

MAG Symposium 2024
Supporting Good Design
Benefits of the Design Review Process

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CPD Construction Division at a Glance

140 Staff:

- Architectural
- Quantity Surveying
- Civil Engineering
- Geotechnical Engineering
- Electrical Engineering
- Mechanical Engineering
- Structural Engineering
- Client Advisory
- Project Management
- Procurement
- Clerk of Works
- Graduate Trainees
- Year Out Students

Feasibility

Bus. Case

Design

Procurement

Construction

In -use

Portfolio of 1000 projects with a value circa £1.5bn

- Offices
- Prisons
- Police stations
- Colleges
- Courthouses
- Museums
- Harbours
- Laboratories
- Rivers
- Forest parks
- Business parks
- Historic Estate

▶ What does CPD Construction Division do?

- Independent advice and professional services to Departments, Agencies and NDPBs in relation to construction projects and programmes
- Services over the whole procurement lifecycle (initial definition to final account)
- Centre of Procurement Expertise (CoPE) for construction



Lagan Footbridge, Belfast



Jubilee House, Ballykelly



What does CPD Construction Division do?

Portfolio of Programmes and Projects - circa £1bn

- **Capital Projects:** Project management, design, procurement, commercial and contract management services
- **Grant Funded Projects:** Advice and assurance to grant funders and support to grant recipients
- **Grant Funded Advisory:** Social Housing and Schools Delivery Programme
- **Collaborative Arrangements:** Establishes a variety of framework arrangements for use across the wider public sector



South West College, Erne Campus



Portrush Public Realm



What does CPD Construction Division do?

Grant Funded Projects:

CPD provides advice & assurance to funding departments and support to councils on City and Growth Deals

- **Belfast Region City Deal (BRCD)**
- **Derry City & Strabane City Deal (DSCDC)**
- **Causeway Coast & Glens Growth Deal (CCG)**
- **Mid South West Growth Deal (MSW)**

▶ Context

**No project is an island..
...context is crucial!**

**What environment is your
project being born into?**





Context

Industry challenges

- Low profit margins in construction
- Contractor Insolvencies (4300 in 23/24)
- Material prices
- Shortage of labour
- Low fee bidding
- Inappropriate Transfer of Risk
- Unrealistic budgets
- Unrealistic programmes

Year	Pre-tax profit (loss)	Turnover
2016	(£246m)	£2.5bn
2017	(£67m)	£3.2bn
2018	(£44m)	£2.9bn
2019	£33m	£2.8bn
2020	£46m	£2.5bn
2021	£41m	£2.6bn
2022	£2.7m	£3.1bn
2023	(£288m)	£3.6bn
2024	£18m	£4.3bn



Context

Fiscal challenges

- UK govt. debt = 100% of GDP or £2.7tn (Aug 2024)
- £22bn black hole in public finances?
- Public services
 - Health
 - Education
 - Others
- NI Executive: 'must live within means'

Reeves: 'There's not a huge amount of money'



Major Capital Projects – track record?

NIAO report (2024)

- **Cost overruns on 11 major projects totalled £1.94bn**
- **Average delay on each project was 6 years**

Public Accounts Committee (2020)

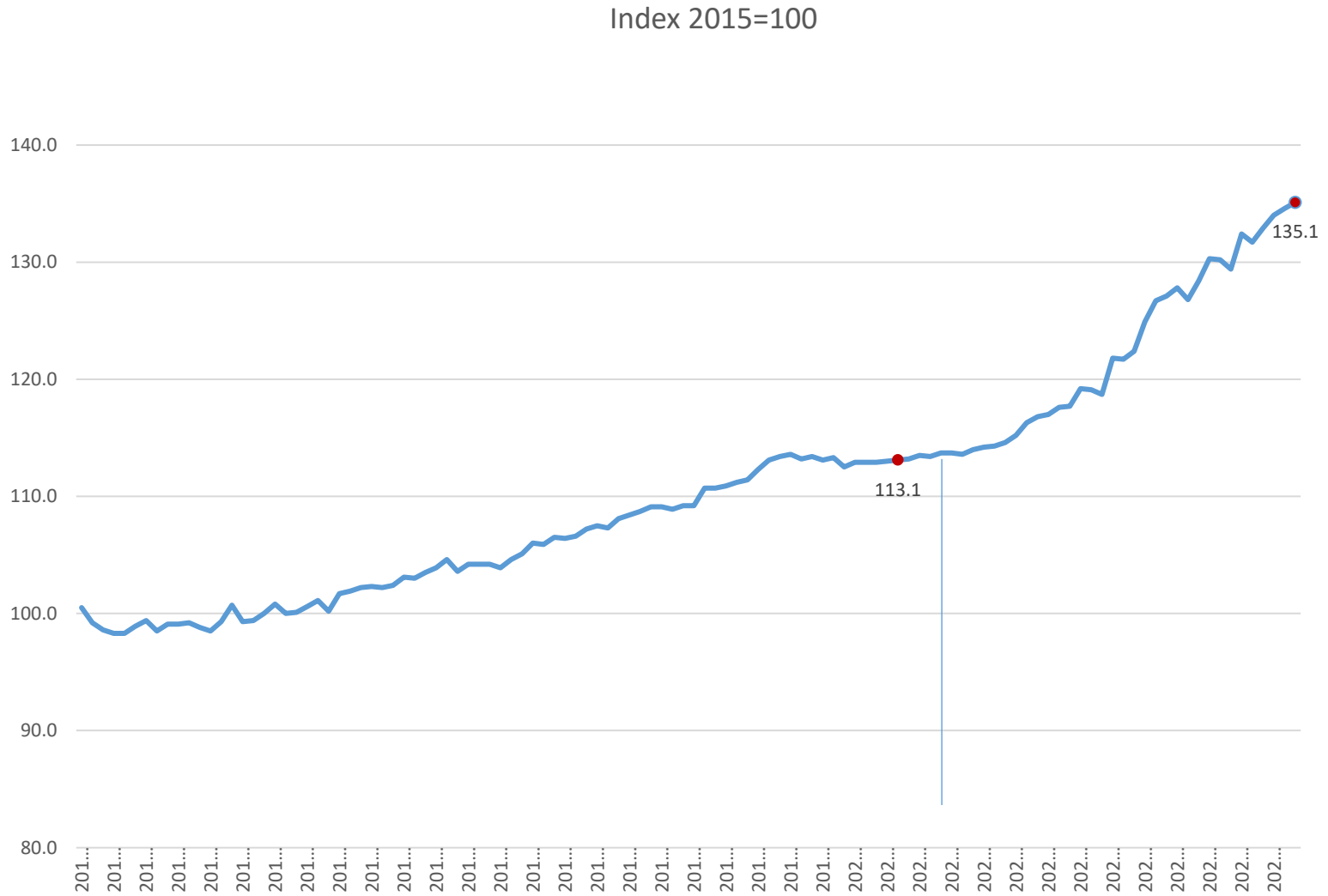
- **Need for greater professionalism of staff in senior roles**
- **More engagement with planners**
- **Better community engagement**
- **Reducing impact of Judicial Reviews (minimal cost to lodge but huge time/cost impact)**





