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IPF



Whole Life Procurement Proforma

Whole Life Procurement Proforma

Introduction

This Whole Life Procurement Proforma has been developed to assist Local Authorities and other organisations take into account whole life issues when appraising construction schemes.

It is clear that Whole Life Procurement decisions should involve more than just costs over the life of a building. Key issues such as sustainability, flexibility, access and security should all be considered not just for requirements on day one, but also how these may impact or change as we project the life of a building in future years.

Some organisations will want to go into detail using technical whole life costing techniques, discounted cash flows and/or systems such as BREEAM or Envest whilst others will simply want to discuss each issue in a 'whole life' context. The proforma will accommodate either approach, it does not prescribe a way to evaluate each issue, more a simple reporting tool to communicate the results of each and every consideration. Example notes accompany each subject area and, whilst not intended to be comprehensive they may spark some issues for debate. There is however no detailed guidance on how you should use the model although there are four simple areas for completion under each heading as explained on the next sheet.

The proforma has been designed to be understood by all stakeholders involved in modern construction procurement within the public sector including service users, service managers, accountants, auditors and elected members. As such it is felt that it could make a significant impact in raising the profile of whole life issues when evaluating any proposed project.

Authorities' approaches to using the model will be posted on the Asset Management Network Website www.ipf.property.net and the National Best Value Benchmarking Scheme Website www.nbvbs.co.uk where members of either organisation will be able to view and learn from other organisation's approaches to whole life issues.

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Background

The cost component

Recent research carried out into office accommodation has identified the relationship between initial capital cost, cost in use (maintenance and energy) and business cost (staffing and service delivery) as:-

Capital Cost	Cost in Use	Business Cost
1	5	200

*Source: "The long term costs of owning and using buildings"
published by the Royal Academy of Engineering (November 1998)*

This means that to operate and maintain a building will cost five times the initial capital cost over the life of the building and furthermore the cost of staffing and service delivery is two hundred times that capital cost.

The problem is that most local authorities still focus on the initial factor of 1 when considering the design of an asset, when a moderate increase in cost at this stage can result in a significant saving over the life of the building. Many will argue that the way Local Authorities are funded encourages a focus on the initial lowest cost. Hopefully the advent of the Prudential Code for finance that links capital to revenue expenditure, and initiatives such as the National Procurement Strategy which advocates Whole Life Consideration are gradually changing that perspective.

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Background (Continued)

The Quality Factor

A further vital aspect of whole life procurement is to move beyond the simple costs alone.

Best Value required us to examine the quality or outcome component of service delivery, and we have a duty to consider this in a whole life situation in this as much as we do with simple costs. For example additional capital expenditure on a scheme may not save any money over the life of a building but could reduce the impact on the environment, increase service performance, etc. In fact a whole life decision may be to increase future expenditure over the life of the building to promote quality outcomes. Every proposed scheme is likely to introduce a number of these quality versus cost questions that need to be evaluated and considered over the longer term.

Example questions/decisions could be:

Spending an extra £X initially on the Heating system will reduce environmental impact by Y tonnes CO₂/m² per annum.

Spending an extra £X per annum in equipment will improve service output by Y.

Spending an extra £X initially on adaptable space will enable the building to change it's use after the envisaged service life of Y years it was designed for.

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Additional Information Sources/Links

Further information on whole life techniques can be obtained from the following sources: -

1. <http://www.ogc.gov.uk/sdtoolkit/reference/deliverylifecycle/lifecyclecosting.html>

Office of Government Commerce Site providing good introduction to some Life Cycle Costing issues. Includes link to the 'Achieving Excellence in Construction Procurement Guide 7: Whole Life Costing'.

2. <http://projects.bre.co.uk>

Variety of resources for Whole life costing including links to: -

- BREEAM and EcoHomes environmental assessment methodologies
- BRECSU energy efficiency information
- BRE-SLAM Service life assessment methodology
- ENVEST software tool to assist in designing environmentally friendly buildings
- Whole Life Performance page including on line WLComparator tool designed to calculate the whole life costs of building components and elements.

3. <http://www.wlcf.org.uk>

Whole life Costing forum – Provides introduction to Whole Life Costing including 'Online Tool' for calculation of a variety whole life issues.

4. <http://www.housingcorplibrary.org.uk>

Link to report of a study into Whole Life Cost performance of Social Housing

Introduction - Explanation of text boxes – e.g. Sustainable Transport

Contribution to Authority Aims and Objectives or Quality of Project

This box should reflect how a particular issue can contribute to what an authority is trying to achieve through its aims and objectives. For example providing cycle racks and showers could contribute to aims such as reducing traffic in a town centre and whilst also contributing to a more sustainable environment. Over the life of the building this impact could be quite significant.

