

# **Session 3B**

## **Auditing project risk**

***Presented by***

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City of Sydney



**Auditing Project Risk**  
**Barry Munns**  
**IIA Local Government Forum**  
**November 2017**

# Some questions...

- Project Management – what is it?
  - Where does it start?
  - When and where is the real work done?
  - Where does it end?
  - What does it relate to (IT, capital works and infrastructure, community services, other?)
  - How do we measure success or failure?
- Risk Management – what is it?
- Project Risk Management – what is it?
- How do we audit projects?

# Auditing Project Risk

## My definitions:

**Project** – an activity that has a start and an end, implemented for the achievement of pre-determined beneficial outcomes. Is (usually) inherently unique

**Project management** – the management of the execution of a project.

**Project governance** – the structure and arrangements for oversight, stewardship and care of a project, with ultimate decision-making and accountability for project progress (stage / work package delivery), cessation and success.

**Project management methodology** – a business process that is standardised and used to execute each unique project (in a tailored or modified form)

**Project control** – the project management methodology structures and arrangements that provide pre-emptive, preventative, detective and corrective outcomes to the project

**Project risk management** – should be based on and consistent with ISO31000. Relates to the management of the “effect of uncertainty on (project) objectives”.

**Project success (yippee!)** – achieving positive outcomes that were (a) predetermined or (b) unplanned and unknown / unexpected. Achieving the ‘best’ outcome (which could mean project termination).

**Project failure (Oh no!)** – a very interesting, moot concept... lets discuss : o )

**MegaProject** - a very large, complex, (usually) multi-year and multi-stage, high risk project that costs ‘lots’ of money (usually OPM)

# Auditing Project Risk

**From an Internal Audit perspective, project risk is the risk that all the structural elements of good project management are not undertaken.**

**And that is what we need to audit.**



# How do we audit public sector and community projects?

- All Audit programs should be risk based, therefore the project(s) subject to audit must be on the Enterprise Risk Register
- Have expectations that the projects will adopt 'best practice' (eg. Gateway, PMBOK, PRINCE2, ISO31000, ISO 21500:2012 etc.), then develop your Desirable Control Model on these authoritative documents and also corporate requirements (PMO manual, policies, community strategies etc.)
- Adopt a range of 'fit for purpose' tools and techniques to provide assurance such as.
  - Comparative analysis between:
    - ✓ best practice
    - ✓ required practice (policy and procedures), and;
    - ✓ actual practice
  - Audit observer status on project governance committee
  - Periodic 'injection' (milestone reviews)
  - Communication and liaison with all project stakeholders to get 'their truth'.
  - Financial / budget analysis
  - Technical assessments requiring SME (eg. engineers)
  - Critically analyse variations / deviations and exceptions
  - Assess the project structural arrangements not just the project progress itself
  - Qualitative assessment of 'the vibe'
  - Report frequently at important junctures – focus on the past as an indicator of the project's future
  - Remember who you are there for i.e. the Board / Council and the CEO / Executive
- Understanding the importance and impacts of change management risks being driven from projects and their impact on the audit plan. Be flexible and adaptable.

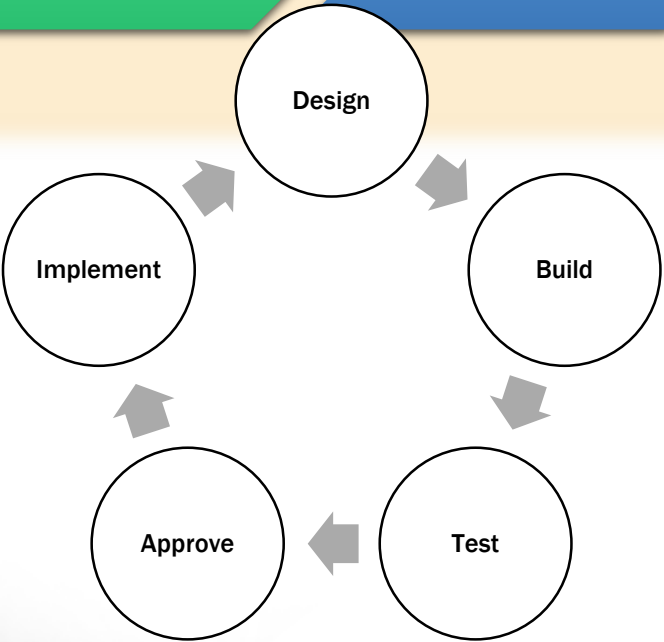
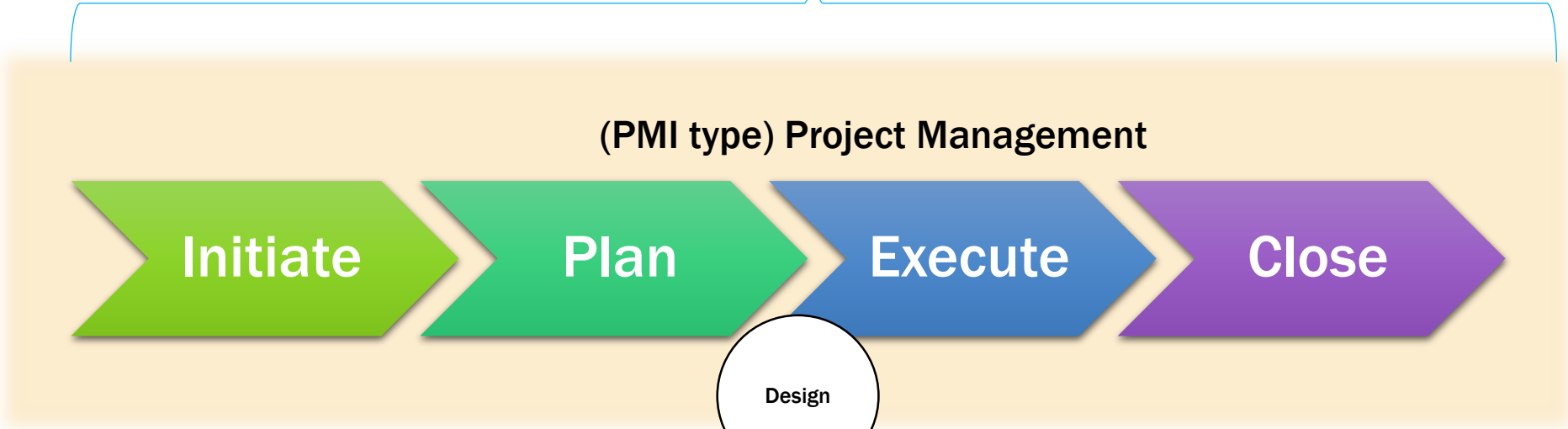
**What are these structural elements of good project management?**