Context

Death and Taxes....and Inflation





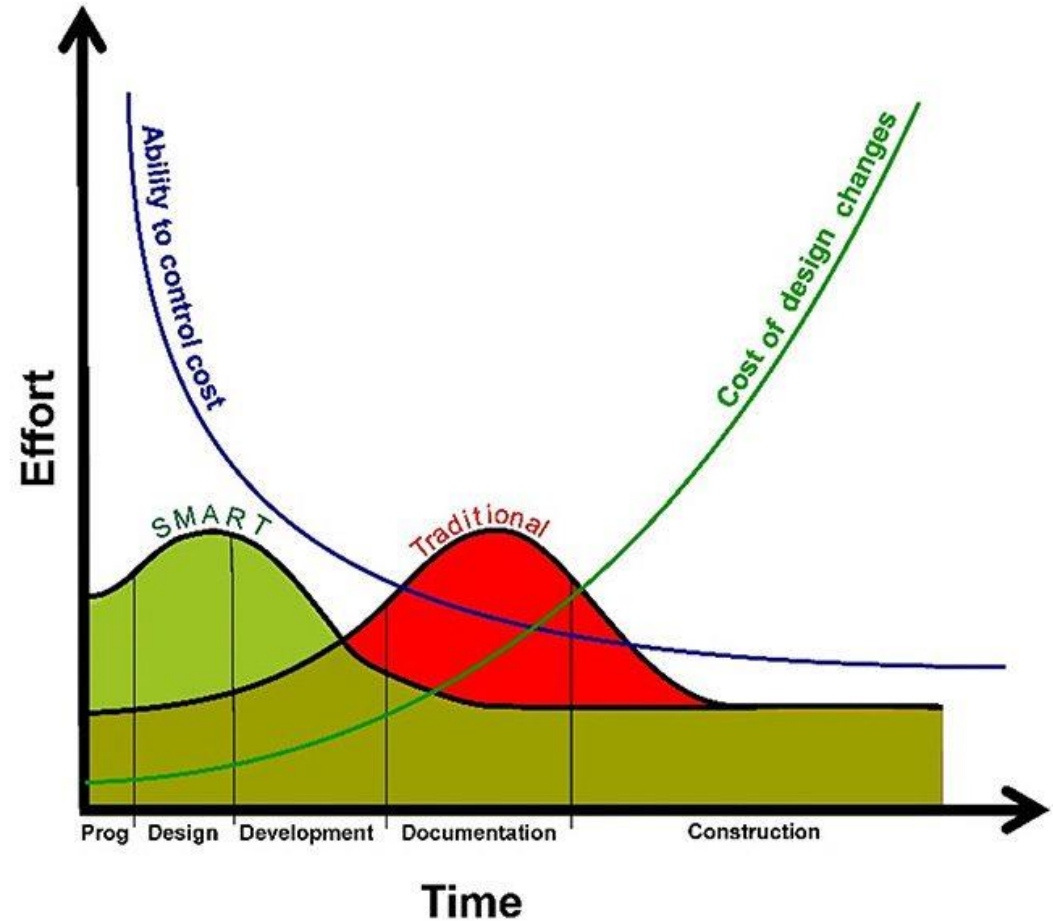
Establishing the Brief

Think hard and early about your desired outcomes:

Get professional help in establishing the brief for the design team

(from the relevant CoPE for your project)

Timeliness of effort is key to success...





