

# Whole Life Value ... or ...

## *Creating the Business Case for Whole Live Value in a Wicked Problem World*

### *Background*

Much has been said about keeping our infrastructures going with optimised (i.e. minimum cost) intervention and keeping them going for longer (the implication being 'longer than originally intended').

These ideas were repeated at the September and January FIF events, and it is what practitioners strive to do on a daily basis.

The argument is predicated on an underlying assumption that what we've got should be used for the same purpose.

Academic research should challenge this paradigm by

*... re-envisioning 'infrastructure' in terms  
of its function, service and value.*

## *Background*

This means we should question

- *which elements of the infrastructure should continue to serve as currently* (i.e. they have long-term value)
- *which are vulnerable* ... to climate change / settlement patterns / modes of travel / movement of freight / technology / changes in the ground / etc. ... *so we can identify ways of dealing with the vulnerability*
- *which should cease to serve as currently* (e.g. transport routes reconfigured as public space or green corridors, or pipelines to convey something different).

Change of use could be fundamental or temporal, i.e. restriction of use (e.g. loading, hence type of vehicles, on bridges, or limited times of usage, or limited volumes of usage) such that it can continue to deliver its function, or a subtly different function, into the far future without the need for major maintenance / renewal.

Inherent in these arguments are considerations of *alternative futures, Whole Life Value, "who benefits, who pays?"* and the need for *systems thinking*.

## *Vision*

We wish to view infrastructure as an entrepreneurial space, and then map this onto our needs, and hence open up our infrastructure for investment.

## *Objectives*

- Define whole life value to embrace the concepts of function and service
- Explore the needs for infrastructure to provide the function, service and purpose
- Examine, via case studies, the efficacy of delivering such functions via the existing infrastructure, and hence derive lessons for today (we will seek to frame this in terms of the original business case)
- Explore, via case studies, examples of radical changes in infrastructure (e.g. the transition from canal to rail)  
... and the value the changes in function, service and purpose these brought about
- Explore the whole life value thinking as applied to current planned infrastructure projects and investments

## *Objectives (continued)*

- Create a business case for a whole life value approach, yielding different notions of design life for different elements of the infrastructure
- Place the above into the context of a range of alternative futures to make explicit the effects of disruptions to the context
- Explore which elements of the infrastructure must be retained at all costs (i.e. to be maintained and upgraded to deliver their function into the far future)
  - ... which are not effective to retain (so use for a different purpose, or in the worst case simply decommission)
  - ... which should be kept going so that they can continue to deliver their function into the near future (i.e. maintained).
- A decision support tool needs to be created to enable these decisions to be made.

## *Objectives (continued)*

- Create a proposition for investment (to provide the relevant services) into the far future - *a new way of doing business*
- Explore what new drivers are needed, and hence what decision support tools are needed, to provide an integrated service provision

## *Delivery of the Vision*

A core group of the FIF developed this as a 'big idea' for a multi-disciplinary, multi-university EPSRC grant application at FIF2.

A follow-up meeting was held between Chris Rogers (Birmingham), Colin Taylor (Bristol), Stephanie Glendinning (Newcastle), Phil Purnell (Leeds), Boulent Imam (Surrey), and Mark Langdon, John Dora and Brian Bell (Network Rail).

The preference would be for a flexible form of funding, such as a Programme Grant, to enable any academic member of the FIF to be allocated funding to advance the research once the initial research has been done.