# Project Lifecycle management

Pre-project



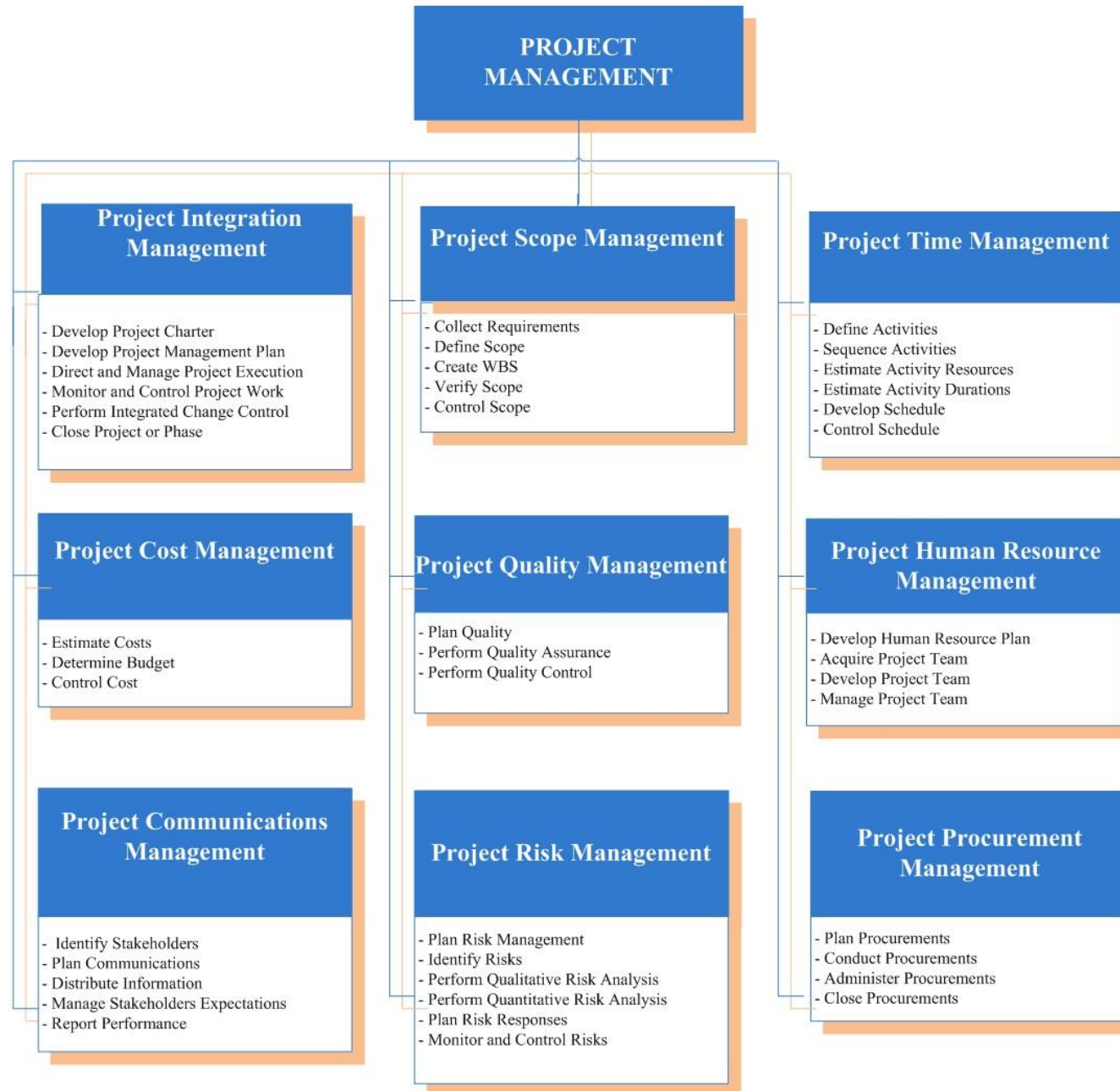
Project Governance  
(monitoring and controlling)