Establishing the Brief

Centres of Procurement Expertise (CoPEs):

- Construction & Procurement Delivery (CPD)
- DoH Health Estates
- Education Authority
- NI Housing Executive
- NI Water
- Translink
- DfI Transport & Roads Asset Management (TRAM)
- BSO PaLS (Procurement & Logistics Service)



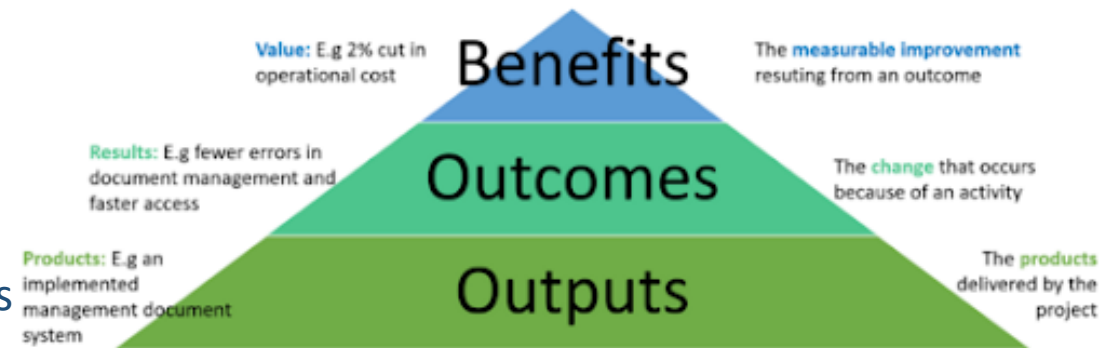
Establishing the Brief

Project Outcomes

- Clarity around benefits (are these realistic?)
- Alignment of benefits with corporate objectives
- Benefit realisation – how will this be measured

Sustainability Outcomes

- Net Zero Carbon targets (operational, embodied)
- Certification (BREEAM, Passivehouse)
- ESG criteria (environmental, social, governance)





Establishing the Brief

Quality Aspirations

- Appropriate to the project
- Build quality (traditional versus MMC)
- Is modular construction/standardisation appropriate?

Spatial requirements

- Is building actually needed?
- If so, how much space is actually needed?
- + planned expansion (realistic)
- Resist scope creep
- Refurbishment vs. newbuild?
- Brownfield/Greenfield

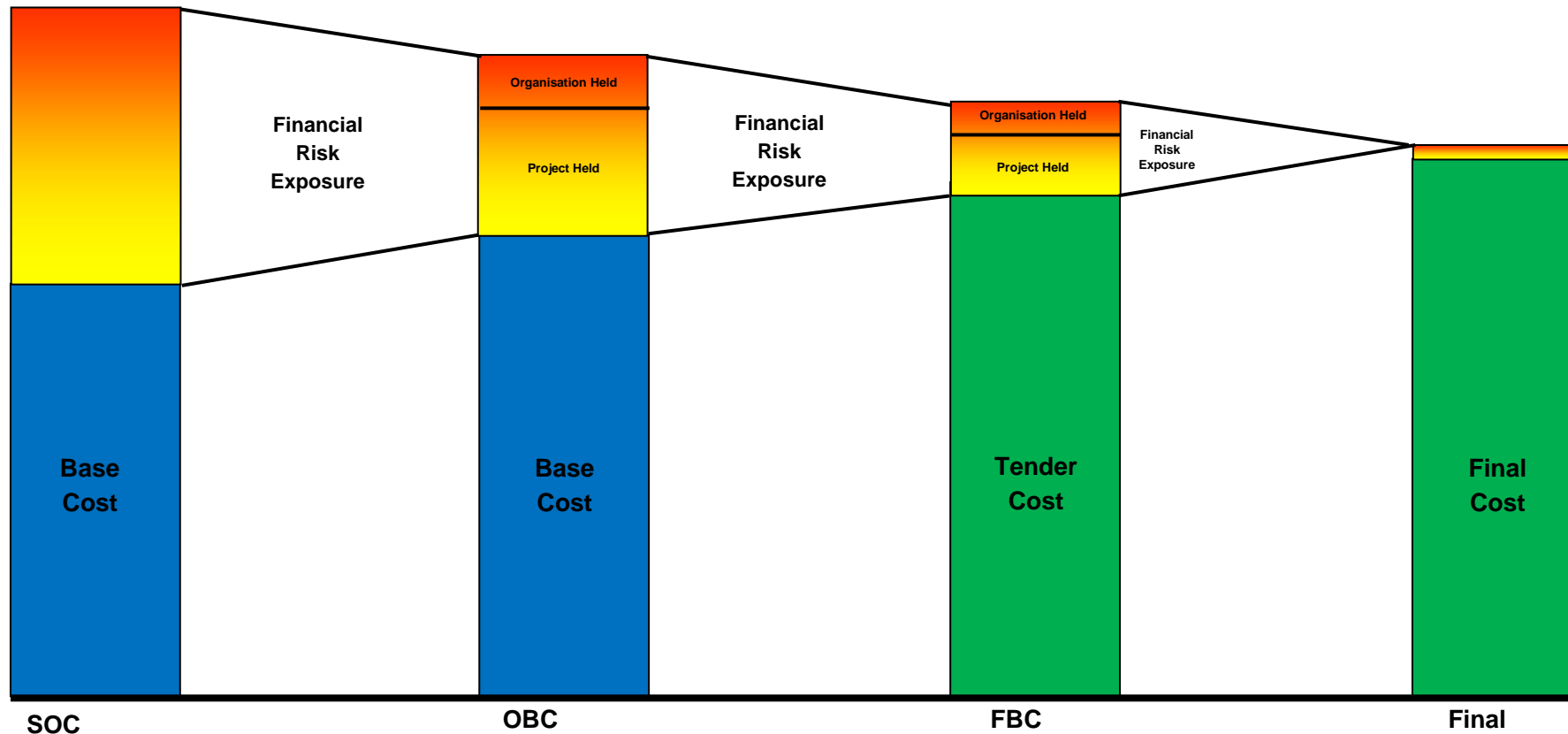




Budget

Set the correct budget for the project

- Realistic (including benchmarking and scrutiny of estimates)
- Adequate allowance for Risk & OB
- Beware consultants 'low-balling' costs in order to secure funding
- Estimates to mid-point of construction period
- Review estimates/risk profile at each decision point





Budget

Benchmarking

- Against previous projects of your own, your peers and best practice
- (Did contractor make a reasonable profit on these?)

