



Queensland University of Technology

Maximising Value and Minimising Costs

Brian Fenn and Travis Gilbertson



FACILITY ASSET MANAGEMENT SPECIALISTS

CLIENT PERSPECTIVE

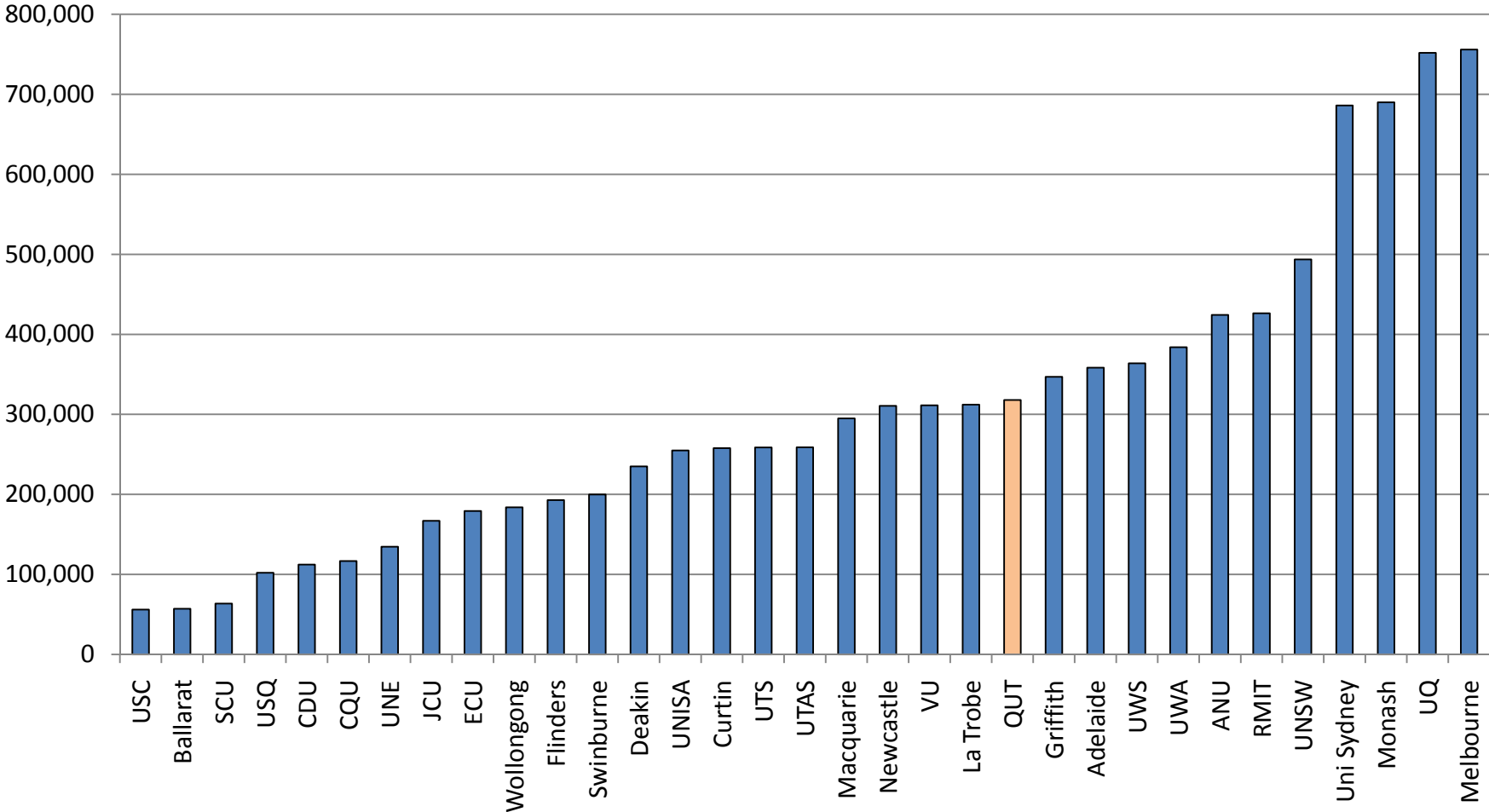
- QUT & QUT FM context
- Project Purpose & Objectives
- Project Scope & Deliverables
- Motivation for the survey
- Procurement
- Challenges & Critical Success Factors
- Functionality Assessment
- Funding Asset Management

CONSULTANT PERSPECTIVE

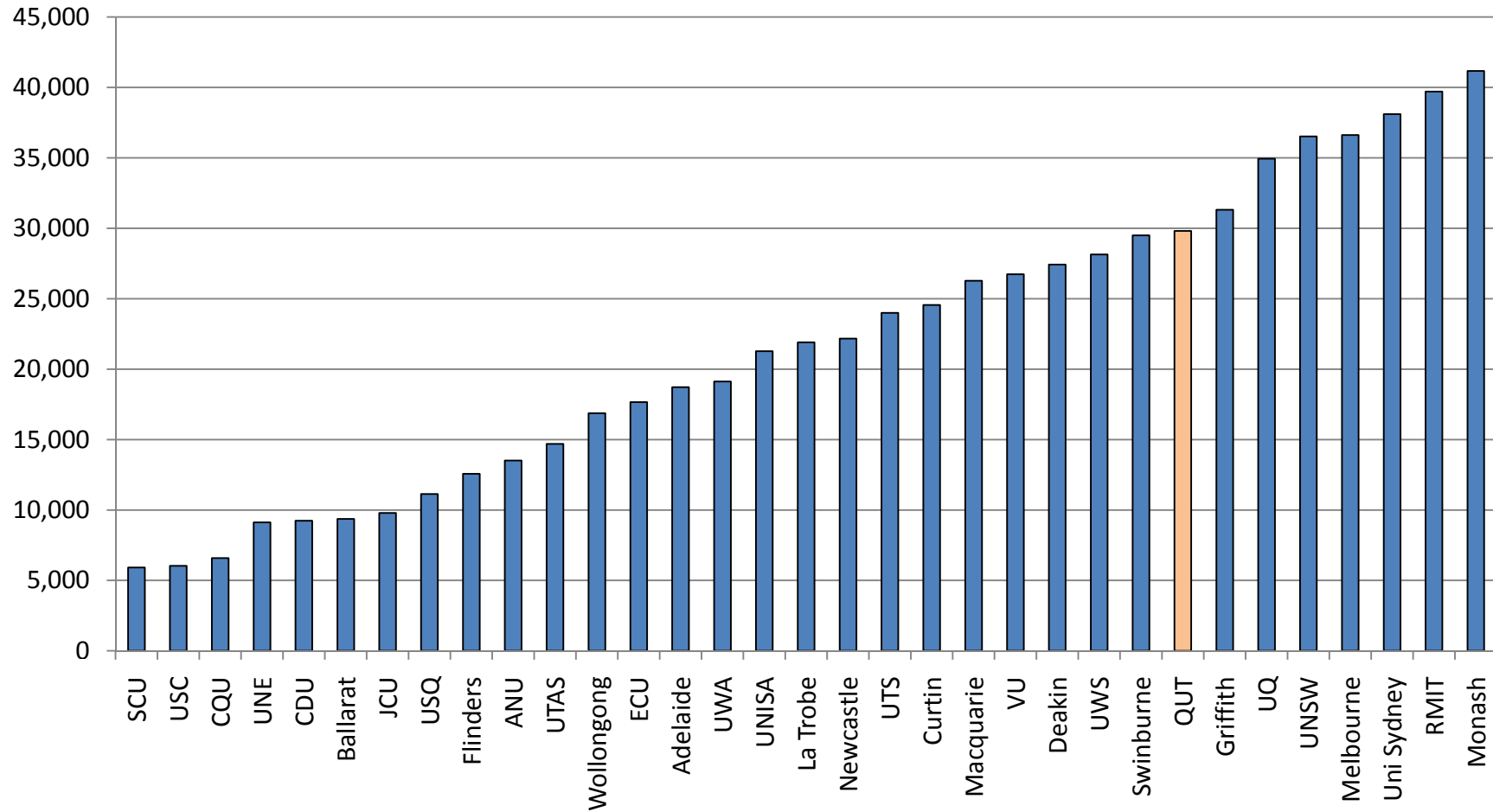
- Project Elements
- Condition Assessment
- Functionality Assessment
- Valuation Outputs
- Challenges

- CBD based institution
- Member of the Australian Technology Network (ATN)
- Emphasis on teaching, with shift to research in key strength areas
- FM Department – predominantly outsourced, focus on key strategic appointments (eg. engineering, technical, contract management)
- Condition surveys 1992, 1996 (minor), 2001, 2006 & 2011 (major)
- Risk based approach to managing assets
- Strong culture around metrics, measurements, targets, KPIs, SLAs
- Data/information rich organisation and extensive use of small boutique IT solutions

