

Plus Project: *Urbanising Suburbia*

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Introduction

Urbanising Suburbia is one of the SUFC's Plus Projects carried out by Dr Frey (Co-Investigator) and Dr Bagaeen (Research Fellow) of the Urban Design Studies Unit at the Department of Architecture, University of Strathclyde . The project investigates ways in which predominantly low density and single use suburban areas can be transformed into socially, economically and environmentally sustainable areas. The project also investigates whether such transformation of suburbs is socially acceptable and economically viable and how intensification impacts urban form and the urban environment. The three year project started in March 2004. Urbanising Suburbia is closely linked to the Consortium's core programme, specifically research into the impact of urban form on travel behaviour carried out by Dr Ferguson (Co-Investigator) and Mr Woods (Research Fellow) at the Department of Civil Engineering, University of Strathclyde .

Definition of suburbia

There are many different forms of suburbs with diverse development patterns, densities and socio-economic profiles, ranging from historic inner suburbs of the 19th and early 20th century to planned suburbs of the interwar period, social housing suburbs of the '60s, and today's suburban or satellite towns within a conurbation, speculative public transport suburbs and car suburbs (compare Gwilliam et al, 1998). Today's understanding of 'suburbs' and their problems in terms of sustainability has its roots in the car suburbs. They are generally classified as medium to low density areas predominantly if not exclusively for residential use; they are no longer located at the urban fringes only but can be found in any conceivable location of the city and conurbation.

Arguments for at least containing, at best intensifying suburbia

Despite their overwhelming popularity in the UK as place of residence, in terms of sustainability such areas have a number of problems (compare *ibid.*, p.14):

- Economically: such areas have low levels of economic activities and depend on work places, shops, services and socio-cultural facilities elsewhere, specifically in denser primary, secondary and tertiary core areas of the polycentric city and conurbation; they lack containment and necessitate increased levels of transport and travel over larger distances;
- Socially: due to monotonous development, use of similar house types and absence of local services and facilities many suburbs lack a sense of community, place and centrality, although some are well designed and highly attractive in environmental terms; as a result, there are low levels of social and cultural activities;
- Environmentally: their land and energy consumption levels are high; they are car dependent as their low population density does not support viable public (or other alternative modes of) transport; as a result they generate congestion on main roads into and out of the higher density central areas of the city and high levels of air pollution; they may in some cases have unsafe and neglected public spaces specifically in areas of higher levels of road traffic.

Suburbs with such economic, social and environmental inefficiencies are increasingly considered as areas in need of at least containment, at best intensification. If one rationale for intensification is to render suburbs more sustainable, the other is the overwhelming need for more housing in the UK and specifically the South-East as a result of the growing number of small households. The UK government, in tune with European Community and Urban Task Force recommendations to return to the compact city (CEC, 1990; Urban Task Force, 1999; ODPM, 2003), calls for 60% of the urgently needed new housing to be built within existing urban areas in order to contain urban sprawl, preserve the countryside and make towns and cities more sustainable (DETR, 1999). To accomplish this requires the intensification of existing built-up areas – not just medium to low density suburban areas but other urban areas with a capacity for intensification – by developing gap sites, large gardens and backland, derelict, underused and disused land; by vertical and horizontal extensions to buildings; by partial demolition and replacement of low density and low quality existing urban fabric by higher density development (compare DETR, 2000a,b,c).

