LESSON LEARNING ACROSS MEGAPROJECTS: LESSONS FROM OMEGA RESEARCH INTO MEGA TRANSPORT PROJECTS

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The OMEGA Centre:
1 of 8 VREF Global Centres of Excellence in field of the *Future of Urban Transport*.

Mission:
To establish what constitutes a ‘successful’ Mega Transport Project (MTP) in the 21st Century

Focus:
Stakeholder decision-making in the planning, appraisal and delivery of MTPs
5-year study of 30 MTPs in 10 countries: Europe, Asia, North America and Australia funded by VREF

300 interviews with key decision-makers and other stakeholders: including the use of ‘storytelling’

Completed in 2011: outputs include a suite of 50 generic lessons covering project planning, appraisal and delivery
SETTING THE SCENE: OMEGA CASE STUDIES
SETTING THE SCENE: 9 LESSONS

- MTPs as ‘Agents of Change
- MTPs as ‘Open Systems’
- MTPs as ‘Organic Phenomena’
- The Framing of MTPs
- The ‘Power of Context’
- The Role of Sustainable Development Visions
- Engaging with MTP Stakeholders
- Institutional Policy and Legislative Support
- Lesson Learning and Sharing

In the interest of time management, this presentation is confined to the first five lessons.
The OMEGA case study interviewees were stakeholders directly involved in/affected by MTP decision-making: we did not seek a stratified sample.

All OMEGA Case Studies are drawn from developed economies: this raises questions regarding the transferability of the OMEGA lessons and how we ensure sufficient attention is paid to ‘context’ in transferring any OMEGA lessons to different contexts?

Transferability of OMEGA lessons to different contexts thus need to have due regard to the many and varied contextual circumstances: that prevail at different times in the project lifecycle and in different locations.
OMEGA case studies illustrate the difficulties in determining MTP success and failure:

- Success/failure for whom? - Who are the winners and losers?

- Success/failure when? - In what time period? On completion, ten years later, 50 years later, 100+ years later......?
MTPs AS ‘AGENTS OF CHANGE’ 1

- Because MTPs frequently become critical ‘agents of change’ that have multiple spatial, economic, environmental and other implications, there is a need for a change of mind-set concerning the way in which they are positioned, framed and planned.

- Many such ‘projects’ represent programmes consisting of multiple mega projects that evolve over time, in response to different contextual influences (‘boom and bust’ for example).

- The potential, however, for MTPs to change the context into which they are placed is often under-appreciated by decision-makers – resulting in unexpected/unintended consequences or lost opportunities.
Many MTPs are rather narrowly framed mainly as providers of transport infrastructure – e.g. from our case studies, The Western Harbour Crossing in Hong Kong, HSL Zuid in the Netherlands, and the Athens Metro – arguably all three projects represented ‘missed opportunities’ for wider structural change/regeneration etc.

Conversely, many projects were inherently positioned as components of broader agent of change strategies - albeit with varying degrees of success, and not always at the outset as in the case of the Hong Kong Airport Express, Tokyo’s Metropolitan Expressway and the Oedo Line, the CTRL in south-east England and Perth-Mandurah Railway.
MTPs AS ‘AGENTS OF CHANGE 3

MTP planning, appraisal and delivery agents need to ask:

- is the proposed MTP expected to function as an ‘agent of change’, and if so, in what way?

- what sort of territorial, sectoral or other change it is expected to achieve?

- which forces of change is the project trying to influence or harness?

- what timeframe will be required for such change to take place – given prevailing/forecast/scenario contextual conditions?

- what type of resources (financial, institutional, personnel, legal, etc.) and policy frameworks are needed, and over what period?

- what are the potential project ‘boundaries’ - physical and otherwise – often extremely difficult to discern, let alone identify?
MTPs AS ‘OPEN SYSTEMS’ 1

MTPs require ‘open systems’ treatment given their complex/fluid relationships with the areas/sectors/communities they serve, traverse & impact

- In seeking to adapt/respond to changing contexts, MTPs are themselves frequently changed. Conversely, they also alter the contexts they are placed in.

- Such changes are continuous and evolving, thereby contributing to the development of a dynamic situation, which never reaches equilibrium.