Due Diligence

- Scrutinise your own estimates and plans
- Know how likely estimated costs, benefits and programmes are actually to materialise
- Explore project viability in different scenarios





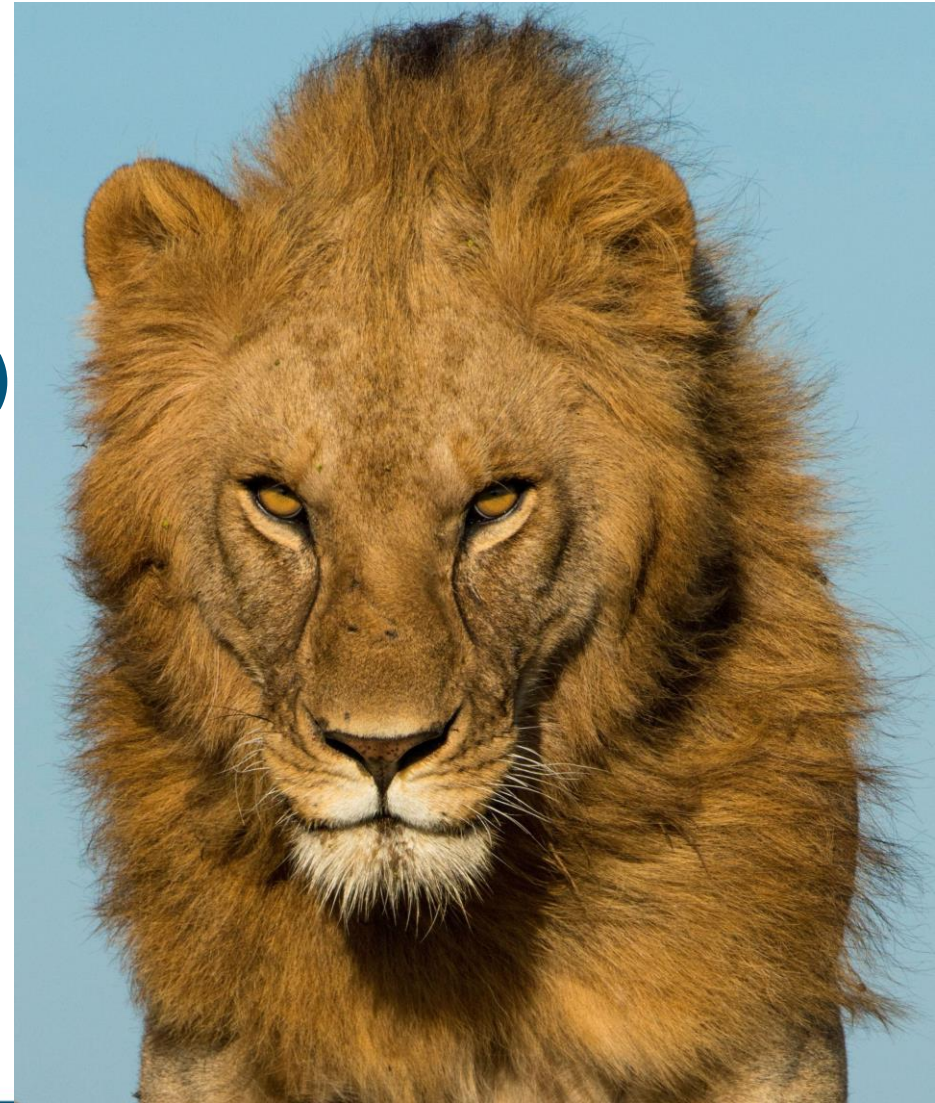
...neither does inflation!



Budget

Inflation...feeds on anything that causes delay...

- **Poor planning/briefing**
- **Scope creep**
- **Over-specification**
- **Unrealistic budgets (inadequate Risk/OB)**
- **Inadequate social licence**
- **Weak business cases**
- **Delays in decision making/approvals**
- **Legal challenges**
- **Poor Governance**