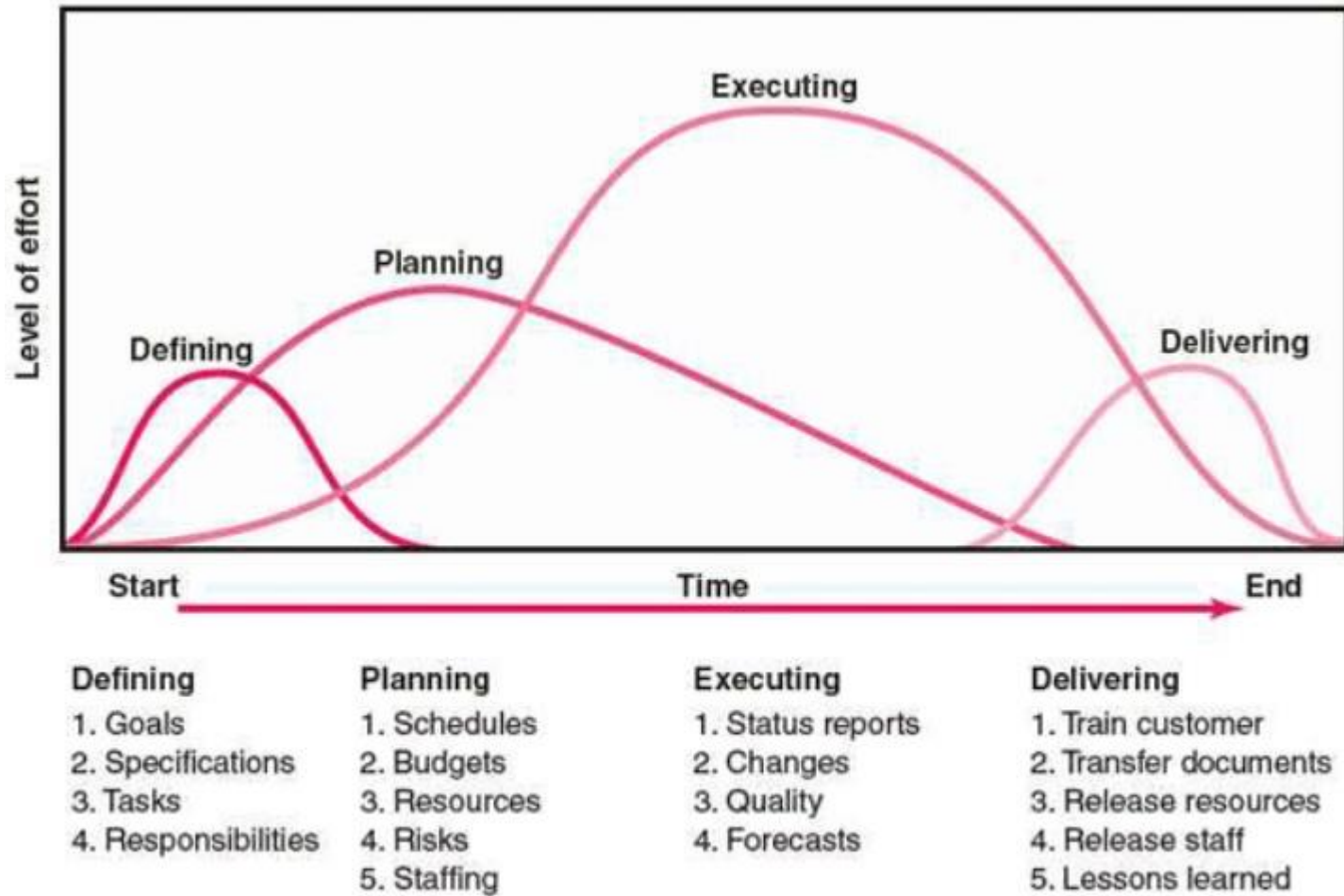
Post-project



# PMI's Project Management Body of Knowledge (PMBOK)



# Project Lifecycle



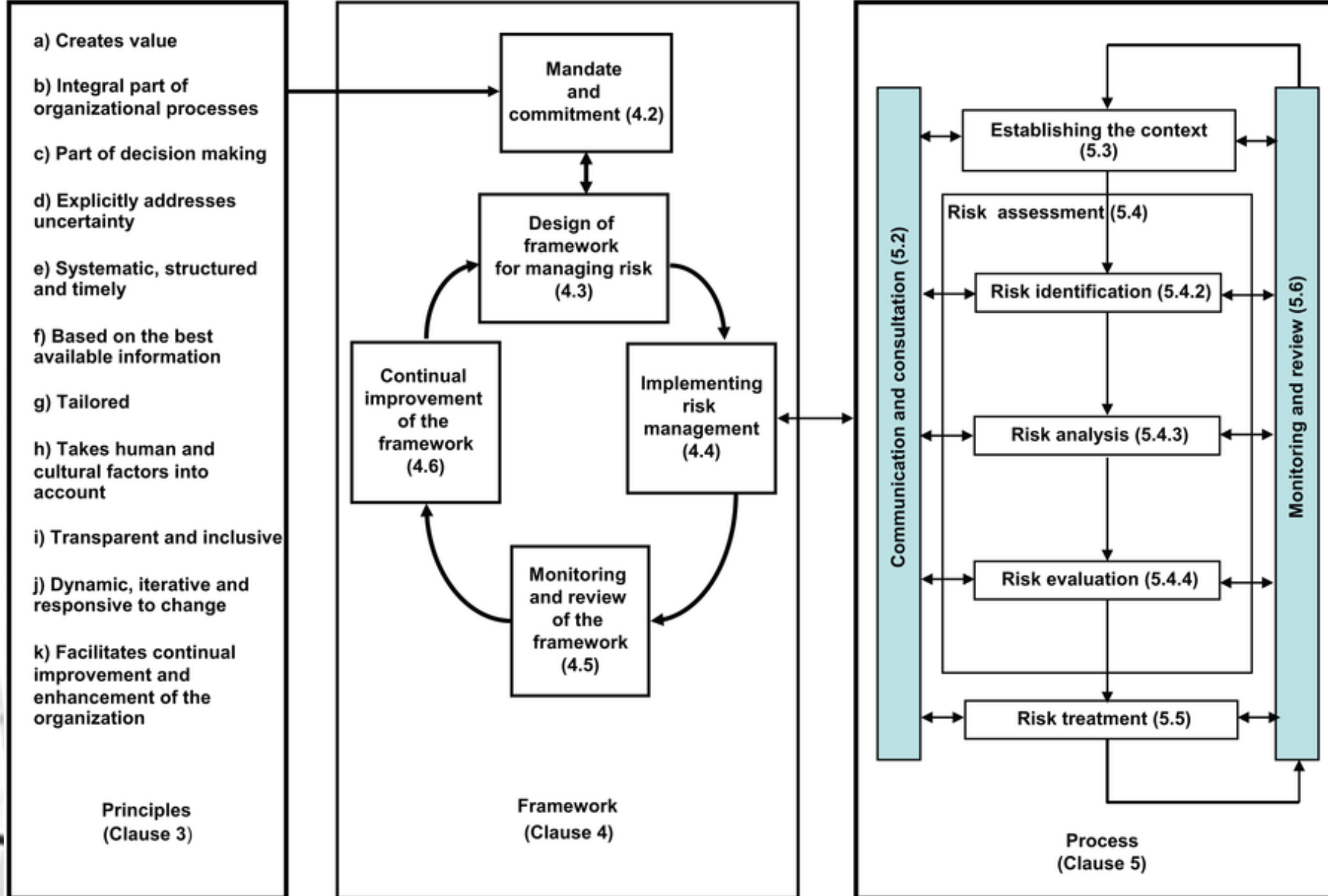
*Figure 1.1 Project Life Cycle*  
(Gray & Larson, 2006, p6)

## **Project Risk Management (as per ISO 31000)**

**Project risk management “...can help organizations increase the likelihood of achieving (project) objectives, improve the identification of opportunities and threats and effectively allocate and use resources for risk treatment.**

**Relates to the management of the “effect of uncertainty on (project) objectives”.**

# Risk Management – ISO31000



## Project risk treatments

- Reduce likelihood
- Reduce consequence
- Transfer project risk
- Accept project risk
- Avoid the project risk

## What is the Gateway review process?

**A team of external practitioners use their experience and expertise to provide Senior Responsible Owners of a program/project timely, independent and confidential advice at key decision points regarding progress and likelihood of delivery success.**

<http://www.dtf.vic.gov.au/Investment-Planning-and-Evaluation/Understanding-investment-planning-and-review/What-is-the-Gateway-review-process>

# Gateway

Gateway Reviews may be conducted for all types of procurement at any of the six key decision points (Gates) in the project lifecycle: strategic assessment, business case, procurement strategy, investment decision, readiness for service and benefits evaluation.

**Gateway Review 1** strategic assessment, assesses whether the proposed procurement project is the best value means of servicing the identified need and whether it aligns with government and relevant departmental or agency strategic plans.

**Gateway Review 2** Business case review assesses whether the project options have been fully canvassed and evaluated, whether the recommended option is the best value solution, and whether government should proceed with it.

**Gateway Review 3** Procurement strategy review aims to propose the optimum methods for delivering the project within budget and time constraints and to allocate risks to the parties best able to manage them. The procurement strategy review aims to confirm that the proposed project aligns with the business case and will deliver the service outcomes within the budget allocated.

**Gateway Review 4** Tender decision review assesses whether the business case is valid once costs are established. The review also assesses whether the investment decision process was conducted with due probity and fairness to tendering parties.

**Gateway Review 5** Readiness for service review assesses the state of readiness to commission the project and implement the change management required.

**Gateway Review 6** Benefits evaluation review assesses whether the benefits expected in the business case have been achieved. The review will ensure that post-completion and post-occupancy reviews are conducted and the findings communicated, to improve future projects.



