Evaluating mega urban regeneration projects: developing a new model

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Aim and objectives

- Define Mega Urban Regeneration
- Identify the characteristics of sustainable mega urban regeneration projects
- Compare and contrast two MURP in the UK and the Netherlands
- Test the smart Sustainable Urban Regeneration ("smart-SUR") model
- The outcome of this research comprises the emerging concerns in MURP in the UK and the Netherlands
Mega Urban Regeneration Projects

- There is no universal or standard definition for the term “Mega Urban Regeneration projects”
- The term Mega Urban Regeneration reflects the iconic image projected of centrally located large-scale developments, which have substantial impacts on economy, society and environment of locality (Tallon 2010)
- **Large scale** Urban Regeneration projects
- **Cost** over 1 billion US Dollars (Flyvbjerg and Cowi 2004)
- **Financed** and initiated mainly through public-private partnerships. (Flyvbjerg, Bruzelius and Rothengatter 2003)
- **Aim** to use as a planning tool and a magnet for attracting inward/international investment (Fainstein 2008).
- **Sustain** regional competitiveness and economic prosperity by fostering the well-being of a city (Crouch 1999)
- **Public attention and political interest** because of impacts on the community, environment, and state budgets (Leherer and Laidley 2008)
“A critical lesson that academic commentators as well as investors will do well to remember, is the importance of cycles of boom and bust to development (Hamnett, 2003: 213). Long-term success (or failure) can only be measured over the course of successive cycles of the property market. In regeneration of this scale, 35 years is just too soon to judge.”

Matthew Carmona, 2009
Development of smart-SUR conceptual framework with ‘institutional’, ’project’ and innovative ‘funding’ components to corroborate its plausibility by:

- Outlining the UK urban regeneration backdrop and polarised narratives.
- Assessing some iconic international projects.
- Conducting a structured review of the construction and project management literature.
- Analysing secondary-data about significant UK urban projects.
- Investigating two mega urban regeneration project.
Methodology

- Review of literature

- Semi-structured interviews of case studies of mega urban Regeneration Projects
  - Utrecht central station regeneration
    - Semi-structured interview was conducted with main partners of the project;
  - Kings Cross regeneration
    - Semi-structured interviews with 10 key stakeholders of the project

- Synthesis of results and compare and contrast UK and NL approach
Mega Projects (Problems)

Colossal in size (Tasks) and scope

Complex

Cost overrun

Costly

Shortfall in demand

Control issue

Mega Urban Regeneration projects are problematic and challenging

Corresponding Challenges:
- Uncertainty
- Complexity
- Financial

In coming decades, most global growth will be urban (Floater et al., 2014) yet planning regimes in many conurbations seem curiously ill prepared to tackle looming internal and external challenges in the maelstrom of the ‘infernal machine’ (Bordieu, 1998: 100).

As well as external perturbations, cities evolve endogenously or they stagnate. Planning complacency, corruption or underinvestment in civic and public amenities can jeopardise progressive change. Poor management and diminished infrastructure can bequeath a toxic legacy of unstructured sprawl and pollution.
Unstructured urbanization spill-overs manifest in poor health, air pollution, traffic congestion, psychologically stunted children and crime. Such spatial externalities consume 15% of Beijing’s GDP and cost the United States economy US$400 billion annually (Litman, 2014).

The failure to tackle spatial and market externalities is neither ‘smart’ not ‘sustainable’.

Sustainable prosperity impels inclusive and capable planning institutions, focused on green infrastructure (Acemoglu & Robinson, 2012; Geltner & de Neufville, 2014; Turner, 2014).
Mega Projects (Problems)

- Mega-projects like Songdago (Korea), Maasdar (UAE), Skolkovo (Russia) or Dongtan (China) are ‘unlikely to deliver widespread, lower level sustainability and have high opportunity costs.

- Mega-projects are untamed political problems, invoking contested information (Bruijn & Leijten, 2008).

- Operational risks include, fraud, cost escalation, cack-handed oversight (Flyvbjerg, Bruzelius, & Rothengatter, 2003a).

- Mega-project outcomes can underwhelm, polarise communities or rapidly depreciate. Less grandiose urban transformation, involve territorial foresight, debate, local engagement, institutional collaboration, project scrutiny and smart finance (Adair, Berry, Hutchinson, and McGreal, 2007; Güell & Redondo, 2012).
smart and Sustainable Urban Regeneration (‘smart-SUR’) could help to inform resilience planning amidst the regional and local noise (Chorley and Haggett, 1965).