Barriers to intensification

An investigation of specific types of suburban development forms shows that some of them, specifically some typically English suburbs with terraces and semidetached houses on small plots of land, offer hardly any or only an insignificant opportunity for intensification of the kind proposed above (compare Llewelyn-Davis, 1998 and no date) and this in turn indicates that in such cases sustainability target values are not achievable. It follows that there is the potential of considerable barriers to the urbanisation of such suburbs unless existing urban fabric is replaced. Replacement may not be the right approach if the quality of the built environment and the quality of life a suburban area offers are high. If this is not the case, replacement – although occurring in isolated cases – is on a larger scale likely to generate opposition by property owners unless a larger number of them agrees to demolition and replacement because this yields an attractive capital gain. It cannot be ignored that in the UK the majority of people prefers to live in low density suburban areas and that there is resistance of many living in suburbs to new, and specifically affordable, housing in their areas (The Civic Trust, no date, p.8; ODPM, 2003)

The response to local conditions and the need to investigate (sub)urban areas as part of an urban network

In view of considerable barriers to intensification, Urbanising Suburbia investigates a wider range of urban and suburban areas with a variety of development forms and densities in search of those with the highest potential for transformation into sustainable neighbourhoods and communities. This potential depends on a number of conditions: a) the possibility of increasing development and population density without destroying a high quality built environment, b) the acceptability of intensification, and c) existing or potential access by foot to local services and facilities and to public transport. To respond to these conditions, this project investigates urban areas not in isolation but as part of a network in which the (sub)urban areas are the nodes and public transport routes the links. Within this network nodes may be more or less urban, dense, sustainable as long as they are connected. The achievable level of sustainability of the network's nodes depends largely on local conditions and the support of the local population.

Research Objectives

The key objective of Urbanising Suburbia is to develop a tool with the help of which

- The degree of sustainability of existing (sub)urban areas can be measured;
- Intensification programmes can be established that improve the degree of sustainability of these areas;

- The degree of sustainability of intensified (sub)urban areas can be predicted.

The project furthermore aims to establish

- The barriers to intensification, specifically whether the intensification of (sub)urban areas is likely to be socially acceptable and economically viable
- And how intensification will impact on the quality of urban form and the urban environment.

The capacity and applicability of the tool for the measurement of the degree of sustainability of (sub)urban areas and for the assessment of the potential for their remodelling will in this project be limited to the planning stage of intensification at district levels and to the conception stage of intensification at local, i.e. neighbourhood level. However, recommendations will be made at the end of the project how through further research the tool can be expanded to include design, construction and post-occupancy stage of intensification (figure 1).

Stages, methods and output of research

The overriding approach to the task the project has set itself is to develop more than a sustainability checklist that highlights goals and points at urban problems but does not give the user any advice how to respond to the problem. The tool that this project is in the process of developing is geared towards the measurement of the degree of sustainability of existing (sub)urban areas as well as the systematic formulation, by comparison of target values with existing values, of appropriate forms of modification and remodelling of these areas to improve their levels of sustainability in response to the qualities and/or deficiencies of their existing location, morphology and socio-economic profile. The tool's response to place-specific conditions of individual (sub)urban areas is achievable through the prioritisation of sustainability parameters and target values. This 'tuning' of the tool to local conditions is considered to be essential as (sub)urban development forms, land use patterns and other social, economic and environmental characteristics and constraints cannot always be expected to allow all sustainability targets to be achieved; in such cases the need for a decision which targets to pursue and which to compromise demands the setting of priorities. The development of the tool, the survey of (sub)urban areas, the modelling and assessment of intensification programmes and the validation of the social acceptability and economic viability of intensification is carried out in the following working stages and approximate time framework:

- Establishing indicators and target values for sustainable urban areas and developing a tool for the measurement of sustainability (ongoing, to October 2005)
Sustainability indicators and target values are established by scrutinising relevant EU and UK policy guidelines, research literature, and best practice EU and UK case studies. The list of indicators and target values will be adaptable and expandable to respond to advances in research into issues of sustainability as well as social, economic and political changes. The established target values are grouped according to the stages of the intensification process (figure 1) and documented in a matrix that allows their systematic comparison of target values with the existing values of (sub)urban areas under investigation (see below). This comparison helps to establish in which indicator categories an urban area underscores and requires improvement. The tool is developed after scrutiny of existing and currently developed sustainability tools, specifically also those investigated by the SUE MoT scoping study aiming at the development of the concept of sustainability tools and their use (BRE, 2004).
- Survey of selected (sub)urban areas and data processing (June to October 2005)

