urbed

Welcome to the first issues of **SUN DIAL**, the journal of the Sustainable Urban Neighbourhood Initiative. Some of you may remember our **21st Century Homes** newsletters which were part of a project funded by the Joseph Rowntree Foundation. One of the recommendations to arise from this work was that we need models for urban environments capable of making our cities into humane, pleasant places to live. These we called sustainable urban neighbourhoods

We are pleased now to be able to do this in a new initiative supported by the DoE's Environmental Action Fund and a well know charitable trust. We hope that the reaction to this new newsletters is as positive as the reaction to 21st Century Homes. We would welcome comments for publication in future issues.

Models from the past such as Edinburgh new town provide examples of urban environments which are human in scale yet urban in nature and capable of attracting people back to cities

The... SUSTAINABLE URBAN NEIGHBOURHOOD Initiative

The Sustainable Urban Neighbourhood Initiative has been established to provide a focus for research, training, promotion and technical assistance related to principles that will make cities more sustainable.

Sustainable is used in its widest sense to encompass both minimal environmental harm as well as social and economic sustainability. It is used to describe places which retain their attractiveness and value over time so that, as Ruskin said; *"When we build let us think that we build for ever"*.

Urban refers to both location and character. Like the Government we believe that more development should take place within existing towns and cities. However if this is to be successful it must be urban in character meaning that it is built at higher densities with a mix of uses accommodated on traditional streets and squares.

The Neighbourhood has been chosen as the natural level on which towns and cities are organised and where people share a common identity. Unlike the housing or industrial estate which is based upon the separation of uses, the neighbourhood provides a focus for a range of activities, where people respect each other.

To this end we are promoting, what we have called, ***The Sustainable Urban Neighbourhood*** as a natural urban building block suitable for both creating new neighbourhoods and repairing the fabric of existing urban areas. Our aim is to make urban areas more attractive for living, working, playing and investing; so combating the dispersal which has undermined the viability and vitality of towns and cities and led to unsustainable patterns of transport and settlement.

The initiative has been developed by URBED which for 20 years has helped to devise practical solutions to the problems of regenerating run down urban areas. This experience, once only applicable to pockets of decline, is increasingly relevant to the entire city if it is to be saved from the nightmare scenario presented by many American urban areas. This has been highlighted by recent research by URBED for the Department of the Environment and the Joseph Rowntree Foundation. The Sustainable Urban Neighbourhood Initiative will build upon this work by pooling knowledge and experience in urban planning and renewal in an attempt to reinvent the city in a form fit for the coming century.

The Initiative is funded through the DoE's Environmental Action Fund, a charitable foundation and a contribution in-kind from URBED. Further sponsorship is currently being sought. An advisory panel is being established and links are being developed with organisations such as the Civic Trust and Urban Villages Group. The Initiative will be based in Hulme, Manchester but will have a national focus and many of its activities will take place in London and other UK cities. It will be interdisciplinary and will cross boundaries between research and practice. If you would like to get involved in the initiative by receiving information or contributing to the seminars or news sheet and web site please contact us at the address below.

ACTIVITIES

The SUN Initiative will undertake the following activities:

Resource base - It will provide information on sustainable urban development from its office and through its Web site

Networking - Newsletters (such as this one), the web page, and seminar programme will be used to network good practice nationally and internationally.

Research - A number of research contracts are currently being actively pursued. Findings will be disseminated through the networking and publication programme.

Promotion and support - A network of professionals will provide advice to organisations promoting sustainable urban development. (see article inside)

Publications - Following the publication of our Building to Last report last year, a book on the Sustainable Urban Neighbourhood will be published by Butterworth Heinemann later in 1996. This will be part of a series of publications and pamphlets.

Exhibitions - A mobile exhibition will describe the principles which underlie the Sustainable Urban Neighbourhood and current best practice.

Development - The Initiative is currently involved in a number of proposals to create Sustainable Urban Neighbourhoods including an involvement with **City Strategies** with Levitt Beinstien Associates. This link with practitioners is crucial in ensuring that the institute remains practically grounded.

INSIDE

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- Further seminar DETAILS
- Homes for Change: An initial assessment
- Will demographic change fuel demand for urban living?

Stroget in Copenhagen: Countries like Denmark have a great deal to teach us about sustainable urban development, the reduction of car use and the creation of people based cities

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NEW URBAN MODELS
traditional principles

Siena: The ultimate compact urban settlement and the model for the European Commission's Green Paper on the Urban Environment

Manchester, as one of the first great cities of the industrial revolution is an ideal place to launch The Sustainable Urban Neighbourhood Initiative. The City's development illustrates many of the trends which have affected the Anglo-American city. As described in the writings of Frederick Engels[1], the atrocious conditions in Manchester caused the city's merchants to flee to some of the world's first suburbs in the 1830's[2]. This was reinforced in the 1930 with the development of Wythenshawe, described by Peter Hall[3] as the third Garden City. Manchester was one of the first cities to experience the effects of population dispersal. It thus helped to create the model for the classic Anglo-American City with a beleaguered city centre surrounded by a depopulated and declining inner city and ring of prosperous outer suburbs.

As we approach the end of the 20th century these centrifugal forces of dispersal are accelerating. The flight to the suburbs now includes industry, offices and retailing undermining the vitality and viability of cities[4]. What is more, it is generating unsustainable levels of traffic and resource consumption.

CHALLENGING DISPERSAL

The real relevance of Manchester is however that it is the first major UK city to challenge these trends by seeking to repopulate its central and inner city areas. This includes extensive city centre housing development and the redevelopment of wards like Hulme, Monsall and Blakely. The City has recognised that if urban repopulation is to be successful it must explore new forms of urban development to make central areas attractive to residents and investors. This will not be achieved by adapting the suburban forms which the development industry tends to favour but by reinter-preting the character and form of traditional urban areas. This new urban thinking was developed through the Hulme Urban Design Guide[5] and is now being translated into planning guidance for the whole of Manchester through the City's Draft Guide to Development[6], drawn up by an advisory panel of professionals and academics. Much has been achieved over the last five years, the draft development guide is already used as the basis for planning policy and is starting to change the way that people view the city. Manchester is therefore an ideal location for an Institute to study, promote and disseminate the implications of sustainable urban development.

THE NEED FOR NEW URBAN MODELS

Whilst Manchester may have taken a lead in promoting new and sustainable forms of urban development, the issues raised are of national significance. This was highlighted by URBED's action research for the Joseph Rowntree Foundation published in May 1995 as *"21st Century Homes - Building to Last"*[7]. In this we argued that dispersed settlement patterns are unsustainable socially, economically and environmentally. The fact that 85% of the net increase in households over the next 20 years will be single people and the increasing concern about environmental pressures will call into question the notion of suburban sprawl. Yet whilst environmental, demographic, and social pressures will increase the demand for urban living we suggested that there are currently very few successful urban development models.

environmental, demographic, and social pressures will increase demand for urban living

The report argues that it is important to develop models for the **Sustainable Urban Neighbourhood** as an attractive alternative to the traditional suburb.

URBED has also undertaken research into town centres for the Department of Environment . The report *Vital and Viable Town Centres*[4] suggests an important element the success of town and city centres is the reintroduction of housing to promote street life throughout the day and improve security and the viability of shops and services.

These issues are recognised in the European Green Paper on the Urban Environment[8], which promotes the "Compact City" as the most sustainable form of development. They are reflected in the UK Government's Sustainable Development Strategy[9], which stems from the Rio Summit and Agenda 21 and are being translated into policy most notably through PPG 1,6,12 and 13[10] which seek to channel development into existing settlements and to promote the vitality and viability of town centres. Whilst such initiatives are seeking to stem settlement dispersal, it is not sufficient to control out-of-towndevelopment. It is also important to attract people back into urban areas by turning them into pleasant places where people want to live. The Government has recognised this with the launch of its Quality in Town and Country Initiative[11]. The UN Habitat Conference is also making decent housing a global issue.

In a few places progress has been made in turning this vision into results. The development of Hulme in Manchester and Crown Street in Glasgow[12] illustrate that humane urban development is possible, viable and popular with residents. What however is needed is a wider debate around the issues raised by this "new urbanism" and a more systematic means of identifying and disseminating best practice. This will be a central role of the SUN Initiative.

DESIGN PRINCIPLES

Rather than being seen as a self contained settlement the Sustainable Urban Neighbourhood is envisaged as an integrated urban building block. As such it is a more modest but attainable refinement of the ideas of the Urban Villages Group. An Urban Village might be made up of a series of urban neighbourhoods, but more significantly the idea can be used as a model for rebuilding existing towns and cities along more sustainable lines. The aim is to repopulate existing settlements and to increase densities. The benefits include reducing car use and supporting public transport, providing an alternative to suburban sprawl, putting redundant land and buildings to good uses and making recycling systems, water restoration, and combined heat and power more viable. The key characteristics are:

Quality space - A high quality urban environment created by well proportioned buildings and attractive, well maintained spaces. This public realm is human in scale but urban in nature and designed to promote interaction and to accommodate the diversity of urban life.

A framework of streets and squares An urban structure based upon a clear network of streets and public squares designed to serve both as routes and as public places supervised by the occupants of surrounding buildings.

A rich mix of uses - A diversity of uses, buildings and tenures accommodated within a common street pattern. This reduces commuting and car travel to facilities as well as fostering activity and greater security throughout the day and a more balanced community.

A critical mass of activity - A density of uses to create sufficient activity and people to animate streets and public places and to sustain shops and other public facilities.

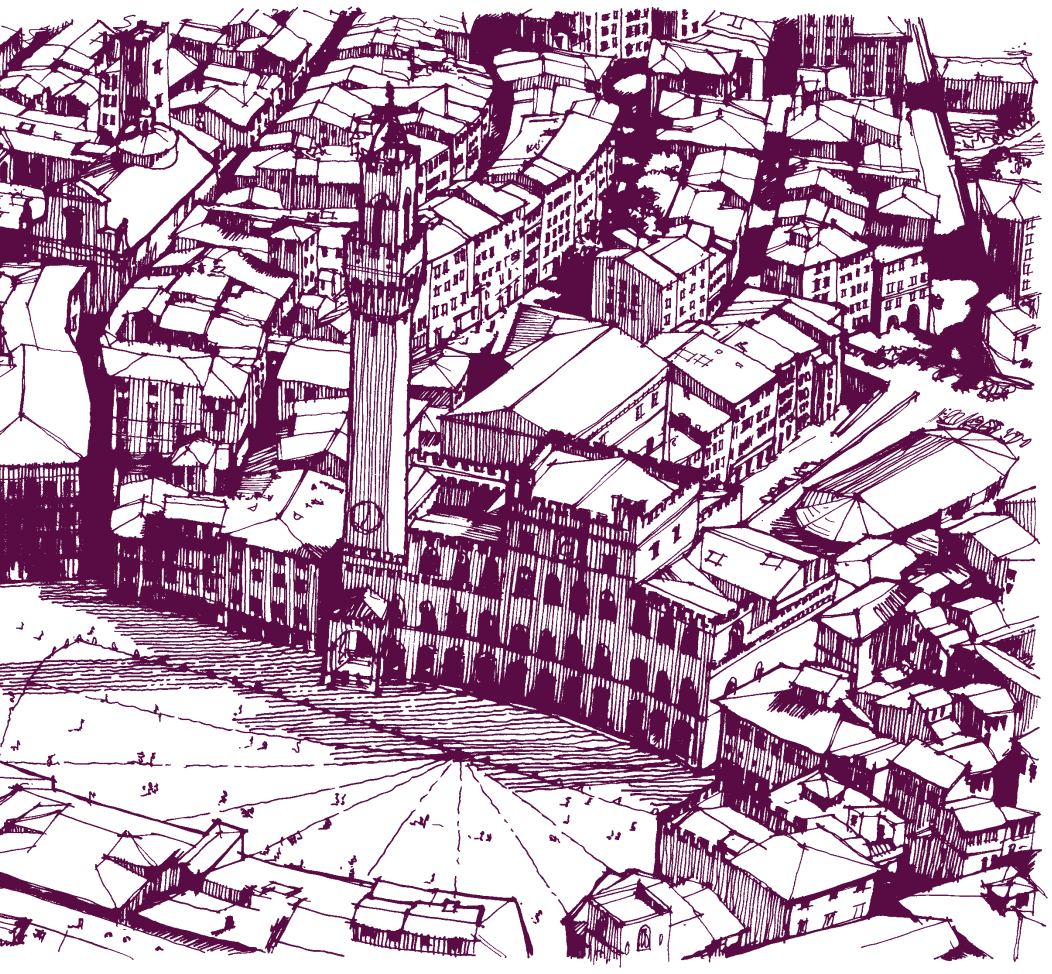
Minimal environmental harm - The development of urban areas which are sustainable both in terms of their environmental impact and in their ability to be flexible and adapt to future changes. This includes good public transport, waste recycling, combined heat and power, well insulated housing, urban ecology, water saving and sustainable materials.

Integration and permeability - A framework of streets to provide a degree of permeability giving a choice of routes and making the area feel safer. Successful urban areas avoid the development of housing and workspace as defined estates but rather mix them up and blur the boundaries between them.

A Sense of Place - The use of landmarks, vistas and focal points along with the incorporation of existing features and buildings or imaginative landscaping and public art to give new urban areas a unique character and memorability.

A feeling of stewardship - A sense of responsibility from residents and workers who are encouraged to play their part in the upkeep of the area and are willing to intervene and report crime and other antisocial behaviour.

It is not always recognised that there are many successful urban models in UK cities such as Moseley Village in Birmingham



THE DEVIL IS IN THE DETAIL

The design principles set out in the inset box form the basis of the Hulme and Manchester Guides to development[5,6], the Urban Villages concept[13] and indeed the Government's Quality in Town and Country Campaign[11]. They are based upon generally accepted urban design principles derived largely from existing urban areas which have withstood the test of time.

With such notable advocates it may seem that the argument has been won. Indeed in general terms the principles are widely accepted as witnessed by the overwhelmingly positive response to the consultation on the Manchester Guide to Development. However when it comes to the detail there are a host of issues which run counter to received wisdom and practice. There are particular conflicts, for example, between the principle of permeability and the widely accepted concept of "secure by design". The principles also run counter to highway standards and planning policies and also to the views of many developers, agents and investors. What is more it is arguable that consumers are voting with their feet (or more accurately their wheels) for suburban housing, business parks and out-of-town shopping.

A FUNDAMENTAL SHIFT

These conflicts help to explain why urban design principles which have been accepted for years have made such limited progress in practice. The reason is that the principles are about far more than just urban design. They imply a more fundamental shift in the way that towns and cities are planned. They imply a reversal of trends which date back to the industrial revolution and the adoption of continental rather than American models of urban growth. This has implications for all types of development, for transport policies and investment strategies as well as for urban policy particularly with regard to the inner cities. Whereas inner city policy has, for many years, sought to alleviate the damage caused by the dispersal of activity and investment a policy based upon reurbanisation and the repopulation has the potential to reverse the tide.

THE NEED FOR RESEARCH

Whilst the importance of urban consolidation has been well documented there has been relatively little investigation of its detailed implications. For example there is now research from the Joseph Rowntree Foundation[14] which questions the long term benefits of some of the early "Secure by Design" experiments but little or no research into the effect on crime of permeable mixed use development. The same is true of highway design and the effect of urban layouts on congestion, accident rates and car use, or pedestrianisation on the health of town centres. These are not isolated examples, there are a host of technical, environmental, economic and social issues raised by the principles set out above.

> This is more than urban design, it implies a fundamental shift in the way that towns and cities are planned

Advocates tend to rely on common sense, anecdotal evidence and the views of writers like Jane Jacobs to justify their case. As such they have as little if not less empirical foundation than the modernist movement did in the 1950's. This has led some to suggest that the principles of reurbanisation are doing little more than replacing one set of dogmas with another set which are equally ill-conceived. If this accusation is to be countered there is a pressing need for research into the implications of these urban principles. If it cannot be countered it is important that this is recognised so that the mistakes that have dogged the planning of cities for the last 40 years are not repeated.

1. Friedrich Engels: The Condition of the Working Class in England in 1844 - 2. Robert Fishman: Bourgeois Utopias - The rise and fall of suburbia - Basic Books, 1987 - 3. Peter Hall: Urban and Regional Planning - Pelican Books, 1975 - 4. URBED: Vital and Viable Town Centres- Meeting the challenge - HMSO 1994 5. Hulme Regeneration Ltd: Hulme Guide to Development, 1994 6. Manchester City Council: Draft Guide to development, 1995 7. David Rudlin, Nicholas Falk: Building to Last 21st Century Homes - URBED, Joseph Rowntree Foundation 1995 8. Commission of the European Communities EUR 12902 EN: Green Paper on the Urban Environment, 1990 9. DoE: Sustainable Development, the UK Strategy, HMSO 1994 10. DoE: Planning Policy Guidance Notes, 6 Town Centres 1996, 13 Transport 1994 11. DoE: Quality in Town and Country 1994 12. Tony Aldous: Urban Villages - A Concept for creating mixed use urban developments on a sustainable scale 1992 14. Steve Osbourn and Henry Shaftoe: SAFER NEIGHBOURHOODS, Successes and failures in crime prevention, Safer Neighbourhoods Unit / Joseph Rowntree Foundation

SUPPORT programme

As part of the Sustainable Urban Neighbourhood Initiative we are able to offer help and support to organisations seeking to promote sustainable urban development. This may involve attending a workshop, making links with similar projects or securing help from an expert in a particular field. In return we would like to use these schemes, where appropriate, as demonstration projects to explore issues of sustainable urban development.

As part of the support programme we recently paid for George Mills of MBLC Architects and Urbanists to visit Gwalia Housing Society in Swansea. Gwalia, one of the largest housing associations in Wales, is promoting a scheme for 60 houses in a village near to Swansea. After participating in 21st Century Homes, Phil Roberts, Gwalia's director of development, was interested in exploring some of the lessons from Hulme in Manchester. George, as one of the architects in Hulme and as an urban design advisor to Manchester City Council, was able to explain the thinking in Hulme and some of the practical issues raised. He met with members of Gwalia's development team and architects and is providing information for the local planning department. Gwalia have since invited members of Homes for Change to Swansea to explore their experience in more detail.

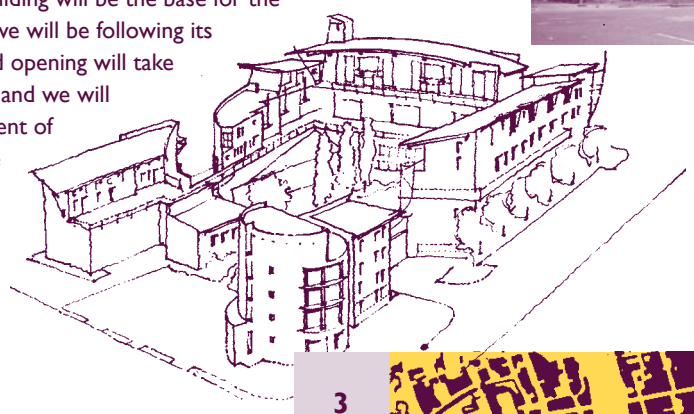
Gwalia were responsible for one of the 21st Century Homes demonstration projects and is one of the most advanced housing associations in the UK when it comes to environmental issues. It is therefore hoped that the scheme will be an opportunity to explore issues of urban environmental sustainability. We will be following the scheme and hope to be able to bring updates in future issues of this newsletter.

Anyone interested in the SUN support programme should contact David Rudlin at the Sustainable Urban Neighbourhood Initiative. We can also provide workshops on sustainable urban development based upon material developed for Manchester City Planning Department. Both activities can be partly funded by the SUN Initiative.

Proposals for the repopulation of Monsall in Manchester by George Mills. This provides a new urban edge to a Victorian park and gives form to one of the City's main northern radial routes.

Homes for Change NEARS COMPLETION

The SUN Initiative will be based in the Homes for Change building in Hulme which was one of the 21st Century Homes demonstration projects. In Summer 1996 this nears completion, over budget and behind schedule. It is nevertheless emerging as one of the most striking mixed use housing schemes to have been built in the UK for many years. The building will be the base for the SUN Initiative and we will be following its progress. The grand opening will take place in September and we will carry a full assessment of the finished scheme in our next issue.



Seminar programme

As part of the SUN Initiative we are running a series of seminars through Autumn 1996 and Spring 1997. These will bring together practitioners and academics to discuss key issues of relevance to sustainable urban development. Each seminar will be addressed by two speakers who are leaders in their fields followed by a general discussion.

We describe below the first three seminars and list the other seven titles in the programme. The seminars are being organised in conjunction with the Urban Villages Forum. There will be a nominal fee of £25 per delegate for each seminar. Space at each event is likely to be limited so early booking is advisable. We have included below a booking form which should be photocopied and returned to the Urban Villages Forum.

1. WHERE WILL THE PEOPLE COME FROM?

Those people who advocate the repopulation of urban areas often worry about where the people and businesses will come from. Many of these areas have, after all, been losing population for over 100 years. Yet the DoE projects that household numbers in the UK will increase by 4.4 million over the next twenty years. This has cause caused groups like the Council for the Protection of Rural England to argue for development pressures to be accommodated within existing urban areas. The seminar will therefore ask:

- How much brownfield land really is available for new development?
- What are the constraints and the likely costs of overcoming them?
- How much housing can be accommodated and what are the effects of different densities?
- What has been achieved in the recent past?
- What does this tell us about future potential?

Time: **11th October 1996** 1.30pm-4.30pm
Speakers: **Professor Peter Hall** - Bartlett School of Architecture
Martin Crookston - Llewelyn Davies
Venue: **The Building Centre** - London
In association with:
The London Planning Advisory Committee

2. WHAT ARE THE IMPLICATIONS OF URBAN REPOPULATION?

Whilst the loss of population from urban areas may have slowed in recent years especially in London, there is little evidence that large numbers of people are prepared to forsake the suburbs in favour of urban life. The reasons for this go very deep into UK urban trends. Population dispersal has shaped the British city ever since the industrial revolution and in recent years has been reinforced by the dispersal of jobs and retailing. Urban repopulation would therefore need to reverse trends which the planning system has struggled to control for many years.

- Is it possible to generate demand for urban development at increased densities?
- Are there demographic and economic trends which may fuel an urban renaissance?
- Can repopulation address inner city decline without marginalising existing populations?
- What is the economic impact of increasing local spending through new urban housing?

Time: **18th October 1996** 1.30pm-4.30pm
Speakers: **Professor Brian Robson** - Pro-Vice Chancellor, Manchester University, School of Geography
Eamonn Boylan - Housing Department, Manchester City Council
Venue: **Homes for Change** - Manchester
In association with:
Homes for Change

3. MAKING MIXED USE WORK

Despite agreement about the value of mixed use development very little of it has taken place on the ground. There is not even a clear understanding of what constitutes mixed use: Is one of the uses always housing? Does it involve different uses in the same building, in the same block, estate or district? At the one extreme mixed use buildings have proved very difficult, at the other the rejection of district wide zoning is now widely accepted.

- How is mixed use development defined?
- What are the benefits of mixed use development; car use, urban vitality, security etc..?
- What are the difficulties of financing and developing mixed use schemes?
- Does a mix of uses affect commercial and residential lettability, rents and values?
- What has been achieved and what can we learn from built examples?

Time: **8th November 1996** 1.30pm-4.30pm
Speakers: **Alan Rowley** - Reading University author of *"Mixed use development: concept or reality"* for the RICS
Ian Tuckett - Coin Street Community Builders
Venue: **70-77 Cowcross Street** - London
In association with:
Alan Baxter Associates

Left: Mixed use housing infill development in Berlin Architects Heneich and inken baller

The seminar programme is organised by the SUN Initiative in partnership with the Urban Villages Forum and other sponsors. Enquiries should be addressed to the URBED's Manchester Office and Bookings should be sent to the Urban Villages Forum using the form below.

BOOKING FORM

To book a place at one or all of the first three seminars please copy this form and post or fax it to:

Urban Villages Forum, 70-77 Cowcross Street, London, EC1M 6BP. Telephone: 0171 490 2702 Fax: 0171 490 2704

NAME:
POSITION:
ORGANISATION:
ADDRESS:

TELEPHONE:
FAX:

PLEASE BOOK ME THE FOLLOWING PLACE(S) AT:

☐ WHERE WILL THE PEOPLE COME FROM? 11TH OCTOBER
☐ WHAT ARE THE IMPLICATIONS OF URBAN REPOPULATION? 18TH OCTOBER
☐ MAKING MIXED USE WORK 7TH NOVEMBER

PLEASE INDICATE NUMBER OF PLACES REQUIRED IN THE BOX

Cheque enclosed for..
(£25/place inc. VAT)
Receipt required yes/no
Any special requirements..

