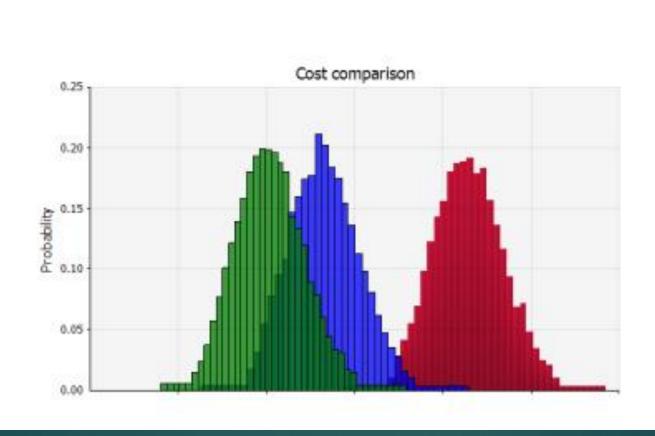
- Traditional financial modelling uses point-estimate assumptions as the basis of calculations to generate forecasts. This technique is known as "deterministic" modelling.
- We used an alternative modelling technique known as probabilistic modelling where the model is run over many iterations to simulate a distribution of potential outcomes.

## Process Design – A Response to Value and Risk

- We divided the components of construction cost into portions that
- were broadly consistent with the specialisms of the client's technical
- advisory board members
- Library services
- Envelope
- Services
- ► Structure
- ► Project schedule
- We then went through all the underlying data and workshopped
- underlying three-point estimates, skew, correlation between
- variables, materiality, and possible risk events (what could go
- wrong)

#### **Findings**





### Questions?

### Process Design – Value and Risk

- ► CODS (Wallop)
- ► Christchurch Over Design Syndrome
- Symptoms
- **33%** 67% 100% 120%
- ▶ IL2, IL3, IL4
- No real understanding of what that means in terms of actual performance

### Questions?