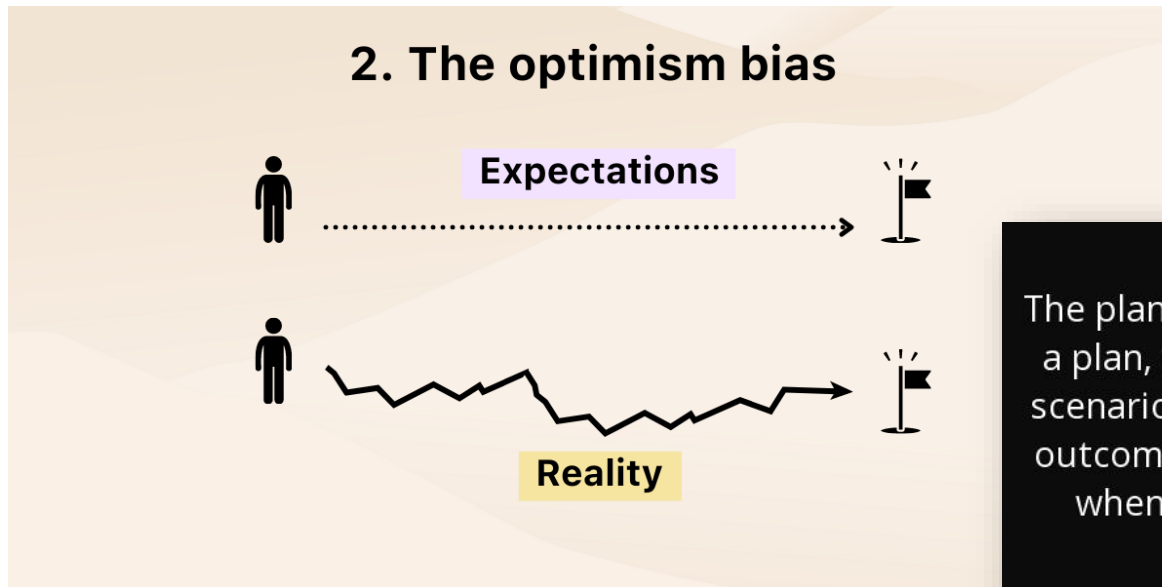




Budget

Optimism bias:

- The systemic tendency for people to be overly optimistic about the outcome of planned actions
- This includes underestimating costs, completion times, and risks of planned decisions and overestimating the benefits of same decisions



The planning fallacy is that you make a plan, which is usually a best-case scenario. Then you assume that the outcome will follow your plan, even when you should know better.

— Daniel Kahneman —

Underestimation + Overestimation = **Planning Fallacy**



Budget

Strategic Misrepresentation:

The planned, systematic distortion or misstatement of fact in response to incentives in the budget process

- A strategic cost estimate is typically **low**, leading to cost overrun
- A strategic program estimate is typically **early**, leading to program overrun
- A strategic benefit is typically **high**, leading to benefit shortfalls





Budget

Risk:

- The conventional view holds that risk is mainly external to projects
- Suggest that actually the **“biggest risk is the project itself”**

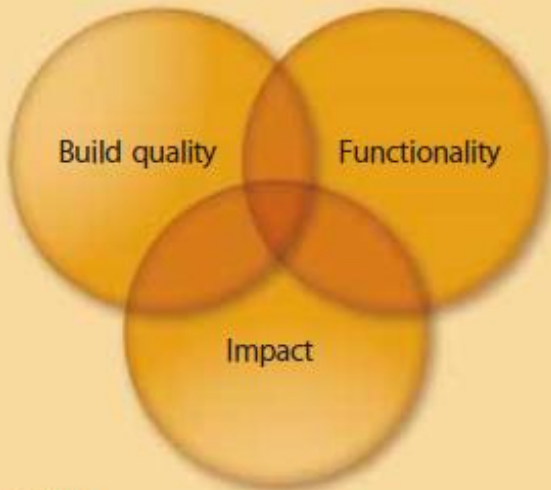
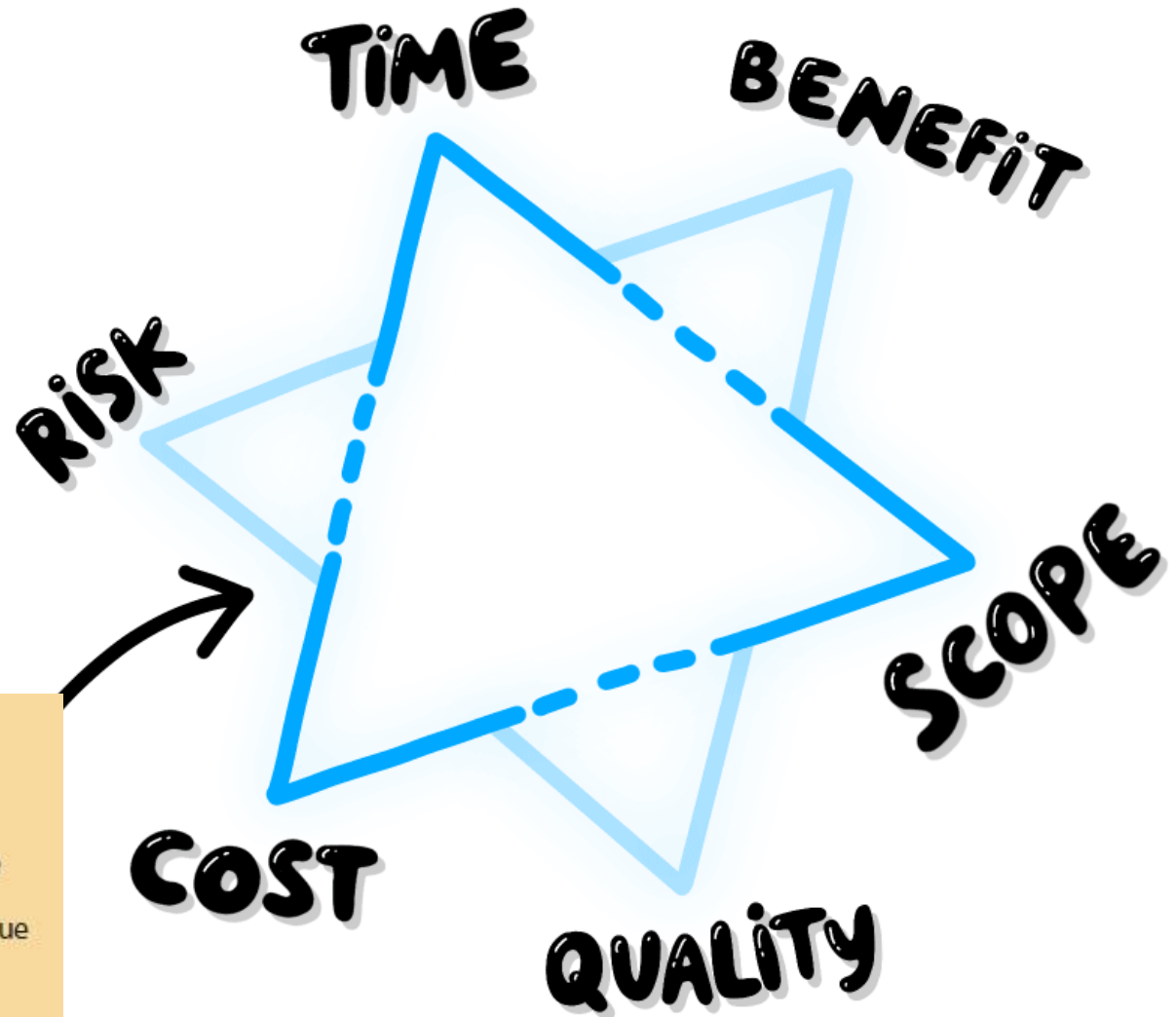