Implications for initial cost

This box simply reflects any impact of an issue on the initial cost. In the case of cycle racks and showers this would be the additional cost of their provision.

Implications for whole life cost

This box reflects impact on cost over the whole life of the building. In our example this would most likely be a monetary value for the maintenance of the cycle racks and showers

Areas considered/Supporting Information:

This box is intended as a simple overview of the considerations taken into account under each heading together with brief back up on decisions made. It is envisaged that more detailed analysis could/would be undertaken and this would be just a summary of the resultant findings.

Whole Life Procurement Proforma

Scheme Title:

Brief description:

Initial estimated cost: £

Date:

A. What is the expectancy/need for the service/building

Years

B. What is the life expectancy of the building

Years

1. What consideration has been taken in regard to Reduction of energy use over the life of the building?

Contribution to Authority Aims and Objectives or Quality of Project

Implications for initial cost

Implications for whole life cost

Areas considered/Supporting Information:

1. What consideration has been taken in regard to reduction of energy use over the life of the building?

Notes:

Positives could include

- Minimising energy use
- Energy efficient systems
- Good day lighting, natural ventilation, etc
- Optimisation of passive energy (e.g. solar gain)
- Utilisation of renewable energy sources
- Sub-metering and/or intelligent building monitoring systems
- Training on heating, lighting, ventilation systems for building users/managers to encourage correct usage.
- Consideration of ease of operation and maintenance of systems.

Negatives could include

- Increased round the clock usage whilst encouraging flexibility and community use is likely will increase energy consumption. The positive benefits of this are included elsewhere.

2. What consideration has been taken in regard to reducing expense/inconvenience caused by cyclical redecoration/maintenance or replacement of components over the life of the building?

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

2. What consideration has been taken in regard to reducing expense/inconvenience caused by cyclical redecoration/maintenance or replacement of components over the life of the building?

Notes:

Positives could include

- Use of materials/components that are low maintenance
- Use of materials/components that reduce requirements/expense of redecoration or replacement
- Choice of materials/components that can be easily replaced reducing inconvenience to building users
- Efficient management of building systems/servicing following design criteria to minimise major replacement of key components

Negatives could include

- Certain low maintenance materials may have a high environmental impact e.g. uPVC, certain hardwoods, etc.

3. What consideration has been taken in regard to flexibility of use of the finished building or to provide cross cutting services?

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

3. What consideration has been taken in regard to flexibility of use of the finished building or to provide cross cutting services?

Notes: (See also accessibility issues)

Positives could include

- Increased flexibility/additional facilities to encourage round the clock/out of hours use e.g. community use of schools
- Flexible information and communication services
- Flexibility of design to enable change of use where the building is envisaged to outlive the service/delivery for which it was designed.
- Ensuring full accessibility to building to ensure maximum use by all
- Design to meet different cultural/ethnic requirements

Negatives could include

- Increased energy consumption through intensified use of the building
- Increases in maintenance through increased building usage
- If different users have different needs and use the space differently, this could increase the initial costs of facilities and service installation as well as running costs
- Bringing uses together in one building might inconvenience some users

4. What consideration has been taken in regard to sustainable transportation

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

4. What consideration has been taken in regard to sustainable transportation

Notes:

Positive Impact could include

- Availability/proximity to safe public transportation
- Proximity to service users to encourage pedestrian use
- Proximity to other key service areas
- Discouragement of single occupancy car use through specific parking provision for car sharing
- Safe, secure and adequate cycle storage, showers and changing rooms for cyclists
- Procuring local consumables/equipment to minimise transport distances

Negative impact could include

- Loss of revenue for car parks

5. What consideration has been taken in relation to security of the building, reducing the fear/risk of crime and the minimisation of vandalism?

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

5. What consideration has been taken in relation to security of the building, reducing the fear/risk of crime and the minimisation of vandalism?