Australian Universities by m²GFA

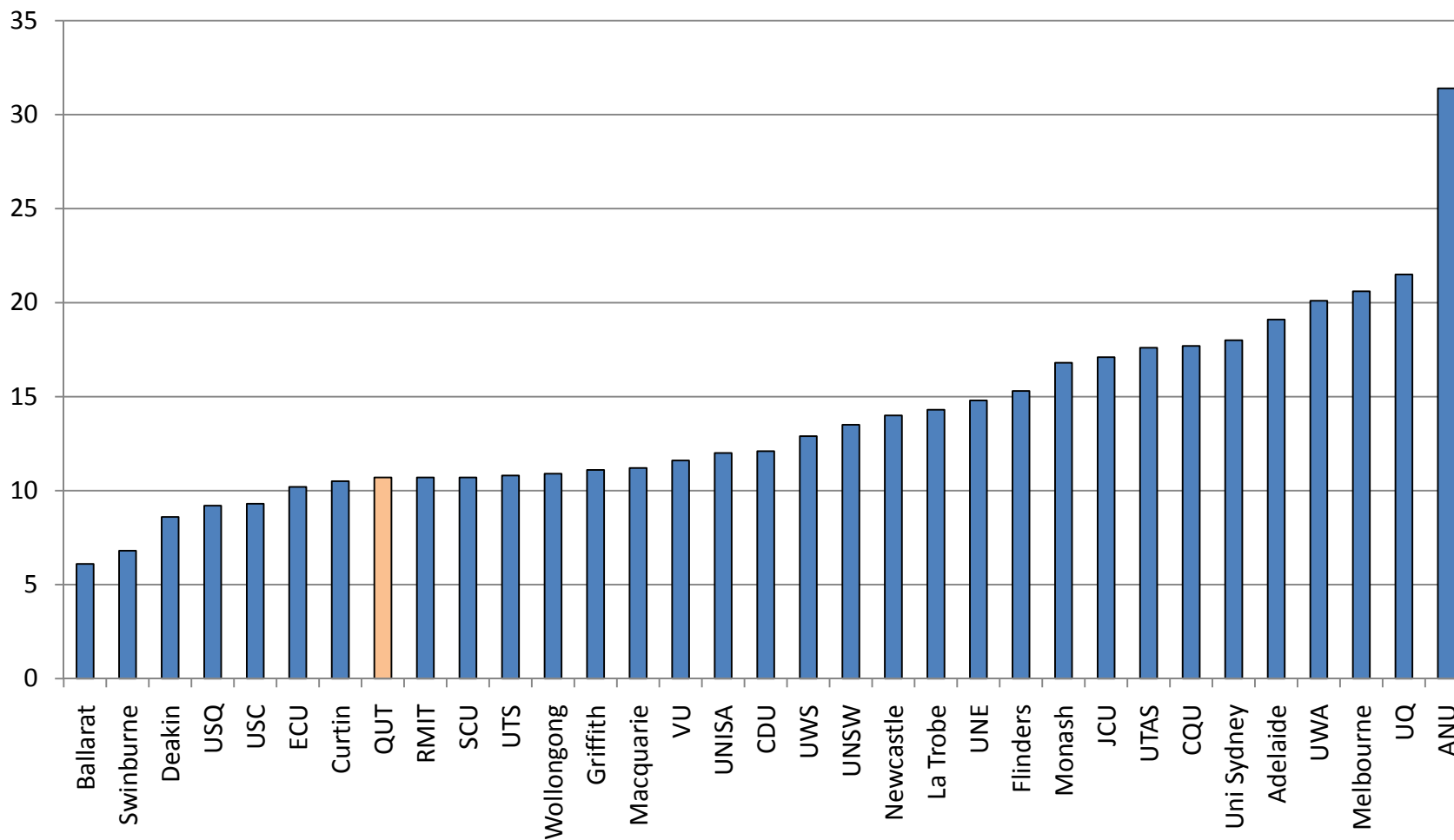


Student Numbers (EFTSL)

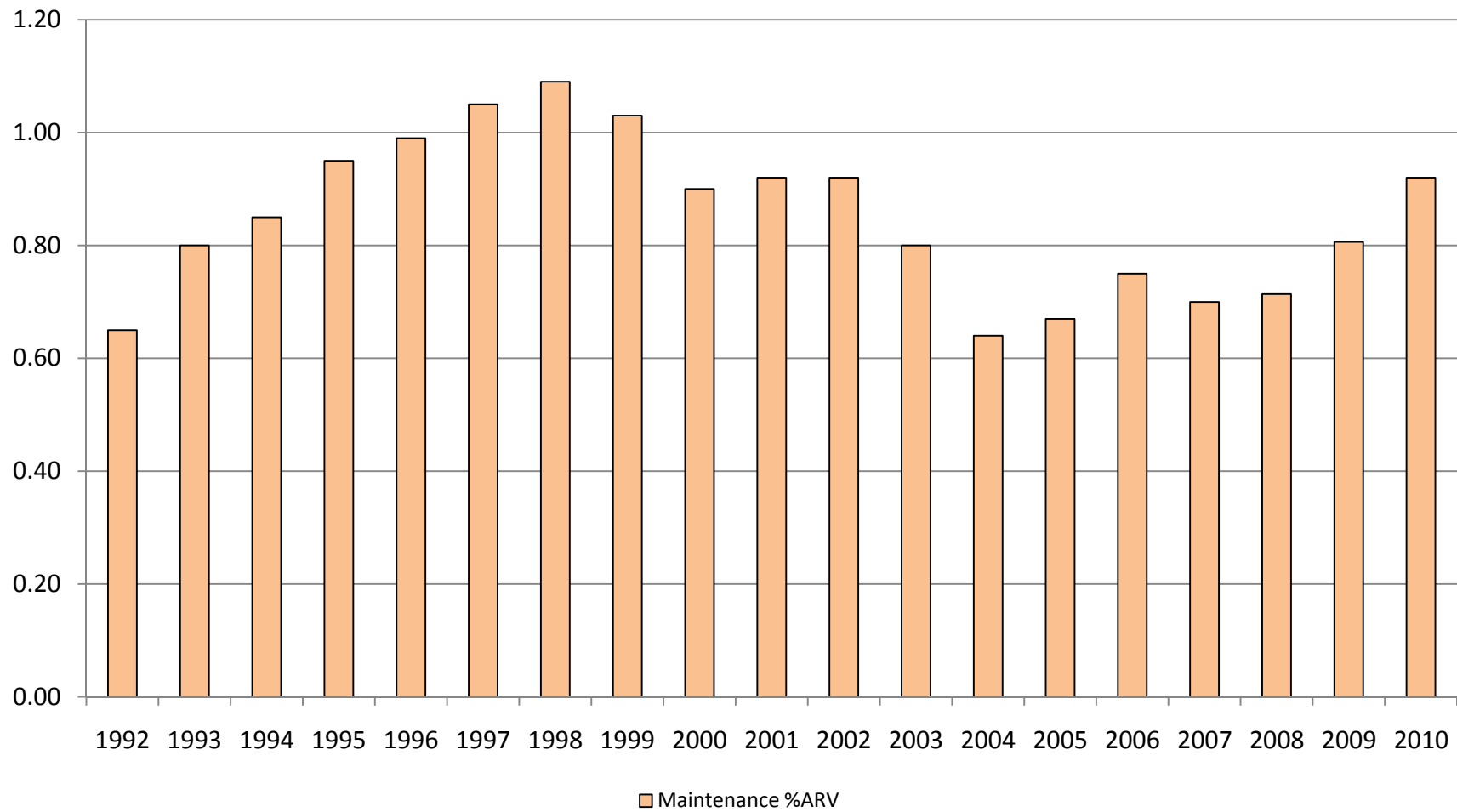


Space per Student (m²GFA/EFTSL)

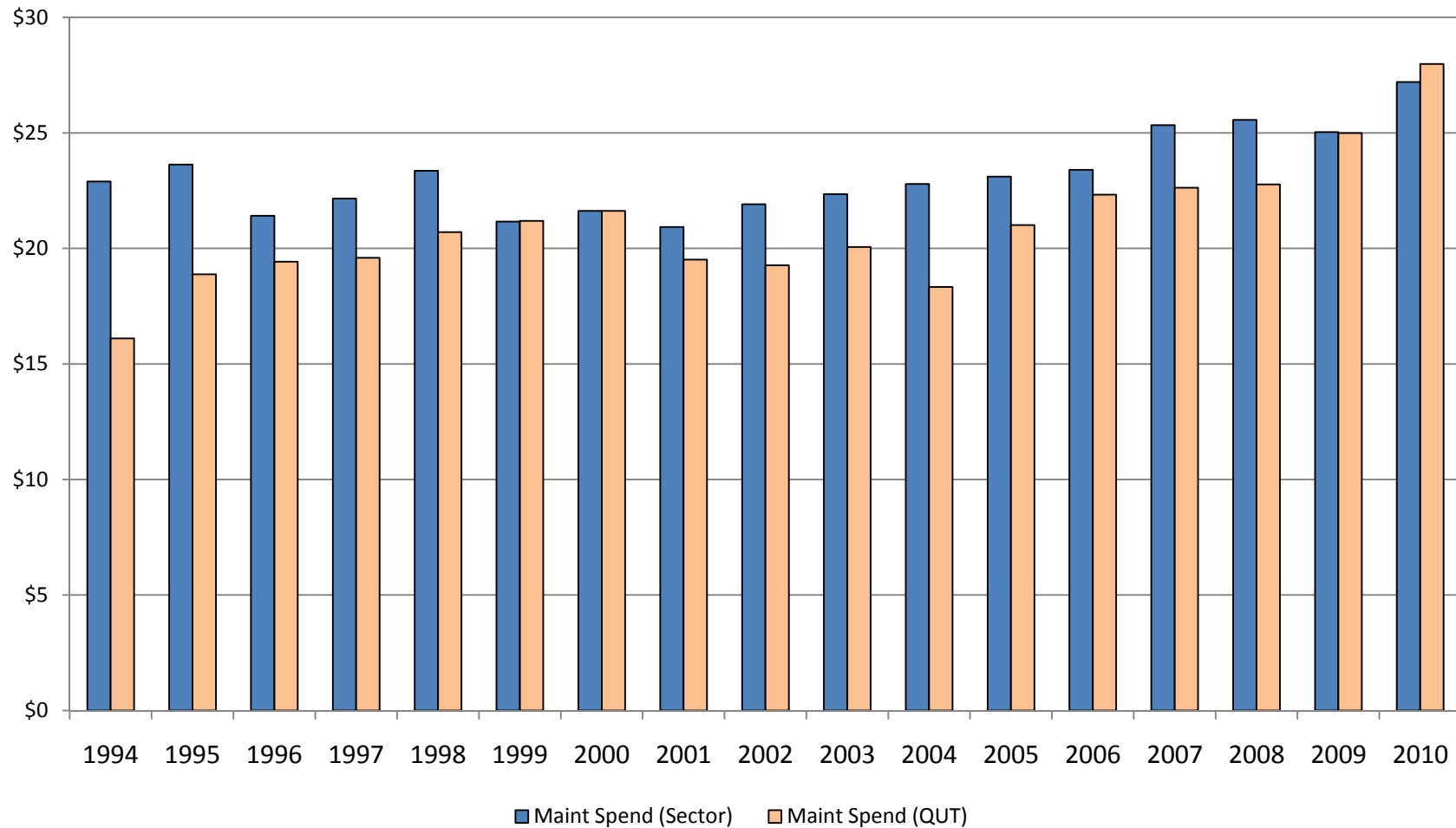
Space (GFA) per Student



Maintenance Spend (%ARV)