Signature

OTHER SEMINARS IN THE SERIES

4. The process of urban generation and regeneration? December 1996
5. Will crime undermine the urban renaissance? December 1996
6. Is the Urban Neighbourhood a good investment? January 1997
7. how does urban development affect transport policy? February 1997
8. Can urban neighbourhoods really be sustainable? February 1997
9. Does urban design matter? March 1997
10. Who will build the housing? March 1997

Full details of these seminars will be contained in future issues of this news sheet

the Seminars are organised in association with the Urban Villages Forum

also supported by the urban design group

SUN initiative

The Sustainable Urban Neighbourhood Initiative is supported by the Department of the environment's Environmental Action Fund, a major charitable trust and URBED

The initiative is managed by URBED from its Manchester office by david Rudlin with administration provided by Christina Swensson and Helene Rudlin

The views expressed in this newsletter are those of URBED and do not necessarily represent those of the Department of the Environment or any other of the project's sponsors

This news sheet has been researched written and designed by URBED which is a not for profit urban regeneration consultancy set up in 1976 to devise imaginative solutions to the problems of regenerating run down areas. URBED's services include consultancy, project management, urban design and economic development. The SUN Initiative further develops URBED's growing involvement in housing development and continues the work of the 21st Century homes project.

21st CENTURY HOMES

Why NOT get involved?

Our aim is to develop the SUN Initiative as a broadly based network of organisations and individuals interested in the sustainable urban development. We do not have a membership but people can get involved in a number of ways...

Mailings: If you did not receive this newsletter by post please contact us and we will add you to our mailing list.

Contributions: We would welcome letters or articles for future issues of this newsletter.

Examples: We are compiling a resource base of good examples of sustainable development both nationally and internationally. We would therefore welcome details of projects that you are involved in.

Sponsorship: We are seeking sponsors for future issues of this newsletter and for exhibition material. Details are available on request.

Advisory panel: We are currently establishing an advisory group for the project and will announce members in the next newsletter. If you are interested in getting involved please contact us.

ENVIRONMENTAL SUSTAINABILITY AND THE URBAN NEIGHBOURHOOD

There has been a great deal of discussion about the enviromental benefits of attracting people back to live in urban areas. But how can urban areas themselves become more sustainable? This is not, as sometimes seems the case, solely a matter of planting more trees...

The sustainable neighbourhood will be based on travel by foot so is likely to resemble traditional places like Calne in Wiltshire (Right) and Romania (below)

For years cities have been painted as environmental villains. Just as cities dominate global trading systems so they lie at the heart of global systems of resource consumption and pollution.

Yet resource consumption and pollu-tion is created not by cities but people. London may produce 60 million tonnes of CO_2[1] a year but would these environmental impacts be any less if London's 7 million inhabitants were living in eco-villages spread across the south of England? If this were possible, which it isn't, we might imagine more food growing, local power generation, even reed beds for sewage treatment. But these savings would be cancelled out by increased travel distances to work, schools, shops, and leisure, the transport of goods over greater distances and the inefficiencies of providing public transport, recycling and other services to a dispersed population. Patterns of work and consumption may change but this could also happen within cities
where the impact would be even greater.

Cities are central to cultural and economic life. The dense, walkable city may be the most sustainable form of human settlement for the majority of people. For all their benefits, new settle-ments and eco-villages will only ever serve a fraction of the population. However urban sustainability is a complex issue as Robert and Brenda Vale have said: *"Green Architecture must encompass a sustainable form of urban development. The city is far more than a collection of buildings, rather it can be seen as a series of interacting systems - systems for living, working and playing - crystallised into built forms. It is by looking at these systems that we can find the face of the city of the future".*[2] These systems are not neatly confined to the neighbourhood or even the whole city but operate on a regional, national and global level.

Linear urban systems must be transformed into circular systems where waste outputs provide the raw materials for resource inputs. This will reduce the contribution of cities to the unsustainability of wider systems as advocated by the Manchester 2020 project[3].

What then will the sustainable urban neighbourhoods look like? It is possible to suggest a number of principles:

References:
1.Herbert Giradets - Mobilisation Civilisation, Resurgence 167 p6-9. 2. Robert and Brenda Vale - Green Architecture, Thames & Hudson 1991 3. Manchester 2020 - A Sustainable City Region Project, TCPA, CER 1995. 4. See 2 5. From FRANCIS TIBBALDS - 10 Commandments of Urban Design. 6. JANE JACOBS - The Economy of Cities. 7. Richard Register - From Cities To EcoCities, North Atlantic Books, 1994

THE PEDESTRIAN FRIENDLY NEIGHBOURHOOD

The Vales[4] argue that, since future cities will be pedestrian based, they will resemble traditional towns which predate the car. As Francis Tibbalds suggests, this means *"forgetting the spaced-out buildings of the past few decades, separated from each other by highways and left over tracts of land and concentrating on producing intricate places related to the scale of people walking not driving"*[5].

This has a number of implications:

- **Permeable streets:** So that it is easy to walk through the area without long detours caused by car based layouts.
- **A legible environment:** So that it is easy and pleasant to find your way around and everywhere does not look the same.
- **The taming of the car:** So that the car does not dominate yet we avoid the deserted pedestrianised environments which dominate many inner city estates.
- **Density and a mix of uses:** So that distances are minimised and there are people to animate streets and support local services.
- **Efficient Public transport:** So that people have the choice of an efficient public transport system.

ENERGY USE AND THE URBAN NEIGHBOURHOOD

Energy use will also shape our cities. Urban house types such as terraces and flats have fewer heat loss walls and are more likely to be sheltered by surrounding buildings. They use less materials and embodied energy and make use of existing infrastructure. Combined heat and power systems are more viable in dense urban areas so that neighbourhoods could have their own power station, producing environmentally friendly, cheap heat and power. This could also be linked to a waste incinerator, as in Sheffield.

URBAN RECYCLING

At present most UK recycling takes place through public recycling points. This should be extended to municipal segregated collection as in Milton Keynes. This again will be more efficient in dense housing areas where there is sufficient demand to support viable recycling systems. Cities are already great recycling systems as Jane Jacobs suggested when she envisaged a future where we will 'mine' urban waste for raw materials. In addition to conventional recycling this includes charity shops, second hand furniture stores, scrap yards and small businesses
which re-use urban waste. This is a rich vein of economic activity which could revitalise urban economies.

WATER SAVING

Water use is a classic linear system. Its purification and transport consumes large amounts of energy as does its treatment and disposal. Urban areas should use porous surfaces and water from roofs to reduce run-off and to maintain water tables. Grey water recycling could use water from baths and sinks for toilet flushing whilst measures within buildings should reduce consumption.

GREEN SPACE

The most sustainable urban areas are not necessarily those with the most open space. This is good for wildlife but not for pedestrians forced to pass deserted areas at night or for councils responsible for maintenance. Open space can reduce densities and the viability of other systems for local sustainability. Urban areas should nevertheless maximise wildlife as in Richard Register's vision of Eco-city[7] where the city is a contributor to biodiversity. This it can do through street trees, parks, squares, window boxes, courtyards, private gardens and roof gardens. Much of this can be put to productive use for food growing.

These factors have the potential to significantly reduce the environmental impact of urban development. They are not science fiction but use existing practical technology. This is not to say that sustainable urban development will be easy. Many of the principles run counter to current practice and compulsory competitive tendering of waste collection and bus deregulation have made the task harder. They could however form an agenda for a sustainable future in which cities play a central role.

This article is summarised from a chapter on sustainability and the urban neighbourhood from a forthcoming book by David Rudlin and Nicholas Falk on the Sustainable Urban Neighbourhood to be published by Butterworth Heinemann.

The... SUSTAINABLE URBAN NEIGHBOURHOOD initiative

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Welcome to the second issue of SUN DIAL, the journal of the Sustainable Urban Neighbourhood Initiative

In this issue we focus on the environmental sustainability of urban areas. Inside you will find articles from Michael King of the Combined Heat and Power Association and from Joe Ravetz on the Sustainable City Region Project. We also include an initial write up of the Homes for Change project in Manchester. The promised article on demographic change and urban living has been held over to issue three

We would welcome comments on any of the issues raised and articles for future issues of sun Dial

SUN dial

INSIDE

NEXT ISSUE

- Social sustainability and the urban neighbourhood
- Will demographic change fuel the demand for urban living?
- Developing local sustainability strategies in Southwark

Inside we assess the Homes for Change scheme in Manchester

The Sustainable Urban Neighbourhood Initiative

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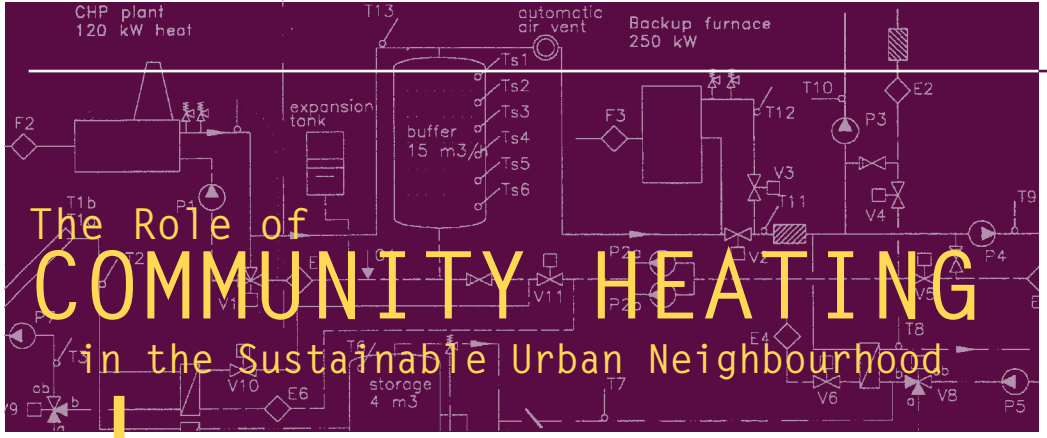

The Role of COMMUNITY HEATING in the Sustainable Urban Neighbourhood

The development of combined heat and power systems has the potential to reduce CO_2 emissions, increase the operating efficiency of heating systems and cut residents' electricity bills. What is more as **Michael King** of the Combined Heat and Power Association argues these systems are more likely to be viable in the sort of dense mixed use area represented by the Sustainable Urban Neighbourhood.

Community heating is a system of providing a number of buildings with room heating and hot water from a single source. In the UK community heating has been largely restricted to social housing where the technical difficulties which dogged its early development have now been largely overcome. Here there is an increasing recognition of its social and environmental benefits such as higher efficiencies and lower operating costs. This is particularly so when linked to a Combined Heat and Power (CHP) plant which can achieve efficiencies of 90% compared with 30-55% for conventional generation.

However, high infrastructure costs remain a barrier for developers in both the public and private sectors. This will remain a problem whilst developers focus on schemes in isolation and demand inappropriate payback periods. A further difficulty is the private sector's limited knowledge of local authority capital programmes.

Inappropriate paybacks allow individual boilers and electric storage systems, with 10-12 year life spans to appear cost effective. In contrast a community heating system will last 25-30 years in which time other systems would have to be replaced twice, each time with escalating maintenance costs.

Other systems rely on inefficient generating technologies and/or long distance transportation of fuel and power with inevitable transmission losses. This may not seem important when energy prices are falling but forecasts are for rising energy prices after the year 2000. The harmful environmental impact of such technologies are also important as councils begin to meet their commitments under Local Agenda 21 and the Home Energy Conservation Act.

Whilst longer payback periods and environmental considerations may tip the balance in favour of community heating, there are a number of strategies which can further enhance the viability of systems.

Firstly, the high "heat densities" of the grouped housing complexes offer a starting point for the development of community heating. Viability can be further increased by establishing a portfolio of heat customers in mixed use development so balancing demand profiles and energy use patterns. This has been achieved by Sheffield Heat and Power who have linked up many of the major buildings in the city centre including shopping centres, office buildings, law courts, leisure centres, the hospital, University and blocks of flats. Similar systems exist in Nottingham and Leicester whilst others are evolving in Manchester and Doncaster. Glasgow, Birmingham and Norwich also intend to follow this lead.

Viability is also increased by encouraging competition amongst heat suppliers including waste-to-energy plants, independent CHP units, renewable sources such as biomass and industrial plants such as bakeries and breweries which produce excess heat. New services such as district cooling, already established in the City of London, not only dispenses with the need for environmentally harmful air conditioning but smooth out inter-seasonal demand profiles.

Opportunities created by the liberalisation of the domestic electricity market in 1998 will CHP-generated electricity to be sold directly to domestic tenants. This is already taking place in pioneering scheme by the St Pancras Housing Association as described below.

What we built today must perform in a 21st century scenario of highly competitive energy prices, environmental concerns and potentially new energy taxes. These factors are beginning to drive urban development towards higher densities and mixed uses embodied in he concept of the Sustainable Urban Neighbourhood. Community heating offers the most appropriate energy solution in this context. It is therefore vital that today's developers select the energy system that makes effective use of shrinking fossil fuel reserves and install the enabling infrastructure for their building's future use.

chpa
Combined Heat & Power Association

St. Pancras Housing Association
St. Richard's House and Hillwood House.
A CHP system has been installed in this scheme near Euston Station as part of St. Pancras's green policy. The complex includes 95 flats, an elderly persons community centre and 10 commercial units. The building was originally served by two communal boilers and as part of the replacement of the heating system a 54kWe CHP unit was fitted. The housing association now provides both heat and electricity to residential and commercial tenants. The system has led to primary energy savings of 650,000 kWh/year, a 20% reduction in CO_2 emissions of 275 tonnes/year. Residents electricity bills were also cut by 25%. The scheme cost £268,000 compared to the replacement of the old boilers which would have cost £80,000. It did however benefit from existing heat distribution systems. It is estimated that the payback period for the CHP system is 7 years.

The Combined Heat and Power Association
can be contacted at:
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Homes for Change

As part of URBED's 21st Century Homes research for the Joseph Rowntree Foundation we used as a demonstration project the Homes for Change development in Hulme, Manchester. This was completed in September 1996 and in this article we undertake an initial assessment of the scheme.

The Homes for Change Housing Co-operative is a product of its environment. Its first development, opened in September, is a physical embodiment of the character of the community that created it. The building dominates the heart of Hulme in Manchester, a district which until a few years ago was one of the largest deck access estates in Europe. Homes for Change is a symbol of the areas rebirth.

At the same time it is based on a recognition that, whilst the Hulme built in the 1960's may have failed, it nevertheless nurtured a strong if unconventional community. What is more this community quite liked the old Hulme, the proximity to the city centre, the size of the flats, the tollerance and the close networks of neighbours. With the launch of the City Challenge funded redevelopment of Hulme, Homes for Change was conceived as a lifeboat to preserve a small part of the local community. The co-op sought not to reject the past but to build upon it by rescuing the best points of the of the old estate. At the same time they used their very practical experience of its failings to ensure that these were not repeated in the new development. In doing this the co-operative has created a potential model for the regeneration of British cities.

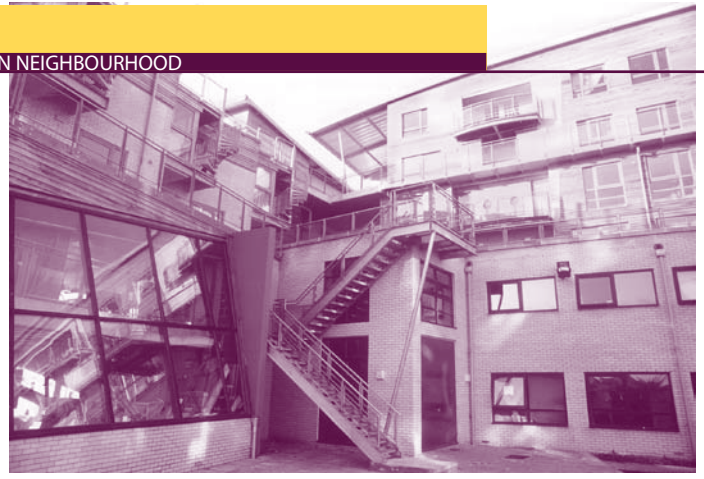
The relevance of the Homes for Change model is not so much the architecture of the building, striking as this is, but the process by which it was built. It illustrates that when local people are given a full and informed choice over their environment, the result need not be the blandness which has characterised so much community architecture. It has been suggested that the development is the result of a unique combination of circumstances and people. But the membership of Homes for Change is not untypical. They may be young and largely childless but so are 40% of UK households and more than 80% of the 4.4 million extra households predicted by the government in the next twenty years will be single people. Given a choice such people may not create another Homes for Change but they are likely to opt for something very different to the current product of most mass housebuilders.

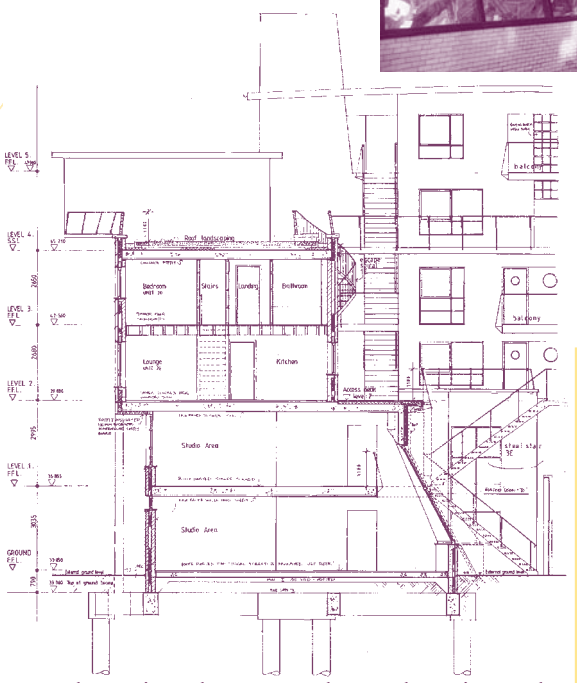
The development of the scheme

The Homes for Change co-operative emerged from Hulme in the late 1980's. Its members spent almost five years working on a scheme to convert a former police station in Central Manchester. Whilst this project did not happen, it did give the co-op a huge amount of experience. Crucially the co-op was registered with the Housing Corporation, something which few new-build co-ops have achieved since 1988. When it was announced that Hulme was to be redeveloped through City Challenge, Homes for Change was able to turn its attention to its home territory as an already established and recognised co-operative.

Homes for Change was accepted as one of the social housing developers in Hulme and following lengthy negotiations was allocated funding for 75 flats and a site in the heart of the area. However the Housing Corporation made it clear that an untried co-operative could not take on what was to become a £4 million development. The members therefore selected The Guinness Trust as their development partner. Under the terms of the partnership agreement Guinness was to undertake the development for the co-op whilst co-op members were given the right to be involved in all decisions and to take on ownership on completion if they could raise the necessary finance. This arrangement has led to inevitable tensions. However to Guinness's credit, they

The relevance of the Homes for Change model is not so much the architecture of the building, striking as this is, but the process by which it was built

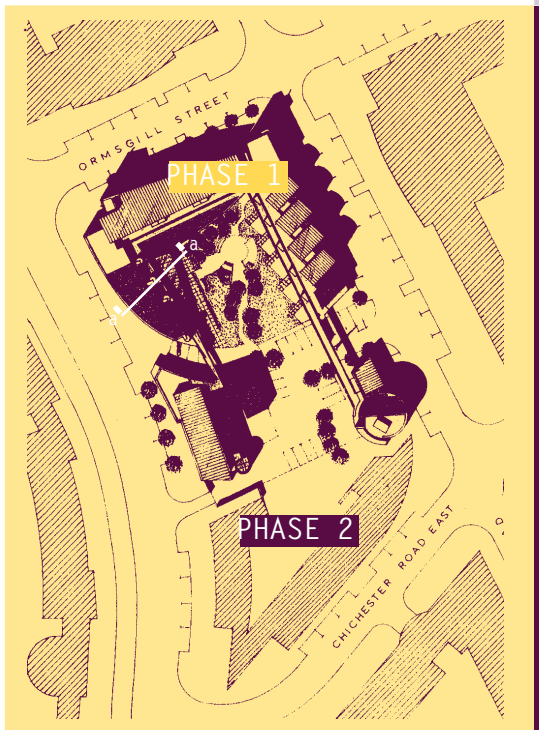




Left: section a/a through the artists' studio space showing the maisonettes above, the deck access walkway and the grass roof

Below: The site plan showing the planned phase two and the future relationship to surrounding streets

Below Right: Floor plans of the building (3rd and 5th ommitted)



have given the co-op real control as witnessed by the fact that the building is radically different to anything that a mainstream housing association would normally have developed.

Creating a mix of uses

From the start the co-op's vision has been of an urban mixed-use building. This was entirely in line with the strategy for Hulme but was particularly important for co-op members, many of whom were used to working from home and had developed businesses in the space provided by the old Hulme flats. There was a risk that these businesses would be destroyed by redevelopment unless affordable workspace could be provided. Homes for Change therefore planned to incorporate 1,500m² of workspace into the scheme and established a sister co-op, Work for Change to develop and manage this space. Work for Change is organised like a housing co-operative and is run by its member businesses. It has developed a concept of "self-managed workspace" so that businesses put time into managing the space in return for a reduction in service charges. A feasibility study for the workspace was commissioned from URBED, and funding was secured from City Challenge, the Moss Side and Hulme Task Force and the European Regional Development Fund. As with the housing, there was also a borrowing requirement which is provided by The Guinness Trust until Work for Change is able to raise its own finance. Because the tenants of Work for Change have been members of the group for some time, the workspace is almost unique in being fully let the day it opened.

The design process

After the appointment of The Guinness Trust, the most important decision was the selection of architects. Whilst the co-op wanted a building which was both "green" and collectively designed, they took the unusual decision of appointing architects who were specialists in neither of these areas, and indeed were not even recognised housing architects. MBLC Architects were appointed for their design flair and because of their attitude to the co-op, not as a group to be consulted, but as a multi-headed client. The co-op were confident that they knew how they wanted to be involved and were concerned to find consultants who shared their vision and would not be constrained by conventional wisdom.

The design process which followed was one of the most participatory to have been undertaken in recent years. Day-long workshops took place every month for more than a year. In the early workshops members visited schemes across the country and plundered architectural journals to make up style sheets to illustrate the sort of building that they wanted. They made 1:50 Plasticine models of the scheme to explore building forms and worked with larger models to understand the space. The group even made up full- scale models of the flat interiors in a local church hall. Hours were spent pondering brick types, colour schemes, door handles and windows. Throughout there were disagreements, Guinness for example objected to the grass roofs and deck access walkways both of which were subsequently incorporated into the scheme.

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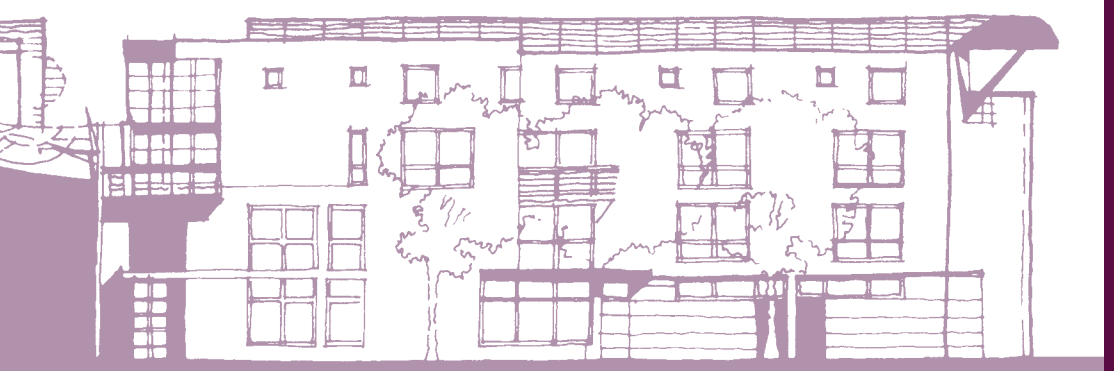


Scheme details

Area: 0.63 hectares.