It balances localism with informed transformation for employment, aesthetics, logistics, or distributive justice but it is tightly overseen and tempered by the rule of law.

Site visits and grassroots consultation restrain excess and refine transformative goals for beautification, pedestrian connectivity, waste management, network connectivity, or ecological conservation.
Urban threats and current urban policy flux impel the smart-SUR theoretical framework.

An elaboration of the institutional, project and funding aspects of the putative model provide some discursive corroboration of its relevance as a screening tool for planners, developers, financiers, or residents.

Remote, secondary data testing of the screening tool flagged the need for site visits and grounded analysis, conducted for a regeneration project in Utrecht, Holland.
Clearly, **the failure** to tackle spatial or market externalities is neither ‘smart’ not ‘sustainable’.

**Smart-SUR seeks** to internalise them and facilitate urban adaptation for sustainable prosperity.

Its constituents are **foresight, policy coordination, and well-funded but judicious interventions**.

It impels **capable planning institutions**, focused on more compact, connected, resilient, and inclusive futures as a pre-requisite, but no guarantee of, eudemonic well-being (Wadley, 2010).
Evaluation Model: smart-SUR

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A balanced assessment of the UK built environment backdrop sits between the extreme narratives but wealth inequality remains troubling.

The richest 10% of the population controls 44% of the nation’s total wealth. In contrast, the poorest half of the population subsists on 9% of the resources (Lucchino & Morelli, 2012; ONS, 2014).

Current UK government urban policy is investment-orientated and growth-focused with somewhat less concern for authentic community engagement and distributive justice (Rawls, 1971).
Policy flux and factional wrangling has left a muddle and a bewildering confusion of policy levers:

- Local Growth Fund (LGF), available for Local Enterprise Partnerships (LEPs)
- The Growing Places Fund (GPF)
- Regional Growth Fund (RGF) Infrastructure Guarantees.
- Public Works Loan Board (PWLB)
- Enterprise Zones (EZs)
- Community Infrastructure Levy (CIL)
the admittedly eclectic, review of UK policy context revealed two opposing euphoric or gloomy narratives but impels;

a considered planning mechanism to address invidious aspects of spatial and social malignancy without undermining the rule of law or sparking nefarious unintended consequences.
Three pillars of smart-SUR

- **Smart institutions** should foster quality growth and curtail its extractive modes.

- Requirements include a futures orientation towards resilience and creativity, sensible spatial architecture, and disposition towards collaboration.

- In contrast to extractive ones, smart institutions seek to remedy, not exploit market failures and attenuate, not reinforce structural inequalities (Acemoglu & Robinson, 2012).
Three pillars of smart-SUR

- It taps new online technologies and geographical data to capture, model, or visualise projects that inform planning and negotiations. Collaborative interplay begins with appropriate scales (boundaries) and tight institutional fit (design).

- Proper governance reduces financial manipulation or fiscal distortion and incentivises projects with conservation, education, or health spinoffs. Inclusive institutions, authentic debate, subsidiarity, and the rule of law temper extractive proclivities.

- Smart collaborative institutions negotiate or muddle through (Lindblom, 1959) but avoid the quagmire of strategic drift. Integrity, foresight, and competence, enable them to screen, plan and execute quality projects for urban resilience or enterprise.

- Resilient settlements can better absorb disturbance or reorganise to retain function, structure, and identity (Forbes & et al., 2009)
Three pillars of smart-SUR

- **Smart institutions – Foresight** A smart response to multiple urban challenges begins with the articulation of purpose (to engineer resilience or foster creativity).

- The next step is to collect useful intelligence to understand places (Floater et al., 2014) and to celebrate their distinctive historicity, heritage, or landscapes.

- Informed spatial transformations (outcomes) rely on science or architectural and design excellence but need grounded urban intelligence.
Three pillars of smart-SUR

- **Smart planning institutions** Smart planning institutions are properly articulated (scale and scope) and governed.

- Strategic leadership, governance, and institutional architecture help assure effective, efficient, inclusive, and transparent project management. They balance strategic foresight and ‘top down’ leadership (Hemphill, Berry, & McGreal, 2004) with local dialogue.

- Inspired by the common good, smart planning interventions seek to attenuate spatial injustice without undermining customary or bona fide formal property rights or cultural practices.