**Table 3: Agency and case study project compliance with mandatory Gateway requirements**

Sponsor Agency	Project	Mandatory strategic or preliminary business case Gateway review			Mandatory final business case Gateway review				Mandatory post funding Gateway reviews
		Carried out	Satisfactory quality	Timely submission	Carried out	Before funding approval	Satisfactory quality	Timely submission	Undertaken when required
RMS	Great Western Highway-Woodford to Hazelbrook	N/A	N/A	N/A	No	N/A	N/A	N/A	No
	Pacific Highway Coffs Harbour to Woolgoolga	N/A	N/A	N/A	Yes	Yes	Yes	Yes	No
	Transport Access Program Commuter wharf upgrades	No	N/A	N/A	No	N/A	N/A	N/A	N/A
	Central Coast Highway Carlton Rd to Matcham Rd	N/A	N/A	N/A	No	N/A	N/A	N/A	N/A
	Old Wallgrove Rd	No	N/A	N/A	Yes	Yes	Yes	No	No
	Inner West Busway	N/A	N/A	N/A	No	N/A	N/A	N/A	N/A
	Schofields Rd Stage 2 Tallawong Rd to Veron Rd	No	N/A	N/A	Yes	Yes	Yes	No	No
	The Northern Rd Camden Valley Way to Peter Brock Drive	N/A	N/A	N/A	Yes	Yes	Yes	No	Yes
Health	Prince of Wales Hospital Cancer and Blood Disorder Centre	No	N/A	N/A	Yes	Yes	Yes	Yes	N/A
	Royal North Shore Hospital Clinical Services Building	No	N/A	N/A	Yes	No	Yes	Yes	No
	Wagga Wagga Base Hospital Stages 1 and 2 Redevelopment	N/A	N/A	N/A	Yes	No	No	Yes	No
	Royal North Shore Hospital Research and Education Building	N/A	N/A	N/A	Yes	Yes	Yes	Yes	N/A
	Liverpool Hospital Stage 2 Redevelopment	N/A	N/A	N/A	Yes	Yes	Yes	Yes	N/A
DPI	Elizabeth Macarthur Institute Biosecurity Upgrade	N/A	N/A	N/A	Yes	Yes	Yes	Yes	N/A
RailCorp Sydney Trains	Oatley Sutherland Signalling and Overhead Wiring	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TIDC Transport for NSW	South West Rail Link	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes
Venues NSW	Hunter Stadium Western Grandstand	N/A	N/A	N/A	Yes	No	No	Yes	N/A

Source: NSW Audit Office Table 3:Agency and case study project compliance with mandatory Gateway requirements.pdf.aspx - Last Modified 22 May 2015

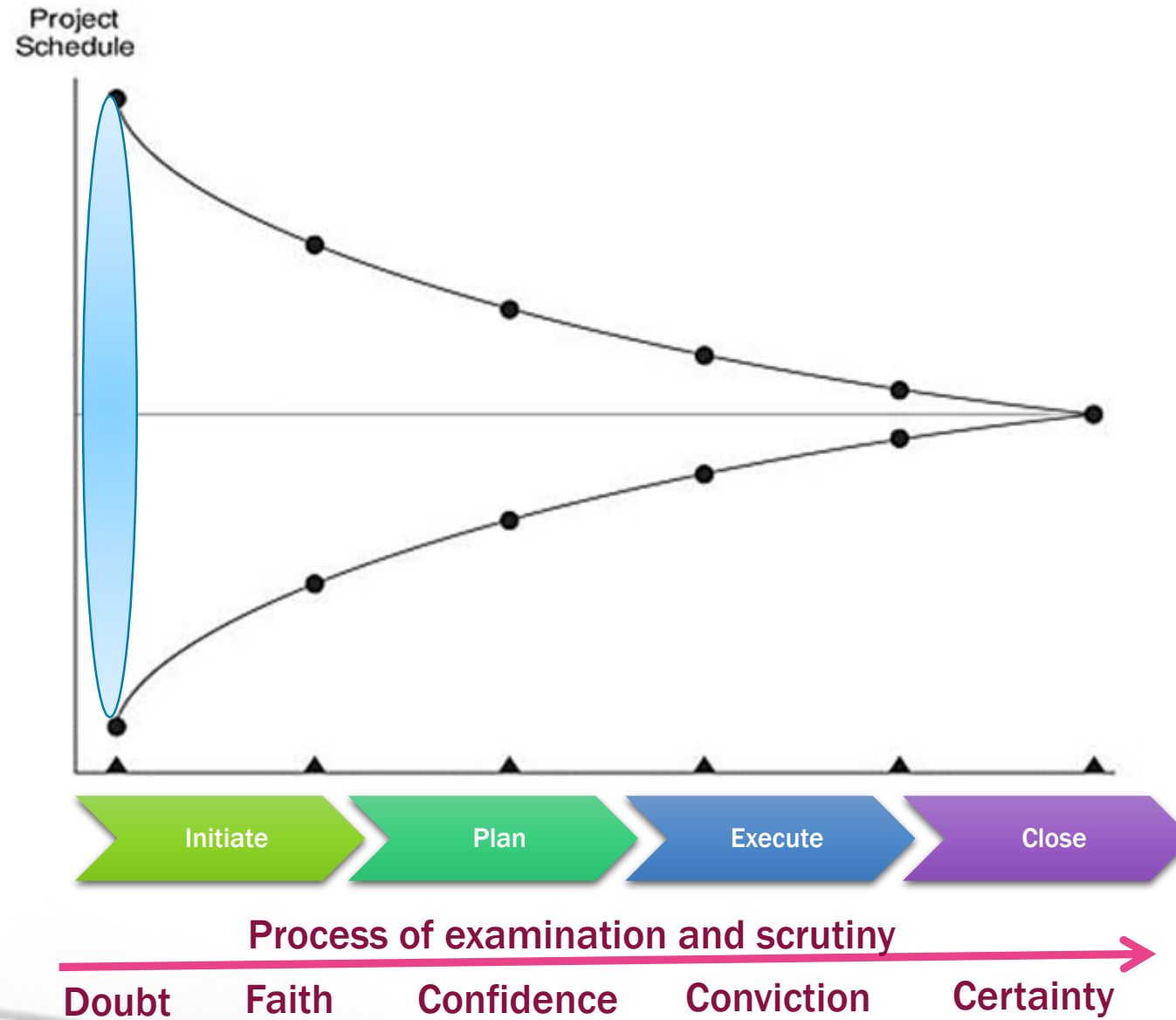
# Uncertainty risk in projects

**Project risk**... “effect of uncertainty on (project) objectives”.

**Uncertainty** (or lack of certainty) is a state or condition that involves a deficiency of information and leads to inadequate or incomplete knowledge or understanding.