- ‘Open systems’ approaches are consequently required for all aspects of planning and appraisal of MTPs considered to have complex interrelationships with the territories they serve.
MTPs AS ‘OPEN SYSTEMS 2

- Important external contextual influences need to be identified and addressed in plans and strategies – this is often very difficult over time and space and frequently impacts on project management.

- 50%+ of the OMEGA case studies were considered as ‘closed systems’ during both their planning and implementation stages.

- Feedback from some interviewees suggests that when megaprojects are treated as ‘closed systems’ during the early stages of project development they cannot be adequately appraised as part of the wider context into which they are placed.

- Such projects subsequently face the possibility that their potential contextual impacts will be seriously underestimated – beneficial and disadvantageous.
A number of OMEGA case study projects experienced transition from a closed to an open system approach:

- Tokyo’s Metropolitan Expressway - initially treated as a closed system was subsequently forced to be treated as an ‘open system’ due to local pressure for a more environmentally sensitive design solution.

- The Millau Bridge came to be regarded in ‘open system’ terms due largely to the increasing public sensitivity to sustainable development issues and due to the enforced implementation of EU regulations requiring the opening of MTPs developments to competition.
MTPs as ‘organic’ phenomena (rather than static engineering artefacts alone) that often need ‘time to breathe’ (a period of reflection) in their preparation which can present special opportunities that should be seized and exploited by key decision-makers.

- Most MTPs are subject to an ‘organic’, evolutionary process that often produces fundamental change in their raison d’être or scope/scale.

- This is frequently necessary to enable MTPs to respond to changing contexts, ideas and visions of future possibilities.

- Adopting this perspective, however, is extremely difficult if not impossible in contexts characterised by an emphasis on speed of delivery, especially projects ‘on steroids’ such as major event projects, including those for the Olympic Games.
MTPs AS ‘ORGANIC’ PHENOMENA 2

- As a result, the ‘time to breathe’ that MTPs may require should not necessarily be considered ineffective – but may be used as a period to explore a wider range of visions and possibilities.

- Conversely, many argue that an over emphasis on ‘speed’ can often prove to be especially harmful.

- But, such periods of reflection need to be well managed to ensure a genuine re-examination of past decisions and future direction involving key stakeholders.
MTPs AS ‘ORGANIC’ PHENOMENA 3

- In the case of the Big Dig in Boston – there were four years of disagreement over the design for the crossing of the Charles River. This was only resolved when the Transportation Secretary had to intervene.

- In the case of the JLE in London - the project was put on hold for 18 months following the collapse of private sector funding while the government sought a contribution to the overall (project) costs from the private sector. The ‘time to breathe’ was not fully exploited.

- In the case of the CTRL (HS1) – the time to breathe facilitated exploration of new territorial and sectoral development/restructuring initiatives associated with Thames Gateway.
THE FRAMING OF MTPs

Changing demands placed on MTPs can make it excruciatingly difficult to judge their success and failure. This makes it imperative to ensure proper project framing to enable their appraisal to be fair and transparent. It was found:

- ‘Iron Triangle’ criteria of project management are capable of only providing a partial (albeit important) basis for determining project ‘success’.

- MTP stakeholders not only typically have very different expectations of the roles/impacts of projects but also their perceptions of ‘success’ or ‘failure’ (which may change over time) are frequently highly individual, based on a particular aspects of a project or even an emotional response to it.

- There thus should be a clear early statement of MTP roles, goals, objectives, together with key assumptions, appraisal criteria and anticipated impacts which need to be disseminated/discussed with key stakeholders.
MTPs such as the CTRL, JLE, Melbourne City Link and Big Dig demonstrate that, post-completion, the perception/criteria of ‘success’ often changes – sometimes dramatically. In all three cases, the problematic circumstances surrounding their planning, funding and delivery attracted much controversy.

This was especially true in the case of the Big Dig - the immense cost of the project to the State of Massachusetts and US public purse meant it was seen as the most costly urban road project in the history of US public works. Subsequent perceived benefits have, however, diluted this criticism somewhat, especially in relation to the positive impacts of agglomeration impacts, property/land value uplifts and environmental improvements.

Clearly then today’s failures can often become tomorrow’s successes – and vice versa of course!
Context awareness and sensitivity to context on the part of project decision-makers is vital for both the successful planning, appraisal and delivery of MTPs and suitable treatment of contextual risks, uncertainties and complexities.