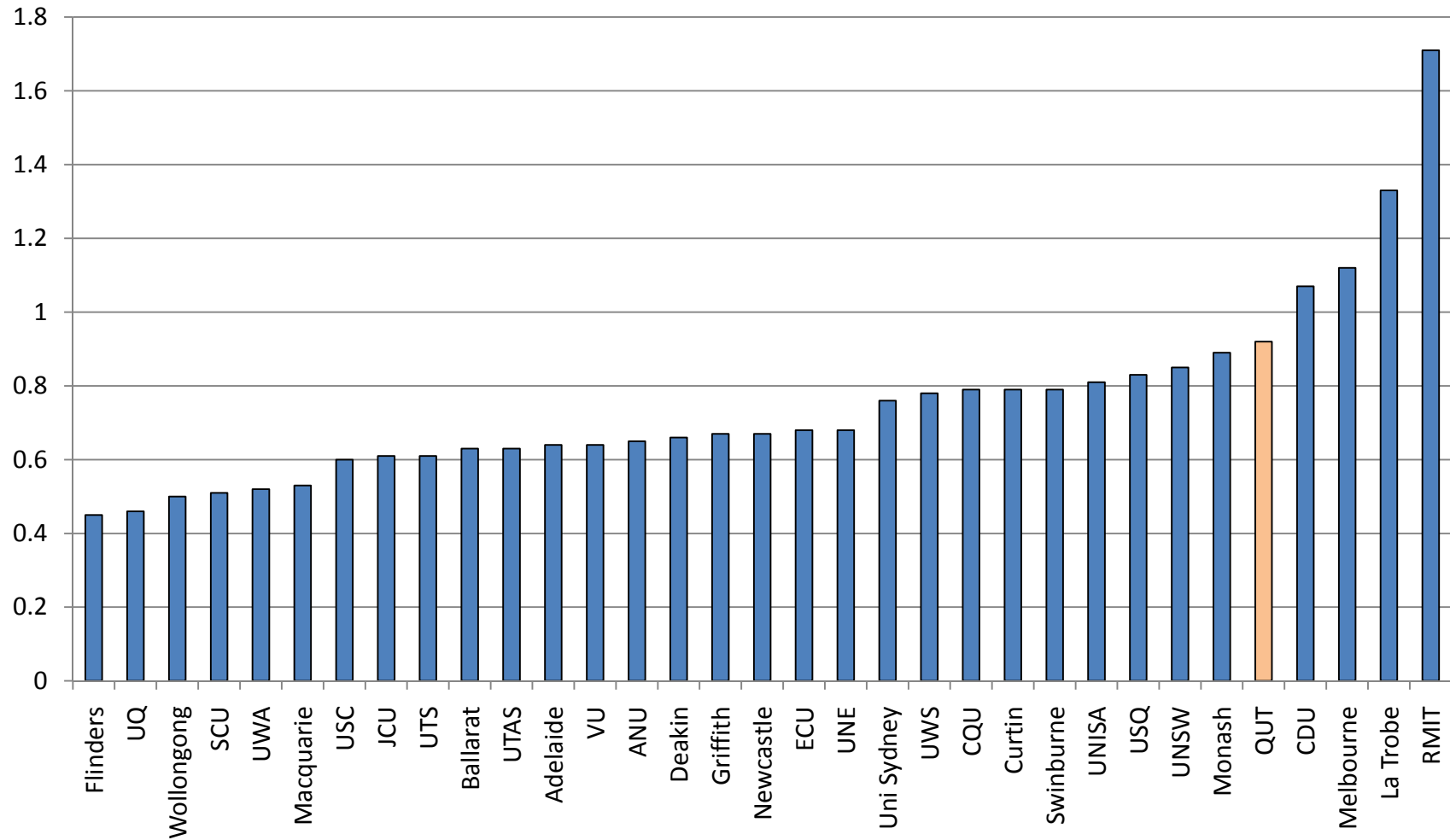


Maintenance Spend QUT vs Sector (\$/m²GFA)

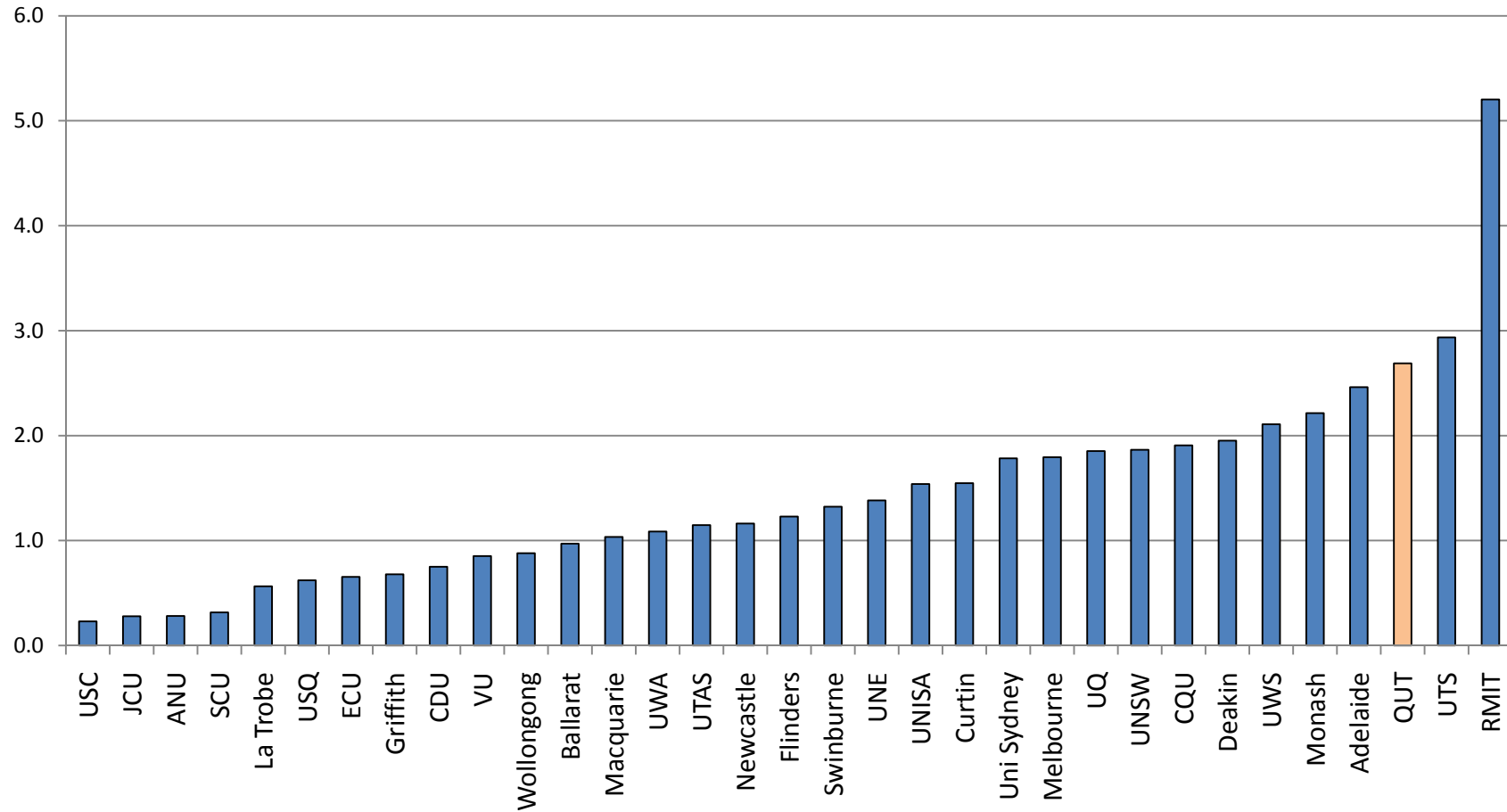


Maintenance Spend (Sector)

Maintenance Spend by Institution (%ARV)