Development partners:
The Guinness Trust/Homes for Change/Work for Change

Consultants:
Mills Beaumont Leavey (Architects)
Tweeds (Quantity Surveyor)
YRM Anthony Hunt Ass. (Structural Engineers)
Steven Hunt Associates (Service Engineers)
ECD (Environmental Consultants)
URBED (Development consultants)
Malcolm Lynch, Solicitors (Legal)
Slade & Cooper (Accountant)

Contractors:
Amey Building Ltd
(inc. Build for Change as subcontractors)

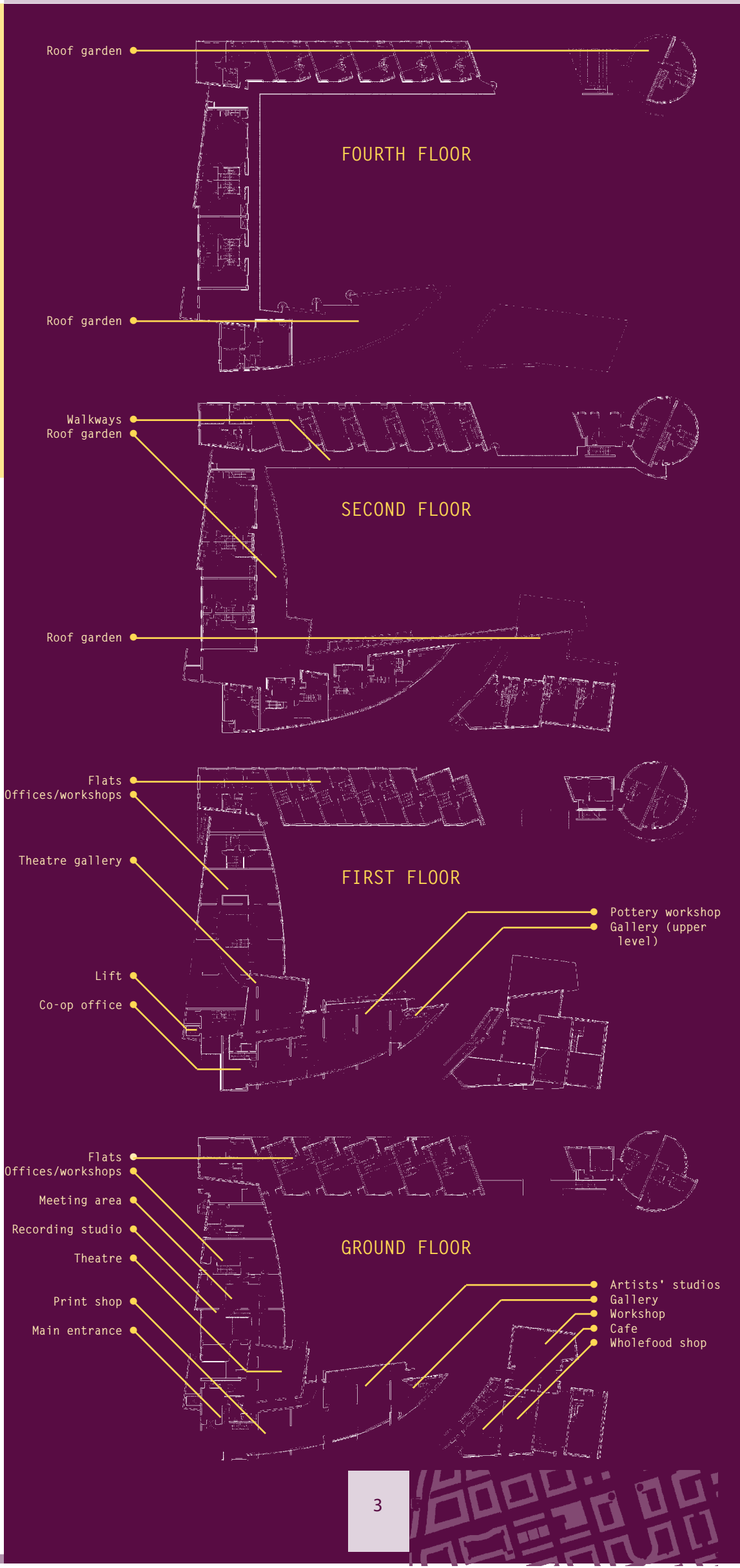
No. of units: 50 (phase 1) 25 (phase 2)

Units	%	No.	m²	bed sp
1 bed	14%	7	56	11
2 bed	58%	29	72	102
3 bed	22%	11	81	55
4 bed	6%	3	104	18

Plus 15,000sqft of workspace inc. offices, artists studios, a theatre, gallery, cafe, shop and workshop

Cost

Homes for Change	
Housing Corporation Grant	£2,040,000
Tudor Trust	£ 55,000
Private finance	£1,179,000
Total	**£3,274,000**
Work for Change	
City Challenge Grant	£ 275,000
ERDF	£ 360,000
Moss Side & Hulme Task Force	£ 40,000
Private finance	£ 286,000
Total	**£ 961,000**
Forecast total works cost	£3,645,000
On-costs	£ 590,000
Forecast total scheme cost	**£4,235,000**



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These disagreements were, however, resolved through informed debate within the partnership which took account of costs and management implications. This meant that when members had to drop elements they understood the reasons and in most cases took the decision themselves.

Environmental design

Co-op members were also concerned that the building should incorporate best practice in environmental design. The development became a demonstration project as part of URBED's 21st Century Homes research for the Joseph Rowntree Foundation. This provided some funds to engage ECD as environmental consultants. Workshops were held to draw up a range of environmental targets ranging from CO_2 emission to sustainable materials and waste recycling which were monitored through the development process. Seventeen of the targets were met in full and only two: embodied energy and water saving were not achieved. The scheme will be followed up a year after completion to see whether the predicted benefits, such as heating bills of £1 per week, have been achieved in practice.

The perils of innovation

The Homes for Change scheme innovates on many levels. It is innovative in its layout and design, the co-operative way in which was built and will be managed, the mix of uses and the way in which the workspace is being managed. Innovation is always a risk and, when undertaken on this scale, is something that organisations with more experience probably would not attempt. There have indeed been problems, the tenders to build the scheme came in well over budget and savings had to be made quickly by the co-op. There have been a range of problems on site and the scheme was completed over budget and behind schedule. There is always a cost to innovation and everyone involved has paid it heavily. To some this may reinforce the view that the scheme is a one-off. However innovation is only justified if it leads to lessons being learnt. If this is done, there is no reason why this building, and particularly the process by which it was built, could not provide a model and an inspiration for urban communities elsewhere.

David Rudlin urbed's director responsible for the SUN Initiative is the secretary of Homes for Change. Homes for Change can be contacted on 0161 232 9801
E mail: HOMES-FOR-CHANGE@urbed.co.uk

BELOW: The Homes for Change Environmental targets and the extent to which they have been achieved

OBJECTIVE	TARGET	HOMES FOR CHANGE
GLOBAL ISSUES		
Halving Carbon Dioxide emissions	36-45 Kg/sqm/yr compared to 71-90 Kg/sqm/yr for a comparable Building Regulations house	Estimated 39 Kg/sqm/yr for a typical 3 bed maisonette
Avoiding CFCs and HCFCs	Total omission	Avoided except for an area of walkway where exposure of insulation to water meant HCFC unavoidable
Using Sustainable Materials	Avoiding materials which are unsustainable or which harm the environment in their production, extraction use or disposal	This has been largely achieved with the use of brick and concrete containing PFA
ENERGY USE		
Reducing Embodied Energy	Achieving reductions of to 60% of typical values	It is estimated it that has slightly higher embodied energy than a typical house because of development form
This proved very difficult to measure because of the lack of authoritative embodied energy table		
Maximising Passive Solar gain	Meeting 25% of space heating demands from passive solar gain Typical value estimated as 120W	Estimated 231W Solar gain in south facing flat - Target met
Heat recovery	To explore the possibility of heat from ventilation and grey water	Not incorporated
Maximising internal daylight Low energy lighting	No target measurable	Excellent internal daylight and low energy compact fluorescent lighting throughout
Achieving super insulation	0.55-0.6 W/m3K volumetric heat loss Fabric U Values: 0.2-0.4 W/m2K Glazing U Values of 2.0 W/m2K Air leakage of 3-4 ac/h @ 50pa	U Values: Walls 0.3 W/m2K Roof 0.25 W/m2K, Glazing 2 W/m2K Estimated that air leakage rates have been met
Minimising space heating costs	Space heating costs of £1/week	Estimated at £65/year for a 3 bed flat £1.25/Week
WATER AND WASTE		
Reducing water consumption	Water consumption less than 75% of a typical house	This has not been achieved - Grey water recycling dropped/spray taps and showers not included (tenant preference) 7.5l flush toilets (NWWA requirement)
Minimising collection of unsegregated Waste	Less than 50% of a typical household	Full provision for segregated collection in kitchens and bin stores - Target achieved
Exploring grey water recycling and minimising surface run off	No target	Grey water restoration explored - would have cost £2/week and saved 90p/week Courtyard permeable to run off
HEALTHY BUILDINGS		
Use of Controlled ventilation	No target	Passive stack explored and rejected due to problems with capacity of service ducts. Humidity controlled extract fans and trickle vents
Avoiding harmful materials	Avoiding formaldehyde, harmful wood preservatives and paint, coal tar and man made fibre insulation	Achieved
LAYOUT/INFRASTRUCTURE		
Minimising vehicle infrastructure	Different targets were set for each scheme	Parking provision reduced to 50% for housing and 1 space/600sqft for workspace in line with target
Promoting cycle use	Provision of secure storage	Incorporated
Considering the environmental implications of layout	This only related to the Honddu Place scheme	NA
MISCELLANEOUS		
Involvement of residents	Maximising the involvement of residents in the design of the housing	Residents involved as a joint client through Homes for Change Housing Co-operative
Maximising Flora and Fauna	To preserve and enhance site ecology	Site initially of no value, incorporation of grass roofs, bird boxes, courtyard to be landscaped by residents with natural species and transplanted trees

FROM NEIGHBOURHOODS TO CITY REGIONS

Strategies for the future

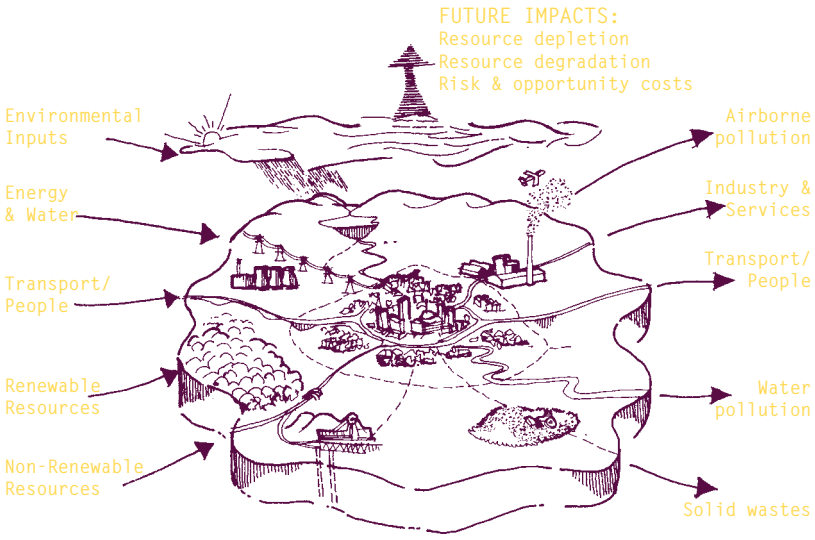
The Manchester 2020 study, a two year investigation into the sustainability of the city region using Manchester as a case study, has recently produced its final report. The project based in Manchester Metropolitan University and backed by the Town and Country Planning Association was headed by **Joe Ravetz** who outlines how the ideas of the Sustainable Urban Neighbourhood overlap with their findings.

The Sustainable Urban Neighbourhood is a balance of social, economic and environmental themes. But in a fast changing world this magic quality of 'sustainability' can often be complex and contradictory.

In practice the SUN concept focuses on the 're-urbanisation' of inner areas, and the ideal of dense, mixed use, human scale, cohesive communities. But most key factors for the neighbourhood are determined by outside forces - housing policy, public transport and energy efficiency, to name but a few, are clearly dependent on actions at the city, national or even global level.

The 'Manchester 2020' project looks at sustainable development at the city-region scale, with Greater Manchester as its case study. It investigates conditions, trends and projections for all aspects of the city - region, both environmental, economic and social. It sets out sustainability targets, strategies, responsibilities and actions to move the city region towards greater sustainability, within the current 'dynamics' of the city region.

The first dynamic is in the trends of urbanisation and counter urbanisation. Greater Manchester, for instance, has expanded as the population demands more space for living and working - a growth trend of about 2% per year. This has been both cause and effect of growth in travel, first in public transport and then in the meteoric rise of private transport. The effect has been dramatic - many inner neighbourhoods are depopulated and derelict, while suburban areas sprawl for miles. Meanwhile the latest household projections show that Greater Manchester may need 200, 000 extra dwellings over the next 25 years. This is both a problem and an opportunity.



The problem is the pressure for urbanisation of surrounding countryside, with loss of land, increase in private transport, and diminishing viability of inner areas. Alternatively, counter urbanisation may colonise much wider rural areas, aided by telecommunications and further private transport, with severe effects on rural communities.

The opportunity is for the extra households to contribute to the re-urbanisation of inner areas: this would help to consolidate neighbourhood units, reinforce the viability of local jobs and services, and improve the quality of life in the he city as a whole. Estimates from the 2020 project show that a policy of clustering higher density housing around local centres, over 25 years, could increase by 50% the population within walking distance of local centres.

But there are powerful forces acting to prevent this. One is the incentive, for those that can afford it, of personal space on greenfield sites in more select communities. Another is the fear of crime, pollution and poor services in the inner city - property values in parts of Manchester are so low it is difficult to get anything built.

One approach to these opposing trends is to lead by example - to show by demonstration that a dense mixed neighbourhood is safe, viable and enjoyable. Another approach is to look at the next level up, at the district or city region, and to work out strategies to support the sustainability of both city regions and their neighbourhoods. The Manchester 2020 project has explored many possibilities and will be presented at a future seminar in the SUN series.

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The Sustainable Urban Neighbourhood Initiative is supported by the Department of the environment's Environmental Action Fund, a major charitable trust and URBED

The initiative is managed by URBED from its Manchester office by david Rudlin with administration provided by Christina Swensson and Helene Rudlin

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The views expressed in this newsletter do not necessarily represent those of the Department of the Environment or any other of the project's sponsors

This news sheet has been researched, written (unless otherwise credited)and designed by URBED which is a not for profit urban regeneration consultancy set up in 1976 to devise imaginative solutions to the problems of regenerating run down areas. URBED's services include consultancy, project management, urban design and economic development. The SUN Initiative further develops URBED's growing involvement in housing development and continues the work of the 21st Century homes project.

Why NOT get involved?

Our aim is to develop the SUN Initiative as a broadly based network of organisations and individuals interested in the sustainable urban development. We do not have a membership but people can get involved in a number of ways...

Mailings: If you did not receive this newsletter by post please contact us and we will add you to our mailing list.

Contributions: We would welcome letters or articles for future issues of this newsletter.

Examples: We are compiling a resource base of good examples of sustainable development both nationally and internationally. We would therefore welcome details of projects that you are involved in.

Sponsorship: We are seeking sponsors for future issues of this newsletter and for exhibition material. Details are available on request.

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The... SUSTAINABLE URBAN NEIGHBOURHOOD Initiative

Traditional mixed use urban streets may provide useful lessons for new social housing

ENSURING lasting SOLUTIONS

There is no point building environmentally sustainable housing areas if they have to be demolished within 30 years. Yet this has been the fate of many council estates built since the war. How can we build urban neighbourhoods which are both socially and environmentally sustainable?

It was Ruskin who said; "When we build let us think that we build forever". This, on the whole is what we try and do in the UK. The Japanese may treat buildings like automobiles, to be discarded when tastes change but in the UK we build to last.

Yet over the last 40 years we have manifestly failed in this task with social housing, shopping and commercial developments in urban areas. Estates built only 20 years ago have been demolished and others have required huge expenditure on renovation. The cost of this is enormous, not just in financial terms but in the social costs of communities forced to live in failing estates or uprooted and dispersed.

Ten years ago the view would probably have been that these mistakes were history, albeit very recent and rather uncomfortable history. Never again would we allow architectural and planning dogma to ruin the lives of vulnerable people. No longer would we play fast and loose with architectural innovations. We would build traditional buildings with traditional bricks. It may not be exciting but at least it would last.

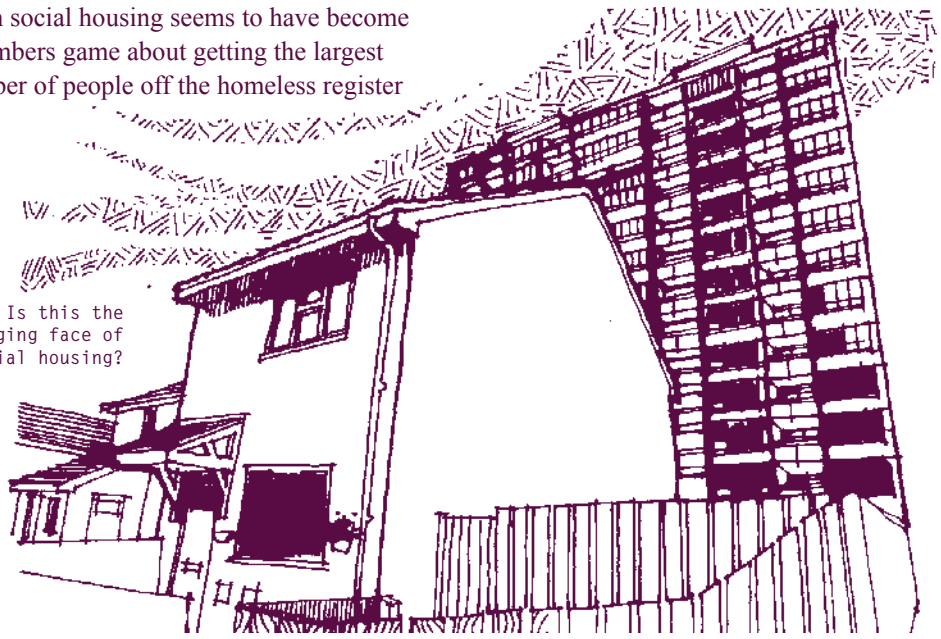
What do we do then when as David Page pointed out; *"There is now evidence that the process of rapid decline of large social housing estates, which some had thought peculiar to council housing, can also apply to the stock of housing associations"*? What do we do when estates of traditional design fail as disastrously and in some cases more rapidly than the despised system built estates of the 1960's? It may be that in our haste to castigate councils and to distance ourselves from the despised deck access estate and the tower block, we have overlooked some fundamental questions regarding the provision of social housing at the end of the 20th century. If we are to ensure lasting solutions these questions must be addressed.

The challenge of creating sustainable communities

A sustainable community can be defined on two levels. At its most basic it is the creation of areas which will not fail. At the more general level it is the development of neighbourhoods which enhance the quality of social and economic life of their residents and businesses. We should be aiming at both levels, but inner city development has often failed the most basic test of sustainability. It is true, there are private estates which have failed but these are rare because ownership gives people a vested interest in the success of their neighbourhood. The challenge is to engender the same level of pride and 'ownership' in social housing. Yet at a time when social housing seems to have become a numbers game about getting the largest number of people off the homeless register for a given level of grant, and new tenants are more deprived than those ever before dealt with by social landlords, community pride is becoming a distant goal.

It was not always thus. When Peabody and Guinness started building in the last century the housing was intended for the upper sections of the working class. The logic was that these households would vacate property which would be occupied by the poorest households so that they would also benefit. The ethics of this and the notion of 'deserving' and 'undeserving' poor may be questionable but the housing has lasted.

Today social housing development has created a ghetto culture where a housing association tenancy and an inner city address has become a badge of disadvantage. This is a perception shared by both social housing tenants and owner occupiers who are increasingly shunning housing association neighbours. It is in this context that we must create sustainable communities.



Is this the changing face of social housing?

Building sustainable communities

From our work we can suggest four principles by which sustainable communities should be created.

Neighbourhood based development: New development is rarely of sufficient scale to create a neighbourhood in its own right. It is however important to think at the neighbourhood scale to ensure that development sustains and enhances existing communities. Neighbourhood is a term which has fallen out of use as we have concentrated on housing 'estates' and business 'parks'. Neighbourhood implies a mix of uses and tenures integrated into the fabric of existing urban areas whereas estates imply the zoning and separation of uses. Social tenants should be able to relate to the neighbourhood where they live rather than an estate with the stigma that this has come to imply.

Robust urban development: There is a need to develop models for urban development. It is a mistake to assume that suburban models, because they are so successful with private housing, are appropriate for all housing, despite this often being the wish of tenants. Suburban owner occupation thrives because of a fragile framework of economic and social pressures which ensure that, for example, fences are maintained and voids do not appear. This framework can be undermined if poor maintenance or voids allow access to the rear of properties. Urban

Continued on page 2

URBED has recently been commissioned by the Housing Corporation to undertake research into Housing Plus. This article is based on a paper presented by David Rudlin to the Housing Corporation/Joseph Rowntree Foundation Conference in Brighton, February 1997.

Welcome to the THIRD issue of SUN DIAL, the journal of the Sustainable Urban Neighbourhood Initiative

In the last issue we focused on the environmental sustainability of urban areas. In this we turn our attention to social sustainability. We reproduce here an edited version of the paper given by DAVID RUDLIN of the SUN Initiative to the Housing Corporation Annual Conference on building sustainable communities. Inside we review some of the arguements about demographic change and how it might fuel demand for urban living. On the back page you will then find an article by SIMON BEVAN from Southwark Council on their approach to the sustainable regeneration of the Five Estates in Peckham.

SUN dial

INSIDE

NEXT ISSUE

- What might the Sustainable urban neighbourhood look like?
- Live/work at last - have maritime cracked the live work puzzle?
- Advanced technology housing

The failure of housing innovations may have masked some more fundamental issues about social sustainability

The Sustainable Urban Neighbourhood Initiative

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ENSURING lasting SOLUTIONS

Continued from page 1

design techniques such as perimeter blocks can create a much more robust separation between the home and garden and the public realm of the street.

Economic opportunity: It is clear that estates which are distant from jobs and other services are unsustainable. Britain like the US has become a car based culture with shopping employment and leisure uses moving out of town. Let us set to one side for a moment the Government's view that housing should be built within towns to reduce car use. Consider instead the homeless family rehoused on an estate without public transport or good local shops. They would be forced either to run a car, to use taxis (which proliferate in such areas) or to pay higher prices in local shops. They will be isolated from support systems and may have difficulty reaching the jobs that do exist. It must be better and more sustainable to house such people within existing communities with existing facilities.

Balance and diversity: It is generally accepted that the key to sustainable communities is a 'balance' of public and private housing. Planning authorities can require new private developments to incorporate social housing and most regeneration initiatives include an element of housing for sale. What does a 'balanced community' mean? It is true that established communities tend to be socially mixed but it is equally true that there are working-class and middle-class communities which thrive on shared interest rather than diversity. The problem is the concentration of deprived groups on new estates. In this case there are two potential answers. The first is to allocate new social housing to established tenants moving out of existing stock. These households would then create voids which would be occupied by more vulnerable lettings who would then be moving into an established community. The second answer is to concentrate on small infill development in established neighbourhoods which contain a mix of tenures.

Community and stewardship: The most important challenge is to promote the feeling of community and stewardship (the willingness to look after the area and neighbours) in new housing which exists in established neighbourhoods. Designers have been struggling with this for years without success. Designing an area to look like a community by, for example grouping housing around courts, does not create the social structures that sustain community life. It is necessary to look at other ways in which communities can develop.

The most successful agent in the creation of community spirit is **time**. Almost any area, if given long enough, will develop community structures. However we can't always wait years for communities to develop. We should however be wary of sweeping away what exists. Existing communities, like listed buildings, should be conserved through refurbishment and sensitive infill. Even the deck access estates built in the 1960's have developed community structures. If these estates are redeveloped it is important to keep these communities together by giving neighbours the opportunity to move together.