Notes:

Positives could include

- Design of building to increase sight lines and reduce possible areas of concealment
- Suitable lighting design
- Use of anti vandal materials and fittings
- Security measures such as CCTV, or Alarm Systems
- Security fencing where appropriate
- Involvement of community during the design process to encourage 'ownership' of building
- Increased hours of building occupancy

Negatives could include

- Additional energy use from increased requirement for external lighting, CCTV, etc
- Increased maintenance cost for ditto

6. What steps have been taken to minimise the environmental impact of the building?

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

6. What steps have been taken to minimise the environmental impact of the building?

Notes:

Areas could include

- Reduction of energy use/CO₂ emissions
- Use of renewable energy sources, grey water recycling etc
- Re-use of land/reclamation of contaminated land
- Design for minimum use of materials (in design and consumable use of building)
- Protecting, enhancing and managing biodiversity
- Use of low water volume fittings
- Use of cleaning products with minimal harmful effects
- Use of materials from renewable resources
- Day lighting, ventilation and humidification with personal control
- Use of components that minimise noise transfer
- Further examples of sustainable construction issues are available in the publication 'Demonstrations of sustainability' published by Rethinking Construction Limited, 108-110 Judd Street, London WC1H 9P a number of councils also have their own 'Green Design' guides, authorities may also use Envest/BREEAM or similar schemes to calculate/minimise environmental impact

7. What considerations have been taken regarding health and safety in use of the completed building?

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

7. What considerations have been taken regarding health and safety in use of the completed building?

Notes:

Areas could include (Note - basic/mandatory legislative requirements for health and safety are assumed, designers are encouraged to include additional facilities/features under this heading that would go beyond the simple basic standards) - see also accessibility section

- Designs for easy maintenance (e.g. reversible windows for cleaning)
- Materials used to eliminate the need for use of harmful substances when cleaning
- Use of materials to reduce risk of slips and trips
- Training in the management/use of building to reduce risks
- Use of signage for ditto
- Use of materials that provide clear definition at possible hazard areas (e.g. defined colour strips on steps/stairs, textured paving for people with vision impairment etc,)
- Design to reduce risk of fire, fire compartmentation to reduce spread
- Designs to ensure effective escape from fire including provision of escape equipment/facilities for people with access needs
- Adequate fire alarms/extinguisher/sprinkler provision, signage & training
- Chemical storage and disposal thereof

8. What considerations have been taken regarding increasing the accessibility of the building over its life?

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

8. What considerations have been taken regarding increasing the accessibility of the building over its life?

Notes:

Areas could include (See also Health and Safety)

- **Note 1– Basic requirements for access e.g revised Part M of the building regulations, British Standards etc, are assumed, designers are encouraged to include additional facilities/features under this heading that would go beyond the simple basic standards and encourage additional ease of access for all wherever possible.**
- **Note 2 – Additional facilities that enable people with access needs to access services themselves without assistance will not only improve the service provision to them, but is likely to also reduce operation/people time costs in assistance over the life of a building**
- **Design to encourage improved movement around building generally**
- **Clear signage including Braille for all relevant areas (other languages where relevant)**
- **Documentation for building use in large print/other language versions**
- **Training on the management/use of building as regards accessibility issues for all relevant staff**
- **Additional design features, fittings, or equipment for people with specific access or service requirements**
- **Adequate/reserved parking for people with disabilities or accessible access to public transport**

9. What are the long term financing/rent/rates/income issues connected with the project?

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

9. What are the long term financing/rent/rates issues connected with the project?

Notes:

Areas could include:

- Funding sources and Financing costs over the life of the building
- Land purchase costs (possibly discounted over the life of the building)
- Land or other rents and rates
- Other fees and charges
- Partnership considerations, payments, share of profit, etc.
- Possible income generated from building use

10. What issues for whole life consideration have become apparent from consultation exercises with stakeholders including the local community?

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

10. What issues for whole life consideration have become apparent from consultation exercises with stakeholders including the local community?

Notes:

Areas could include:

- Additional facilities or requirements requested by community groups or organisations

11. What consideration has been taken in regard to the final disposal of the building?

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

11. What consideration has been taken in regard to the final disposal of the building?

Notes:

Positives could include

- Use of materials/components that can be recycled or reused after demolition
- Use of materials/components that minimise waste
- Use of materials/components that minimise environmental impact when disposed of
- Use of materials/components that increase ease of dismantling

12. Other whole Life Considerations – User defined

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

13. Other whole Life Considerations – User defined

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

14. Other whole Life Considerations – User defined

**Contribution to Authority
Aims and Objectives or
Quality of Project**

Implications for initial cost

**Implications for whole life
cost**

Areas considered/Supporting Information:

Optional Summary Sheet – Authorities may wish to weight criteria based on their own priorities

Issue	Impact for Initial Cost	Impact on Whole Life Cost
1. Reduction of energy use		
2. Repair, maintenance and redecoration considerations		
3. Flexibility		
4. Sustainable Transport		
5. Security and reducing risk of crime		
6. Minimising Environmental Impact		
7. Health and Safety		
8. Accessibility		
9. Finance Issues inc. Finance Costs, Rents and Rates		
10 . Results of Consultation		
11. Building Disposal		
12. User Defined -		
13. User Defined -		
14. User Defined -		
Totals		

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