Refurbishment Spend (%ARV/annum)
2006-2010

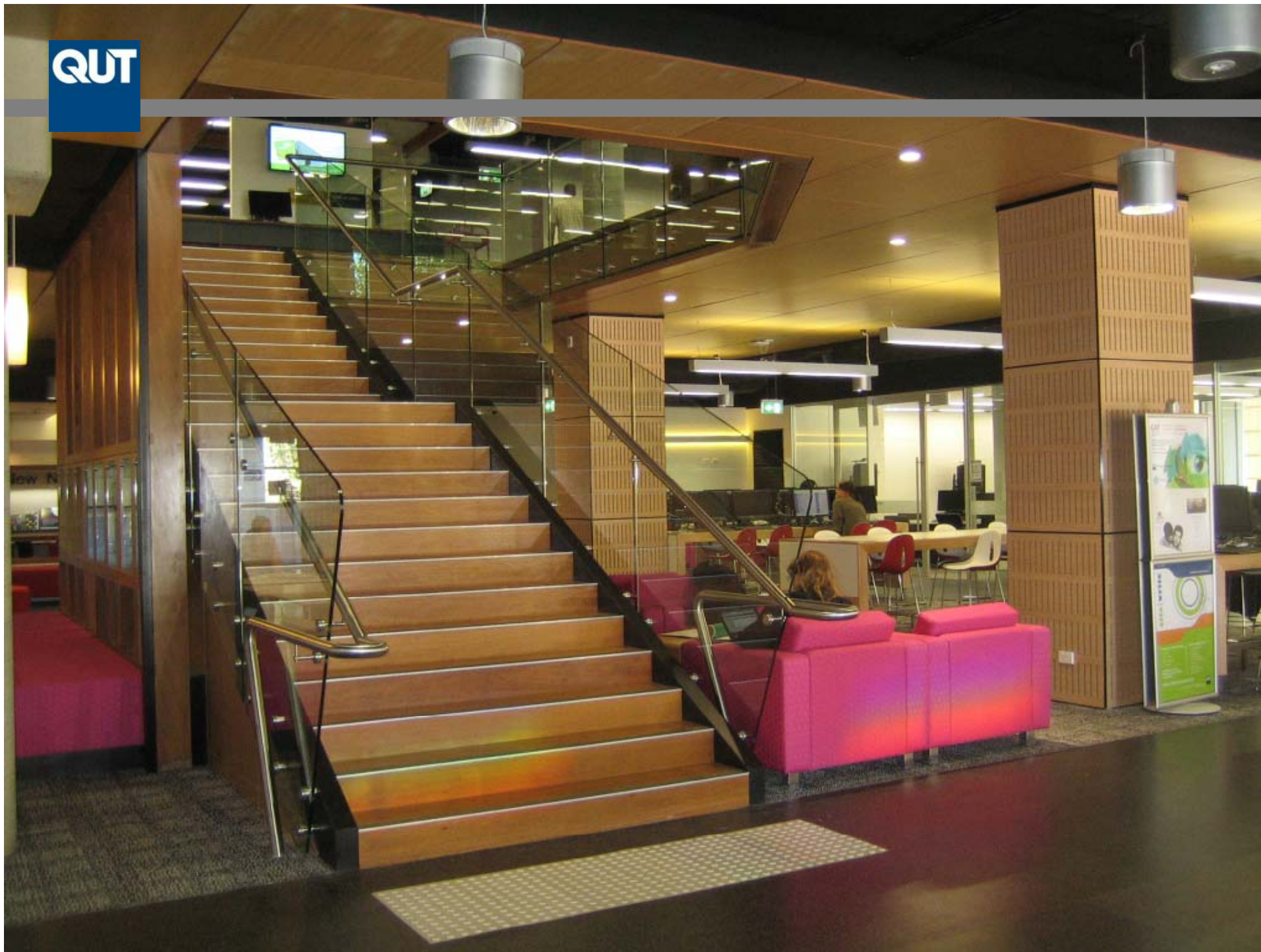


QUT







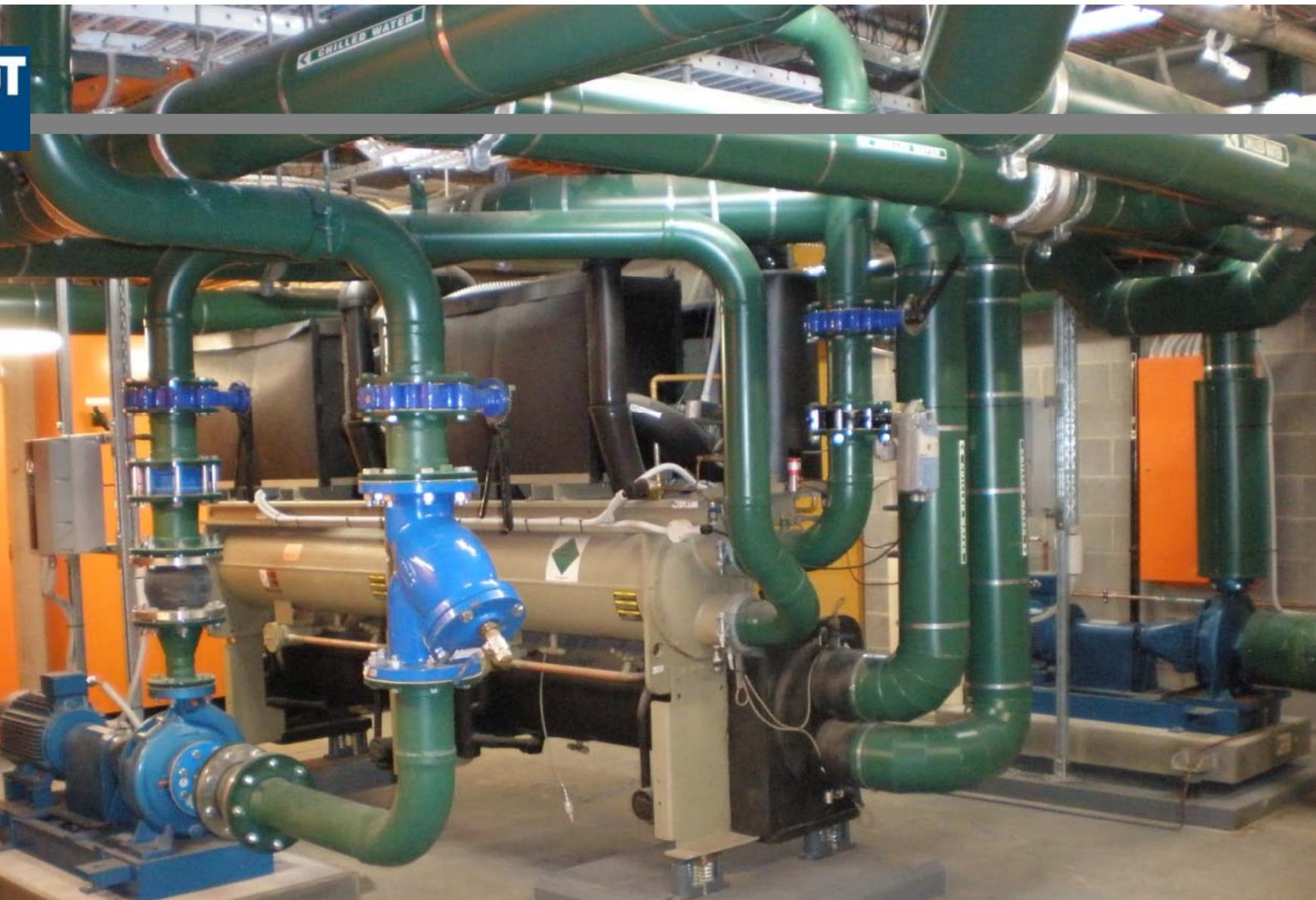


QUT









T

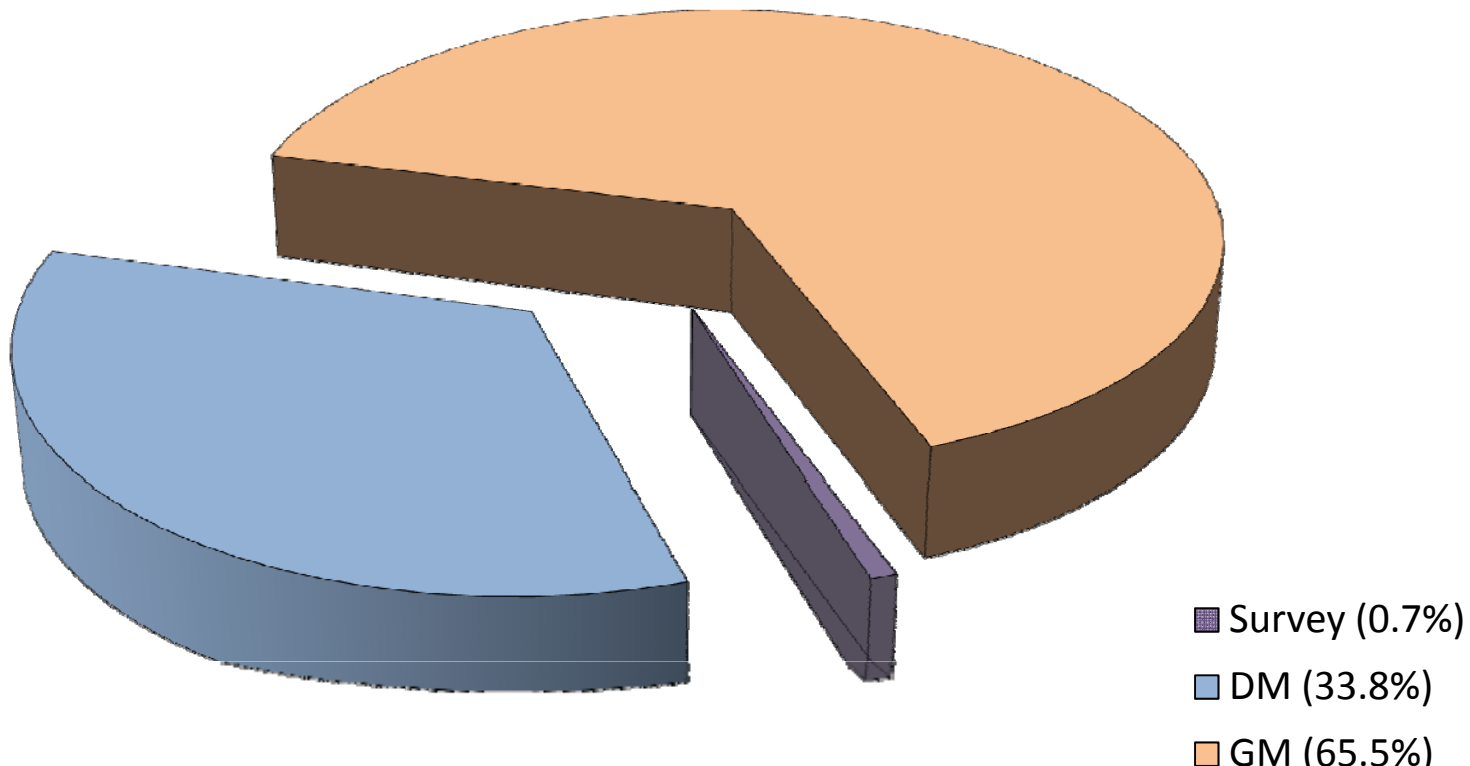


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Cost of Facilities Condition Survey

Relative Cost of Condition Survey





Project Purpose & Objectives

Collect & compile **strategic** data

- asset condition (FCI)
- building compliance/non-compliance
- asset functionality/dysfunctionality (FFI)
- replacement, written-down & insurance valuations

Educate university community/raise awareness

Reinforce the importance of **Risk**

Health check of buildings & infrastructure

- reconciles asset info/data (including data outside of scope)
- facilitates & informs future planning



Project Scope & Deliverables

Assessment of condition & performance of assets against agreed **standards** (FCI)

Determination of the gap between desired & **actual performance** & an assessment of associated risk

Compliance assessment (essential services, egress)

Fitness-for-purpose assessment of assets (FFI)

Revaluation of assets (ARV, WDV and IV)

Comprehensive building-by-building **reports**

Fully functional **database** of survey findings

5-year **funding scenarios** to address deficiencies (condition & compliance only)

Funding Levels – *the motivation*

Term	Comments	Recommended Funding Levels (%ARV)	Recommended Funding Level (\$M)	QUT Funding Level in 2011 (\$ million)
Maintenance	All Preventive Maintenance with a less than twelve month cycle, plus minor Corrective Maintenance works	Typically in range 1.2-1.5% Asset Replacement Value (ARV)	\$11.4M	\$8.4M
Capital renewal (for like)	Usually more major works including major plant replacement, external repaints, new roofs, infrastructure replacements, with a life cycle greater than twelve months	Typically in range 1.0-1.5% ARV	\$9.5M - \$14.2M	\$4.4M
Capital option or modelling	Includes building enhancements which change function or use; work necessary to comply with new standards, codes and regulations	Driven by changing technology, legislative demands and changes in asset use or function. Typically	\$14.3M - \$28.5M	\$26M/annum for 2006-2010



Procurement

2-stage EOI process, 25 submissions, 5 short-listed (1 withdrew)

Selection criteria (for short-listing):

- *Relevant Experience on similar projects* - 25%
- *Key Personnel* (including proposed team structure) - 25%
- *Organisational details* (including quality systems) - 10%
- *Proposed Methodology* - 25%
- *Best Practice, value-added services & innovation* - 15%

Selection criteria (final 4):

- *Scope & methodology statement* - 15%
- *Previous relevant experience* - 30%
- *Management capabilities* - 10%
- *Technical capabilities* - 10%

T The Challenges/Critical Success factors

Project scope definition (*pre & post tender workshops*)

Selecting the right team (*client & consultant*)

Defining key terms (*eg. backlog maintenance, capital renewal*)

Accurate asset registers

Access to & sharing of plans, records, reports

Condition rating guidelines (*for inspectors*)

Logistics

- Communication with stakeholders
- Access to spaces/facilities (*who, when, where*)
- Access to client's records, staff, and information systems



The Challenges/Critical Success factors (*cont'd*)

- Partnerships, sharing data & ideas
- Engaging in-house FM staff
- Collecting meaningful data
- Data capture & management
- Leveraging off risk assessments (ie. not financial liabilities)
- Intellectual property & ownership
- Keep project strategic - focus on macro, avoid micro
- Don't underestimate Functionality Survey
- Selling the recommendations to senior management



Functionality - *comments*

Prepare well - plan focus groups carefully

Methodology & model important

Start early - Allow about \$0.20/m² GFA

Good facilitator essential

Client moderation highly desirable

Involve senior managers (*ie. Deans, Directors*)