Procurement to Ensure Quality Outcomes

Design Quality

- combination of...



- Excellence
- Added value
- Basic



Procurement to Ensure Quality Outcomes

Critical success factors for achieving design quality

- Clear brief and sound business case
- Expert advice where necessary from independent client advisors
- Designers in the ICT to have the appropriate skills & expertise
- Early involvement of the integrated project team
- A good site (where choice is possible)
- An effective client who champions design
- Well-managed design and procurement processes
- An adequate budget and timescales



Governance

Senior Responsible Officer

- Accountable for the project and budget
- Internal – ‘skin in the game’
- Respected + appropriate authority + track record
- Given proper resource/time
- Appointed at start and remains throughout

Project Sponsor

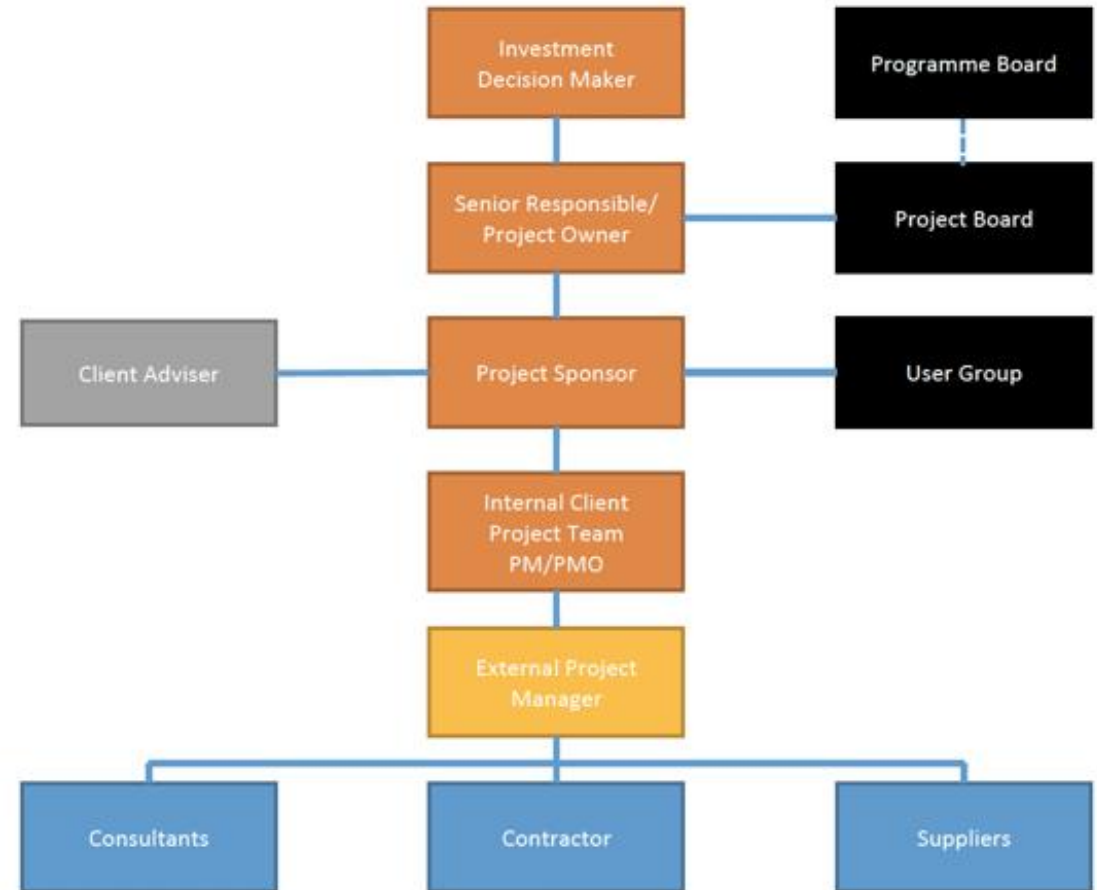
- single point of contact between SRO and others
- Establish comprehensive Project Execution Plan
- Clear roles & responsibilities

