

# Spatial Ethics as an evaluation tool for the long-term impacts of mega urban infrastructure : an application of Spatial Ethics Multi-criteria Assessment to Canning Town Regeneration Project, London

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## Research Topic

Decision-making processes for mega urban infrastructure developments are far from closed rational systems, contrary to what current planning and appraisal paradigms would suggest. They rarely satisfy everyone, and are politically driven, reflecting the interests of key stakeholders and macro-scale economic development goals, with limited evaluation of multi-scales impacts and unwanted negative consequences to society at large. The aim of this research is to contribute to theoretical and empirical knowledge concerning the long-term impacts of mega urban infrastructure investment as an agent of urban regeneration through the ex-post evaluation of urban spatial transformation over time, focusing on the impacts at the micro (local) scale.

The central question posed is *“To what extent does mega infrastructure investment for urban regeneration in London bring positive returns to society over time and space, consistent with the principles of spatial ethics?”*

- What kind of urban spatial transformation does mega infrastructure investment create or facilitate over time? in particular, in relation to public (social) interests and benefits at a local scale?
- What are broader costs and benefits (monetisable and non-monetisable) stemming from such transformation?
- Who are the winners and losers with consideration of the macro and the micro-scale perspectives of urban regeneration and mega urban investment?

## Multi-Criteria Assessment with respect to Spatial Ethics

Spatial Ethics is explored as a conceptual basis to shape a multi-criteria evaluation framework to investigate the long-term impacts of mega urban infrastructure investment in consideration of multi-scale interests and impacts, spatial equity, and the local sustainability of the impact of such investment.

Spatial Ethics Multi-Criteria Assessment (MCA) framework has been developed as a pragmatic tool to identify and measure the long-term impacts in respect of a plurality of actors, ideas, interests, and priorities by involving different numbers and types of participants in shaping the framework and evaluating long-term impacts.

A case study is undertaken in order to apply the SE MCA as a practical calibration and proof of concept test. It focus on urban transport projects in East London with primary objectives including the regeneration of the areas. First, background context into transport investment for regeneration in East London is presented, focusing on spatial impacts around Canning Town. Secondly, the SE MCA framework is shaped through a secondary data assessment and preliminary impact assessment. Thirdly, qualitative and quantitative assessments are undertaken using the SE MCA framework. A scoring exercise is then conducted by the researcher and a planning officer of the local authorities, as an initial test of this aspect of the framework.

Spatial Ethics Dimension	Objectives	Sub-objectives
<b>Virtuous Space</b>	To ensure the integration and the inclusiveness of urban spaces, creating positive socio-economic impacts	To foster the connection and the integration of physical spaces and communities To ensure the inclusiveness and the openness of space meeting the needs of various users
<b>Contractual Space</b>	To enhance the values of public goods and services, meeting common interests in urban spaces	To ensure that newly created public infrastructure, spaces, and services bring social and economic vibrancy to local areas To contribute to enhancing the condition of existing publicly owned or managed spaces, facilities and services
<b>Dutiful Space</b>	To bring a fair and equitable distribution of benefits	To foster good accessibility to public transport and opportunities, and regeneration effects for local peoples To foster good accessibility to public transport and opportunities, and regeneration effects for the disadvantaged areas (i.e. area with high deprivation level) To ensure negative environmental and social externalities (costs) produced at local level are minimized/ mitigated To ensure mitigation of negative externalities affecting the disadvantaged area (-> contribute to the obviation of economic and social disparities of the local areas )
<b>Consequential Space</b>	Wide distribution of benefits contributing to the quality of life	To ensure net positive impacts brought to the well-being of the local areas To ensure net positive impacts on the everyday life of local people (as perceived by local people)

### • Differential spatial impacts and the Golden Rules

More negative community effects are concentrated within particular geographical locations, particularly within the areas of high deprivation, which is also the locality with the least accessibility to public transport as well as the most exposure to environmental and social risks from various projects. The contribution of MUTI to the obviation of economic and social disparities is limited, and sometimes reinforces the effect of deprivation and the inequalities arising from the socio-spatial division. However, the generalisation of the impact of regeneration and infrastructure investment on both equity needs to be reconsidered. It is important to note that negative impacts are perceived differently by the diverse local communities, depending on many factors such as location, tenure type, and occupation. Moreover, factors influencing individual levels of resilience, such as health, education, and income status, are strongly related to the extent to which local people accrue benefits or are influenced by changes. Fundamentally, some detrimental impacts are related to macro factors such as reforms to the social welfare policy as well as socio-demographic changes at the macro level. increasing accessibility by moving from the East London or further areas, are the beneficiaries of transport investment and the regeneration scheme.

## Results and reflection

### • Urban spatial transformation and public (social) benefits

The MUTI and urban regeneration projects produce spatial transformations, reflecting the market-driven macro scale interests and a reliance on private sector for infrastructure investment, which have brought impacts on the existing patterns of spatial differentiation across different income and social groups at multiple scales. Although MUTI has resulted in good accessibility to opportunities to some extent, regeneration projects can decrease pedestrian mobility through poorly integrated designs blocking public passage, while the need to travel further to neighbourhood areas is increased by the loss of local amenities. The tendency of the private sector towards minimal adherence to the planning obligations also leads to negative outcomes, which is due in part to the reduced size, and the poor quality of, the regenerated public space. Such loss is even more apparent where the overall contribution of newly created public infrastructure is lower than the benefits brought by the enhancement of existing public facilities.

### • Impacts from a utilitarian perspective: who wins and who loses?

A final question to be asked is whether the benefits of the mega urban project exceed the costs ultimately, contributing to, or detracting from, the quality of life of members of society over different space. It appears that the MUTI did not make a contribution to the obviation of economic and social disparities of the local areas as well as the ultimate impacts on the quality of life of the local people, which could be related to the multiple negative impacts including intermediate impacts as well as the limited regeneration effects to local areas. At the wider level, the positive impacts are noted: people who benefit from the affordable housing policy and increasing accessibility by moving from the East London or further areas, are the beneficiaries of transport investment and the regeneration scheme.