Be patient - takes a lot of hard work to get best results

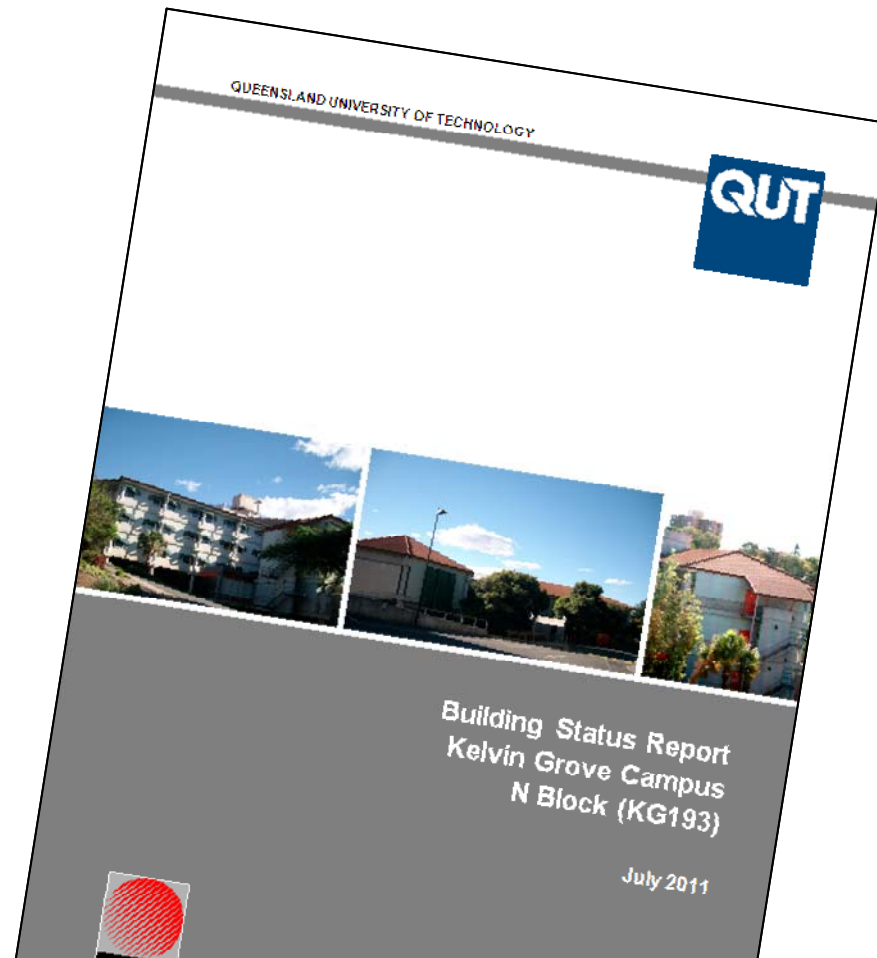
Participants – high interest & cooperative

Follow up on operational issues immediately (*ie. reward them*)



The Project

Delivering the Project

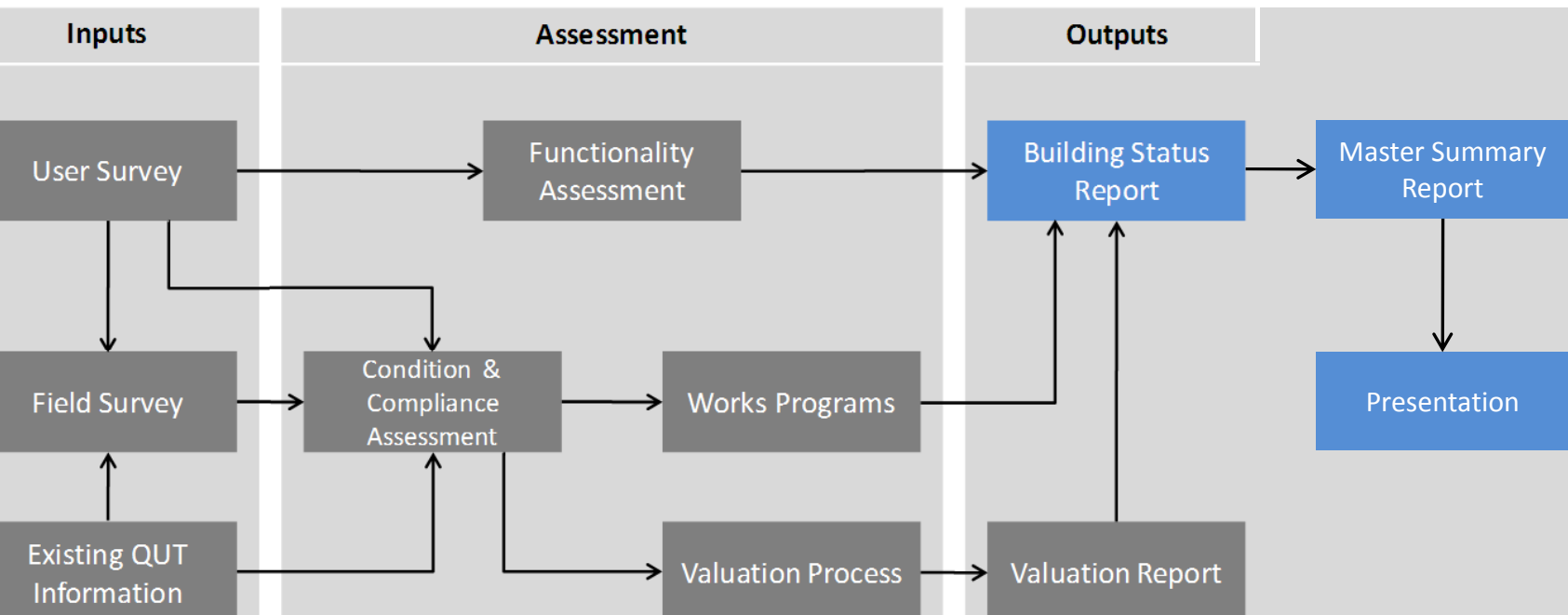




The Project

Framework

Project elements





Condition Survey

Scope

Two campuses

65 buildings

300,000 square metres

Condition Score = Performance

Form and function



Amalgamated Score

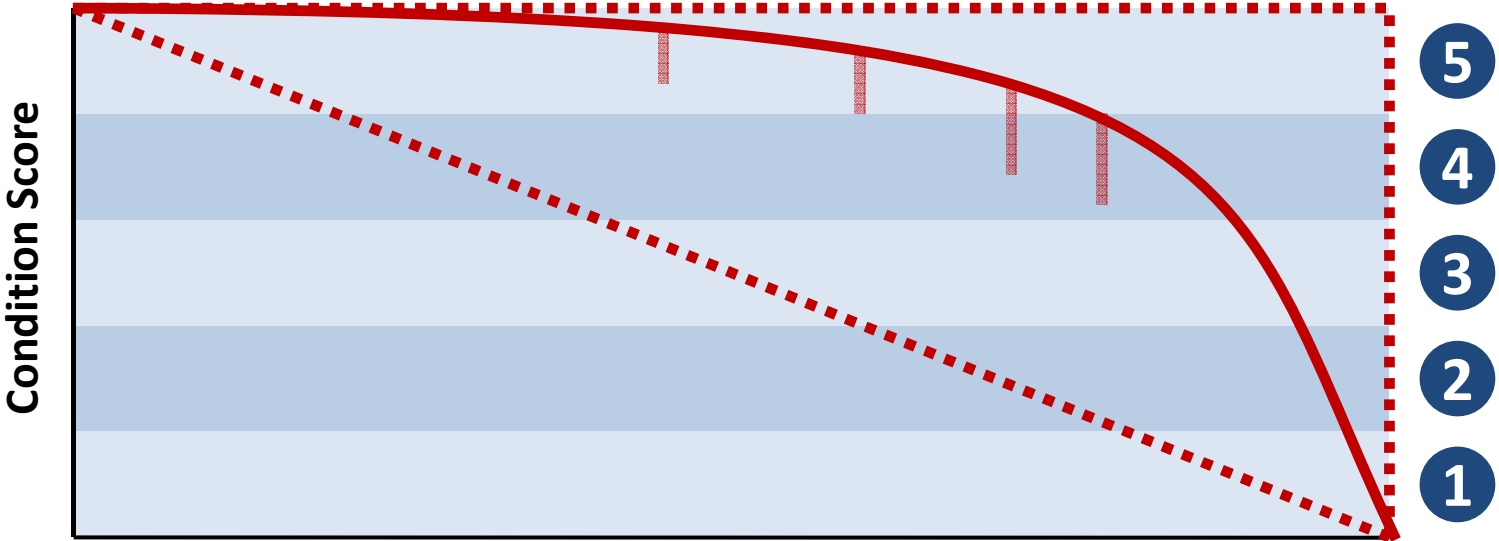


Method

Condition Scale

1 (poor) to 5 (excellent)

Site specific





Method

Condition Rating Guide

Consistency
Reliability

Repeatability



Asset Condition Rating Guidelines

Asset Sub Class	5 - Excellent	4 - Good	3 - Fair	2 - Poor	1 - Very Poor
Floors • Reinforced Concrete	No signs of deflection.	Minor surface discolouration, hairline cracking, minor chipping evident on underside.	Significant discolouration and staining, settling or misalignment not affecting structural integrity evident on underside.	Severe discolouration and rust staining, cracking and spalling evident on underside.	Severe discolouration and rust staining, spalling exposing reinforcing steel, corrosion of reinforcing steel evident on underside.
Floors • Timber	No signs of deflection.	Weathered surface evident on underside.	Falling coatings, minor surface splits evident on underside.	Splitting and/or dry rot evident on underside.	Splitting or decay compromising structural integrity, heavily corroded bolts and fixings, bolt and fixings missing evident on underside.
Staircases • Reinforced Concrete	No signs of failure or deflection.	Minor surface discolouration, hairline cracking, minor chipping.	Significant discolouration and staining, settling or misalignment not affecting structural integrity.	Severe discolouration and rust staining, cracking and spalling.	Severe discolouration and rust staining, spalling exposing reinforcing steel, corrosion of reinforcing steel.
Staircases • Timber	No signs of failure or deflection.	Weathered surface.	Falling coatings, minor surface splits.	Splitting and/or dry rot.	Splitting or decay compromising structural integrity, heavily corroded bolts and fixings, bolt and fixings missing.
Staircases • Steel Accessways	No signs of failure or deflection.	Weathered surface coating.	Falling integrity of surface coating, minor surface corrosion with no pitting of the steel.	Heavy corrosion exceeding 10% of the surface area, minor pitting of the steel.	Structural integrity compromised by distortion of members, rust causing loss of section, corrosion of fixings





Method

Useful Life

Industry & QUT typical lives

Failure Mechanisms

- Cyclical?
- Aligned with refurbishments?
- Deterioration?