Another valuable tool is **community involvement in design**. This has made little headway with housing associations, not because of resistance to the idea, but because properties are not allocated until completion. Involvement in design can start the process of community building and can give tenants a feeling of ownership and pride in their neighbourhood.

Housing associations have also made little progress in **tenant involvement in management** compared to the council sector. There are good reasons for this since Estate Management Boards have a means of addressing management failings and housing associations can claim that their tenants have had less to complain about. Nevertheless associations could give more active support to tenants associations or Estate Management Boards to promote pride and community.

There is also an imortant role for **tenant empowerment** through structures like co-operatives, self-build groups and community based housing associations. Within weeks of the completion of the Homes for Change Housing Co-operative development in Manchester (see issue 2) the community spirit was tangible. People felt able to leave their doors open, started to personalise their flats and leave plants out on the walkways. The form of the scheme is similar to the deck access blocks where many of the members used to live. The difference is not so much the physical structure of the scheme but the community structures within the co-op.

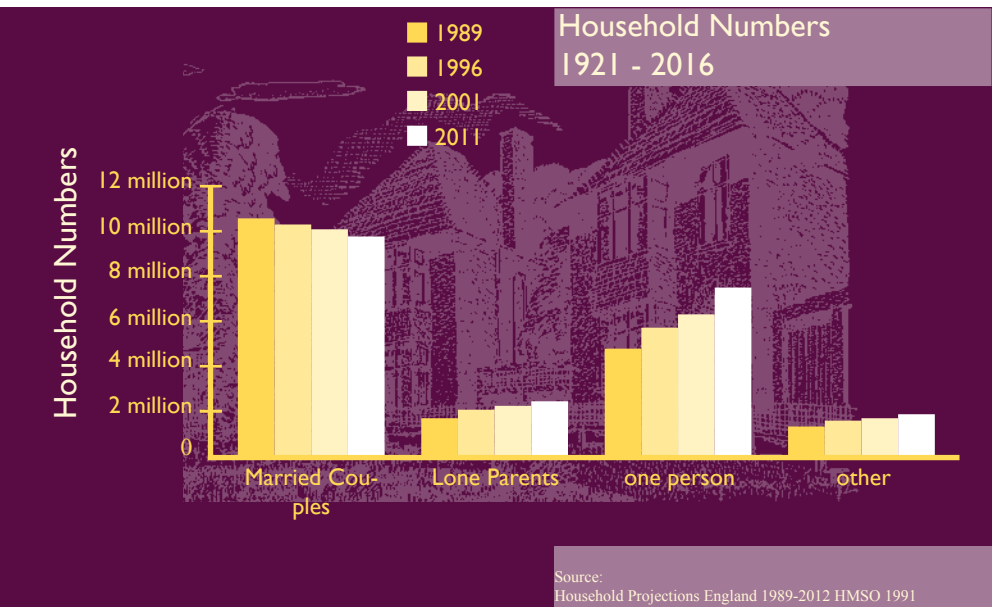
We have suggested that the key to building sustainable communities is to build on a small scale within existing neighbourhoods to contribute to local diversity. We have also suggested that it is vital to involve tenants in the design management and even ownership of their homes as a way of building local commitment and pride. Simple as this may seem, it does not always coincide with land availability, modern procurement techniques or the imperative of redevelopment. However, successful development tends to be small scale. This type of **balanced incremental development** is how human settlements have always been built. We should remember this and not be tempted by the easy fix of building large homogeneous estates on the land which is most easily available.

To look at the standard product of most of the UK housing industry you would think that the predominant household in the UK was made up of two parents with children, was able bodied, mobile and in regular employment. This may be the view of the middle class professionals who shape the housing that is built but no longer reflects the demographic character of Britain. Just as the 19th century home changed in response to the growth of the nuclear family so the 21st century home will inevitably reflect its decline.

THE DECLINE OF THE FAMILY and the Sustainable Urban Neighbourhood

Recent months have been dominated by the debate about the 4.4 million extra households projected over the next 20 years. This however is nothing new. Between 1921 and 1961 the population rose by 20% to 46 million but household numbers leapt by 6.2 million to 14.9 million an increase of 1.75% a year[1]. Compared to this the 4.4 million increase to 23.6 million between 1991 and 2016 represents an increase of less than 1% a year.

Figures from the 1991 census show that the nuclear family made up of a mother and father with children now makes up just 19.8% of households, rising to 25.1% if you include families with more than two adults, such as an elderly relative. Indeed when you include single parent families the total number of households with children is only 30%. Compare this to the 40% of households who have no children and 30% who are pensioners and one may question why most of the housing that we build is designed for families.



The most common household type is below pensionable age and childless. Yet most of the housing industry regards them as a niche market, assuming that most people will buy a house when they have a family and settle down. The reality is that more people are delaying having a family and enjoying a more affluent life style in their 20's. Their housing requirements at this childless stage of life are likely to be very different to those of families. They may value activity and vitality over peace and privacy, proximity to facilities over space and gardens. This is the market which city centre housing developers have tapped and the demographic figures suggest that it may be far larger than planners and developers have so far appreciated.

The other great area of household growth is pensioners who now make up 30% of all households. It would be a mistake to suggest that most pensioners either need or want to live in sheltered accommodation. Most are healthy and independent and can expect to live for as many years in this state as they did as a family. Whilst many pensioners may aspire to a modern bungalow a short walk from the shops, most end up living in their old family home. Over the years this is likely to become less well suited to their needs with the garden, so good for children, becoming a chore to maintain and the peace and quiet, once so welcome, becoming the backdrop to loneliness. Developers like McCarthy and Stone who specialise in housing for the elderly are increasingly building urban apartment blocks in smaller towns. Their brochures emphasise not seclusion and privacy but community and access to facilities.

The forces behind demographic change

The decline of the traditional family has been a cause of consternation to politicians but the mechanisms behind demographic change are varied and complex. The evolution of the large 19th century household to the small 20th century family was driven by two parallel trends. For the middle classes the reduction in household size was not due to falling birth rates but a reduction in servants and other household members. The working class household got smaller as there was less need to insure against infant mortality with large families. Improved access to housing reduced overcrowding and extended families no longer lived under the same roof. Housing evolved in response to these changes. Working class housing expanded from the terrace to the council semi whilst middle class housing shrunk from the Victorian villa to a very similar private semi.

The change from the 20th to the 21st century household is likely to be just as dramatic. However this does not herald the disintegration of family life and all that traditionalists hold dear. In Victorian times people stayed at home until their marriage before starting a family and continuing child rearing into their late 30's. This would put them into their dotage before all of their children left home leaving a few years of retirement before their allotted three score years and ten. Today people are leaving home earlier to live single or certainly childless lives in their 20s before settling down and having a modest brood in their 30's. Their off-spring are likely to have flown the nest by their 50's leaving them with a third of their life ahead of them as what the marketing people now call, 'empty nesters'. Combine this with the growing divorce rate, increasing life expectancy, and the growing number of single parents and the trend of declining household size and increasing household numbers becomes stronger still.

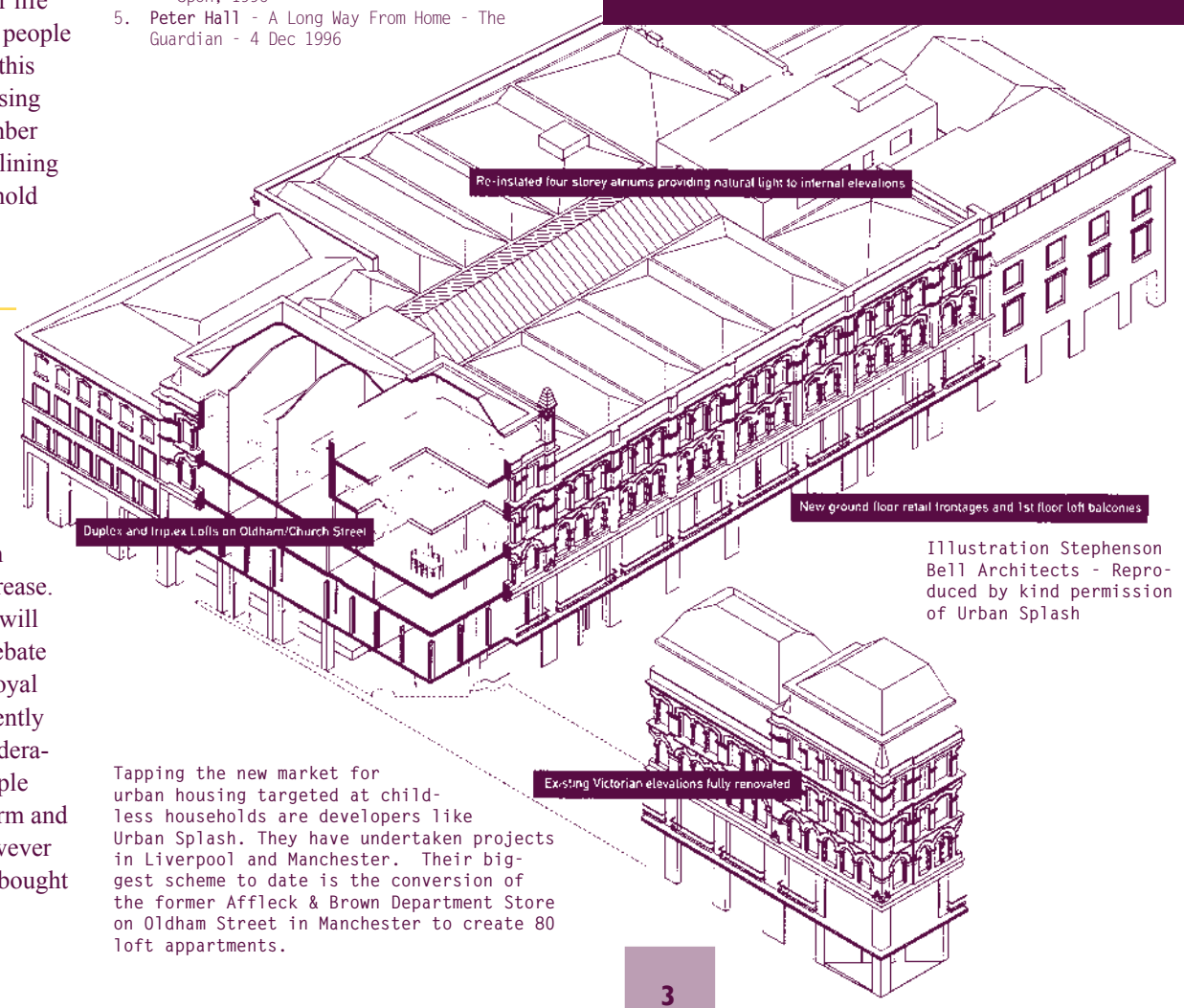
The decline of the traditional family has been a cause of consternation to politicians but the mechanisms behind demographic change are varied and complex

Future trends

So while household numbers will rise by 4.4 million, married couples will actually decline from 10.5 million to 9.9 million. The vast majority of the increase will be single person households which are predicted to rise from 3.5 million to 5.1 million making up more than 80% of the increase. The question is what sort of housing will these people aspire to? The recent debate has suggested that they will remain loyal to suburbia. Surveys such as that recently carried out by the House Builders Federation[2] suggest that the majority of people still yearn for suburbia in both the form and location of their home. This was however a survey of people who had recently bought such housing.

As part of the TCPA enquiry *"The People: Where will they go?"* Professor Alan Hooper suggested that: *"..an unreflective response which matches smaller households to smaller dwellings at high densities in concentrated urban areas is not likely to result in a sustainable form of development"*[3]. The first part of this point is well made, rising incomes make it dangerous to assume that smaller households will opt for smaller units. However there is no reason why large apartments or even houses cannot exist in urban areas at high densities. But the assumption is that people will not want to live in urban areas. As Michael Brehemny has said: *"Clearly there are groups of people - of particular ages, occupations and levels of income - who may choose high density urban living. Likewise there are high density urban areas - usually historically and architecturally interesting and socially exclusive - that remain popular through time. However these people and these areas are very much the exception*[4]. Professor Peter Hall has gone further in a recent Guardian article comparing policies to make people live in cities to Stalinist Russia[5]. Yet the suburban semi was developed for the nuclear family and it is possible that something very different may be demanded by future households. It is unlikely that all childless households would choose to live in urban areas but it is reasonable to assume that a proportion would, maybe a significant proportion. This is already happening in towns and cities up and down the country. The new urban residents of Crown Street in Glasgow, Whitworth Street in Manchester, Bradford, Newcastle and Nottingham are not sacrificing their living standards to live in cramped flats or squalid urban areas. They have recognised the value of urban living and if more urban areas could harness these qualities it is possible that many others would follow their lead by returning to cities.

1. Burnett - A Social History of Housing 1815 - 1985 - Mehuen - 1986
2. The Housebuilders Federation - Families Matter - 1996
3 Professor Alan Hooper - Housing Requirements and housing Provision: The Strategic Issues - TCPA - Jan 1996
4. M. Jenkins, E. Burton & K. Williams (Eds) - The Compact City: A Sustainable Urban Form? - Spon, 1996
5. Peter Hall - A Long Way From Home - The Guardian - 4 Dec 1996



Tapping the new market for urban housing targeted at childless households are developers like Urban Splash. They have undertaken projects in Liverpool and Manchester. Their biggest scheme to date is the conversion of the former Affleck & Brown Department Store on Oldham Street in Manchester to create 80 loft appartments.

Illustration Stephenson Bell Architects - Reproduced by kind permission of Urban Splash

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IN BRIEF

The Villages Initiative (Stoke on Trent)
We have recently completed a project, working with Levitt Bernstien Associates to develop a strategy for a large council estate in Stoke as part of an SRB project. The Bentilee area is a 5000 property estate built in the 1950's in the garden city venacular. It is only a couple of miles from the centre of Stoke but is bounded by countryside and feels very isolated. Applying the SUN principles, our strategy showed how the area could be transformed by creating 8 village centres to break up the scale of the estate and develop local identities.

London Fields (Hackney)
We are currently working for the LB Hackney and a local partnership to develop proposals for live/work and mixed use development in London Fields. The area has become a focus for artists many of whom are squatting council property. The strategy seeks to use this as a basis for economic development whilst not undermining the council's policy towards squatters.

The SUN Continues
We have recently received confirmation from the DoE that funding for the SUN Initiative from the Environmental Action Fund will continue for a second year.

Stemming the tide

The Five Estates in Peckham

Southwark Council has recognised that the key to sustainable regeneration lies in encouraging people not to leave urban areas. As **Simon Bevan** explains, their strategy for the redevelopment of the Five Estates and the use of community sustainability indicators show a possible route by which this might be achieved

The London Borough of Southwark has been given an opportunity to create a new neighbourhood out of one of its most deprived wards, Peckham. The opportunity comes through the country's largest SRB project. Government grant of £60 million combined with other private and public sector investments will give a budget of £250 million over seven years.

Southwark Council has recognised that the key to the unsustainability of areas like Peckham is that people will often move away whenever they get the chance. The five estates which make up what is now the Peckham Partnership used to have a turnover of 25% a year.

The aim of Southwark's SRB bid was to generate 'sustainable regeneration'. It included a vision of Peckham as a place where people want to live, work and shop and to raise employment and educational achievement to the Greater London average - modest aims for such a large regeneration project. The aim is to make the area 'ordinary' rather than one that is distinctive in its appearance (generally considered very ugly), its levels of deprivation and crime and its facilities and public transport links. In reality these are very ambitious aims.

Southwark Council has recently adopted an 'Annual Regeneration Statement' which sets out its vision for the future of the borough. This describes a process whereby providing people with more choice and quality in their environment will encourage them to establish themselves in an area so that communities can develop. This, in turn, should lead to more individual decisions to invest time and money in neighbourhoods - the sustainable regeneration which will lead to more choice and better quality.

The pressures of the Single Regeneration Budget are not entirely conducive to slow and careful regeneration of this kind. A clear outline of the 7 year project had to be presented in order to get the funding and since approval there are pressures to spend according to a strict time table. It is inherently difficult to create a sustainable neighbourhood under such pressure for rapid change. It could be argued that it was pressure for rapid change which led to the creation of such unsustainable neighbourhoods in the first place, with their high densities and a range of experimental building types. The neighbourhood which is being created in Peckham will be mainly low-rise with houses with gardens set in a more conventional street layout, very much in line with the principles being promoted by the SUN Initiative. This change alone will not, of course, make the area sustainable.

A sustainability audit of the Peckham Partnership programme has therefore recently been carried out. It shows that more work is needed to ensure that the Peckham Partnership will meet high standards of sustainable development. To do this Southwark Council is seeking funding from the European Union for a demonstration project under the LIFE programme to show how the development of community sustainability indicators could lead to better community involvement, raised environmental awareness and better decision making. Southwark wants to monitor the effectiveness of the programme by comparing it with other areas for which major regeneration funds are not available. It wants, if possible, to develop a model for the regeneration of inner city areas which does not necessarily require the investment of large amounts of funding in a short space of time on wholesale area renewal.

Community sustainability indicators will provide an essential element of the monitoring and evaluation of the regeneration strategy and will allow benchmarking with other local authorities particularly in measuring the quality of life in the borough.

Efforts to involve people in the planning system, at least in Britain have often been characterised by confrontation and territorial issues. 'Planning for Real' exercises have gone some way towards overcoming this territoriality. Southwark is taking this a step further by helping local communities define the features of the urban environment which indicate an improving quality of life and those which indicate, or result in , a poorer quality of life. By monitoring these indicators we can then have more confidence that our regeneration programmes are successful and sustainable.

The Sustainable Urban Neighbourhood Initiative is supported by the Department of the environment's Environmental Action Fund, a major charitable trust and URBED

DEPARTMENT OF THE ENVIRONMENT

The SUN initiative is managed by URBED from its Manchester office by david Rudlin with administration provided by Christina Swensson and Helene Rudlin

This news sheet has been researched, written (unless otherwise credited) and designed by URBED which is a not for profit urban regeneration consultancy set up in 1976 to devise imaginative solutions to the problems of regenerating run down areas. URBED's services include consultancy, project management, urban design and economic development. The SUN Initiative further develops URBED's growing involvement in housing and continues the work of the 21st Century homes project.

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Why NOT get involved?

Our aim is to develop the SUN Initiative as a broadly based network of organisations and individuals interested in sustainable urban development. We do not have a membership but people can get involved in a number of ways...

Mailings: If you did not receive this newsletter by post please contact us and we will add you to our mailing list.
Contributions: We would welcome letters or articles for future issues of this newsletter.
Examples: We are compiling a resource base of good examples of sustainable development both nationally and internationally. We would therefore welcome details of projects that you are involved in.
Sponsorship: We are seeking sponsors for future issues of this newsletter and for exhibition material. Details are available on request.

SUN on the WORLD WIDE WEB

HTTP://WWW.URBED.CO.UK/SUN/

Now up and running, the SUN web site provides information about the aims of the initiative and the work that we are carrying out. If you have access to the World Wide Web, it is an ideal way to keep in touch with us and an easy way to explore the aspects of the sustainable urban neighbourhood that interest you. The web site will continue to evolve as the SUN Initiative develops, being used to disseminate research findings and provide an update on our activities.

The beauty of the web site is the ability to add and amend material continuously including your contributions. Mail can be posted to us from most pages and we encourage you to write to us with your comments. You may have suggestions for future research, perhaps questions about particular issues or a request for further information. You may also wish to tell us about case studies which we should add to our good practice resource base.

Within the next few months we should also be able to offer access to our resource base and case studies database through the site. This will allow you to search for documents and examples on line. This service is currently available by telephoning or calling into our office. Text and in some cases graphics can be printed from the Web site. We are happy for any material on the site to be reproduced provided that full credit is given.

Other Interesting Sites

There is now a huge amount of information available on the World Wide Web on sustainable development. From sites covering global environmental issues to information on individual cities, the Web is an ideal place to cull up to date information, gather statistics and learn from experience across the world. The following is a list of some of the sites that we have found useful, If you know of others please let us know:

http://rudi.herts.ac.uk/
Resource for Urban Design Information (RUDI). Aims to be the prime web provider of urban design material.
http://www.igc.apc.org/greendisk/
Web page of Greendisk - An American journal of Contemporary Environmental Issues.
http://www.greenchannel.com
A service run by Green Channel Communications to promote environmental change through communication of environmental information, products, services and initiatives.
http://www.greenchannel.com/slt/
The Sustainable London Trust web page including a Manifesto for 'Creating a Sustainable London' and links to back up documents for the manifesto.
http://weber.u.Washington. edu/~common/
The web site of the Centre for Sustainable Communities based at the University of Washington.
http://www.iisd1.iisd.ca/contents.htm
The web site of the International Institute of Sustainable Development.
Contains a huge resource of information, articles and details of 'hot topics'.
http://www.iisd.ca/linkages/
Linked to the above the Linkages web site provides information on past and up and coming international meetings related to environment and development
http://www.mbnet.mb.ca/linkages/habitat/
Habitat II Web Site with summaries of negotiations, papers presented as well as meeting and action details. See also the full Habitat II site:
http://www.undp.org/un/habitat/
http://oboe.symgrp.com/habitat/html/
The Best Practices Database, an excellent resource which contains proven solutions to common urban problems from around the world.
http://www.sustainable. doe.gov/
Web site run by the United States Department of Energy's Centre of Excellence for Sustainable Development. It contains a menu of information and services on how your community can adopt sustainable development.
http://164.11.12/fbe/euronet/suscity.htm
The European Sustainable Cities - First Report. A report by the Expert Group on the Urban Environment
http://www.wri.org/wri/wr-96-97/pi_txt5.html
An article on the World Resources Institute web site looking at the city and sustainable development.
http:///www.municipia.org/
Municipia Web Site: International, multilingual, interactive reference web site for urban decision makers to exchange information on their respective cities
http://www.bom.gov.au/climate/environ/design/design.shtml
A web site run by the Australian Bureau of meteorology about Sustainable Urban Design and Climate.
http://www.context.org/
The web site of the Context Institute's Sustainable Culture Information Service. Includes a library, discussion articles and case studies. For example - reshaping the Urban Design process an article about how Australian officials built consensus for a move away from sprawl and toward urban villages.
http://www.ksp.or.jp/kanagawa/lisc95/e04.html
The site of the World Conference on Local Initiatives for Sustainable Cities.
http://www.orl.arch.ethz.ch/FB_Oekenomie/congress/abstracts/d13.html
A paper on urban densities, local policies and sustainable development.
http://www.preservenet. com/newurb.html
The Preservation Institute in Berkeley promoting a new political agenda which recognises the limits of technology. Pages and links on New Urbanism.

SUN initiative

ISSUE FOUR: SPRING/SUMMER 1997

Model NEIGHBOURHOODS

The aim of the Sustainable Urban Neighbouhood Initiative is to help generate new models for urban development to rival the attraction of the suburbs. In previous issues we have discussed the principles of and justification for sustainable urban development. In this issue we suggest how they might work.

It may sometimes seem that the pattern of settlements in the UK is a given. Things have always been as they are. Whilst improvement is always possible radical change is a pipe dream.

Yet there was a radical change at the end of the 19th Century, largely a reaction to the urban squalor of the industrial revolution. The Garden City Movement, combined with the birth of town planning, council house building and low cost home ownership, transformed British towns and cities. We moved away from the compact European model of settlements to the dispersed, low density American model.

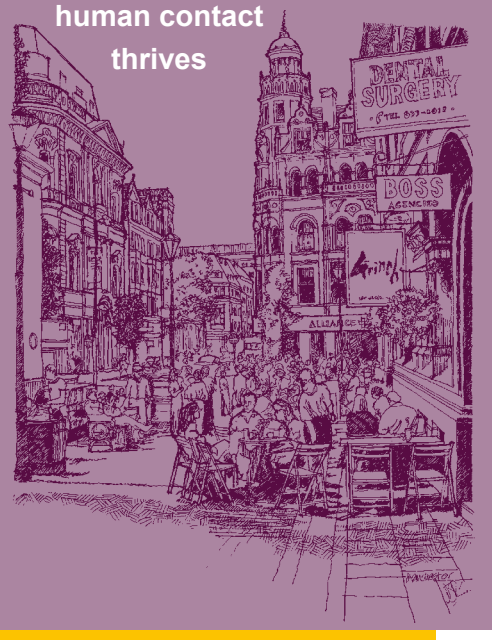
As we reach the end of the century it is time to develop new urban models. The nightmare of the industrial city has faded to be replaced by a new nightmare. This can be seen most clearly in resource-hungry American cities, choking in car fumes and socially divided. As the suburbs expand, town centres and inner cities die. In Britain things are not so bad but the writing is on the wall. Over the last 100 years in our zeal to reform the city we have come close to smothering it.