- Context awareness is a key factor in ‘successful’ decision-making to address the risks, uncertainties and complexities that characterise MTPs.

- Key project stakeholders need to identify and analyse the critical contexts (and interdependencies) that surround pivotal project decision making.

- Sensitivity to context enables the identification of opportunities (and risks) which arise from time to time (often referred to as a period ‘when the planets align’ or serendipity) which suggest that the time is ripe to take decisive action – this is especially understood by politicians and investors.
OMEGA case studies highlight the need to pay careful attention to the governmental (and spatial/territorial planning) contexts into which MTPs are to be inserted - mis-matches in expectations and outcomes are frequently experienced.

Country contexts that are characterized by ‘strong’ or visionary governmental and planning traditions more able to exert control over project impacts (identified in the Hong Kong, Japanese and French case studies) need to be treated very differently from those where the ability to control unintended outcomes is, at best, patchy (as was found in all three Greek case studies) where uncontrolled development arose.
Contexts are being changed at an ever increasing pace due to (for example) rapid technological developments, global financial and environmental instabilities and globalization.

This resonates especially strongly with transnational MTPs:

- The Øresund Link, which links the economies of Sweden and Denmark with that of Germany and other EU countries (and beyond) by facilitating enhanced passenger and freight traffic - making the cities of Copenhagen and Malmö more competitive.

- CTRL (HS1) and JLE were also seen as being influenced by globalization - with the former providing direct access to the European rail network and the latter being seen to enhance the role of Canary Wharf and London as a global financial centre.

- The Hong Kong case study projects comprised major components of the overall strategy for the Territory to remain as a major international financial and transportation hub of Asia post-1997 (and to build confidence).
CONCLUSIONS

- Decision-making for MTPs should include a much wider set of complex considerations than those traditionally associated with the ‘Iron Triangle’.

- The acceptance of MTPs as ‘open systems’ with powerful ‘agent of change’ functions necessitates, the need for them to be seen as ‘organic’ phenomena requiring time and space to evolve and adapt in response to changing contextual influences (and ‘happenstance) that exert themselves over the (often lengthy) project lifecycle.

- This implies the need for project decision-makers to adopt more holistic, flexible, robust strategies/procedures that incorporate periods of engagement with a wide range of stakeholders from the earliest opportunity.

- The treatment of MTPs as ‘adaptive systems’, combined with the changing demands placed on such projects, create considerable difficulties for their evaluation. It is therefore imperative to ensure proper project framing that enables appraisals to be based on broad, fair and transparent foundations.
SELECTED QUOTATIONS 1

“I don’t think anyone would argue that the tunnel shouldn’t have been built, and in five or ten years time who’s going to care. Remember the old saying that goes something like this: people in the present always complain about money and costs and financial issues, but in the long run they remember the vision but they forget the costs”.

(Australia, Sydney Cross City Tunnel)
“... if there had been a vision it would have been counter-cultural and so the press and opposition would have undermined it. The vision would have affected more money, so it would have been open to criticism by the economists and Treasury. There would have been marginal seats affected, the opposition trying to win or hold these seats would have been against it. The media would have said ‘it’s expensive and there is inadequate payback, and that there are other ways’ – so the whole vision thing would have been eaten into. Whatever this country does (in terms of vision) you can be sure the rats will get at it!”

(UK – Channel Tunnel Rail Link –[HS1])
MTP planning and delivery agents need to understand ‘sound’ judgements about the ‘success’ (or otherwise) of projects are attained when presented to stakeholders in a transparent manner - that lays out all key financial and non-financial costs/benefits side-by-side.

Important costs and benefits of MTPs can accrue outside their formal boundary and/or the transport sector - with some ultimately becoming more important than the costs and benefits experienced within the project.
RESPONSES TO OMEGA FINDINGS 2

This call for the broader framing of MTPs from the outset is best supported by multi-criteria analysis (MCA) planning and appraisal frameworks and attendant processes that are:

- policy-led sensitive to contextual changes and uncertainties;
- ‘open systems’ in character;
- capable of viewing MTPs as subject to change over time;
- capable of also appreciating that MTPs change the contexts into which they are placed; and
- dealing with many project outcomes that are difficult to identify precisely, much less quantify.
THANK YOU

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