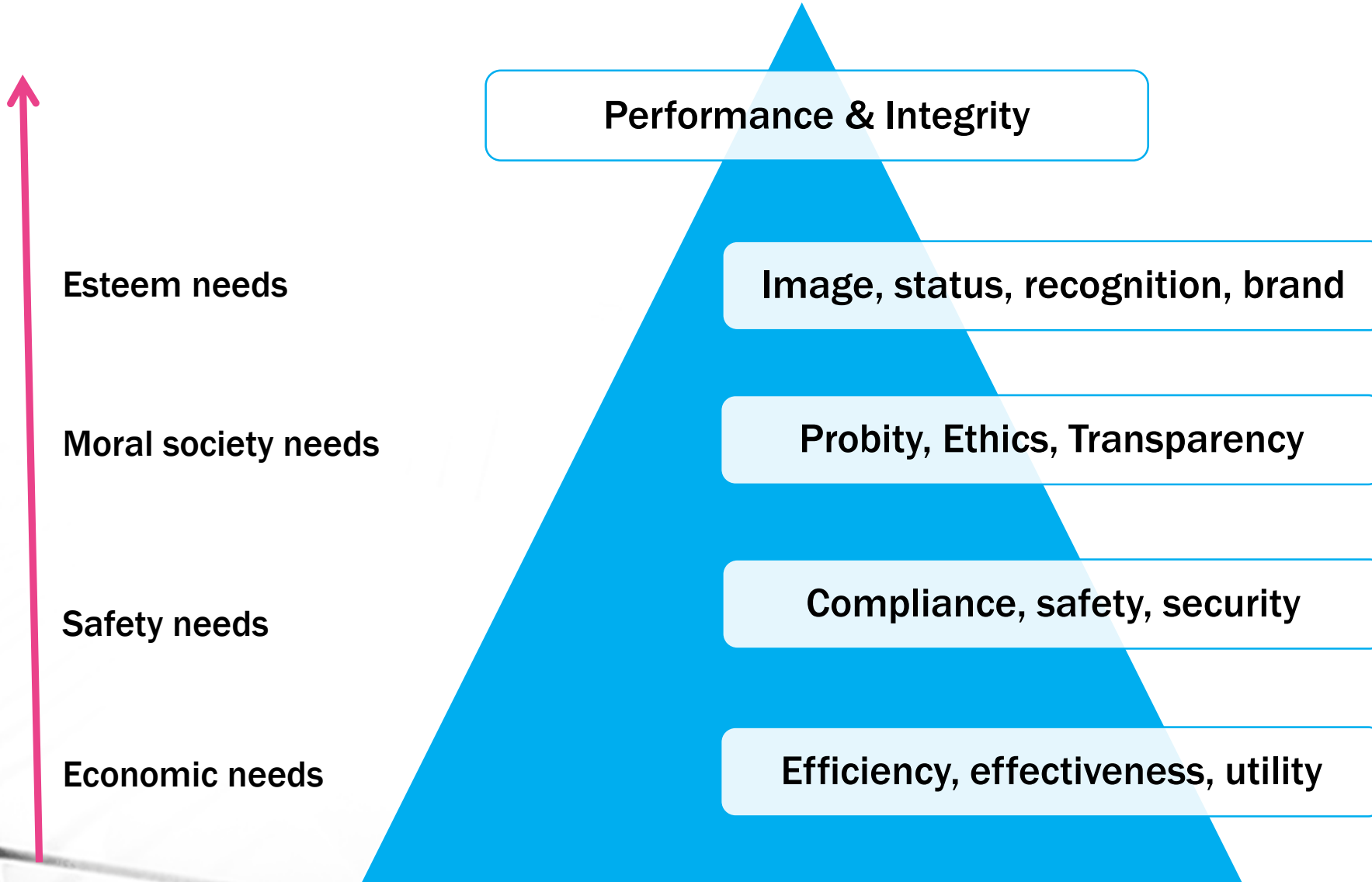
In the context of (project) risk management, uncertainty exists whenever the knowledge or understanding of an event, consequence, or likelihood is inadequate or incomplete.

# Cone of Uncertainty



# Barry's "PYRAMID OF PERFORMANCE and INTEGRITY"

(A corporate version of Maslow's Hierarchy of Needs Self-Actualisation)



# How do you measure Project Success or Failure?

## Quantitative

- Time
- Cost
- Quality
- Scope
- Performance (efficiency, effectiveness, economy, cost benefit)

## Qualitative

- Benefit - who benefits, what, when, where and how
- Utility (usefulness) and marginal utility
- Probity – ensuring the decision making process is transparent
- Compliance – ensuring all relevant statutory processes and requirements are met
- Strategic alignment - ensuring public benefits align with and do not undermine planning priorities
- Financial - ensuring negotiated outcomes provide good value for money
- Delivery outcomes – ensuring public benefits are delivered
- Acceptance



# How do you measure Project Success or Failure?

## A nomenclature of success or failure

### Resolution Type 1, or project success.

The project is completed on time and on budget, offering all features and functions as initially specified.

### Resolution Type 2, or project challenged.

The project is completed and operational but over budget and over the time estimate, and offers fewer features and functions than originally specified.

### Resolution Type 3, or project impaired.

The project is cancelled at some point during the development cycle.



“The rise and fall of the Chaos report figures” ref. <http://ieeexplore.ieee.org/document/5232804/>



# Classic reasons for project failure?

Figure 2: Ranking of Classic Mistakes

Classic Mistakes (descending order of occurrence)	Category	No. of Projects	% of Projects
1. Poor estimation and/or scheduling	Process	51	54%
2. Ineffective stakeholder management	People	48	51%
3. Insufficient risk management	Process	45	47%
4. Insufficient planning	Process	37	39%
5. Shortchanged quality assurance	Process	35	37%
6. Weak personnel and/or team issues	People	35	37%
7. Insufficient project sponsorship	People	34	36%
8. Poor requirements determination	Process	29	31%
9. Inattention to politics	People	28	29%
10. Lack of user involvement	People	28	29%
11. Unrealistic expectations	People	26	27%
12. Undermined motivation	People	25	26%
13. Contractor failure	Process	23	24%
14. Scope creep	Product	22	23%
15. Wishful thinking	People	18	19%
16. Research-oriented development	Product	17	18%
17. Insufficient management controls	Process	16	17%
18. Friction between developers & customers	People	15	16%
19. Wasted time in the fuzzy front end	Process	14	15%
20. Code-like-hell programming	Process	13	14%

Source: IT Project Management: Infamous Failures, Classic Mistakes, and Best Practices, R. Ryan Nelson, University of Virginia, 2007 University of Minnesota MIS Quarterly Executive Vol. 6 No. 2 / June 2007