CPD

- Provides independent advice and support

Review

- External: Gateway & MAG
- Internal Audit





Governance

Robust Contract Management

- Preparation for the procurement
- Clear & comprehensive scope
- Quality and Social Value weighting
- Pre-market engagement: Is your procurement attractive to the market?
- Fair allocation of risk
- Don't leave market to deal with uncertainties
- Adequate resources (appropriately trained staff) to manage the contract
- Know your contractual duties (NEC PM to ensure you follow these)





Governance

Robust Business Cases:

5 case model

- Strategic
- Economic
- Commercial
- Financial
- Management

Be realistic about budget

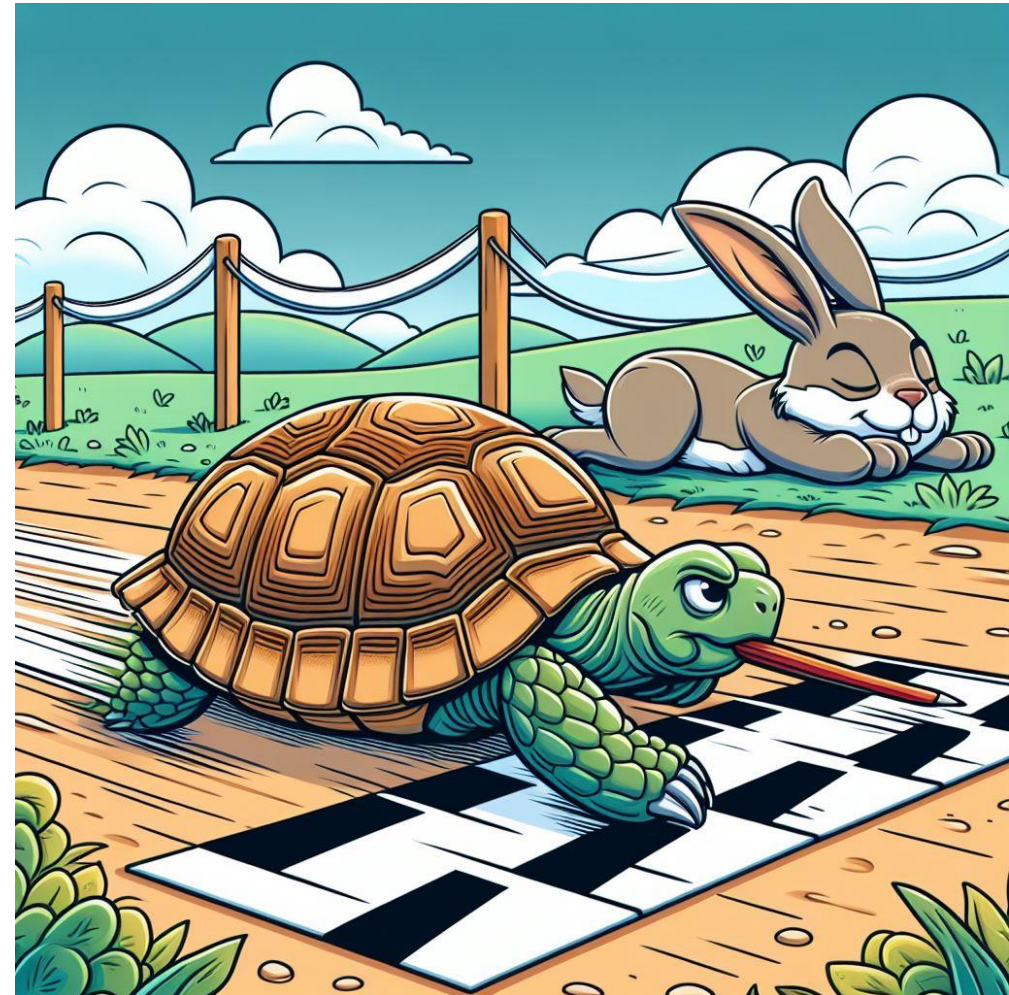
- Costs to mid-point of construction, adequate Risk & OB, whole life costs
- must consider Net Zero (weighted appropriately) right from start (Green Growth Test)

Be realistic about programme

- Adequate time allowance for approvals and construction

Be realistic about benefits

- Gateway
- MAG





Benefits of Strategic Design Advice?

Design Best Practice:

- **Gateway reviews to be carried out at key decision points in the project**
 - Appropriate design advice
 - Benchmarking of design standards
 - Evaluation of design quality
 - Rigorous endorsement and approval process
- **Design Quality Indicators (DQI)** - assess design quality with regard to:
 - Impact
 - Build Quality
 - Functionality

Construction Toolkit

Annex A - Design Quality in Government Construction Procurements

- MAG Briefing Reviews and Design Reviews at key stages in delivery lifecycle of appropriate infrastructure projects



Benefits of Strategic Design Advice?