Location Specific Performance Curves



Method

Acceptable levels of service

Minimum acceptable condition

- Location (image)
- Operational importance (reliability)

Intervention criteria

Generically determined for each space type

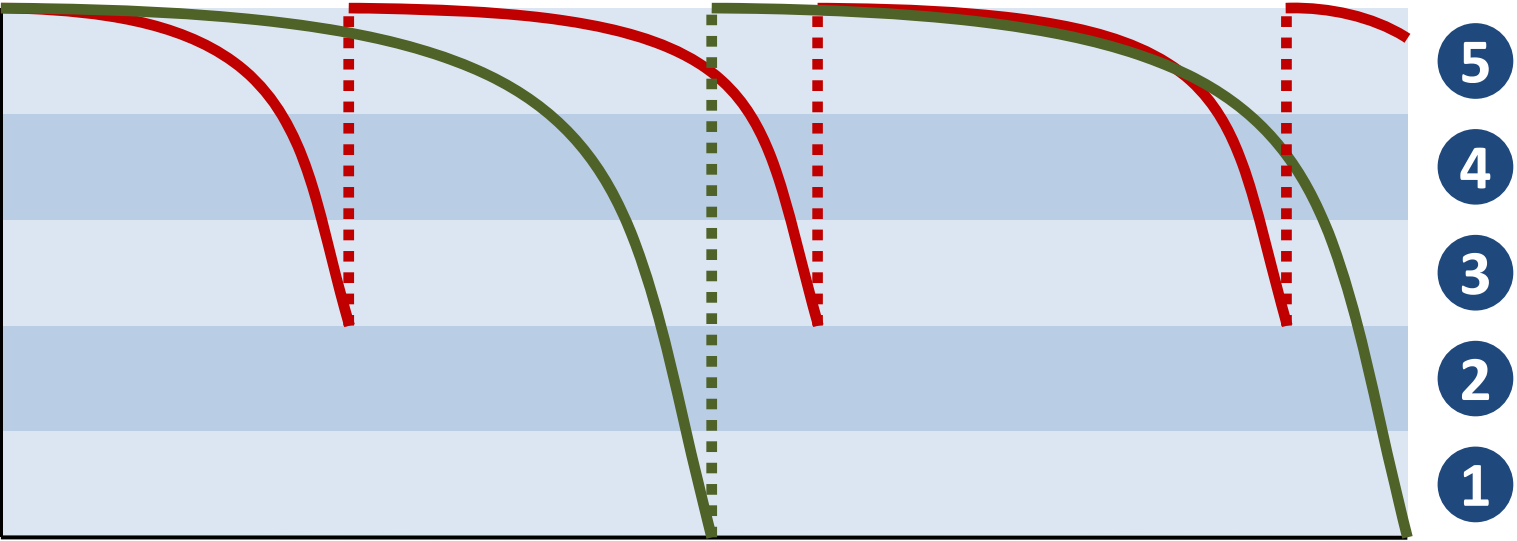
Specific to some spaces



Method

Building Elements

Condition status will be mixed

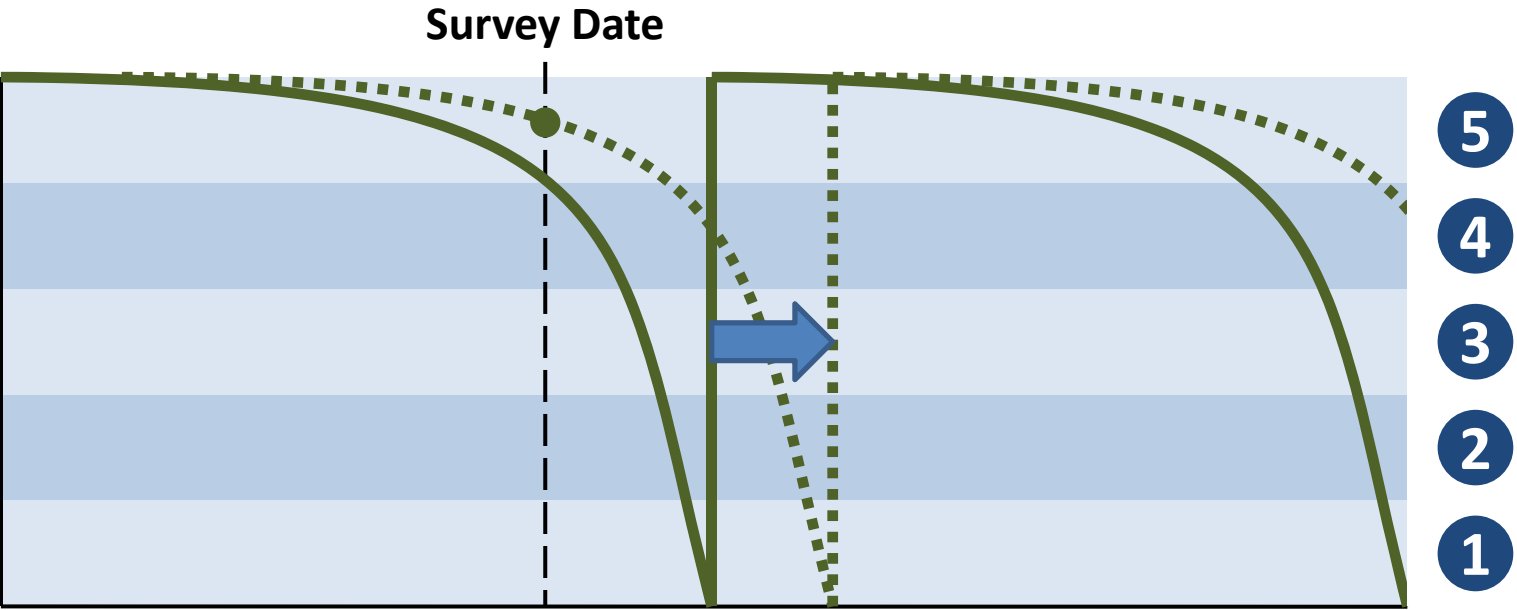




Method

Remaining Life

Determined from condition, adjusted for sensibility





Method

Condition Survey Process

- Maintenance workshops
- Access requirements
- Deployed knowledgeable inspectors
- Detailed Investigations
- Opportunities
- Data recording
- Data management
- Data → Information

Maintenance Team Comments

Prior to the site condition survey a workshop between the condition survey team and the QUT Facilities Management team was held in order to get an understanding of the current maintenance issues. A record of this discussion follows:

Facilities Management Maintenance Review

Element	Comments
Roof	<ul style="list-style-type: none"> Roof perimeter membrane issues on west side leading to intermittent leaks during winter. Roof is easily accessible. Galvanised balustrade requires replacement.
External Façade	<ul style="list-style-type: none"> External block work is subject to staining. Faint rust stains on external north and east awnings. The rust stains are getting progressively darker over the years.

Table 10 – Issues Requiring Further Investigation

Asset Class	Issue
Building	Investigate wall water leaks in rooms 203 and 206. Investigate cause for landing cracks along wall, less than 10mm, and displacement in room 206.
Structure	Monitor cracks in slab in room 200A. Monitor cracks in landing in room 200A. Monitor concrete cracks in room 206.
External Façade	Monitor cracks to slab edge in north façade Monitor cracks to external blockwork in room 201.
Roof	Wall and ceiling water leaks in Level 2 roof.
Internal Façade	An investigation is currently underway to determine the cause of the stains on the wall finishes.

4.4 Opportunities for Improvement

Electrical (Lighting Systems) - The opportunity exists to replace light switches and lighting as it fails or requires refurbishment over time with modern like energy fittings, several of types of which are available today on the commercial market. [Estimated Cost = \$2k annually]

Electrical (BMS) - The opportunity exists to control all the circuits within this building that

Works Programming

Backlog Maintenance (risk assessed)

NPWC Code	NPWC Element Description	Probability of Occurance	Consequence Score					Max Risk Score	Work Description	Estimated Cost	Year 1 2012	Year 2 2013	Year 3 2014
			QUT Staff & Contractors	Public & Students	Environment	Business	Effective Cost						
WF	WALL FINISHES	4	1	1	1	2	1	8	Repaint wall	\$1,100		\$1,100	
CF	CEILING FINISHES	4	1	1	1	2	1	8	Replace tiles	\$1,000		\$1,000	
ACAH	DUCTWORK/AIR-HANDLING SYSTEMS	2	2	2	1	3	1	6	Repair vibrating unit and remove surfac rust on duct work	\$1,000	\$1,000		
WF	WALL FINISHES	4	1	1	1	2	1	8	Repaint wall	\$1,000		\$1,000	
FF	FLOOR FINISHES	4	2	2	1	2	1	8	Replace floor covering	\$1,200		\$1,200	
FF	FLOOR FINISHES	4	2	2	1	2	1	8	Replace floor covering	\$1,200		\$1,200	
LPLS	LIGHTING SYSTEMS	3	1	1	1	3	1	9	Replace plant	\$1,500	\$1,500		
ACXX	AC NOT INCLUDED ELSEWHERE	3	1	1	1	3	1	9	Replace plant	\$10,000	\$10,000		
ACCT	COOLING TOWERS & CONDENSORS / A	3	1	1	1	3	1	9	Replace plant	\$10,000	\$10,000		
SH	SPACE HEATERS	3	1	1	1	3	1	9	Replace plant	\$17,500	\$17,500		
FPXX	FIRE - NOT ELSEWHERE INCLUDED	3	1	1	1	1	1	3	Repair large gap between frame and blockwork in fire door	\$1,500			\$1,500
FF	FLOOR FINISHES	4	2	2	1	2	1	8	Replace floor covering	\$1,100			
FF	FLOOR FINISHES	5	2	2	1	2	1	10	Replace floor covering				
FF	FLOOR FINISHES	5	2	2	1	2	1	10	Replace floor covering				
WF	WALL FINISHES	5	1	1	1	2	1	10	Repaint wall			\$5,400	
CF	CEILING FINISHES	4	1	1	1	2	1	8	Replace tiles	>11,400		\$11,400	
ACAH	DUCTWORK/AIR-HANDLING SYSTEMS	3	2	2	1	3	1	6	Replace floor covering internally	\$1,000	\$1,000		
FF	FLOOR FINISHES	5	2	2	1	2	1	10	Replace floor covering	\$1,100		\$1,100	
ACAH	DUCTWORK/AIR-HANDLING SYSTEMS	3	2	2	1	3	1	6	Terminate cables entering into motor correctly and secure CHW actuator cabling	\$1,500	\$1,500		
WF	WALL FINISHES	4	1	1	1	2	1	8	Repaint wall	\$5,800		\$5,800	
FF	FLOOR FINISHES	4	2	2	1	2	1	8	Replace floor covering	\$1,100		\$1,100	
EW	EXTERNAL WALLS	3	1	1	1	2	4	12	Repair spalling near roof	\$1,200	\$1,200		
FF	FLOOR FINISHES	4	1	1	1	2	1	8	Replace tiles	\$1,600		\$1,600	
FF	FLOOR FINISHES	4	1	1	1	2	1	8	Replace tiles	\$1,600		\$1,600	
WF	WALL FINISHES	4	1	1	1	2	1	8	Repaint wall	\$1,200		\$1,200	
FPXX	FIRE - NOT ELSEWHERE INCLUDED	3	1	1	1	1	1	3	Repair large gap between frame and blockwork in fire door	\$1,500			\$1,500
FPXX	FIRE - NOT ELSEWHERE INCLUDED	3	1	1	1	1	1	3	Repair large gap between frame and blockwork in fire door	\$1,500			\$1,500
EW	EXTERNAL WALLS	3	1	1	1	2	4	12	Repair minor spalling and exposed reinforcement in external concrete beam	\$2,300	\$2,300		

Works Programming

Compliance (prioritised)