The existing values of urban areas are established with the help of primary data (survey of urban form characteristics and of housing types and conditions) and secondary data (Census data, Valuation Roll data for non-residential development, address point data). With the help of the tool existing values of these areas are compared with the target values. The output of this working stage is a detailed regeneration programme which lists all necessary improvements of and additions to each of the investigated areas to achieve the target values (e.g. the required increase of population and housing, the additional services and facilities, work places and open green spaces needed in the area, the preferred location of services and facilities and of public transport stop for access by foot and bicycle, the connectivity of the area to the city centre and other urban areas, etc.).

- Modelling the intensification of selected (sub)urban areas and assessing achieved improvements of sustainability
(October 2005 to April 2006)

The areas under investigation which do not achieve some or all sustainability target values are modelled using the established detailed regeneration programme. New development in form of additional housing, services and facilities, work places, open spaces etc. is located and mapped using ArcGIS; the form of new development should respond to the existing urban form of the area that is intensified to attain a coherent overall visual appearance. This remodelling can be carried out following three approaches: first using the 'natural' capacity of an area for intensification as a result of the amount of readily developable land (the modest non-replacement approach which in cases may not achieve much intensification); then according to an increased capacity for intensification as a result of land being made available by replacing the poorer urban fabric of the area (the modest replacement approach with a higher degree of intensification than the first), and finally according to the full capacity required to achieve all target values which may result in a substantial amount of replacement of existing fabric (the radical replacement approach which may achieve a high percentage if not all of the target values). The choice of approach to intensification may be limited as a result of the high quality of the existing urban fabric and the coherence of the area's overall form and structure. For each of these approaches to intensification the achievable values are compared with the target values, using the sustainability tool, to establish the degree to which the level of sustainability of the areas under investigation can potentially be increased. For each intensification a rough estimate of the costs for demolition and new built is made.

- Establishing the degree of social, economic and environmental viability if intensification
(October 2005 to April 2006)

Once alternative forms and degrees of intensification are modelled and quantitatively assessed, a representative group of local stakeholders of the areas under investigations, including representatives of the city council and city council departments, are invited to target group discussions and workshops to inform the group members on the purpose and potential achievements of, and to establish their reaction to, the different intensifications that have been modelled. The target group approach establishes principal acceptance of or opposition to intensification and, in case of acceptance, is also likely to establish target value priorities that better represent the needs and aspirations of the stakeholders. In this case the feedback information is used for the remodelling of the form and degree of intensification; the outcomes of remodelling are again discussed and assessed in target group meetings. In cases of a local community improving a specific intensification programme and form for their area, its economic viability will be investigated in collaboration with the city council, local developers and potential investors. The output of this stage is either a rejection of intensification or a reasonably detailed intensification programme that has been accepted by the stakeholders and has the potential to be further investigated in the design stage (not included in this project). The feedback from stakeholders is also likely to lead to the fine tuning of the sustainability tool to the benefit of further investigations.

- Establishing guidelines for the use of the sustainability assessment tool (April to November 2006)
The experiences of developing a sustainability assessment tool, modelling intensification of (sub)urban areas and of discussions with and feedback from stakeholders in target group meetings and workshops will be documented and used to formulate guidelines for the application of the tool. These guidelines are tested with target groups and then disseminated to all groups of interest.
- Dissemination of research findings (November 2006 to March 2007)
The output and findings of the research project will be disseminated through reports, publications, conferences, workshops with local stakeholders and representatives of the city council departments.