- Top-down leadership and vision drives strategic transformation of urban environments (Freedman, 2014) but smart-SUR is reflexive and democratic.
Three pillars of smart-SUR

- **Project quality** Urban regeneration quality considerations are multi-faceted but include architecture, design, and public realm, or connective infrastructure like sky trains or rail tunnels for compact or connected cities (Floater et al., 2014).

- In terms of place-making, the ‘smart’ solution confronts meaning ambiguity, ‘place’ complexity, and institutional diversity.

- Places are not two-dimensional but complex constructs with multiple agent network interactions.

- Institutionally, traditional planners confront alternate policy foci (firm competitiveness, local health, school operation).
Three pillars of smart-SUR

- **Innovative funding** The third pillar for smart-SUR is viable public or private funding model. The current commodified fiscal regime can undermine forward-thinking investments like Transport Orientated Developments (TOD) or canal restoration projects with land amalgamation or complex planning, geotechnical and construction issues (Searle, Darchen, & Huston, 2014).

- Hence, political and business cycles, public finances, or market conditions shape or constrain transformation viability. Capital and space market intelligence can detect turning points which can alter project financial viability. In due course, gentrification can mediate adverse market conditions and unlock commercial potential of ethnic locales as seen with Brixton in London. However, whilst commercial or subsidised viability is necessary it is not the sole consideration for smart-SUR (Brookes, 2013; Vanolo, 2014).
Three pillars of smart-SUR

- **Innovative funding** One innovative source of finance is to capture the uplift in development land values, induced by train, ferry, or street construction/beautification.

- The mechanism can be either direct (lease charges or infrastructure connection fees) or indirect, via higher tax. To tax land uplift increments, first designate the beneficial, value-capture project hinterland and then assign collection rights to the project proponent, usually, a special purpose vehicle (SPV).
Innovative funding The SPV clarifies project ownership, allocates responsibilities, costs risks, and orchestrates construction. The associated funding model structures stakeholder rights, conditions, disbursements and repayment profiles and firms-up proponent relative risk profile.

To assess their risk exposure, investors scrutinise projects looking at SPV capability and funding credibility, site position, land amalgamation, project marketability, and government support. Theoretically, due-diligence should weed out bad urban infrastructure projects, situated in unpromising sites with fanciful business models or weak government support.
Innovative funding - The private sector will only fund commercially viable urban regeneration so that investors can eventually recoup project outlays but, in the interim, get adequately compensated for the risks assumed. Compensation for risk reflects the opportunity cost of alternative investments foregone.

In the public arena, positive public-realm or social improvement ‘spill-overs’ can compensate for a financial deficit. Where substantive public realm investment is necessary, a public–private partnership (PPP) can help (Pattberg & Widerberg, 2014) but private investors seek payback assurance and competitive returns for risk, in line with targets, assessment criteria, timescales and objectives (Adair et al., 2007).
Eclectic sample of global iconic regeneration transformations, illustrating ‘hard’ and ‘soft’ aspects. Source: Authors (2014).

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<tr>
<th>Project</th>
<th>‘Hard’/tangible investment</th>
<th>‘Soft’/Intangible</th>
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<tr>
<td>Bordeaux Métropole Aménagement (France 1995–2007)</td>
<td>Waterfront development, Housing construction, Public realm upgrades, Tram system</td>
<td>Youth training heritage management</td>
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<td>Paris Promenade Plantée (France 2000)</td>
<td>Elevated causeway and park</td>
<td>Access to Bastille Opera</td>
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<td>Madrid Rio Manzanares (Spain 2006 a 2011)</td>
<td>Riverfront remediation of Central 8 km green space, foot-bridges, and cycle routes</td>
<td>Public plaza</td>
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<td>San Francisco, Embarcadero (USA 1991)</td>
<td>Demolition of ugly freeway</td>
<td>Job access to CBD</td>
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<td>Bogotá Juan Amarillo (Colombia 1990s)</td>
<td>Construction of palm-lined boulevard, squares and plazas, 45 km of greenway and 300 km bike lanes, Mass-transit system</td>
<td>Waterfront promenade, New retail in public plaza, Job access to downtown</td>
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<td>Seoul Cheonggyecheon (South Korea 2003–2005)</td>
<td>Reclaimed river frontage, Upgrades to local retail</td>
<td>Enhanced public transit, Pedestrian park amenity</td>
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<td>Author (year)</td>
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Summary of *smart-SUR* domains considered in mainstream project literature. Source: Authors (2014).
Application of Smart-SUR

- The sample of international regenerations projects substantiates the imperative for an evaluation tool to help navigate complexity, build consensus and overcome policy flux. Smart-SUR could help focus stakeholders on long-term urban transformation goals, rectify organisational misfit and galvanise finance.