NPWC Building Element	NPWC Element Description	NPWC Code	Description	Estimated Cost	Priority
Finishes	Wall Finishes	WF	An annual inspection should be undertaken to confirm the encasement of the asbestos material has not been compromised	\$1,000	Medium
Services	Power Circuits/Cabling	LPPS	SSO in Room 222A has been removed but not made safe. It is unknown as to whether this point is still live.	\$200	High
Services	Power Circuits/Cabling	LPPS	Cabling in Room 299 and 500 is lying on light fitting. Non compliant as the cabling is not RCD protected.	\$1,000	Medium
Services	Emergency Lighting Systems	LPEL	Room 518 has insufficient emergency lights	\$2,000	Medium
Services	Emergency Lighting Systems	LPEL	Room 515 has emergency lights that are not compliant with the standard	\$2,000	Medium
Services	Switchboards	LPES	Switchboard in room 150 cannot be opened 90° due to cupboard framing.	\$1,500	Low
Services	Switchboards	LPES	Switchboard pole covers missing in Room 532.	\$500	Low
Services	Switchboards	LPES	Escutcheon plate missing from switchboard in Room 409.	\$1,000	Low
Services	Passenger Lifts	TSPL	No LMR emergency light. Additional guards to machine & sheaves in LMR. TOK switches to Abloy. Solid LMR door. Seal LMR & air condition. Provide voice feature	\$2,000	Medium
Services	AC Not Included Elsewhere	ACXX	No outside air within Room 496. This does not comply with the Australian Standards AS1668.2.	\$3,000	Medium
Services	AC Not Included Elsewhere	ACXX	Tee off box located in Room 453 is non compliant as the cable size has been reduced without protection (for the minimum cable size).	\$5,000	Medium
Services	Switchboards	LPES	It was noted during the inspection that all RCD testing is overdue. This was discussed with FM personnel and is programmed to be undertaken in June 2011	\$1,000	High
Services	Passenger Lifts	TSPL	Provide LMR exit light, Provide RCD'S for lift Motor room and shaft lights. Standard TOK switches require upgrading, Grouting Plates behind button boxes	\$5,000	Medium
Superstructure	Various	Various	An access audit was completed in 2005 (Appendix H), which identified a number of minor access issues that need to be addressed (The cost shown has been escalated to June 2011 prices).	\$252,810	Low
				\$278,010	
				\$255,810	Low
				\$21,000	Medium
				\$1,200	High

Works Programming

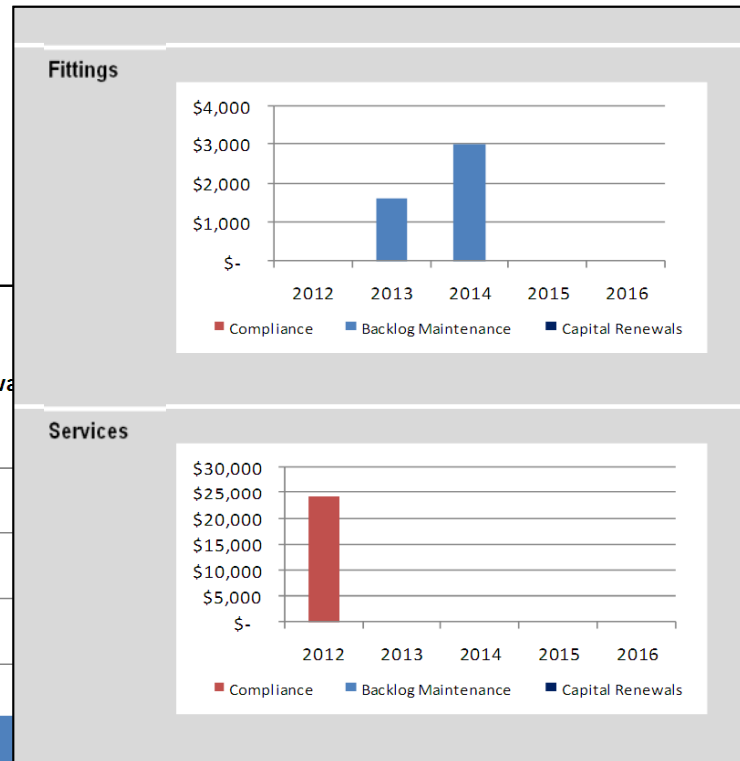
Capital Renewal Programme (prioritised and partially balanced)

NPWC Building Element	NPWC Element Description	NPWC Code	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
SUBSTRUCTURE	SUBSTRUCTURE	SB	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUPERSTRUCTURE	COLUMNS	CL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	UPPER FLOORS	UF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	STAIRCASES	SC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ROOF	RF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	EXTERNAL WALLS	EW	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	WINDOWS	WW	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	EXTERNAL DOORS	ED	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,400	\$ -	\$ -	\$ -	\$ -
	INTERNAL WALLS	NW	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,000	\$ -	\$ -	
	INTERNAL WALLS/BORROWED LIGHT	NS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,900	\$ -	
	INTERNAL DOORS	ND	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 26,000	
FINISHES	WALL FINISHES	WF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 281,600	\$ 3,700	\$ -	\$ -	\$ -	\$ -	
	FLOOR FINISHES	FF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 162,300	\$ 369,500	\$ 67,800	
	CEILING FINISHES	CF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 215,100	\$ -	\$ 237,700
FITTINGS	FITTINGS	FT	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,200	\$ -	
	SPECIAL EQUIPMENT	SE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
SERVICES	SANITARY FIXTURES	SF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	SANITARY PLUMBING	PD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	WATER SUPPLY	WS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	GAS SERVICE	GS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	SPACE HEATING	SH	\$ -	\$ -	\$ -	\$ 122,500	\$ -	\$ -	\$ 8,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	FUME CUPBOARDS	VEFC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	FUME EXHAUST SYSTEMS	VEFE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	VENTILATION - NOT ELSEWHERE INCLUDED	VEXX	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	EVAPORATIVE COOLING	EC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	CHILLERS/REFRIGERATION PLANT	ACRP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	COOLING TOWERS & CONDENSORS / AIR CONDITIONING CONTROLS	ACCT	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	DUCTWORK/AIR HANDLING SYSTEMS	ACAH	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 250,000	\$ -	\$ -	\$ 170,000	\$ -	\$ -	\$ -	\$ -	\$ -	
	FAN COIL UNITS	ACFC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,900	\$ -	\$ -	\$ -	\$ 8,000	\$ -	\$ -	\$ -	\$ -	
	PIPEWORK (CW, CONDENSER WATER)	ACPW	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	A/C NOT ELSEWHERE INCLUDED	ACXX	\$ -	\$ -	\$ 1,000	\$ -	\$ 862,800	\$ 44,000	\$ -	\$ -	\$ -	\$ 126,700	\$ -	\$ -	\$ -	\$ -	
	FIRE DETECTION SYSTEMS (EXCLUDING FIPS)	FPFD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	FIRE INDICATOR PANELS	FPFP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,000	\$ -	
	AUTOMATIC SPRINKLER SYSTEMS	FPSS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	HYDRANT SYSTEMS	FPHS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	FIRE - NOT ELSEWHERE INCLUDED	FPXX	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000	\$ -	\$ -	\$ -	
	SWITCHBOARDS	LPES	\$ -	\$ -	\$ 18,000	\$ -	\$ -	\$ 104,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 26,000	\$ -	\$ -	
	LIGHTING SYSTEMS	LPLS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 484,500	\$ -	\$ -	\$ 191,000	\$ -	\$ -	\$ -	\$ -	
	POWER CIRCUITS/CABLING	LPSS	\$ -	\$ -	\$ 3,900	\$ -	\$ -	\$ 235,500	\$ -	\$ -	\$ -	\$ 85,600	\$ -	\$ -	\$ -	\$ -	
	EMERGENCY LIGHTING SYSTEMS	LPEL	\$ -	\$ -	\$ 4,500	\$ -	\$ -	\$ -	\$ 106,500	\$ -	\$ -	\$ -	\$ 94,500	\$ -	\$ -	\$ -	
	LIGHTING - NOT ELSEWHERE INCLUDED	LPXX	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
	BUILDING MANAGEMENT SYSTEM	CMBM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,000	\$ -	\$ -	\$ -	\$ -	\$ 20,000	\$ -	
	COMMUNICATIONS - NOT ELSEWHERE INCLUDED	CMXX	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	SERVICE LIFTS	TSSL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	GOODS LIFTS	TSGL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	PASSENGER LIFTS	TSPL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 200,000	\$ -	\$ -	\$ -	

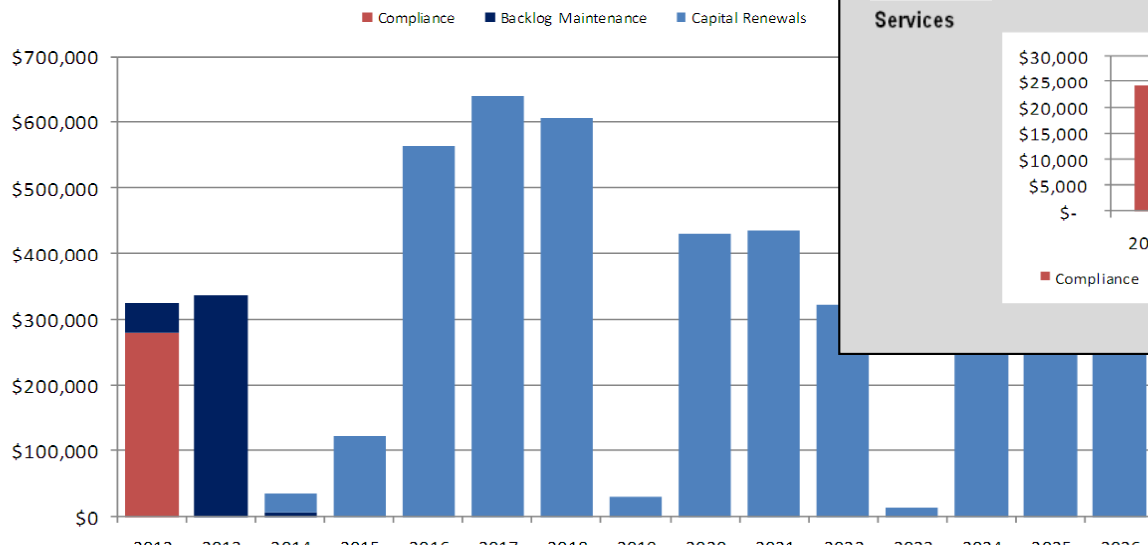


Works Programming

Financial Reporting



**Kelvin Grove N-Block
Compliance, Backlog Maintenance, and Capital Renewals**





Functionality Assessment

Scope

Objective (fit for purpose)

Purpose

- Identify issues that can be easily addressed to improve current utilisation
- Identify opportunity to relieve frustration and improve utilisation across the campus
- Identify design criteria for new spaces

Two parts



Process

- Interactive & engaging session
- Loads of questions
- Demonstrate an understanding of the space
- Linkage to condition