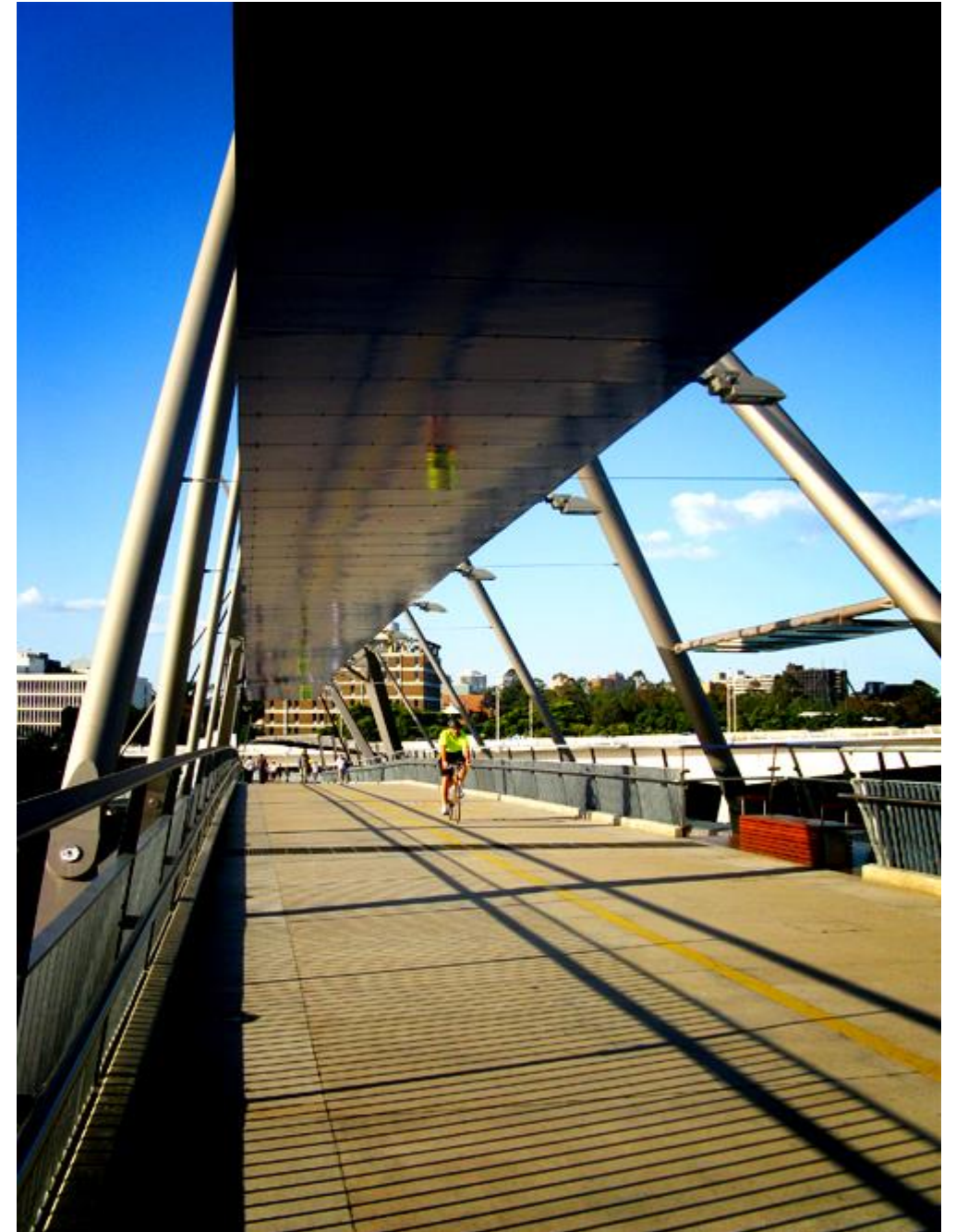
Some 'real world' project examples...

# The Goodwill Bridge, Brisbane Queensland

...is a pedestrian and cyclist bridge which spans the Brisbane River in Brisbane, Queensland, Australia. The bridge connects the South Bank Parklands in South Brisbane to Gardens Point in the Brisbane CBD.

The Goodwill Bridge was opened on 21 October 2001 and takes its name from the Goodwill Games, which were held in Brisbane that year. The bridge does not carry any motorised traffic — it is shared by pedestrians, cyclists and inline skaters.

Two main components of The Goodwill Bridge are the pavilion and the arch. The pavilion is located in the middle of the Brisbane River between the arch and the city approach. It is a fundamental component of the pedestrian and cycle bridge and supports one end of the arch. The arch is 102 metres (335 feet) in length, 10 metres (33 feet) wide and 15 metres (49 feet) high and weighs 360 long tons (403 short tons).





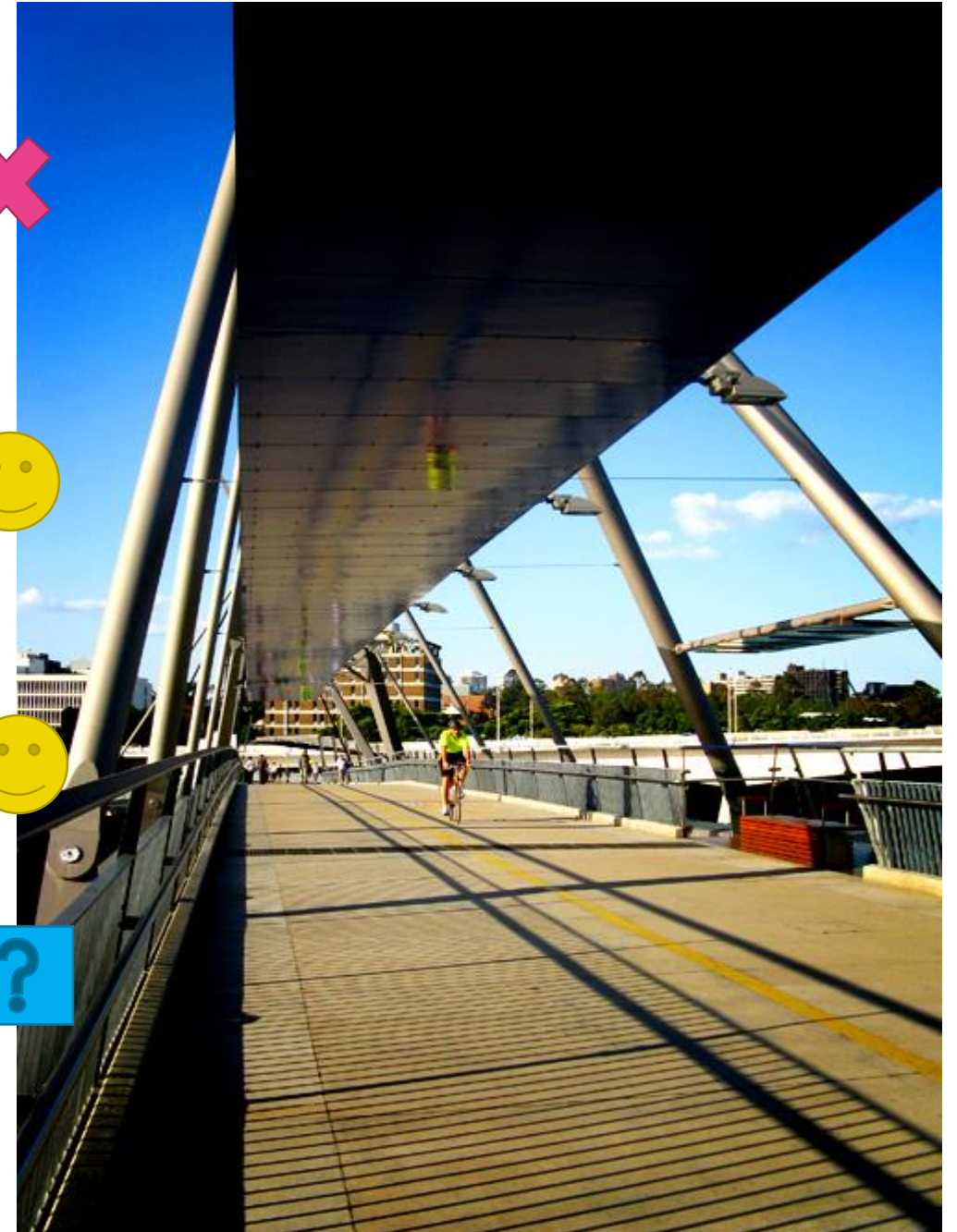
# Was this a successful project?