To some this may not matter, they would write off the city as not relevant to modern life. Yet cause and effect become confused as urban squalor, crime and drug dealing become the new evils from which the middle classes flee. But these new urban evils are as much a result of this middle class flight as they are its cause. Urban areas abandoned to those without the means to escape become ghettos, further driving the cycle of decline.

The city is not an anachronism. Vibrant cultures and healthy economies depend on cities. Innovation in all fields of activity depends on human contact. It is in the city not the motorway service station or the suburban close that the creativity of human contact thrives. It is also in cities that walking and public transport become viable alternatives to the car and where a whole range of green alternatives such as commercial recycling, CHP and water restoration can find a market.

We cannot abandon the city. But we must recognise that its critics are right. People will not be attracted and cannot be forced back into the damaged urban areas which characterise many UK cities. We must repair the damage caused by decline and misguided planning, not by importing suburban values but by rediscovering Prince Charles' 'Timeless' urban principles.

It is in the city not the motorway service station or the suburban close that the creativity of human contact thrives



All is not lost. Many places are already rediscovering the value of urban qualities. London is seeing an unprecedented revival and many provincial cities such as Manchester, Glasgow, Edinburgh and Leeds are thriving. British cities are becoming 'cool' and the young urbanites are returning. The engines of demographic change and environmental concern will reinforce this trend.

The *Sustainable Urban Neighbourhood* is a model for the type of urban development that these trends might create. However moving from agreement in principle to implementation on the ground is a long and difficult journey. In order to explore the idea further was are developing some practical examples, on paper at least, of how the SUN model might work. We are launching an initiative to design a number of model Sustainable Urban Neighbourhoods which can be used to explore issues such as energy efficiency, recycling, densities and walking distances. Inside this issue of SUN Dial is a study of a hypothetical urban neighbourhood in Manchester and we are currently seeking out further sites where the idea can be tested. We would welcome suggestions for sites that we could look at in this way.

DEMONSTRATION PROJECTS WANTED

There are now more than 800 subscribers to SUN Dial not just in the UK but stretching to the United States and Europe. All share an interest in developing and exchanging knowledge about how to make settlements more sustainable and how to increase the numbers of people living in town. The SUN Initiative seeks to share knowledge and experience and to act as a think tank to encourage debate on urban issues. In the last 12 months almost a thousand people have contacted the initiative, called into the office or accessed our web site. We have compiled a resource base with over 1,500 articles, books and other publications available through a database as well as a set of 120 case studies. This information is being disseminated through these newsletters, an exhibition (available on request), a report which will soon be available of the seminars we held last year and a forthcoming book.

The SUN Initiative is also closely linked to URBED's consultancy work. Through this we have recently developed strategies and briefs for housing in a number of towns and cities, including Coventry, Swansea, Blackburn and Cirencester. We are also advising the Housing Corporation on the guidelines to assess the social sustainability of housing investment.

We want to hear from other local authorities or developers who might be interested in putting forward sites for demonstration projects or sharing experience on projects that are underway. To discuss the possibilities, contact David Rudlin or Nicholas Falk at the SUN office.

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The... SUSTAINABLE URBAN NEIGHBOURHOOD Initiative

Welcome to the FOURTH issue of SUN DIAL, the journal of the Sustainable Urban Neighbourhood Initiative

In this issue we move from the general to the specific. Having discussed the issues affecting urban areas in previous SUN Dials, in this issue we look at some practical examples. This includes proposals for a hypothetical sustainable urban neighbourhood in Manchester, a look at new development forms such as live/work schemes and advanced technology housing as well as a view from Los Angeles about the impact of cycling on neighbourhood planning.

SUN dial

INSIDE

NEXT ISSUE

- Further Sustainable Urban Neighbourhood models
- Is there an answer to urban transport problems?
- Could co-ops have the answer?

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theMODEL? SUSTAINABLE URBAN NEIGHBOURHOOD

What might the sustainable urban neighbourhood of the future look like? To illustrate the principles that we are exploring through the SUN Initiative this plan was commissioned from Manchester based designers Build for Change.

The illustration is based on the Hulme district of Manchester but we should stress that these are **not** proposals for the area, much of which is currently subject to development proposals. We have instead used the area as an example of the sort of area where a sustainable urban neighbourhood would be appropriate. This could be a site created by the redevelopment of a large council estate, as in Hulme, or might be brownfield land formerly in industrial use. We have taken the area as it exists today and developed illustrative proposals based on the SUN principles. The result is a dense mixed use area based on a framework of traditional streets.

The area covers 112 acres and includes some 2,000 housing units and up to 450,000 sqft of commercial space plus a 75,000 sqft supermarket. The area could accommodate a population of up to 4,000. A wide range of uses have been incorporated into the plan including different types of housing, a supermarket and local shops as well as B1 and B2 commercial space. Also incorporated in the plan are a range of existing buildings to replicate the circumstances that would exist in most urban areas. Indeed the Homes for Change building (see SUN Dial Issue 2) can be seen in the centre of the plan and the recently completed Hulme Arch on the eastern edge. We would however stress again that these are not plans for Hulme but an archetypal plan of the sort of sustainable urban neighbourhood which might be appropriate in many towns and cities across the UK.

The plan has been used to investigate a range of issues affecting the sustainable urban neighbourhood such as gross and net density and its affect on walkability. We have also started to model energy use, the potential for combined heat and power and waste recycling. The results of this exercise are described by Nick Dodd and David Rudlin on page 4.

Illustration by Jonathan Polley of Build for Change

Area of B1 workspace over B2 workshop units - One of the problems with much urban development is that it does not make provision for small scale manufacturing yet this is often more appropriate to the skills of urban communities than office based employment. This scheme explores how workshops might be accommodated in an urban area without disamenity to surrounding uses.

Live/work accommodation - Units which can be jointly used for living and business (see article on page 6).

Public facilities - Public facilities such as a health centre, library, pub, an existing church and local shops are located at the junction of the two high streets as an important activity node served by public transport.

SUN Principles

- **Quality space** - We have sought to create a high quality urban environment with well proportioned buildings and attractive streets, squares and parks. This public realm is human in scale but urban in nature and designed to promote interaction and to accommodate the diversity of urban life.
- **A framework of streets and squares** - The area is based on a clear network of streets and public squares designed to serve both as routes and as public places supervised by the occupants of surrounding buildings.
- **A rich mix of uses** - It contains a diversity of uses, buildings and tenures accommodated within a common street pattern. This reduces commuting and car travel to facilities as well as fostering activity and greater security throughout the day and a more balanced community.
- **A critical mass of activity** - The area includes sufficient density of activities and buildings to create activity throughout the day, to provide people to animate streets and public places and to sustain shops and other public facilities.
- **Minimal environmental harm** - The development would be sustainable both in terms of its environmental impact and its ability to adapt to future changes. This includes good public transport, waste recycling, combined heat and power, well insulated housing, urban ecology, water saving and sustainable materials.
- **Integration and permeability** - A framework of streets to provide a degree of permeability, giving a choice of routes and making the area feel safer. Successful urban areas avoid the development of housing and workspace as defined estates but rather mix them up and blur the boundaries between them.
- **A Sense of Place** - Landmarks, vistas and focal points are used along with the incorporation of existing features and buildings, or imaginative landscaping and public art, to give the area a unique character and memorability.
- **A feeling of stewardship** - The aim is to promote a sense of responsibility from residents and workers and to encourage them to play their part in the upkeep of the area and to intervene and report crime and other antisocial behaviour.

Urban park - There is a tension in urban areas between the desire to create large amounts of open space and the need to maintain densities. Whilst urban communities will often fiercely resist development on land which has been landscaped, the reality is that these areas are a drain on resources, often a target for fly tipping and can be dangerous at night. A better solution is the more intensively used and overlooked urban park linked to a network of green spaces, including back gardens and green roofs, to support a range or urban flora and fauna.

urbed

Student housing Student populations are increasing rapidly in many urban areas and represent an important source of demand for new urban housing.

Urban edges - An important principle of the sustainable urban neighbourhood is permeability to maximise the number of links between and through areas. This however is not always possible where neighbourhoods abut a railway or motorway as illustrated here. The solution is to treat the barrier as you would a river bank with the equivalent of an embankment street so that local traffic can circulate without conflict with the main road traffic.

Supermarket - Large shops are a fact of life and they can be very difficult to accommodate in urban areas. The Crown Street redevelopment team in Glasgow planned to develop a back of pavement supermarket with parking on the roof but have experienced resistance from operators. Another option is to wrap housing and other uses around the supermarket or to build on the roof. This has been done by Peabody in association with a Tesco supermarket in Hammersmith. The plan shows a similar solution with a landscaped car park to the rear.

Combined heat and power plant and recycling point - The recycling point has been located on the edge of the area so that it can be accessed by lorries. The CHP plant is located away from housing because of the noise generated and to alay public concern about emissions. It is also linked to to the recycling point to allow it to be powered by a waste incinerator. This would be linked to a district heating and a power distribution system serving the area.

Shopping high street and market square Many inner city shopping areas have declined as trade has been diverted to supermarkets. This can even happen around inner city supermarkets as shoppers travel to the supermarket by car and never leave its territory. By linking an urban supermarket to an outdoor market shoppers are offered a wider range of goods and can support a range of small shops.

High streets - Many important routes through urban areas were closed off in the 1960's or turned into formless dual carriageways. Here the high street has been recreated with existing landmark buildings supplemented by four and five storey development to recreate the character of an important street.

Existing buildings - Any redevelopment of an existing area will need to work with a variety of existing builings. Some like the old instutute illustrated here on the high street can be refurbished as landmarks. Others like the school and old people's home to the rear are of less architectural quality and as single storey buildings contribute little to the urban fabric. These have been framed by more substantial buildings to create a boulevard with the lower buildings in the centre.

Educational facilities - Like business and retail uses there is a tendancy to develop educational facilities on campus. This illustrates how a university department of a college extension could be integrated into an urban area.

Dense mixed use development One of the principles of urban areas is that the grain of development should increase around activity nodes. This means a greater density of mixed use buildings and decrease in block size, as in the picture of Deptford High Street.

Leisure and recreation facilities An attempt has been made to integrate leisure facilities into the local shopping centre. The main building is therefore brought to the back of pavement on the high street with outdoor activities to the rear.

Bus routes - The bus routes are based on existing routes running through the area selected for this exercise. The white circles are 160m in diameter representing a 2 minute walk time (in a straight line). This illustrates that all buildings in the area will be within five minutes walk of a bus stop on one of these routes.

theMODEL? SUSTAINABLE URBAN NEIGHBOURHOOD

Could the high density mixed use urban neighbourhood represent a sustainable means of regenerating the urban fabric of our cities? The Sustainable Urban Neighbourhood is based on the assumption that neighbourhoods are more sustainable environmentally and socially when they include a mix of uses and are built to high densities, so contributing to the vitality and walkability of urban areas.

If we are to prevent further urban sprawl encroaching on remaining greenfield sites, the so called '100 mile city'[1], we must look to more compact urban forms, the redevelopment of brownfield sites and the reuse of buildings. This is the thrust of European and UK policy which has been actively promoting more 'compact' towns and cities[2]. Planning Policy Guidance (PPG) 13 highlighted the interdependence of transport, landuse and energy use. At least 70% of energy usage is affected at some point by planning decisions with key influences including built form, layout and density[3]. PPG 13's main thrust is to shift locational policy towards the concentration of activities with better and more integrated public transport provision.

But what are the implications of building at a higher density? There has been a significant backlash against these ideas most notably from writers like Michael Breheny and Peter Hall[4]. Indeed Peter Hall in a Guardian article entitled *Who says we have to slum it?* suggested that Government policy to direct new housing into existing cities was a policy 'that did not work even in Stalin's Russia'. Their main concerns are that compact development will lead to 'town cramming' and that cities have become such dirty congested and dangerous places that people can not be forced to live in them. They have also questioned the benefits, suggesting that it is impossible to increase densities to the level required for even a small reduction of energy use. These arguments turn on circumstances at the most local level. What sort of urban areas are created if we increase densities? What are the walking distances to facilities and to public transport? How viable is waste recycling and combined heat and power? These are questions that we are seeking to answer through hypothetical neighbourhoods like the one illustrated on the previous page.

Areas and densities

AREAS	Acres	Ha.
Neighbourhood area	112	45
Developed area (excluding roads)	69	28
Area developed for housing	49	20

DENSITIES	12	25	50
Assumed plot densities (units/acre)			
Housing yield	588	1,225	2,450
Gross housing densities (units/acre)	5	11	22
Gross housing densities (units/ha)	13	27	54
Gross housing densities (persons/ha)	22	46	92

Assuming av. 1.7 persons/h'shold

EXAMPLE SITES	Units	Workspace sqft	Area ac.	ha.	Density (units/ac)	Density (units/ha)
Site A	110	0	2.8	1.13	39	97
Site B	75	15,000	1.5	0.61	50	123
Site C	115	13,000	4.4	1.78	26	65
Site D	250	47,000	10.2	4.13	25	61

Employment

	Floor area sqft	jobs/sqft	total jobs
Retail	187,500	400	469
B2	112,500	500	225
B8	67,500	800	84
B1	157,500	250	630
TOTAL	525,000	1,408	
Density	12.5 workers/acre	31 workers/hectare	

Includes 75,000sqft Supermarket

Density

One of the main bones of contention about urban development is density which, to its critics, is synonymous with overcrowding and town cramming. As the UK Strategy for Sustainable Development suggests, intensification should be a *'dynamic process, but the limits and thresholds must be understood... for the city to be sustainable'*[2]. The neighbourhood illustrated on the previous page seeks to test these limits. It is based on densities of between 25 and 50 units per acre (75-150 bedspaces per acre). These densities are measured to the centre line of the surrounding streets and therefore equate to the standard measure used by most local authorities. Indeed the densities are broadly comparable to the standard set in the Hulme Guide to Development[5] which includes a density guideline of 35 units per acre.

The plan explores the implications of building at these densities. It is clear that 25 units to the acre can be achieved with a mix of terraced housing and flats (Site C). However the higher densities require the predominant use of flats as in sites A and B. It should also be noted that these sites also include a range of other uses. The potential housing yield of the area has been calculated using these two density levels so that at 25 units per acre the neighbourhood would accommodate 1,225 units and at 50 units per acre (i.e. mostly flats) it would accommodate 2,450 units. These densities have been achieved by building to the back of pavement and reducing car parking (by making use of on street parking) as suggested by the UK Strategy for Sustainable Development. It shows that densities of this level are consistent with a high quality residential environment albeit not the sort of suburban environment that has come to be seen as the norm in recent years.

However plot densities have little meaning when considering issues such as walkability. We have therefore looked at the gross residential density of the neighbourhood. The area covered by the plan is 112 acres so that the gross densities across the area would be between 11 and 22 units/acre. This contrasts with garden city densities of 12 units to the acre which would create a gross density of 5 units to the acre. This illustrates the difference between net and gross densities and the danger of using the former to assess urban land capacity and the viability of services such as public transport and recycling. We have therefore used these gross density figures to assess a number of sustainability issues across the neighbourhood.

It is also important to take into account employment uses since three of the sites that we looked at include significant commercial floorspace reducing the net residential density. Density guidelines generally don't take into account non-residential uses and so are difficult to apply to mixed use schemes. Yet the density of people working in an area is just as significant when considering the viability of public transport and the vitality of areas. We have therefore estimated the number of people employed in the area. This is illustrated on table 1 which shows a total of 525,000sqft of employment floorspace, a workforce population of 1,400 and employment densities of 12.5 workers per acre (31 workers per hectare).

Urban Transport

The most common justification for mixing uses and building to higher densities is the reduction of car use and the promotion of walking, cycling and public transport. Whilst commentators have questioned research[6] which suggests that people living and working in dense urban areas make less use of their car it stands to reason that car use will not be reduced unless the alternative of walking, cycling or using the bus exists. It seems likely that we have not yet made car use sufficiently unattractive to affect a significant modal change. Yet any reasonable view of future projections of car use must conclude that greater restrictions and disincentives on car use are inevitable. Cities like Edinburgh are already planning road pricing, car pooling and car free developments (see insert box) and it is only a matter of time before other cities

follow suit. Even where restrictions are not imposed the sheer congestion of city streets will create its own disincentive. It is already the case that only 17% of people working in London travel to work by car[7].

Most urban car journeys are of short duration and do not enter city centres. This suggests that they cross urban neighbourhoods to reach facilities located outside the central area[8]. The experience of new towns such as Milton Keynes has shown that low density development encourages car use. Increasing the residential density could therefore discourage car usage for these shorter journeys. Models of the impact of public transport and traffic restraint measures seem to indicate only a limited impact on overall traffic volumes across urban districts, as demonstrated by studies of the Metrolink development in Manchester. These findings illustrate that the volume of cross town traffic is inextricably linked to the urban layout and the accessibility of facilities[9]. It is widely accepted that to promote public transport, development needs to be concentrated in a string of compact centres along public transport routes. This concept is common to the Town and Country Planning Association's vision of new towns, the American Pedestrian Pocket and the Urban Village.

These concepts are based on the viability of public transport and the walkability of urban areas both of which impact on urban form. The maximum distance that people are prepared to walk is 2,000m although the optimum is 800m (a comfortable 10 minute walk)[10]. Indeed in shopping areas developers use 400m as the distance that people will walk with shopping. This means that to promote walking, distances within the neighbourhood need to be short. The example neighbourhood is approximately 1000m by 740m so that even with the main shops located at one end walkability is maintained.

The second criteria is public transport. The Local Government Management Board's sustainable settlements guide suggests net densities of 100 persons per hectare, 40 to 50 units per hectare, are necessary to support a good bus service. Net densities of 50-74 units per hectare are required to support a tram service[11]. Garden city densities would be achieve around 50 persons per hectare (30 units per hectare net) where as the layout shows densities of between 25-50 units per acre (62-124 units to the hectare). To this should be added the workforce densities showing that the neighbourhood comfortably exceeds optimal densities for bus services and would be able to support a tram service.

Energy-use and CHP Assessment

2

HOUSING	25 units/ac net	50 units/ac net
Units	1,225	2,450.0
Unit demand (KWh)		
1. Space heating	7,083	7,083
2. Water heating	3,417	3,417
3. Power	1,472	1,472
Total demand (MWh)		
1. Space heating	8,677	17,354
2. Water heating	4,185	8,371
3. Power	1,803	3,607

Workspace	Workspace	Supermarket	
Area (m^2)	41,500	7,126	
Demand (MWh)			
Power	2,531	4,774	
	Heat	3,942	1,140

Totals for workspace and supermarket (MWh)	
Power	7,306
Heat	5,083

TOTAL for housing and commercial (MWh)		
Power	9,109	10,913
Heat	17,945	30,807
lCG	1.97	2.82

	25 units/ac net		50 units/ac net	
CHP Generator options	CI engine	Gas turbine	CI engine	Gas turbine
CO_2 (t)				
Emissions	6,804	6,603	11,042	10,801
Savings	4,998	5,200	5,988	6,229
NO_x (t)				
Emissions	70	11	86	15
Savings	-50	9	-59	11
SO_2 (t)				
Emissions	3	2	9	8
Savings	90	91	107	109

WASTE		
Units	1,225	2,450
Population	2,100	4,200
Waste (Kg)	735,000	1,470,000
Useful heat (MWh)	1,102	2,205
% Heat load	6.14	7.16

Energy use

We have also used the neighbourhood to model energy use, the results of which are set out on table 2. Whilst buildings can be made energy efficient wherever they are built there are some inherent advantages of building within dense urban areas. The main advantage is that urban terraces and flats have fewer external heat loss walls so that the heat loss for any given level of insulation is lower. They are also more likely to be sheltered by surrounding buildings. However against this should be set the possibility that they will be overshadowed and the fact that they are unlikely to optimise their aspect to maximise passive solar gain.

However the real advantages in terms of energy efficiency and emissions come with the introduction of Combined Heat and Power systems (see SUN Dial 2). We have therefore assumed that the neighbourhood will include a district heating system. This is likely to be more viable in dense urban areas which reduce the distances over which heat and power mains extend, minimising thermodynamic losses and infrastructure costs. The mix of uses will also help to smooth out the demand profile over the day. Because there is just the one heat source for the area, a district heating system is more efficient than individual boilers in each building, particularly given technological improvements in heat metering.

However greater savings can be made by linking the district heating to a CHP system. This would use gas to generate electricity and heat increasing operating efficiencies to 80-90% so reducing bills to local residents and businesses. We have calculated the total energy requirements of the area of 9,109 - 10,913 MWh for electricity and 17,945 - 30,807 MWh for space and water heating (depending on the density of the area). The CHP plant would then be sized to meet the electricity requirement. This would require additional boiler capacity to meet winter heat loads. The table illustrates the likely effect on emissions of this type of system. This is based on two alternative systems, gas turbine and a compression-ignition engine (CI Engine). The table shows potential reduction in emissions of round 40% for CO_2 and the virtual elimination of SO_2 emissions. However with the CI Engine there would be an increase in NO_x emissions which would need to be addressed with pollution control measures on the CHP plant.

This system could then be linked to a waste incinerator so that a proportion of the heat is generated from waste. This already happens in Sheffield and is planned in a number of other cities including Manchester. We have calculated the weight and calorific value of the waste generated by the housing in the area. This would only contribute a small percentage of the district heating requirement. However it may be possible to link the plant into a wider waste collection system again as has been done in Sheffield. Waste incineration does carry the risk of further pollution and potentially dioxin emissions. It would therefore need to be carefully controlled and subject to local consultation.

These are just a number of the issues to be tested on the hypothetical neighbourhoods being developed by the SUN Initiative. We will be undertaking further work and looking at other areas over the coming months. However the initial findings do suggest that the ideas are practical and can create significant environmental benefits.

1. **100 Mile City** - D. Sudjic - Andre Deutsch London 1992
2. **Green Paper on the Urban Environment** - Commission of the European Communities 1990, Sustainable Development - The UK Strategy - DOE January 1994.
3. **PPG 13 - a guide to better practice** - Department of the Environment - HMSO, London. March 1994.
4. Various publications however a good summary of the arguements can be found in the report of the TCPA Enquiry 'The people - Where will they go?' Summarised in Town & Country Planning July August 1996 Vol 6. Guardian article 5th Feb 1997.
5. **Hulme Guide to Development** - Manchester City Council June 1994
6. Original research by Newman and Kenworthy in the United States and ECOTEC in the UK, critique by Michael Breheny in The Compact City and Transport Energy Consumption - Institute of British Geographers - Sept 1994.
7. **The Urban Transit Problem: Analysing needs and producing relevant solutions** - Jack Short Deputy Secretary General of the European Conference of Ministers of Transport - Planning in London Jan 1997.
8. **The Compact City: a sustainable urban form?** - Jenks,M, Burton,E. & K.Williams (1996), E & FN.Spon, London.
9. **Better public transport for cities** - Chartered Institute of Transport (1996)
10. Fulford C. writing in the Compact City (see 8).