Process

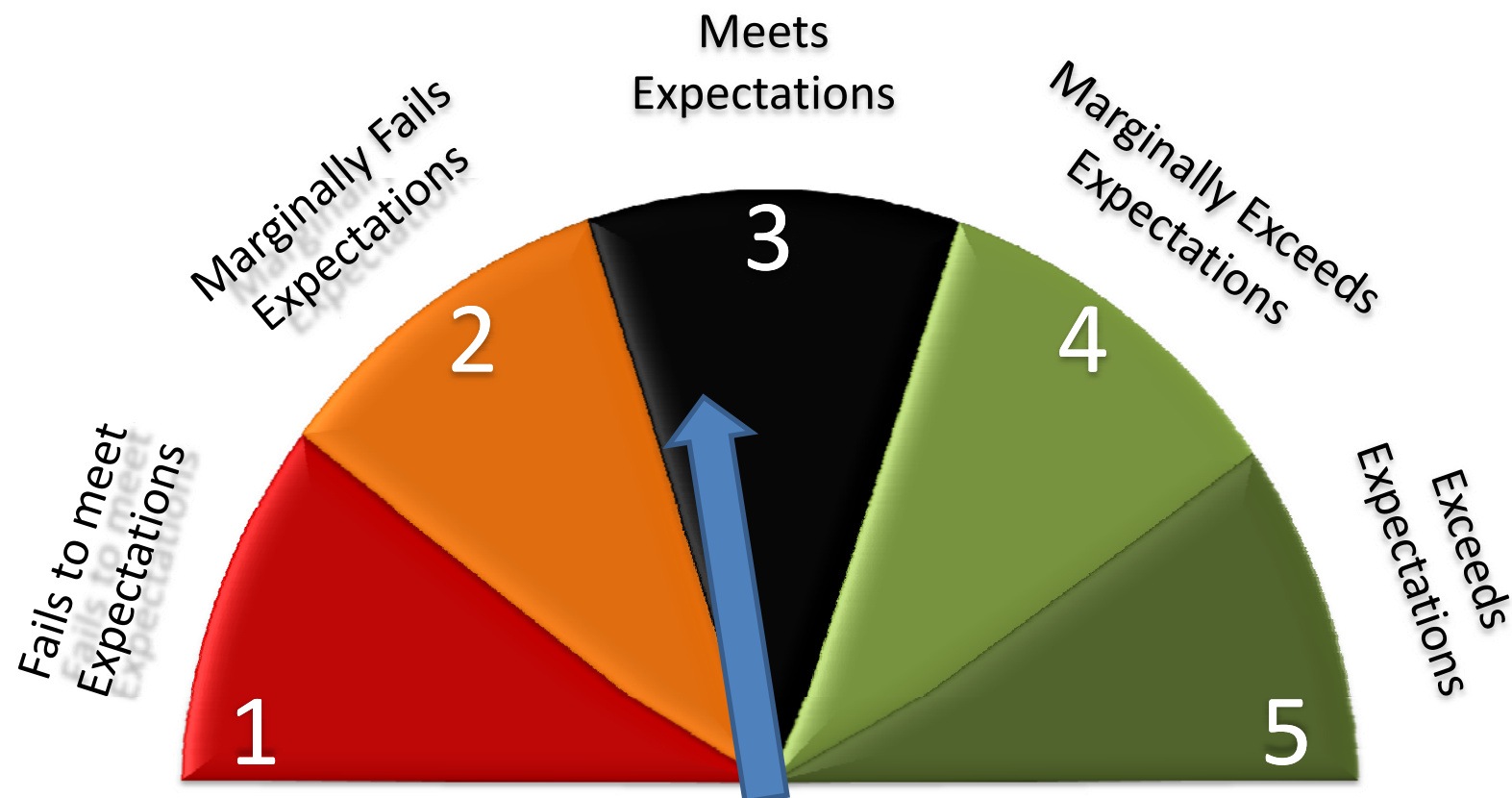
Part 1 – Overview (buildings)

- Type of space
- Current utilisation
- Space demand over the next five years
- Geographic location of building(s)
- Access to building(s)
- Key frustrations

Part 2 – Detailed assessment of measures (rooms)

Lo	Location within floor plan	}	Accessibility
A	Access		
S	Support Services	}	Features
F	Fit Out		
Am	Amenity	}	Scale
R	Room Size & Shape		
L	Comfort – Lighting	}	Comfort
AC	Comfort – Air Quality		
V	Comfort – Visibility & Acoustics		

Functionality Measure Ratings



Functionality Measure – Room Size & Shape

Room size and shape relative to primary use

5

Exceeds
Expectations

Oversized

4

Marginally
Exceeds
Expectations

Marginally Oversized

R

3

Meets
Expectations

Suitable Size & Shape

2

Marginally
Fails
Expectations

**Marginally Undersized /
Inappropriate Shape**

Functionality Measure – Comfort (Lighting)

Standard of Lighting for Purpose

L	3	Meets Expectations	Appropriate
	2	Marginally Fails Expectations	Marginally Inadequate (Too dark/bright)
	1	Does not meet Expectations	Inadequate (Too dark/bright)

Functionality Measure - Criticality

The effectiveness of the current mechanisms to protect valuable materials (ie. research, library, art collections, artifacts, etc.)

Cr	3	Meets Expectations	Appropriate & Reliable
	2	Marginally Fails Expectations	Some Reliability Issues



Functionality - Reporting

Raw Data
Statistics

QUT												Functionality Assessment Report 2011 N Block (KG193)				
Level	Room	GFA	Space Designation	Accessibility			Features			Scale		Comfort		Crit	Notes	
				Lc	A	S	F	Am	R	L	Ac	V	C			
6	603	43.4	Office (Honours/Post-Graduate Students)	3	3	3	3	3	3	3	3	3	2		No natural light into room.	
6	604		Cleaners Room													
6	605		Electrical Riser (refer definitions)													
6	606	10.86	Kitchen/Servery/Storage	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	607	11.26	Office (Research Staff)	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	608	11.26	Office (Professional Staff)	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	609		Mechanical Plant Room													
6	610	11.26	Office (Research Staff)	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	611	11.26	Office (Research Staff)	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	612	11.65	Office (Research Staff)	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	613	11.65	Office (Research Staff)	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	614	11.26	Office (Research Staff)	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	615	11.26	Office (Research Staff)	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	616	11.65	Office (Research Staff)	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	617	11.66	Committee/Conference Room	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	618	10.86	Printing/Duplicating Room	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	619	10.86	Office (Research Staff)	3	3	3	3	3	3	3	3	3	2		Noise through wall from adjacent room.	
6	689	16.21	Stairwell	3	3	3	3	3	3	3	3	3	2	3	Never clean. Poor ventilation.	
6	689A	10.74	Stairwell	3	3	3	3	3	3	3	3	3	3	3		
6	689B	12.05	Stairwell	3	3	3	3	3	3	3	3	3	3	3	Currently used for access although intended as fire stairs.	
6	690	5.5	Liftwell	3	1	3	3	3	1	3	3	3	3	3	Lift congested at times. Undersized for current use.	
6	691	9.35	Toilets/Rest Room	3	3	3	3	1	3	3	1	3	3	3	Old and unattractive. No A/C.	
6	692	9.38	Toilets/Rest Room	3	3	3	3	1	3	3	1	3	3	3	Old and unattractive. No A/C.	
		5490.28														
Count (rooms)				1	0	7	0	2	12	8	1	16	4	0		
				2	0	7	0	2	31	15	7	40	20	0		
				3	227	213	227	223	184	204	219	171	195	4		
				4	0	0	0	0	0	0	0	0	0	0		
				5	0	0	0	0	0	0	0	0	0	0		
Profile (rooms)				1		2%		2%		4%		3%		0%		
				2		2%		5%		7%		11%		0%		
				3		97%		33%		30%		86%		100%		
				4		0%		0%		0%		0%		0%		
				5		0%		0%		0%		0%		0%		
Profile (GFA)				1		2.7%		12%		6.8%		7.8%				
				2		8.4%		8.4%		16.2%		12.9%				
				3		87.9%		90.3%		77.0%		79.3%				
				4		0.0%		0.0%		0.0%		0.0%				
				5		0.0%		0.0%		0.0%		0.0%				

Functionality - Reporting

Functionality classes

Opportunities for improvement

Functional space

3.2 Functionality Improvements

The space functionality for this building generally meets the requirements, but there are opportunities for improving the quality of the space that could be considered for implementation.

- Review and improve the directional signage [Estimated Cost =\$2,000]

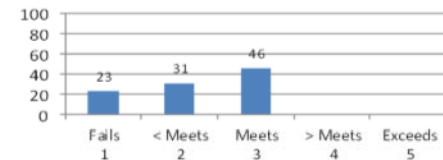
Table 3 – Functional Class Assessment Summary

Accessibility

A combined index providing a measure of building location and access to rooms within the building.

Combines individual functionality measures: Access (A), Location (Lo)

Weighted average score (GFA) = 2.22

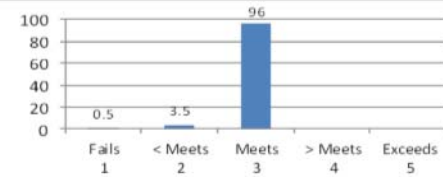


Features

A combined index providing a measure of the features that exist within the building.

Combines individual functionality measures: Amenities (Amenity)

Weighted average score (GFA) = 2.96



Quality of Space

Weighted average score (GFA) = 2.96



3.2 Functional GFA

Functional spaces have been determined as those that satisfy the following two criteria:

An average measure score equal or greater than 2.75 for all functional measures (excluding criticality); and

No single measure score is less than 2.



Functionality - Reporting

Common Themes

- Increasing need for flexible spaces
- Destination signage could be improved
- Learning spaces evolving into pod cast studios
- Users have learnt to live with inherited spaces
- A desire for more outdoor social/learning space
- Need more storage / archive space
- Floor /room referencing is confusing
- Room booking system not efficient



Revaluation

Purpose
Scope

Table 16 - Asset Valuation Summary

Valuation Output	2011
Replacement	
Replacement Value (Optimised Replacement Cost)	\$17,953,000
Cumulative Depreciation	\$7,272,000
Depreciated Replacement Value (Optimised Depreciated Replacement Cost)	\$10,681,000
Annual Depreciation	\$605,000
Insurance	
Replacement cost (June 2011)	\$17,953,000
Cost of site clearing (including demolition, debris removal and assoc. fees)	\$670,000
Compliance cost	\$500,000
Contingency (10% of Replacement Cost)	\$1,795,000
Cost increases during the policy period and duration until the damaged assets are reinstated (total 42 months)	\$2,206,000
Total estimated Reinstatement cost	\$23,124,000



Lessons Learned

Consultant Perspective

Liaison with users is a big job

Coordination of condition surveyors requires significant effort

Access into restricted spaces requires specific attention

Maintenance toolbox sessions are invaluable

Knowledgeable client has provided for a synergistic outcome