**Financial:** The Goodwill Bridge, between QUT Gardens Point and South Brisbane, cost \$33 million when unveiled by former Premier Peter Beattie in 2001. Its projected cost was \$13 million.

**Operational:** Over 40,000 pedestrians and cyclists utilise the bridge each week and it is clearly established as a major access point between South Bank and the city. Spanning the Brisbane River between the southern end of South Bank Parklands and the CBD via the Queensland University of Technology campus, the bridge provides a vital link for pedestrians and cyclists, especially since the closest train station to QUT is in South Bank.

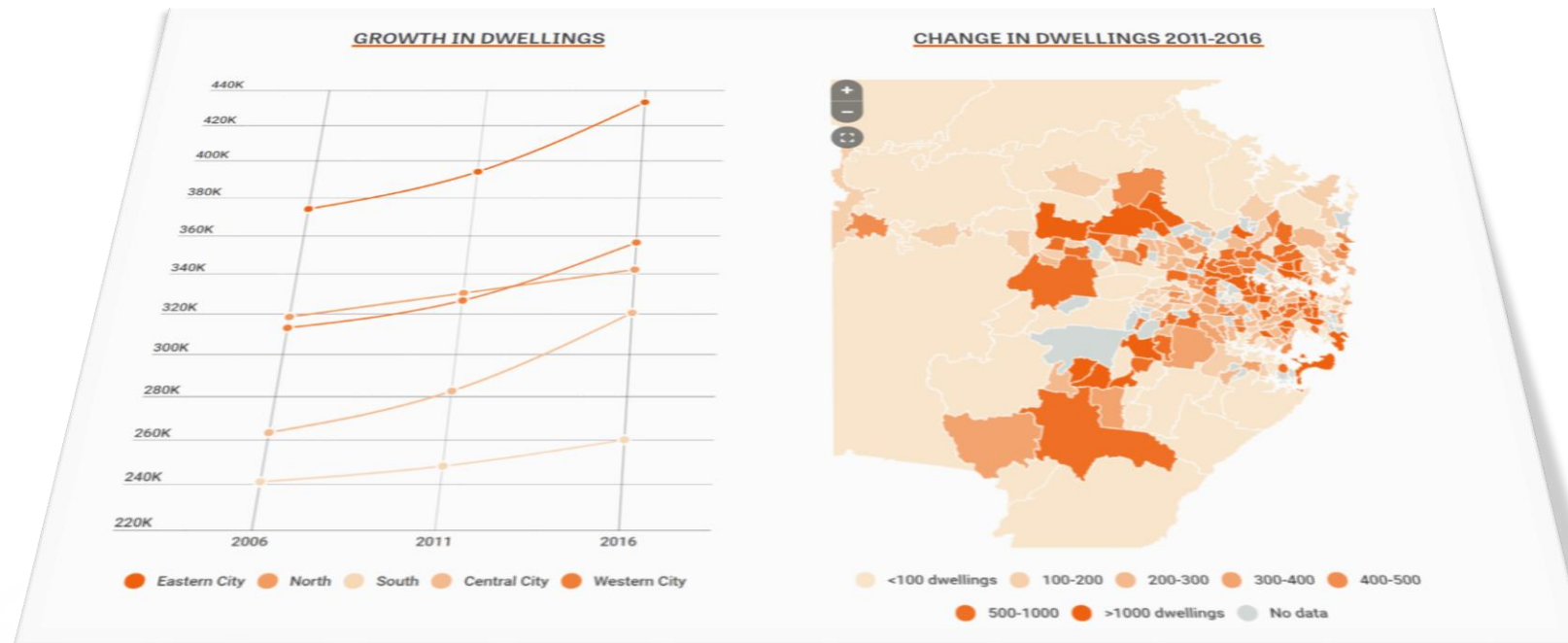
**Community health:** The bridge is also popular amongst those who like to maintain fitness, providing a link for a continuous run, cycle, and walk.

**Acceptance:** The architectural design has received mixed reviews; many people see it as a work of art, while others consider it a monstrosity. This is likely due to its unconventional form; for instance, the bridge is entirely asymmetrical, and does not appear to follow any particular scheme with regards to placement of features.



## Strategic planning

Strategic Planning is about designing Sydney's long-term future with a 20-year plan and a 40-year vision. The [Greater Sydney Region Plan](#) is the draft 40-year vision underpinning each of the [draft District Plans](#). Our planning will make Greater Sydney more liveable, productive and sustainable for future generations.





# Growth targets for shire

## Government sets new targets for housing and employment

BY JIM GAINSFORD

THE Greater Sydney Commission had outlined its vision for growth in housing and jobs over the next 20 years for Sutherland Shire.

The commission includes the shire in the "South District" of Sydney alongside Georges River and Canterbury-Bankstown councils.

According to the Greater Sydney Commission, the South District's population will grow by 294,100 people by 2036 bringing it to 945,350. This will account for 12 per cent of Greater Sydney's total of 1,740,400 by 2036.

The Greater Sydney Regional Plan sets the South District's 20-year strategic housing target at 83,500 dwellings, equating to an av-

erage annual supply of 4,175 dwellings, or one in nine of all new houses in Greater Sydney over 20 years. The district will have to accommodate 12 per cent of total new housing of 725,000 to 2036.

Under the plan, Miranda and Sutherland have been identified as strategic centres.

Miranda had an estimated existing job base of 7000 jobs in 2016. The draft South District plan aims to increase that to a total of 8000 to 11,500 jobs by 2036.

Sutherland had an estimated 5,700 existing jobs in 2016. The plan aims to increase this to between 8000 to 9000 jobs by 2036.

The Commission has set a housing targets over the next five years of 5200 for Sutherland

Shire, 4000 for Georges River and 13,350 for Canterbury-Bankstown.

But Sutherland Shire mayor Carmelo Pesce said the council would seek to clarify the 5200 housing target with the department.

"What is not clear is if this 5200 figure is on top of what we have already done or whether it will include what we have provided," Cr Pesce said.

"We have already met our target. Do they want us to deliver another 5200 on top of that?"

"Sutherland Shire has escaped the bulk and growth required of the rest of Sydney [in the plan]. We have the lowest numbers. It's very good for us," he said.