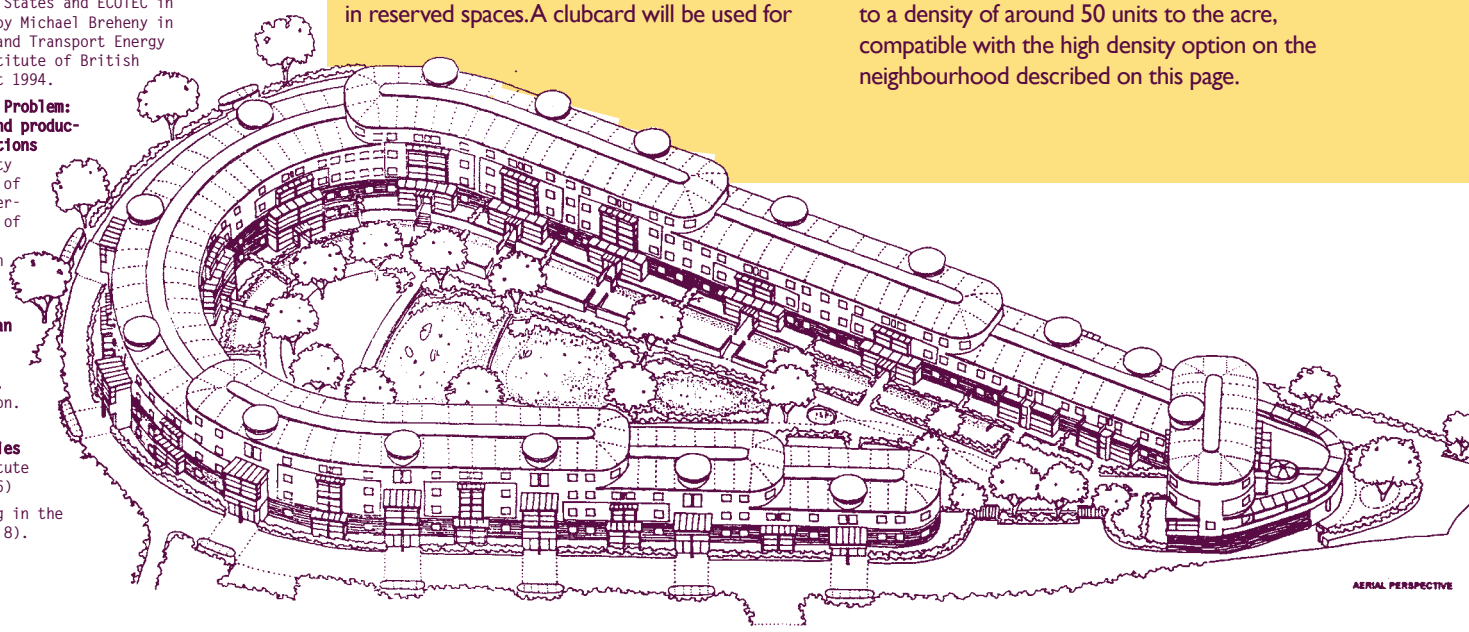
Edinburgh gets tough on the car

Many cities have laid claim to environmental credentials over recent years. However the City of Edinburgh is now showing the way with radical measures to reduce car use and gives an insight into the sort of policies which are likely to become commonplace in the future. The aims of the city's radical policies are to ease congestion, reduce car dependency and cut air pollution.

A road pricing scheme encompassing the whole city could be in place by the year 2000. This will create a cordon around the city's outskirts where motorists will have to pay £2 to enter the city. The idea is that this serves the dual function of reducing traffic volumes and raising revenue for public transport investment. With relatively few entry roads and little through traffic, the city is considered an ideal location for such a scheme.

Edinburgh is also setting up a car sharing scheme. A taxi style booking system will be operated with communally owned cars located in reserved spaces. A clubcard will be used for fuel and a contract agreed for maintenance and insurance. This will give people inexpensive access to a car without actually having to own one although the hope is that they will think more about car use and make greater use of alternative forms of transport. 300 towns in Europe currently operate such schemes with Berlin offering a leading example where there are now 3,000 members of car sharing clubs.

Edinburgh is also home to the UK's first car free housing development (pictured below). To be developed by Canmore Housing Association. The scheme, which is being built on disused rail land, will consist of 121 flats which will provide 'energy efficient homes in a car free environment'. People wanting to buy or rent flats will have to sign an agreement not to own a car and, like the city car share scheme, the estate will have its own pool of cars for hire. The land that would have been used for parking will be used for terraced gardens, allotments and reed beds for grey water recycling. The site is developed to a density of around 50 units to the acre, compatible with the high density option on the neighbourhood described on this page.


AERIAL PERSPECTIVE

urbed

Live/work by Peabody in Docklands

The only true live/work scheme by a housing association that we are aware of is the Westferry scheme being developed by the Peabody Trust on the St. Vincent site near Canary Wharf. This is part of a wider development by Peabody and is aimed at promoting local economic development, particularly in the cultural industries. The courtyard scheme which will go on site within a few months. There are 9 B1 units on the ground floor below 27 live/work units on the three upper floors. The live/work units have a floor area of 800sqft and 18 are open plan. These units have heating, a shower and a basic kitchen but will otherwise need to be fitted out by incoming tenants and will be let on standard business leases. 9 of the units are being fitted out by Peabody and will be let on assured shorthold tenancies with a licence to occupy the workspace. In this way Peabody, a registered charity, is the legal occupier so that the units are not subject to business rates. These will be used as incubator units on the understanding that residents/businesses will move on after 3 years. It is anticipated that 60% of the unit floor area will be used for business with 40% used for living. All of the units will be let at cost rents (rather than market rents). They are largely funded by Peabody with cross subsidies from sales elsewhere on the site although the land has been gifted by LDDC (£375,000 equivalent grant).

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Bringing work home

Forget for a moment mixed use development. Whilst the debate continues about whether it is possible, viable or even desirable to mix uses vertically within buildings a few intrepid developers are going one step further - they are mixing uses within live/work units

People have always worked from home and with the growth of teleworking this is becoming more common as people use information technology to avoid the long commute to work. However the average teleworker is generally happy tapping away on his or her computer in a spare bedroom. But what about other types of work that is not possible from the spare bedroom or kitchen table? Why not build somewhere designed both for living and working? This type of development is called live/work and is just starting to gain a foothold in the UK market. Sometimes called atelier units, these combine workspace and living accommodation behind the same front door.

There are established models for this type of development. The traditional corner shop includes a commercial unit on the ground floor linked to residential accommodation above. Similarly the original New York loft was a place where people, often artists, both lived and worked. Indeed the recent interest in live/work in the UK is closely linked to the growth of loft developments. As part of the SUN Initiative we recently undertook a review of live/work accommodation in Hackney and discovered a large number of private schemes, often in converted industrial buildings. Indeed so prevalent has live/work become in this part of London that the London Borough of Hackney has adopted Supplementary Planning Guidance covering this type of development.

Away from the private sector live/work is less common, however a few developments are starting to emerge. We review below proposals in Liverpool, Hackney and London Docklands. All of these seek to use live/work as a tool for economic regeneration by promoting cultural industries. Indeed artists and other individuals working in creative industries are seen as the main market for this type of development. Whilst this may perpetuate the myth of the artist's garret, market research undertaken by URBED in Hackney suggests that there is indeed a strong demand from artists. They are often young and unable to afford separate premises to live and work. They also work irregular hours and some activities, such as the firing of pottery require constant attention. As a result many artists work from home and find the bespoke live/work unit more appropriate than the restrictions of the domestic environment.

The problem of live/work development tends to be that it fits uneasily into current funding regimes. Two of the schemes described below are being developed by housing associations. This reflects the growing interest of associations in urban regeneration and economic development. However housing association grants cannot be used for workspace and are not used in either of the schemes to fund the residential element of the live/work unit.

The third scheme is being developed by a workspace developer approaching the issue from the other end of the spectrum. However there are again problems since many workspace grants, particularly from Europe cannot be used for housing. In a mixed use scheme the costs of different parts of the development can be separated for grant purposes. However the nature of live/work means that the split of uses is flexible and will vary depending on the occupants. This becomes very difficult for grant funders, the main exception being English Partnerships which has a remit to fund both housing and workspace.

Live/work may not be the future of urban housing. It is however a good example of the type of innovation entering urban development as demographic and economic change creates demand for new types of housing and workspace. It illustrates that loft living need not be restricted to the urban nouveau riche and could play an important role in economic development and environmental sustainability.

London Fields - The heart of a creative community

As part of the SUN Initiative we have recently completed a study for the London Borough of Hackney in London Fields. The twin aims of the study were to advise on the letting of 26 live/work units recently completed by the council in partnership with Greater London Enterprises. The second was to advise on the second phase of the scheme which involved the demolition of a group of houses squatted by local artists. The Phase I live/work units (pictured above) are essentially good quality industrial units with planning consent for residential use on a first floor mezzanine. Following our recommendations a grants package has been introduced to help incoming tenants to fit out the living areas. Demand for the units has been strong, particularly from cultural industries. Our recommendations for phase II, which have also been agreed, were to develop a more intensive scheme of live/work units and artists studios allowing the retention of 21 of the 29 houses. The squatters have since established a co-operative to refurbish these houses, also for live/work, as the heart of an arts community.

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Live/work by Maritime in Liverpool?

Maritime Housing Association in Liverpool have become increasingly interested in mixed use development and were suggested to us by the Housing Corporation as one of the few associations undertaking live/work schemes. They have undertaken a number of schemes which mix living and working targeted at cultural industries. Important as these schemes are, the uses are separated so that they are not true live/work schemes. However one of the planned developments on Lord Nelson Street, next to Lime Street Station, may develop into a live/work scheme. This involves the conversion of a derelict listed terrace of Georgian houses. 21 one bed flats will be created on the upper floors with the basement converted to 9 artists' studios which can be used for live/ work. The scheme is being undertaken with a local developer and the studios will be managed by an organisation called Arthouse which Maritime Housing Association has helped to establish. The total costs are £1,137,601 and it has been funded with a long term loan of £542,601 and grants from the Housing Corporation and English Partnerships.

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Advanced Technology Housing

In the late 80's Avery Associates started investigating the application of modern construction technology to housing - a sector notorious for having retreated into conservatism and pastiche following the failures of the 1960's and 70's. The outcome was Advanced Technology Housing - an attempt at a new prototype for high density living. **Marcus Wilshere** argues that the model is ideally suited to the Sustainable Urban Neighbourhood.

We have, in this country, two primary typologies for urban housing: the terraced house and the block of flats. Each has its own shortcomings not least of which for the users is the problem of shared common areas.

The Advanced Technology House (ATH) concept takes as its starting point the notion that every home should ideally have its own landholding and its own entrance off a street. It reduces the size, and thus the cost of this tenure, by reducing the home to a fundamental unit of space - the single room - and exploits the possibilities offered by the latest technology to stack this single cell in a wide variety of urban forms. This provides the high density of development associated with flats but with the occupants' presence on a true, public street. Maintaining this direct relationship to the street is an essential feature of the ATH type and acknowledges the importance of the patterns of human exchanges and the extent to which built form can enable or constrain these patterns.

Because the house is only one room deep, it can be arranged both in a 'side-by-side and a 'back-to-back' configuration - a type formerly found difficult to make habitable but now possible to high standards given modern mechanical ventilation and acoustic attenuation techniques. The advanced technology town house is, therefore, a single aspect, narrow fronted unit. It is exceptionally energy efficient, sharing walls and recycling heat to a thermal store.

To reach the upper floors, the houses are fitted with an internal stair and a two-person lift driven by linear motors of a type already in commercial use in Japan. The room-to-room travel times are less than for a flight of stairs and, with no motor rooms, the lift-shafts take up little space and can be extended upwards if required. The lift-cars are lightweight and inherently safe, relying on an inductive effect to descend in an emergency. Larger items of furniture can be brought in using an integral, external hoist.

The ATH homes are ideal for owner occupancy or shared equity, sitting as they do, on their own freehold plots, with or without a garden and/or on plot parking. Importantly, the ATH can also be placed in juxtaposition with other uses to create truly mixed use developments with employment and shopping in close proximity, or to reorganise existing single-use blocks such as retail sheds, multi-storey car parks or shopping centres, which presently contribute so little to the vitality of surrounding streets.

For Avery Associates' Silvertown competition entry (above right), a total of 1540 advanced technology houses were proposed, of several types with and without gardens, some back-to-back but most fully integrated into other structures, including car parking, industrial and commercial buildings, and an 80,000 seat public stadium. This ability to juxtapose what hitherto had been considered entirely incompatible uses is a key factor in the plan. As such, it was a demonstration of how cities of the future might be condensed and revitalised.

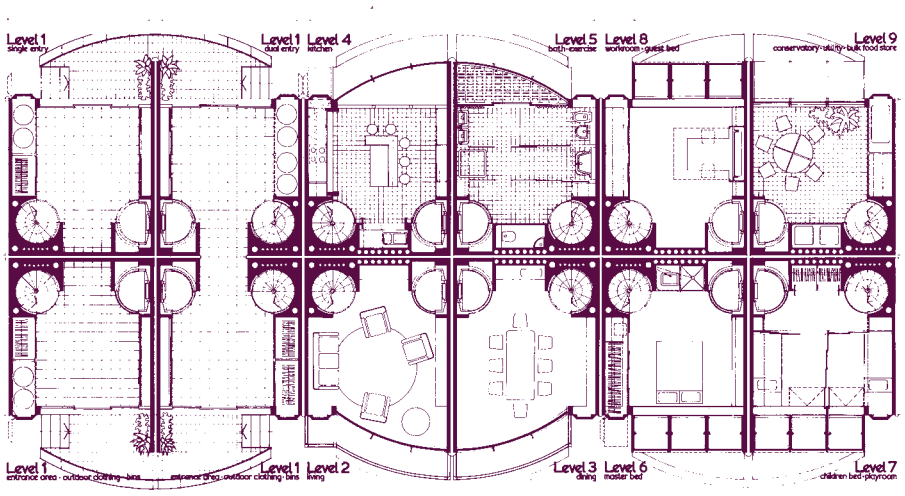
The ATH concept capitalises on those sites considered marginal for conventional housing development. Building at densities of well over 300 habitable rooms per hectare, the concept aims to provide a flexible building block which can include one and two bedroom flats thus addressing the growing demand for smaller housing units which comprise so much of the projected new housing demand.

For a sophisticated, demanding but demographically ageing population, where proximity to the town's facilities will become increasingly essential, and interdependencies within flats increasingly intolerable, such high density autonomous dwellings with lift access may ultimately be considered a necessity.

The ATH represents a radical re-think of conventional housing wisdom and as such, it will require a reassessment of planning and housing policies. If there is a genuine will to review the form of housing needed for the next century, we believe the ATH approach can contribute much towards a revitalisation of our cities.

We are well aware of the resistance we are likely to encounter in promoting a truly radical re-think of conventional housing wisdom, but if the government is serious about building 60% of new homes on brown field sites for the projected 4.4 million new households by 2016 then designers are going to have to make some pretty imaginative leaps in their thinking.

Whatever the outcome of the political debate, current approaches to housing by volume builders and most housing associations is resulting in suburban development to the detriment of our cities and, just as importantly, to our countryside too. Building on marginal sites and in close proximity to what has for so long been considered incompatible uses could restore the complex pattern of human exchanges which characterise our best loved urban places.



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Bicycling

AND THE MULTIPLE MAIN STREET MODEL

Twenty-five years ago American concerns about car use would have been irrelevant in the UK. It is with a certain sadness that Los Angeles writer Richard Risemberg considers how the American attitude to the car has spread to the UK and other countries in the English-speaking world, Latin Europe seeming somewhat more resistant to the infection. In this article he outlines his proposal for creating settlement patterns which will promote bike use, making common cause with many of the issues being promoted by the SUN Initiative.

Perhaps it is time to expand the definition of bicycle advocacy. For a long time now - at least three decades - advocacy has concentrated primarily on bike paths and lanes, bike parking, and facilitating multimodal commuting, where the bicycle is loaded onto a bus or train for part of the journey. There is no question that all of these things are helpful and sometimes necessary, just as are the efforts to encourage private employers to accommodate bicycle commuters, along with those that seek to open people's minds to the very possibility of themselves commuting by bike. But there is a longer-term project that, however quixotic it may now seem, will ultimately be necessary, and it is one that the activist community should engage itself upon now, in however small a way: that is the proposal of new zoning laws and planning practices to encourage decentralized development, which would site workplaces and housing near enough to each other that most people would not need to commute longer than is comfortable for them to do by bicycle, bus, or foot.

After all, that's how it used to be in cities all over the Old World, and it is the human-scale structure of those cities, with their neighbourhoods that have actual neighbours in them, where the cop lives around the corner and the grocer sleeps next door, that give them the charm that Americans travel thousands of miles at great expense to see; and it is the development of the urban/suburban dichotomy, with the majority of work located in the city and the majority of workers scattered in surrounding housing tracts, that have made of the cities, ghost towns, and of the suburbs themselves, emotional wastelands. If you must drive forty miles to the office, drive ten miles to the restaurant or movie house, drive your children five miles to school, and drive four miles to buy bread and spinach, you will never meet your neighbour on the corner for a chat on the way home from your chores, you will probably never consider doing any of those chores on a bike, and you will spend altogether too much of your life inside a small metal box. It is a sad fact, as most of us know, that, since the forties, the American city has been structured around automobile use; no matter how many miles of bike lanes you stripe, you will not convince the suburban mother to pedal ten miles for her groceries. Now that the nineties are drawing to a close, we must promote a new wave of urban planning that re-establishes the neighbourhood structure both in our cities and in the suburbs. This is a project that can be initiated first in the suburbs, because it is there that employment centres do not yet exist in the concentrations that they do in the city, and it is for the suburbs that planning practices can be changed to prevent the concentration of office and retail space in too small an area, distant from housing. In effect, one can create the new city as a series of small towns that abut each other, each having its Main Street with its shops and offices surrounded by a few blocks of houses and small apartments, rather than continuing the practices now prevalent of building vast, sterile industrial parks abutted by huge malls, with most of the workers and customers living in more or less distant developments that are themselves devoid of any services save gas stations and video stores.

In the cities themselves, the project would be both easier and more difficult: the cities have always had housing and employment side by side, but the cities are also full of massive office and retail developments, crowds of skyscrapers and hulking malls, which need far more workers and customers than the surrounding neighbourhoods can generally provide, and which will not be torn down readily no matter how attractive an alternate form of development might be.

But the suburbs are just now beginning to draw employment centres in a big way, and now is the time when the activist community can voice its support for planning practices that will make a human scale the most important element of new or rebuilt neighbourhoods. The Wal-Mart, the giant Safeway, the industrial park, are more of an impediment to bicycle commuting than rainy nights or arrogant drivers—the fact that the adult use of bicycles in a community has been noted as an indicator of that community's livability shows us that this idea is at least an undercurrent in activist thinking. A civic structure that is built along the lines of the small town will naturally accommodate bicycles; one built around the car never will, no matter how many bike paths are put in. The bike paths will be used—on weekends, for pleasure riding. But they will do nothing to improve the workday world. We must begin to model our cities on the supercomputer, with its parallel processors, or on the Internet: many small towns working in concert will be more efficient than one big sprawling one that cannot communicate well within itself. (Even in Los Angeles, the capital of car culture, you can see how well the Main Street model works in isolated but effective neighbourhoods such as Larchmont Village or parts of Santa Monica, where bicycles are ever-present.)

A way to bring this about may be to demand that commercial development be limited in some sort of ratio to housing: small offices, small shops, surrounded by neighbourhoods: again, Main Street, but Main Street every ten blocks. After all, the point of bicycle advocacy is not to ask favours for ourselves, who currently ride bicycles for transport; it is to use bicycling to make our world more livable, for those who ride and for those who don't. Encouraging the multiple Main Street model—and it is a model that some architects and urban planners have begun promoting in the last three or four years will automatically result in more people riding bicycles, without bikepaths, without special laws or special treatment—just because a bicycle will then be the obvious best way to get around.

Richard Risemberg, a photographer and writer based in Los Angeles is currently preparing a further essay on subsidy-switching: a plea to stop subsidising private auto use and instead more fully support public transport, as has been done in France to a certain extent, and in Holland. He would be interested in any information, preferably on the Web, describing UK (and, if possible, French) tax policies on private and public transport. His contact details are as follows:.

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SUN initiative

The Sustainable Urban Neighbourhood Initiative is supported by the Department of the environment's Environmental Action Fund, a major charitable trust and URBED

The initiative is managed by URBED from its Manchester office by David Rudlin with administration provided by Christina Swensson and Helene Rudlin with additional research by Nick Dodd.

This news sheet has been researched, written (unless otherwise credited) and designed by URBED which is a not for profit urban regeneration consultancy set up in 1976 to devise imaginative solutions to the problems of regenerating run down areas. URBED's services include consultancy, project management, urban design and economic development. The SUN Initiative further develops URBED's growing involvement in housing development and continues the work of the 21st Century homes project.

Why NOT get involved?

Our aim is to develop the SUN Initiative as a broadly based network of organisations and individuals interested in the sustainable urban development. We do not have a membership but people can get involved in a number of ways...

Mailings: If you did not receive this newsletter by post please contact us and we will add you to our mailing list.

Contributions: We would welcome letters or articles for future issues of this newsletter.

Examples: We are compiling a resource base of good examples of sustainable development both nationally and internationally. We would therefore welcome details of projects that you are involved in.

Sponsorship: We are seeking sponsors for future issues of this newsletter and for exhibition material. Details are available on request.

DEPARTMENT OF THE ENVIRONMENT

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ISSUE FIVE: AUTUMN 1997

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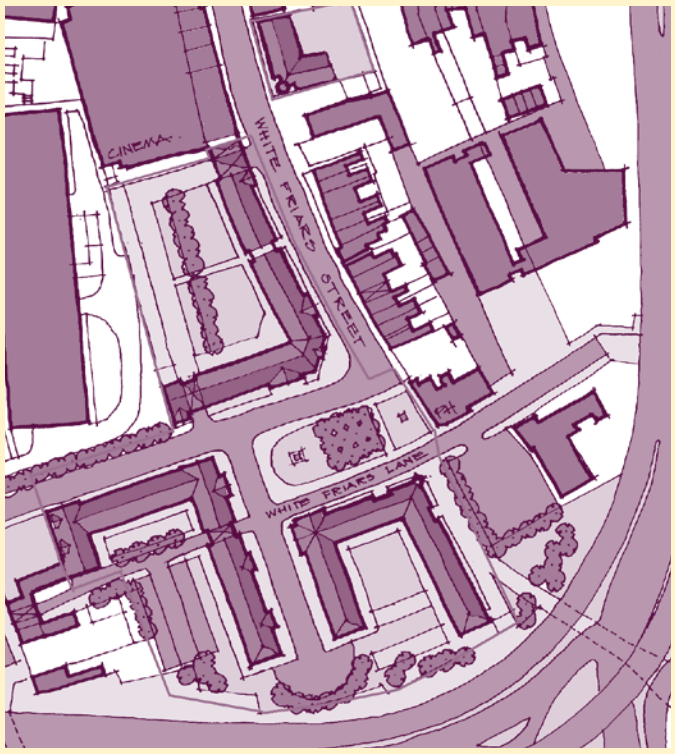
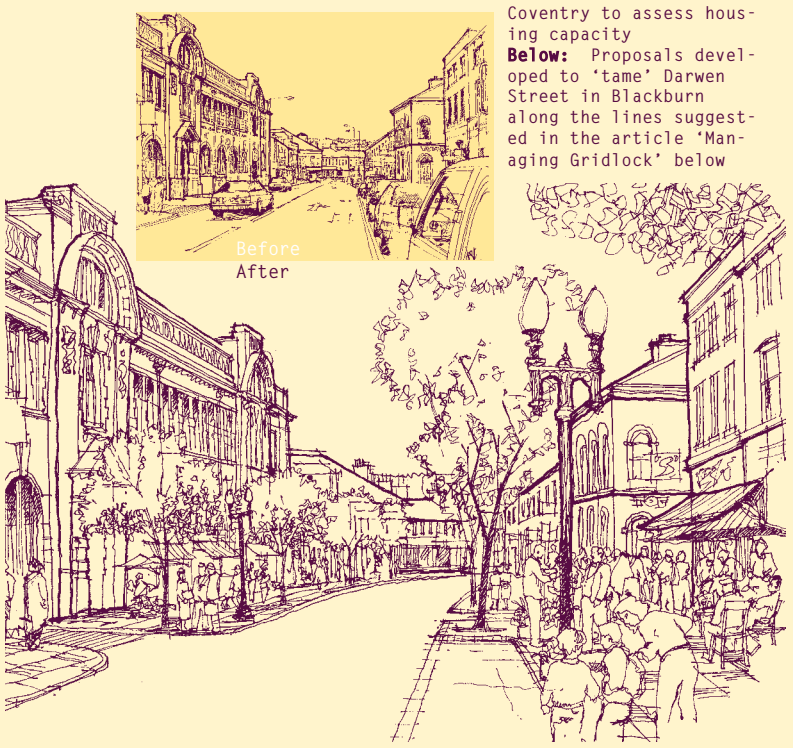


the Sustainable URBAN NEIGHBOURHOOD Initiative



Above: Proposals for one of the sites studied in Coventry to assess housing capacity
Below: Proposals developed to 'tame' Darwen Street in Blackburn along the lines suggested in the article 'Managing Gridlock' below

Models wanted

The SUN Initiative is seeking opportunities to apply the principles of sustainable urban development. In the last few months we have explored the potential for the development of a series of brownfield sites in Blackburn town centre including improvements to Darwen Street (right) which involved downgrading it as a vehicle route to make it more pedestrian friendly. Working with Coventry City Council, we have also been exploring the capacity of town centre sites for housing development (above). This identified land for 355 housing units on seven town centre sites.