- It mandates foresight, integrity, institutional fit, local consultation, design ingenuity, construction expertise, and financial acumen. Its transformative impacts target connectivity, productivity, ecological and community resilience (De Wit, 1988).
At 67 acres, King’s Cross is the largest mixed use development in single ownership to be master planned and developed in central London for over 150 years.
KING'S CROSS - A NEW PIECE OF CITY

MADE IN LONDON
An £850m investment by London & Continental Railways has re-established St. Pancras as ‘the Cathedral of the railways’ - both at home and abroad.
Kings Cross regeneration project

Key Objectives

- Improve accessibility and connectivity
- Regenerate
- Provide a sustainable commercial and residential area
- Create one whole area (estate) not just one element
- £2.5bn transport infrastructure investment

Partnership Structure
Kings Cross regeneration project

**Project main risks**
- Delivery risk
- Market risk
- Keeping cash flow
- Development risk
- Generating revenue

**Project board**

Kings cross partnership

Argent

Arup (oversight/project manager)

Designers/planner/architects (EDAW coordinate)
In May 2014, we conducted a site visit to Utrecht Station. The project, proving ground for smart-SUR.

The 3 billion Euro project was conceived back in the 1990s but construction only started in 2007. The redevelopment seeks to intensify and rejuvenate an inner city area, enhance cycling and public transport access and improve permeability between the old historical core and station precincts.

Specific construction elements included a new railway station area, renewal of the Hoog Cathrijne shopping mall and upgrades to pedestrian walkways as well as renovation of Catharijnesingal Canal. The site visit involved several rounds of interviews with key USARP stakeholders to discuss critical success factors and project bottlenecks.
Utrecht Central Station mega urban regeneration project

Key Objectives

- Create an internationally compatible business environment
- Intensify and reinforce the inner city area
- Limit and guide auto-mobility (focus of cycling and public transport rather than auto mobility)
- Combine the old historical city with the station area

Partnership Structure

![Diagram showing partnership structure with various stakeholders including City of Utrecht, NS, POS, ProRail, Corio, RegioTram Utrecht, etc.](image-url)
Utrecht Central Station mega urban regeneration project

Project bored

Project main risks

- realisation of real estate program (investment objectives)
- unforeseen development costs of acquisition, construction, site preparation and land assembly
- long operating period of the scheme.
## Synthesis of results

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Smart and sustainable urban regeneration (smart-SUR) provides a useful tool to screen urban regeneration projects. It involves both procedural and balanced multi-faceted teleological considerations (outcomes and impacts).

In developing the framework, we found conflicted notions of ‘smart’ and ‘sustainable’. Urban regeneration extends beyond development and engineering efficiency in terms of time, cost, and project delivery.
Sustainable urban regeneration projects build on local roots and aesthetic identity but are complex with multiple contested goals and high information costs.

Betterment ideals are balanced by practical awareness of competing foci and, hence, administrative complexity.

SUR transformational aspirations for urban realm enhancement or spatial equity must be balanced by a sober consideration of legal and planning process, impulses to self-determination, entrepreneurship and, not least, financial viability.
Our research makes four key contributions.

First, it noted policy flux and political vicissitudes, site and engineering challenges, blight or social deprivation all complicate public realm transformation projects.

Second, it postulated and investigated a smart-SUR multi-criteria framework to screen urban regeneration projects.

Third, the research highlighted the limitations of secondary data for assessment. Documents, digital mapping, or street-view technologies are commendable but ‘scuttlebutt’ investigations are necessary to capture fine-grained institutional and site-specific regeneration issues. Smart-SUR project analysis invokes dialogue with diverse locals and experts, discussion with partners, process observation and audit of outputs, outcomes, and impacts.
Finally, we stress the importance of stable and effective smart-SUR partnerships.

Unless contained by independent, scientific assessment and conflict resolution mechanisms, stakeholder wrangling can delay or stop projects. On the other hand, autocratic project delivery without due reflection, tight oversight, or authentic local empowerment can bequeath ‘white elephants,’ urban dysfunction, debt, and the poison chalice of civic corruption.