CONTINUED PAGE 2

## NEWS

### MORE JOBS AND HOUSING COMING

FROM PAGE 1

"We have the lowest numbers across Sydney. It's very good for us," he said.

But Cr Pesce warned that councils had been taken out of the decision-making process.

"Many in the community do not understand that these targets are a directive from the state government. We can't stop them.

"To make sure this happens they have taken away our power over development applications."

Cr Pesce said the Collaboration Area based around ANSTO will deliver a centre that is a specific site for innovation and science.

To provide better transport connections for people in the South District with other districts there will be investigation into train improvements on the

Illawarra rail line to improve capacity and reliability.

Planned upgrades on Alford's Point Road will address congestion.

Also investigated will be new mass transit linking the eastern suburbs with Miranda via Kogarah.

Cr Pesce said the important item for the shire will be the F6 which will end the bottleneck at Kirrawee.

To meet the job targets the council will have to

protect the industrial precincts from rezoning and attract government offices to Sutherland.

Housing affordability could be achieved with "more compact housing, either on smaller land lots or through smaller apartments of clever design to support moderate income households," the plan states.

The South District plan can be viewed at [www.greater-sydney](http://www.greater-sydney)



Focus: ANSTO's Lucas Heights campus will be the centre of a new innovation precinct under the draft South District Plan.

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"We have already met our target. Do they want us to deliver another 5200 on top of that?"





# Multi-function polis is given the green light

ADELAIDE: Adelaide's multi-function polis was given the official go-ahead yesterday with the Federal Government pledging \$12.275 million over the next three years to kick-start the controversial, futuristic project.

The Premier of South Australia, John Bannon, and the federal Minister for Industry, Technology and Commerce, John Button, signed an agreement in Adelaide which cleared some uncertainties for potential foreign investors but apparently failed to satisfy diehard critics.

"There were a lot of impatient people out there waiting to see whether the [Federal Government] commitment is to be made so they can then define what sort of involvement they will have," Mr Bannon told a press conference.

Yesterday's move came four years after the project was first mooted and about 12 months after Adelaide was chosen as the host city.

Under the deal, the Federal Government will spend \$5.5 million to help set up a MFP development corporation. It will also fund a marketing campaign for overseas investment and has decided to set up its new Commonwealth Environmental Protection Agency centre in the MFP.

The formal announcement had been scheduled originally for next month, but

able. The signing of the agreement was iced with the release of the findings of a Federal Government-appointed public consultation panel which said that after a year of hearings it was convinced that the community broadly backed the MFP.

Opponents of the project have accused the panel of not consulting the community properly.

Yesterday's press conference was briefly interrupted at its conclusion by Australian Democrats' environment spokesman John Coulter, who described the panel's work as "a farce" which had not reflected widespread opposition.

However, his protest was brushed aside by both the Premier and Senator Button. Instead, they voiced optimism that foreign investors could now prepare concrete proposals for the project even though Canberra remains uncommitted on a call by the South Australian Government that tax incentives be put in place to attract overseas interest.

Mr Bannon has repeatedly suggested that the incentives, also mooted for the Very Fast Train project between Sydney and Melbourne, be extended to all major national infrastructure developments including the MFP as an investment catalyst.

The Multifunction Polis (MFP) was a controversial scheme for a planned community in Australia proposed in 1987 and abandoned in 1998. From the Greek word "polis", meaning "city", it was imagined as a place where work and leisure, lifetime education and intercultural exchange, research and manufacturing would be uniquely integrated.

A concept paper produced by MITI a month later said the Multifunction Polis would "become a forum for international exchange in the region and a model for new industries and new lifestyles looking ahead to the twenty-first century." More than 100 Australian and Japanese companies signed up to the MFP Joint Feasibility Study.


The MFP was intended to have an initial population of 100,000, though some modelling was done on the assumption of a population up to 250,000. Futuristic infrastructure and modern communications were expected to help attract high-tech industries. Asian investors were targeted as an important source of funds, with an emphasis on Japanese investors.

Site proposals were received from New South Wales, Victoria, Queensland, South Australia, Western Australia and the A.C.T. In 1990 the MFP Joint Steering Committee (whose co-chairman was ANZ Bank chief executive Will Bailey) initially awarded the project to the Gold Coast in Queensland, but after the state's premier Wayne Goss declined to consolidate the land under a public corporation the Joint Steering Committee switched its choice to Gillman, near Adelaide in South Australia.

The MFP never eventuated.



“...derelict relic...transformed into a world-class technology hub...to create a ‘Silicone Harbour’ innovation centre.”



**BRADFIELD ORATION 2015**

**IT'S THE DAWN OF A NEW BAY**

IT was the engine room of Sydney's great industrial age, and now the derelict relic of the inner-west foreshore will be transformed into a world-class technology hub under a radical plan by Premier Mike Baird to create a "Silicone Harbour" innovation centre. | **NIGHT OF BIG IDEAS DRAWS THE BIG NAMES** | **PHOTO SPECIAL: WHITE BAY POWER STATION** | **OUR BRADFIELD SCHOLARSHIP WINNER** | **MIKE BAIRD'S SPEECH**

The image is a promotional graphic for the Bradfield Oration 2015. It features a large aerial photograph of the Sydney Harbour Bridge and the surrounding area. A red overlay is placed over the area between the bridge and the city, indicating the proposed development site. The text "BRADFIELD ORATION 2015" is at the top, and "IT'S THE DAWN OF A NEW BAY" is in a large, bold font in the center. Below this, a paragraph describes the plan to transform the derelict relic of the inner-west foreshore into a world-class technology hub. The text is followed by a list of featured topics: "NIGHT OF BIG IDEAS DRAWS THE BIG NAMES", "PHOTO SPECIAL: WHITE BAY POWER STATION", "OUR BRADFIELD SCHOLARSHIP WINNER", and "MIKE BAIRD'S SPEECH". There are also three inset images: a modern building, a street scene, and a building interior.



or





# Sydney Opera House

1957: The Danish architect Jørn Utzon won the architecture competition set out by the New South Wales government for the new building

1959: Construction started. The project was scheduled for four years, with a budget of AUS \$7 million.

It ended up taking 14 years to be completed and cost AUS \$102 million.

That cost blowout, of 1,400%, makes Sydney's Opera House the most expensive cost blowout in the history of megaprojects around the world, according to Danish economic geographer Bent Flyvbjerg



# Sydney Opera House

“... at the beginning of any project goals and objectives have to be clearly defined by the client to provide a guideline for what the project must complete.

There are three main factors: time, cost, and quality.

In the case of the Sydney Opera House the last one (quality) was the most important, as it was an almost unrestricted goal of the project and the reason why it was launched.

No indications regarding time or cost limits were either provided for the competition. Thus, the architects were allowed total freedom in their designs.”

Source: <http://www.eoi.es/blogs/cristinagarcia-choa/2012/01/14/the-sidney-opera-house-construction-a-case-of-project-management-failure/>

So it totally met project objectives and was an outstanding success!





**Thanks!**