We are also working on a model brief for a sustainable urban block and will be testing this through a theoretical design exercise over the coming months. We would be interested to hear from anyone who knows of sites where the brief could be tested, preferably in situations where there is the likelihood of development taking place in the future. To discuss the possibilities, contact David Rudlin at the SUN office.

Welcome to the FIFTH issue of SUN DIAL, the journal of the Sustainable Urban Neighbourhood Initiative

In this issue we explore the relationship of transport policy to sustainable urban development. What role might the Sustainable Urban Neighbourhood play in urban transport policy and could the creative use of gridlock be the secret weapon in the drive to reduce the attractions of the car? Also in this issue Andy Hansfords asks whether Housing Co-operatives may hold the key to social sustainability and

INSIDE

NEXT ISSUE

- Housing in town centres
- A brief for a Sustainable Urban Neighbourhood
- The new found enthusiasm for Foyers: How have they translated from the French?

managing Gridlock

A Sustainable Transport Policy

Back in the Summer, the government invited comments on the development of an integrated transport policy. With the deadline for comments having just passed, the press has been full of comments from pressure groups and organisations representing road transport interests. In this article we summarise the comments submitted by the SUN Initiative which made a strong link between sustainable forms of urban development, a carrot and stick approach to cutting car use and a reduction in highway capacity

Gone are the days when the sole aim of transport policy was the fast and efficient movement of goods and people across the country. Whilst this is vital to economic prosperity, it must be weighed against the environmental, social and economic costs of transport. An integrated transport policy must balance the need for mobility with its environmental consequences and in this respect the over riding issue is private car use.

National transport trends result from individual decisions taken every day by people travelling to work, taking their children to school or doing the shopping, as well as companies making deliveries, organising production and managing staff. At present, these decisions are weighted in favor of the car. We may understand that using the car or transporting goods by road is environmentally damaging but these concerns are weighed against the fact that road travel is cheaper, more convenient, comfortable, and quicker than other alternatives. This leaves only an environmentally committed minority prepared to give up their car whilst the rest of us remain guilty car users.

> Transport decisions are weighted in favor of the car, leaving only an environmentally committed minority prepared to give up their car whilst the rest of us remain guilty car users

There does however come a point when the cumulative effect of individual decisions is so much congestion that car use is no longer a sensible form of transport. This can be seen in Central London where the delays caused by congestion, the sheer hassle of driving and the difficulty and expense of parking cause most people to leave their cars at home (only 17% of London commuters travel to work by car[1]). The problem is that the environmental, social and economic consequences of car-use to society reach unacceptable levels long before conditions become bad enough to persuade individuals to leave their car at home. The aim of policy must therefore be to lower the pain threshold of car use to a point where people leave their car a home before the consequences to society become unacceptable. We believe that there are four means by which this can be achieved:

Sustainable Urban Development

In recent years much of the debate about car travel has focused on the influence of settlement patterns on the distances that people travel. Seminal research by Newman and Kenworthy in 1989[2], although much criticised, has been widely used by governments in the UK, US, and Australia to justify policies of urban containment to reduce car use. This was backed up by research by Ecotec in 1993[3] which demonstrated a correlation between the density of development and the miles travelled by car.

This research was used by the previous government to justify a policy restricting out–of–town development and channeling new housing, shops, and other facilities into existing towns. While there may have been a political dimension to this policy, in that it diverted development away from the Conservative's traditional constituency in the Shire Counties, it represented an important step forward in planning policy. The government's recent record in turning down out-of-town shopping development is therefore to be welcomed and it is hoped that it will not retreat from either PPG 13 or the commitments to brownfield housing in the Housing White Paper.

It has been estimated that at least 70% of energy usage is affected at some point by planning decisions[4] with key influences

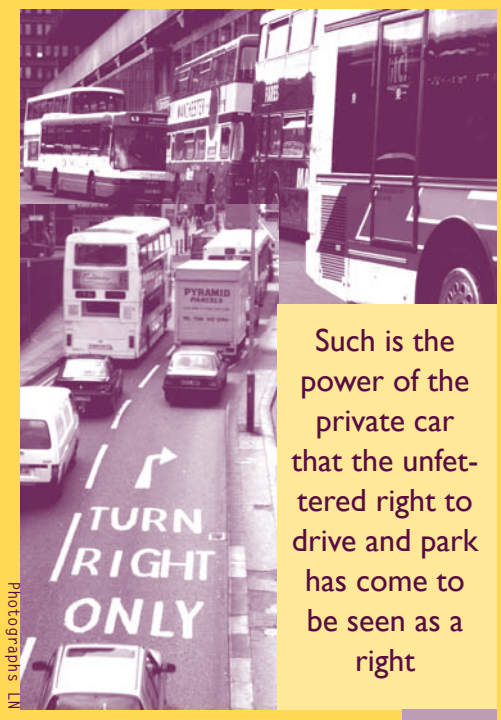
including built form, layout and density. It is commonsense to suggest that housing built in locations remote from services, employment and facilities will become car reliant. Likewise it makes sense to suggest that out-of-town shopping, business parks and leisure facilities will fuel car use, particularly if they lead to the closure of facilities accessible to public transport within towns as demonstrated by the recent research into the impact of the Trafford Centre in Manchester by the Association of Town Centre Management. This has been confirmed by studies which demonstrate that cross town traffic is inextricably linked to the urban layout and the accessibility of facilities[5]. There must therefore be a role for more dense, urban, mixed-use development to reduce journey distances, make public transport more viable and to promote walking and cycling as described in SUN Dial 4.

Government urban containment policy has however been widely criticised[6]. Critics have suggested that it is wrong for the government to force people back into dirty, dangerous and overcrowded cities, that this would lead to 'town cramming', that it is not practical and that, even if it were, the benefits are not as great as have been claimed. Whilst the proposition that higher density development reduces travel has been questioned[7], this is not the main focus of criticism. The argument is rather that the disbenefits of high density development are so great that they out weigh any environmental or transport benefits that may result. Yet if cities really are so terrible that decent people can no longer live in them, the answer must surely be to reform urban areas rather than to abandon them.

Our view is that there is limited scope for Government to force people to return to cities against their will. However as car use becomes more difficult it is likely that many people will return to cities of their own choice to escape the horror of commuting. There is already evidence that this is happening in London and other provincial cities. There is much that can be done to promote this trend by developing pleasant, safe, mixed use urban areas as proposed by the Urban Villages Forum and the SUN Initiative.

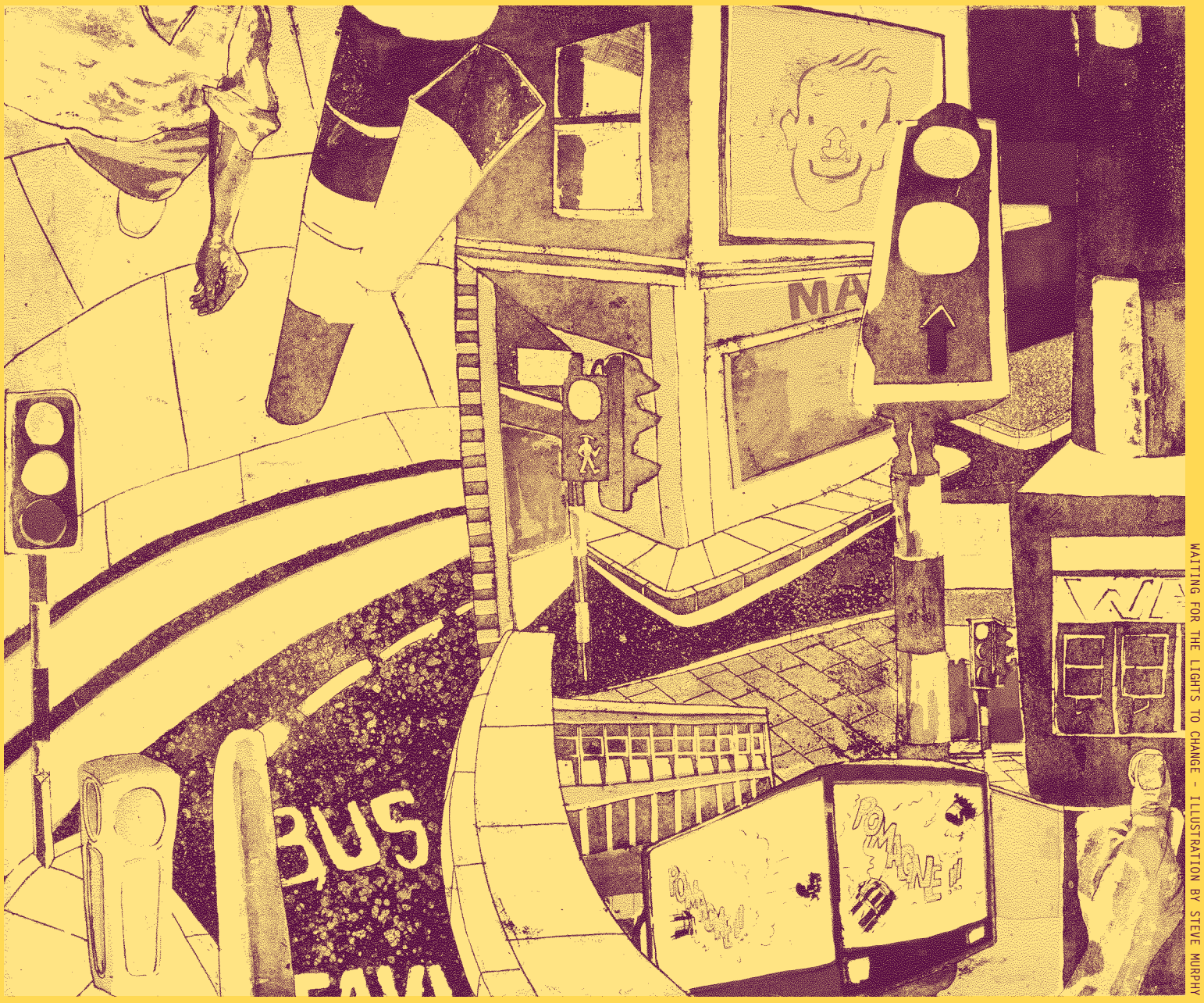
The Stick

The car has given people freedom to live and work where they wish. Road transport has freed industry from locational constraints and the car industry is an important part of the national economy. Such is the power of the private car that the unfettered right to drive and park is seen as a right. People seem prepared to put up with enormous expense, disruption, pollution and even death and injury in pursuit of this right. It is however clear to anyone that projections of car use are unsustainable and will soon start to limit people's freedom to use their car even without government intervention. It is therefore right for the government to ration what has become a limited resource – road space. This will take political courage,



Photographs LN

Such is the power of the private car that the unfettered right to drive and park has come to be seen as a right



WAITING FOR THE LIGHTS TO CHANGE - ILLUSTRATION BY STEVE MURPHY

since measures to limit people's right to use their car will be deeply unpopular.

An important aim of policy should be to reduce emissions from cars and engine size. Options should be explored to promote alternatives such as biofuels and electric powered vehicles. However this will not overcome the problems of congestion and gridlock. It is therefore important to reduce the overall level of car use and the most effective way of doing this is through fiscal measures such as higher fuel taxes, road taxes graded to reflect engine capacity or miles travelled, higher purchase taxes on new cars and the removal of tax relief on the use of company cars and company car parks. It is also important to increase parking charges (including out-of-town facilities) and to introduce tolls on trunk roads and road pricing within towns. This should be linked to changes in planning policy such as maximum rather than minimum parking requirements for new developments, the promotion of car free developments or the encouragement of car sharing or car pooling schemes as in Edinburgh (see SUN Dial 4). It may also be necessary to consider more drastic measures when air quality deteriorates to unacceptable levels as were used recently in Paris's recent smog alert.

In implementing these policies it is vital to ensure that they are applied evenly. Urban road pricing, for example, could drive people (literally) to out-of-town facilities where there are no tolls and where parking is free, hastening the decline of existing centres and reducing facilities accessible by public transport.

The Carrot

Studies by the Chartered Institute of Transport[8] suggest that road pricing and taxation alone will not significantly reduce private car usage. The car is seen as a necessity rather than a luxury – indeed, if there is no alternative it is a necessity – so however expensive it becomes, people will find the money to continue using their car. The stick therefore needs to be balanced with the carrot of improved public transport. Road pricing should be directly linked to investment in public transport, as illustrated by Ove Arup Economics who have developed a strategy for investment in the London Underground financed by revenue from road pricing[9].

New development should be accessible to public transport and be sufficient dense to ensure that services are viable. However there is also a need for subsidy and investment in a sector which has been starved of both for many years and where the public sector's powers have been eroded by deregulation. Public transport has become second class transport and is shunned as much because it is shabby, downmarket and dangerous (particularly late at night) as because it is inconvenient. This image must be transformed and we need to learn from Europe where public transport networks are a cause for civic pride.

Buses are the most flexible form of public transport and are in greatest need of improvement. Local authorities require powers to enter into partnerships with operators to guarantee competitive pricing, improved services, better vehicles, through ticketing and an increase in passenger numbers. Light rapid transit or tram systems such as the Metrolink in Manchester demonstrate the potential to transform the image of public transport. They play a symbolic and practical role as a mode 'premium' that commuters tend to favour over bus services[10]. The government should continue its commitment to the introduction of such systems and the expansion of existing systems.

Managing road capacity

Even these measures taken together may not solve the problem. However hard the motorist is hit in the pocket and however attractive alternative modes are made there will still be those who refuse to change their travel habits. It is therefore also important to consider the issue of highway capacity. It is now widely accepted that road building generates more traffic. Building roads makes driving easier so encouraging more road use. Traffic then increases to the point where roads once again become congested. This suggests that whatever the capacity of a given road network there will be a tendency for traffic to increase to just below saturation point. Increasing road capacity will therefore simply raise the saturation point.

we need to learn from Europe where public transport networks are a cause for civic pride

Left:
As traffic clogs our roads, buses have become a technicolour array of different liveries

Right:
But measures to improve public transport such as the Metrolink in Manchester and Oxford's electric bus can provide an attractive alternative to the car

Freiburg Germany

Freiburg has won the accolade of 'Environmental capital' in Germany through its work to reduce car dependency by offering cheap alternatives. Its strategy includes:

- An employment location and density policy to maintain the traditional urban structure of the city
- A street-car network with rights of way over cars
- The Regio–Ecoticket, a cheap one–fare pass valid on 2400km of regional rail, street car and bus routes
- High parking charges, resident only parking and park–and–ride
- 30km/hr sped limits throughout the city and road narrowing to reduce car flow
- 400km of cycle routes and parking for 700 cycles

Over the last five years public transport use has increased by 30%. Between 1976 and 1989 car ownership in the city rose by 46% but car use did not increase.

Source Euronet–UWE, 0117 976 3895
PPG13:A Guide to Better Practice, HMSO, 1996

This effect is not confined to road building. It may also result from measures to reduce car use. In Bristol for example, a park-and-ride scheme succeeded in taking thousands of cars off a major route into town. This improved congestion for a period but gave other people the opportunity to bring their car into town. Within months of the road was as congested as ever. Measures to shift people out of their cars and onto public transport may therefore only free up road capacity for someone else with the resources to pay the tolls and parking charges. This suggests that the only way to reduce the total volume of car use is to reduce highway capacity and thus the saturation point of the road. This will have the reverse affect to what happened in Bristol. Conditions will be intolerable for a few months but as car use becomes more difficult people will stop using their car so that use will fall to just below saturation point. Provided that this is linked to initiatives to relieve pressure through public transport improvements, there is no reason why capacity could not be progressively reduced over time significantly reducing the volume of traffic.

> Measures to shift people on to public transport may only free up road space for someone else with the resources to pay the charges

Capacity could be reduced by lowering speed limits which would also reduce accidents – and improving energy efficiency[11]. Road pricing could also build in congestion if manual tolls were used instead of electronic systems. Carriageway widths could be reduced to create bus lanes, cycle routes and even street trees. Care would, however, be needed to ensure that trade is not displaced to out-of-town locations.

An Intergrated Approach

The term 'an integrated transport policy' means different things to different people. To transport professionals it often means little more than the co–ordination of timetables and ticketing on public transport. The approach we suggest here is a framework for a truly integrated policy. Each of the four elements must work together. Urban containment alone is not enough. Road pricing or capacity reduction without good public transport will only breed resentment and congestion but public transport investment alone will not counter the attractions of the car. We therefore believe that this four pronged approach should form the foundation for an integrated transport policy.

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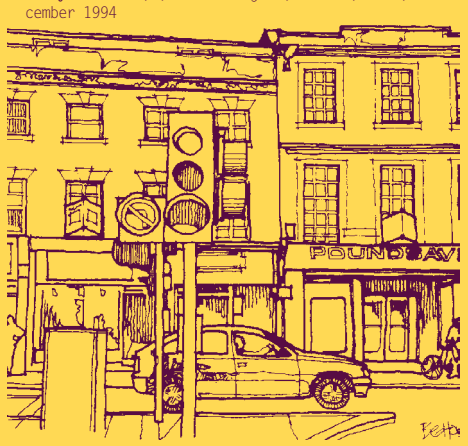

Could housing Co-operatives have the answer?

Does a sustainable urban neighbourhood require stability? Does it need, in its social and economic remit, to enable local people to build communities and keep them going? Does it need to recycle community assets? If so, then co-ops might have the answer.

Commitment: Most communities are made of people who were allocated a tenancy, applied for a job, or bought a house, without knowing who their neighbours would be. Housing co-ops are different. Co-op tenants can select their neighbours on the basis of their commitment to the co-op – and to co-operative principles. The stability of the co-op (a micro-neighbourhood, perhaps?) is the primary consideration.

Co-ops empower their members. A sense of stewardship tends to grow up, founded in the commonly-held – or at least collectively managed – asset, their housing. Rent is collected, repairs are made, and homes are allocated according to democratic procedure by co-op members themselves. The confidence and moral ownership gained from this collective self-reliance can have a very positive effect on the social and economic fabric of the entire neighbourhood.

Stability: Housing co-ops are organisations which outlive their individual members. This has clear advantages for a sustainable neighbourhood. *Firstly*, membership of a co-op show a commitment which exceeds that of simply living or working in an area. *Secondly*, the common ownership of assets which are also communally managed and maintained tends to allow those assets a longer life; though our cities have seen so little common ownership that we have to look abroad to see the evidence. *Thirdly*, co-ops are organised around seven principles, which have been evolved over 150 years to protect co-operators and guarantee their sustainability and the quality of their human environment. Thus co-ops bring in three qualities essential to sustainability: the desire to achieve it, the resources to achieve it, and principles for how to achieve it.

Superior performance: So are co-operators really do-gooders bumbling around trying to find a better way to live? This image is about as useful as that of the vegan commune busy wishing away all conflicts. What co-ops are instead about, is owning the real conflicts that arise, and resolving them month by month. The regulatory framework for housing co-ops is the same as for all social housing. Co-ops have to perform to the same stringent standards as the largest, most sophisticated housing associations. Indeed, as Price Waterhouse concluded in a report for the DoE in 1991[1], many co-ops out-perform the best-run housing associations. They found that on strict value-for-money terms housing co-ops were more efficient and also supplied additional 'non-quantifiable benefits'. This research confirms what co-ops already know: that they provide good housing and added community and social benefits which is why they attract such commitment from members.

> Co-operative housing seems to offer stability, better design, lower investment risk and greater social benefits - along with better value for money for tenants and the taxpayer. On the eve of the 5th national conference of the Confederation of Co-operative Housing **Andy Hansford** checks the reality of these claims.

The Diggers self-build housing co-operative, Brighton. Designed by Architype and developed with Chisel

Control: One of the great benefits of co-ops is tenant input into the design of new housing. All co-op homes have been designed, or chosen for purchase, according to a democratic process. Whereas most housing for sale is designed and built speculatively, and social housing developers rarely allocate until homes are already built, co-ops can do the reverse. As developers they can control the process and can pre-allocate properties which are then designed specifically to the needs of future tenants. It is no coincidence that two of the top four prizes at this year's 50th Housing Design Awards went to housing co-ops[2].

Financially sound: The co-operative model also makes sound financial sense. Uniquely for social housing, borrowing on co-op property can be secured on full vacant possession. Most social landlords can only grant possession with sitting tenants whereas the 'fully mutual' status of housing co-ops – all tenants are members, all members are tenants – permits them to offer the full value (as opposed to tenanted value) of properties as security.

A tried and tested model: From the first days of slum clearance, the UK taxpayer has recognised an interest in housing the homeless expressed as public subsidy towards the cost of new homes. Until 1988 subsidy for housing associations was 95%, but has declined to the current 54%. A condition of this subsidy has been the right of government to monitor its investment over the life of the housing. This work is carried out by the Housing Corporation, which monitors the performance of all social landlords including co-ops. Since over 60% of new housing association tenants receive housing benefit, the taxpayer has a second reason for ensuring their money is well spent.

This performance monitoring does not always prevent social housing falling into decay. Examples abound of Council estates which have fallen into decay and even some housing association estates but not so housing co-operatives. Cynics expect that housing co-ops will choose to keep rents low, rather than provide adequate maintenance and repair services. This is not the case and research indicates that rents are kept down because of savings on overheads rather than maintenance and do not impoverish the housing stock. Indeed co-op tenants tend to take pride in their homes more than other tenants, for whom the property is the landlord's problem. Co-ops therefore make grant last longer and charge lower rents (reducing the housing benefit bill) so that the taxpayer gets a better deal twice over.

Uncommonly good: Co-op housing offers stability, stewardship, sustainability and financial efficiency. The muesli stereotypes are starting to look very silly. Why then does such a successful model remain so rare in the UK? From its origins in Rochdale 150 years ago, the growth of co-op housing has left the UK behind. Like many British inventions, the idea has been more successfully applied abroad, especially Africa, Asia, Canada and Scandinavia, and was not re-imported into the UK until the 1970s. One observer attributes this to the feudal nature of land tenure in Britain: councils simply replaced the slum landlords, without overturning the feudal relationship with tenants[3].

Yet co-ops are now at something of an impasse regarding new development. New co-operatives can take years to be registered and most give up before completing the obstacle course. Many existing co-ops would like to expand but the heavy finance charges entailed in new development must be largely shouldered by existing tenants. Just as few turkeys would vote for Christmas, there are not many co-op tenants prepared to vote for substantial rent rises to build more housing bringing no direct benefits to themselves but a lot of extra work.

The issue is not whether the housing co-op model should be an essential ingredient in the successful urban (or rural) neighbourhood, nor whether it's able to contribute far beyond its size to the quality of life in sustainable neighbourhoods. The issue is, how is the housing co-op sector to be expanded? How can we encourage the stability and nurturing of community builders, in place of dependence and apathy?

The solution might be to offer a higher rate of government subsidy to new co-op housing reflecting the better deal that housing co-ops offer. Is it so wrong to pay a premium to develop housing that works?

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If Living over the shop is such a good idea and if the potential is so great why is it not more common? **Ann Petherick** from the Living over the shop project at the University of York explains why and suggests how the problems might be overcome

living over the shop

In every town there are dozens of part-vacant buildings, numerous people who would like to live in them and housing association willing and able to carry out the development. Nationwide it is estimated that Living over the Shop schemes (LOTS) have the potential to create more than half a million new dwellings which could meet the urgent need to provide for an increased number of households as well as well as the need to renovate neglected buildings. So why is it that an idea with all-party support has led to only around 10 000 homes been created?

The recently published DETR report "Evaluation of flats over shops" illustrated the difficulties experienced by housing associations and local authorities in their attempts to develop LOTS. This looked at the experience of the Flats over Shop (FOS) funding programme between 1992 and 1995. The report found that almost all failure took place at the initial stage, when owners withdrew from negotiations.

The LOTS approach recognises that creating mixed-use within individual buildings is not simply a matter of building refurbishment, but involves complex issues of commercial valuation, investment criteria and the psychology of ownership. The task of achieving re-use involves bringing together two groups who know little of each other's methods and motivations: the commercial property world and housing associations.