Projects where MAG have provided input include:

Grant funded projects

- Northern Regional College – Ballymena & Coleraine

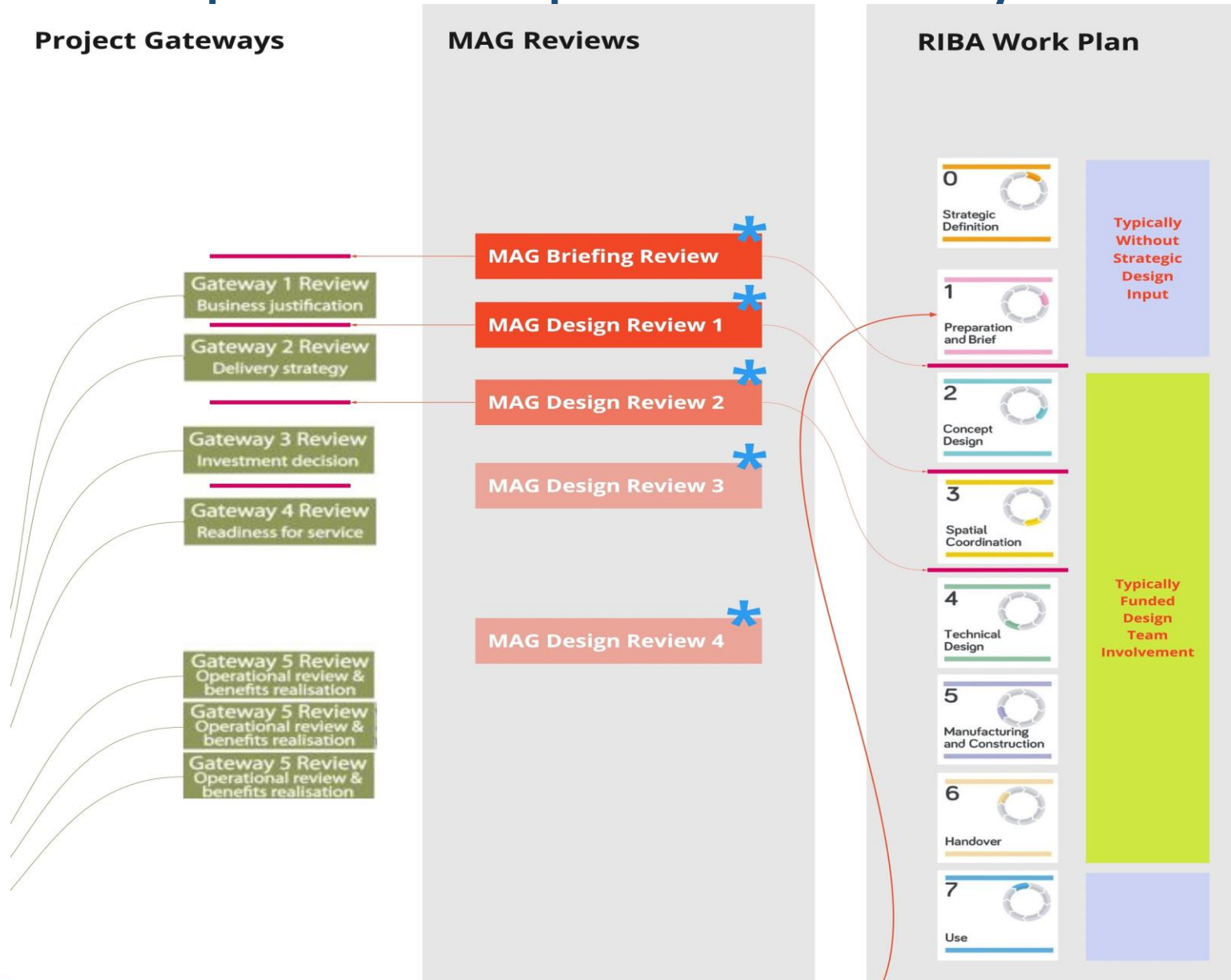
Capital funded projects

- CAFRE Greenmount campus redevelopment
- CAFRE Loughry campus redevelopment



Benefits of Strategic Design Advice?

MAG review process can run parallel with Gateway





Benefits of Strategic Design Advice?

Yes

- **If done properly it can provide advice that:**
 - is constructive,
 - is expert
 - Is timely
 - adds value to the project
- **Advice provided to:**
 - authorities
 - clients
 - community groups
 - project teams

Design Review is:

Independent

It is conducted by people who are unconnected with the scheme's promoters and decision makers, and it ensures that conflicts of interest do not arise.

Expert

It is carried out by suitably trained people who are experienced in design and know how to criticise constructively. Review is usually most respected where it is carried out by professional peers of the project designers, because their standing and expertise will be acknowledged.

Multidisciplinary

It combines the different perspectives of architects, urban designers, urban and rural planners, landscape architects, engineers and other specialist experts to provide a complete, rounded assessment.

Accountable

The Review Panel and its advice must be clearly seen to work for the benefit of the public. This should be ingrained within the panel's terms of reference.

Transparent

The panel's remit, membership, governance processes and funding should always be in the public domain.

Proportionate

It is used on projects whose significance, either at local or national level, warrants the investment needed to provide the service.

Timely

It takes place as early as possible in the design process, because this can avoid a great deal of wasted time. It also costs less to make changes at an early stage.

Advisory

A design review panel does not make decisions, but it offers impartial advice for the people who do.

Objective

It appraises schemes according to reasoned, objective criteria rather than the stylistic tastes of individual panel members.

Accessible

Its findings and advice are clearly expressed in terms that design teams, decision makers and clients can all understand and make use of.



Benefits of Strategic Design Advice?

Yes, but review panel...

- **must consider the budgetary context!**
- **needs to be carried out by experienced industry practitioners**
- **need to focus on those things essential to achieving the outcomes**
- **needs to resist scope creep**
- **advice should be given early for optimum benefit/ better uptake**

Good Design doesn't necessarily cost more!

...however, some things do...

- **scope creep**
- **more expensive materials**
- **delays**