The choice of (sub)urban areas in Glasgow and collaboration with the Glasgow City Council, Department of Regeneration Services (DRS)

As already argued earlier, the choice of (sub)urban areas appropriate for intensification depends in the first instance on their degree of existing or potential connectivity. Rather than investigating (sub)urban areas anywhere in a city or conurbation, which might achieve little more than a larger or smaller number of additional dwellings regardless of any other sustainability parameters, (sub)urban areas located along an existing or planned transport corridor are selected for investigation. An important source of information for this stage of research are best practice cases in the UK, Continental Europe and overseas that have generated sustainable urban development and regeneration of urban quarters within existing or specifically expanded public transport corridors.

The first selection of urban areas in the City of Glasgow was made jointly with colleagues in Civil Engineering. The three urban areas are located in a centre–south transport corridor comprising an area in the city centre (parts of the Merchant City and Calton), parts of Pollokshields, a 'historic inner suburb' with high density tenemental and medium to low density urban villa districts, and Darnley at the southern fringes of Glasgow with remnants of social housing of the '60s but predominantly low density 'car suburb' type of development. A second centre–north corridor was initially selected specifically for the Urbanising Suburbia project.

During that period of selecting a second transport and development corridor, discussions about collaboration of the plus project team with the City Council Department of Regeneration Services (DRS) started, leading to the appointment of Mr Tom Turley as official contact person at DRS. Being responsible with his team for the planning of Glasgow Centre and specifically interested in the development of the River Clyde corridor, he suggested that the second corridor of this research project ought to investigate the communities immediately north and south of the Clyde and how these communities could be regenerated and connected with the new high-profile development at the river, including Glasgow Harbour, the Scottish Exhibition and Conference Centre and Science Museum area with new headquarters for the BBC and ITV already or soon under construction. The specific interest of the City Council to generate an 'achievable vision' how the river corridor ought to develop and how adjacent local communities, most of them with considerable socio-economic and urban form problems, may benefit through integration and intensification. The underpinning of such a vision through research would be of considerable value to the City. The centre-north corridor was therefore abandoned and the new river corridor, in the area between city centre and Clyde tunnel, is now under investigation (figure 2). Valuable information has already been or will soon be made available by DRS in form of statistics for and deprivation levels of the selected communities north and south of the river, masterplans of current and planned projects, maps of derelict and disused land etc. Contacts to local Housing Associations will be

established in due course, also to Govan Initiatives and other stakeholders and groups of interest.

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Figure 1: The stages of intensification covered by the sustainability tool

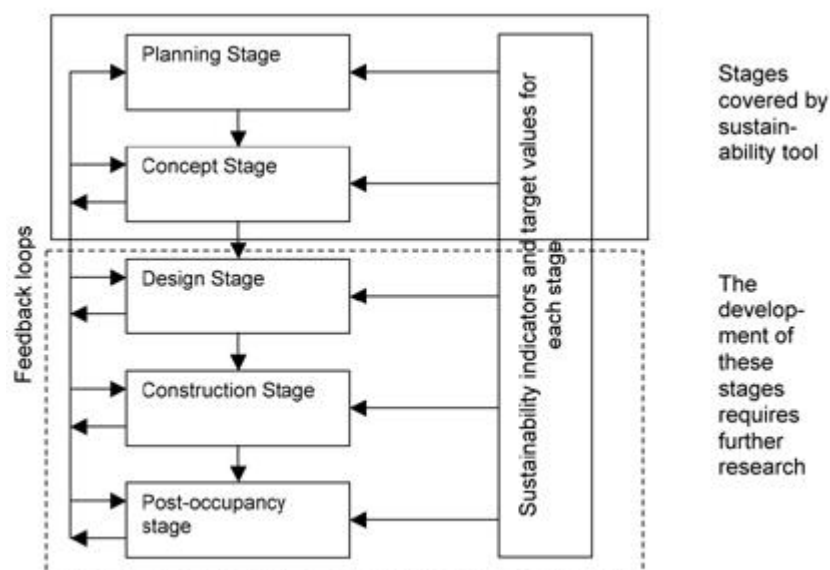


Figure 2: Diagrammatic presentation of selected urban areas in the River Clyde Corridor