The key to a successful LOTS initiative is the recognition that the majority – around 80% – of retail properties are controlled by national companies, rather than individual shopkeepers, and that decisions about the use of those properties will therefore be taken at national level. Thus, although the issue of under–used buildings affects the local community in every town, and although the housing it could provide would be managed by locally–based organisations, the negotiations with owners have to be at national level. A knowledge of the operation of the commercial property market and commercial valuation is required if nego-tiations are to be successfully concluded with those for whom housing is not a major concern.

Commercial owners have traditionally been wary of mixed–uses, seeing housing as a management burden and a risk to the investment value of the property. The solution to overcoming these fears lies in an innovative legal arrangement known as "the LOTS mechanism". This is a two stage leasing arrangement in which the owner grants a commercial lease to an intermediary, such as a housing association, and the intermediary then grants an Assured Shorthold Tenancy to the occupier (see diagram below). The fixed term commercial lease ensures that the value is safeguarded. The intermediary then protects the interest of both parties and removes the burden of management from the owner. The basic idea could not be simpler and has proved acceptable to those national retailers and institutional owners who are aware of it but it is not yet widely known.

There are two distinct stages involved in a successful LOTS scheme. The first is the assembly of the parties and negotiation of the terms, and the second is the practical development. In order to succeed on a wide scale, the initiative requires a national, centrally funded clearing house to deal with the assembly and negotiation of schemes. This agency would also provide information and advice, acting in a similar way to the HAMA advice line, funded by the Housing Corporation. Staff would need to be familiar with the objectives and operations of both parties, in order to mediate between them, and to install the confidence which owners need if they are to take part in such an innovative scheme. Once negotiations were complete, the housing association would take over responsibility and carry out the development in the usual way.

Although the re–use of vacant upper floors in town centres is only one part of urban regeneration, it is a vital part if towns are once again to become living places twenty four hours a day. There is widespread and genuine enthusiasm to see housing brought back into town centres and more intensive use made of existing property. Several towns, such as Newcastle, Ripon and Grantham have already achieved remarkable success but the amount achieved so far probably represents less than 2% of the housing potential available. A new approach, and a concerted and coordinated nationwide effort, is needed.

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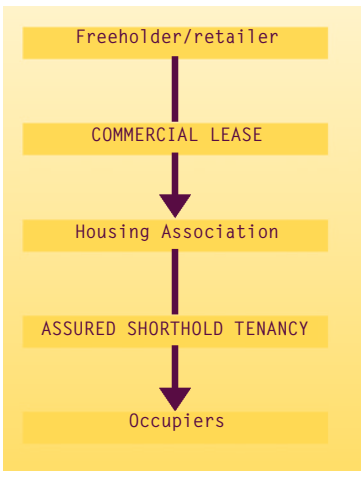
creating mixed-use within individual buildings is not simply a matter of building refurbishment, but involves complex issues of commercial valuation, investment criteria and the psychology of ownership

West Hampstead Housing Association

Housing association are playing an increasing role in local regeneration partnerships. One of the growth opportunities is in diversifying the role of town and city centres by bringing people back to live over the shop. While this requires persistence, and can seem unrewarding, it does produce added value since town centres feel safer when people are living there. Residents also like living there, according to research for the Joseph Rowntree Foundation undertaken by Sheffield Hallam University. As the highest proportion of empty property is in the private sector – some 4.3% according to the Empty Homes Agency – housing associations have a major contribution to make to the growing number of town centre partnerships.

One of the pioneers in this has been the West Hampstead Housing Association, who specialise in temporary accommodation. Working in partnership with leading property companies and national multiple chains, as well as small businesses they have sought to create value out of an asset that is often wasted. In the case of Kilburn High Road, West Hampstead have carried out some 15 projects, housing several hundred people, as a result of canvassing for empty property, and negotiating deals, with one project often leading to another. Using commercial leases that enable the owner to regain empty possession, the association has invested in converting and repairing the interior, while the property owner is responsible for external work. A good example is the conversion of space over the Abbey National Building Society to create five units, housing 25 people, on a seven year lease at a rent of £13,000 a year. The scheme cost £107,000 and the owner put in £32,000 which provides a good deal for everyone, as without the housing association's willingness to take on the responsibilities the property would have stayed empty.

The association also organised a highly successful conference on Living in Town. This highlighted not only the huge potential, but also the practical problems, particularly as far as persuading absentee landlords to support projects. These are often insulated from the problems of vacant property by head leases which place the responsibilities for repairs and rats on an intermediary. They are also wary of mixing uses which could cause hassle and devalue their property.



Left: The LOTS Mechanism leasing arrangements involving a registered housing association acting as intermediary

Far left: Living over the shop in Grantham, a scheme of six flats completed in 1995

The Sustainable Urban Neighbourhood Initiative is supported by the Department of the environment, TRANSPORT AND THE REGIONS' Environmental Action Fund, a major charitable trust and URBED

The initiative is managed by URBED from its Manchester office by David Rudlin with administration by Helene Rudlin and Nick Dodd.

The views expressed in this newsletter do not necessarily represent those of the Department of the Environment Transport and the Regions or any of the project's sponsors

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Why NOT get involved?

The SUN Initiative has been established as a broadly based network of organisations and individuals interested in the sustainable urban development. We do not have a membership but people can get involved in a number of ways...

Mailings: If you did not receive this newsletter by post please contact us and we will add you to our mailing list.

Contributions: We would welcome letters or articles for future issues of this newsletter.

Examples: We are compiling a resource base of good examples of sustainable development nationally and internationally. We would therefore welcome details of projects that might be of interest.

Sponsorship: We are seeking sponsors for future issues of this newsletter and for exhibition material. Details are available on request.

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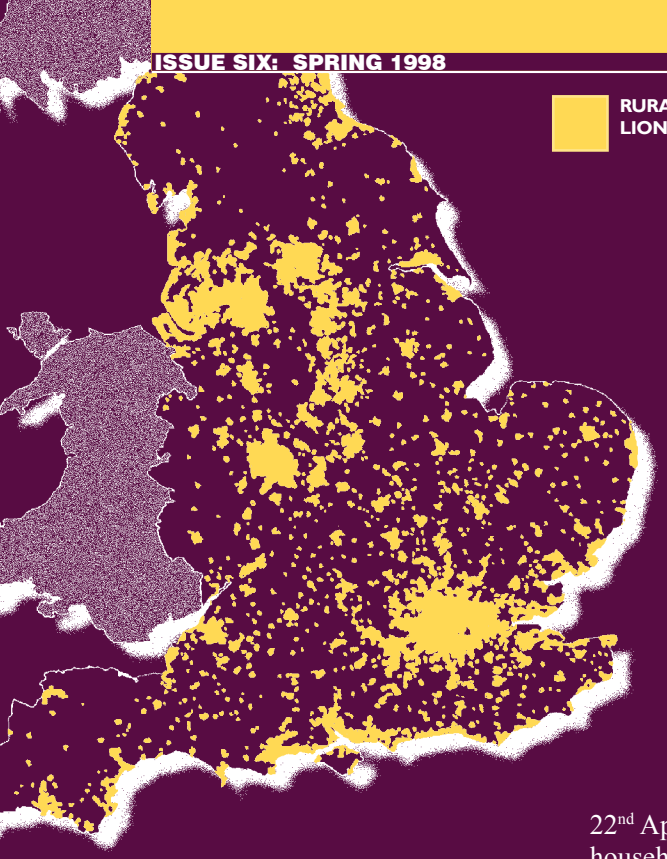
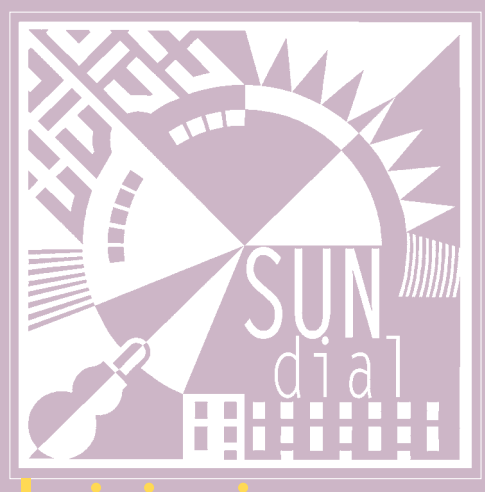


RURAL LAND PROJECTED TO BE LOST BY 2016 BASED ON 4.4 MILLION HOUSEHOLDS AND CURRENT RATES OF URBAN INFILL (Bibby & Shepherd)

the Sustainable URBAN NEIGHBOURHOOD



Initiative

WELCOME TO THE SIXTH ISSUE OF SUN DIAL, THE JOURNAL OF THE SUSTAINABLE URBAN NEIGHBOURHOOD INITIATIVE
In this special double issue we set out a brief for a sustainable urban neighbourhood including environmental targets to be tested over the coming months. We also carry a special feature on recycling with articles by Keith Collins in London and James Horne in Yorkshire. Kieran Yates discusses foyers and Nicholas Falk the potential for housing in town centres.

INSIDE

NEXT ISSUE

- Urban housing capacity
- The Model Sustainable Urban Neighbourhood

Tomorrow:
A peaceful path to urban reform

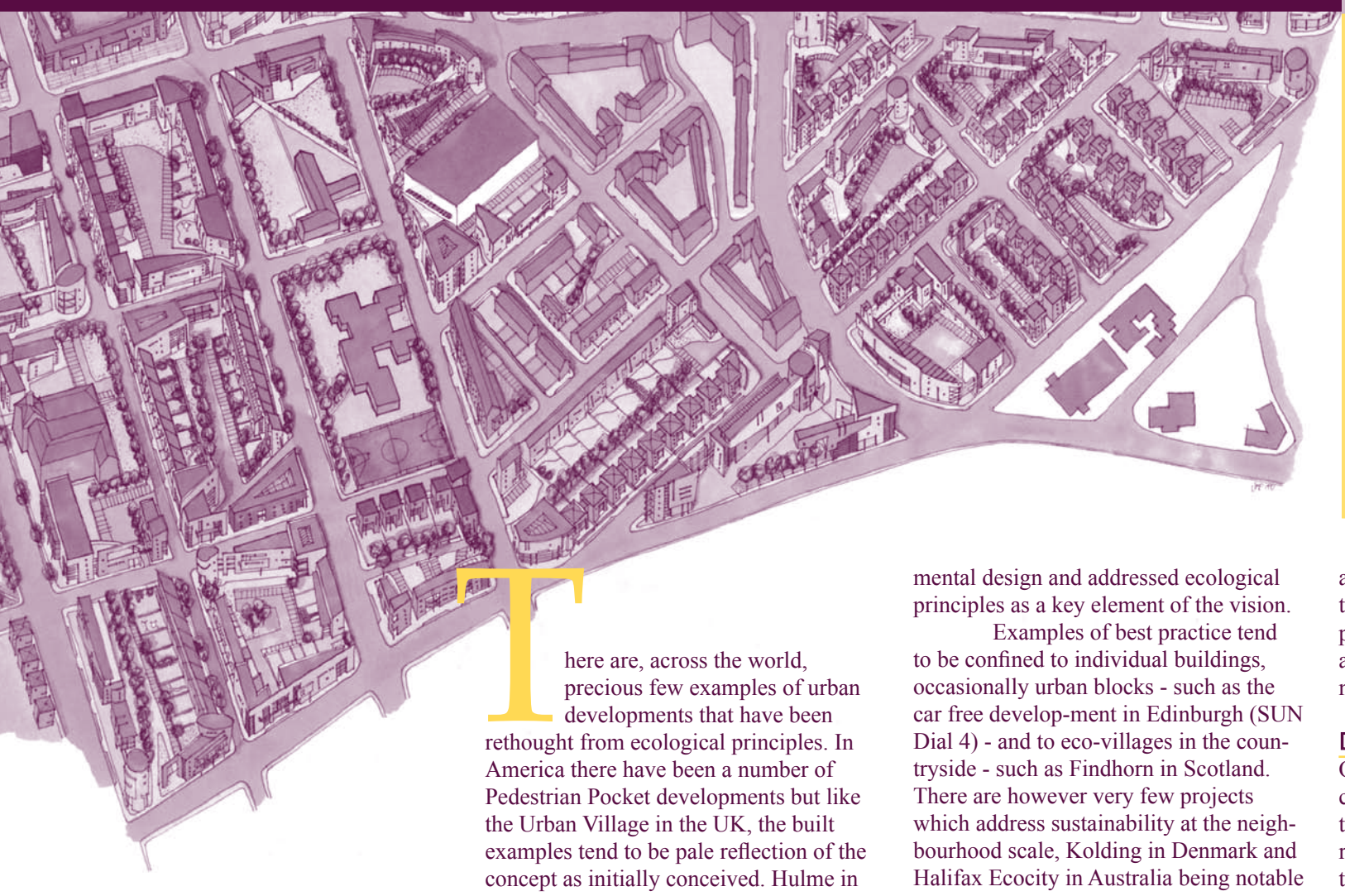
It is 100 years since Ebenezer Howard published his seminal book, 'Tomorrow: A peaceful path to real reform'. The impact of this work and the early garden cities that it inspired on the public and professional consciousness cannot be underestimated. Howard saw cities as 'ulcers on the very face of our beautiful island' and for much of the intervening century many people in Britain have tended to agree with him.

The SUN Initiative has recently completed a report for Friends of the Earth which explores these issues. The report entitled 'Tomorrow: A peaceful path to urban reform' was published on 22nd April. It explores the implications of household growth and whether a greater proportion of new households could be accommodated in urban areas. The brief was to assess the feasibility of a 75% target for new homes in urban areas. This, the report does by looking at the historic rate of building on recycled land, the loss of population from urban areas and the urban capacity studies that have recently been undertaken. It goes on to collate national data on various forms of urban housing capacity, concluding that, in theory at least, there is the space to accommodate 75% of new households within towns and cities.

However the issue is not so much the physical capacity of urban areas but the willingness of people to live there, of devel-opers to build there and of planners to allow it to happen. The report explores these barriers to urban development and sets out a series of recommendations to bring about change. These concern the workings of the planning system, fiscal measures such as a greenfield tax and initiatives to promote urban areas. We conclude that there is a need to designate Urban Priority Areas as happens in Ireland to provide tax incentives for develop-ment on recycled land and to focus the efforts of public agencies.

At a time of increasing sophistication and complexity in everyday life, our towns and cities are being called upon to sustain greater social cohesiveness, economic dynamism and environmental balance. The rediscovery of urban living and the relearning of city building and management are vital if cities are to rise to the challenge.

Tomorrow: A peaceful path to urban reform is available from *Publications Despatch, Friends of the Earth — 56-58 Alma Street, Luton. LU1 2PH.* tel.: 01582 482297. mailto: info@foe.co.uk. ISBN 1857503201, code L432. Price £8.



Over the last two years we have been gradually sketching out the form of the sustainable urban neighbourhood. But how will it be built? **David Rudlin** and **Nick Dodd** describe a brief for an eco-neighbourhood to be used as the basis for a design exercise over the coming months

eco-neighbourhoods

A brief for a sustainable urban neighbourhood

There are, across the world, precious few examples of urban developments that have been rethought from ecological principles. In America there have been a number of Pedestrian Pocket developments but like the Urban Village in the UK, the built examples tend to be pale reflection of the concept as initially conceived. Hulme in Manchester and Crown Street in Glasgow remain perhaps the best example of a new approach to urban development in the UK, but neither has incorporated environmental design and addressed ecological principles as a key element of the vision.

Examples of best practice tend to be confined to individual buildings, occasionally urban blocks - such as the car free develop-ment in Edinburgh (SUN Dial 4) - and to eco-villages in the countryside - such as Findhorn in Scotland. There are however very few projects which address sustainability at the neighbourhood scale, Kolding in Denmark and Halifax Ecocity in Australia being notable exceptions. Yet if we are to address the wider sustainability of towns and cities we need to think beyond the individual building and consider issues such as heat and power supply, waste recycling, water treatment, car usage, walkability and public transport - all of which are probably more appropriately addressed at a neighbourhood level.

Diagnosing the problem

Our current use of resources needs to be converted from linear into circular systems so that wastes and outputs can be recycled as inputs. This has been shown to be possible in autonomous housing but, at the neighbourhood scale, the issues become more complex. The large scale supply infrastructure employed to solve the problems of the modern city relies on

large, inefficient, linear flows of resources that are inflexible and tend to store up and magnify environmental problems. Progress could be made at the neighbourhood level by maximising the use of local resources, both natural and recycled, and by bringing control of these supply systems back down to a more local and easily controlled level.

Bringing control of our basic services down to a neighbourhood level will require new skills and will probably, by its very nature, be more labour intensive. Environ-mental gains may therefore go hand in hand with local economic gains whilst in terms of 'whole life costing' the systems should be no more expensive. This has been demonstrated by a project in Kolding, Denmark, where a neighbourhood sewage restoration plant using solar aquatics techniques has been successfully installed. On a larger scale the Halifax Ecocity Project in Adelaide, South Australia, will provide self-sustaining infrastructure for a neighbourhood of 800-1,000 people on an inner urban site.

> We will only secure long term sustainability if we address the towns and cities where the majority of people live

We must get away from the idea that sustainability is confined to eco-houses or eco-villages in the heart of the countryside. We will only achieve long term sustainability if we address the impacts on the towns and cities where the majority of people live. Models and strategies are required for eco-neighbourhoods in urban areas in order to practically demonstrate innovative and appropriate solutions which could be readily applied by other neighbourhoods. The recent announcement by John Prescott of a series of Millenium Villages across the country could provide an opportunity to do just this.

A neighbourhood model

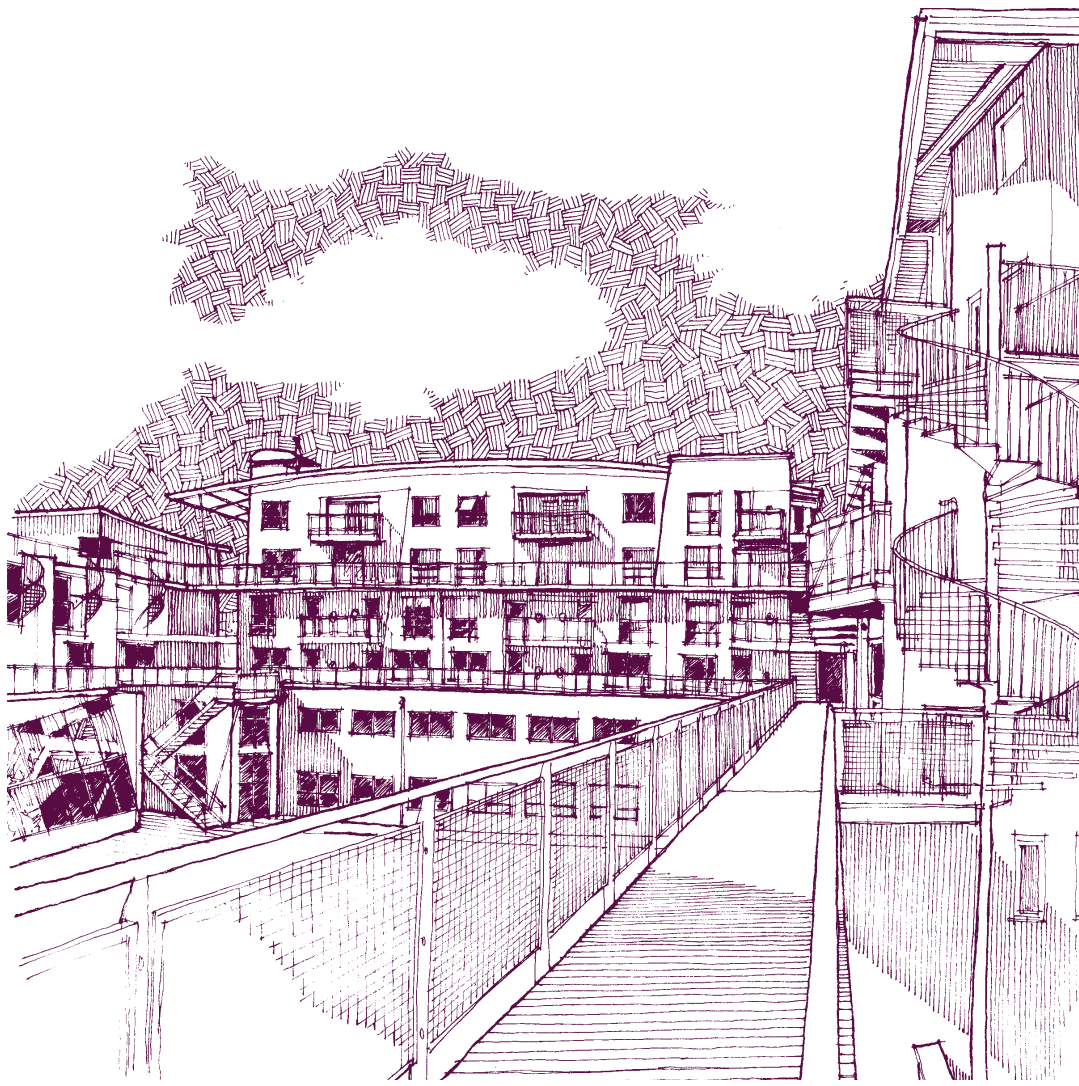
The lack of practical examples means that when discussing the concept of the sustainable urban neighbourhood there is little evidence about the potential impact, cost and practicality of environmental measures. To address this, the SUN Initiative has been testing the issues raised on a practical level. Last year we used the central section of Hulme in Manchester to explore issues such as density and its impact on waste generation, walkability and the viability of district wide Combined Heat and Power generation (see SUN Dial 4). This, however, still left questions unans-wered about the type of development that would be required to realise these benefits.

While it is possible to point to the Homes for Change building in Hulme (SUN Dial 2), this is only part of the solution. It is written-off by many people as a one-off so that, while it may win awards, its influence as a model has, as yet, been fairly limited. It was also not possible in the Homes for Change scheme to incorporate key features such as grey water restoration, passive stack ventilation and CHP - even though they were explored. Homes for Change may therefore represent a significant step forward, but the SUN Initiative is seeking to investigate what the next step might be. In doing this, our aim is to place ecological design concepts firmly in an urban context and establish a robust benchmark for best practice in urban design.

Developing an approach

If we are to make significant progress we must move away from 'weak' sustainability strategies to a more fundamental approach. It is not enough, for example, to increase energy efficiency or to install water saving toilets. We must look at the system of supply through to disposal so that fundamental resource issues are addressed. In doing this we must ensure that the neighbourhood remains a functioning, safe and healthy place live for both individuals and communities, as well as creating jobs and economic activity. To achieve this we will need to address a range of social and technical issues (see table), many of which will require innovation and learning to take place. Imposing engineered and planned solutions on neighbourhoods will not be enough and the approach will therefore need to be flexible and able to be managed and understood by local people.

To examine these issues from a practical perspective we are therefore developing a hypothetical scheme for a site in Manchester. The exercise will involve the following stages:



SOCIAL	TECHNICAL
Car share	Combined Heat and Power
Permaculture	Solar heat and power
Kerbside materials collection	Solar aquatics sewage treatment
Local enterprise culture	Grey water systems
Community planning and management	Rainwater collection
'Green' business culture	Materials recovery and remanufacturing
LETS systems	

- A brief for the site which sets out both a mix of uses and a set of environmental targets and ecological principles for the site.
- A design exercise to develop this brief into physical proposals both to explore the practicality of incorporating them into a development and to illustrate how the result might look.
- An assessment of new forms of supply infrastructure and local service provision along with the management implications and the potential for job creation and enterprise development.
- A costing exercise to estimate the likely costs of this type of development and how it would compare to a more trad-itional scheme.
- Development of participatory planning approaches to assess how local people can be involved in the design and management of the neighbourhood.
- An evaluation of the social and economic benefits of the development in consultation with local people.
- A viability assessment to explore how this could be funded and to what extent capital costs could be off-set against revenue costs with whole life costing.

The intention is to make this exercise as practically orientated as possible by in-volving developers, technologists and innovators in the process. If the results show that the ideas are practical the hope is that some of these developers can be assembled into a consortium to take forward all or part of the scheme.

The Brief

The brief for the project has been developed based on the SUN principles (SUN Dial 1 and 4). It is split into two sections, the first looks at the form of the development and the second at a series of environmental targets that it should aim to achieve.

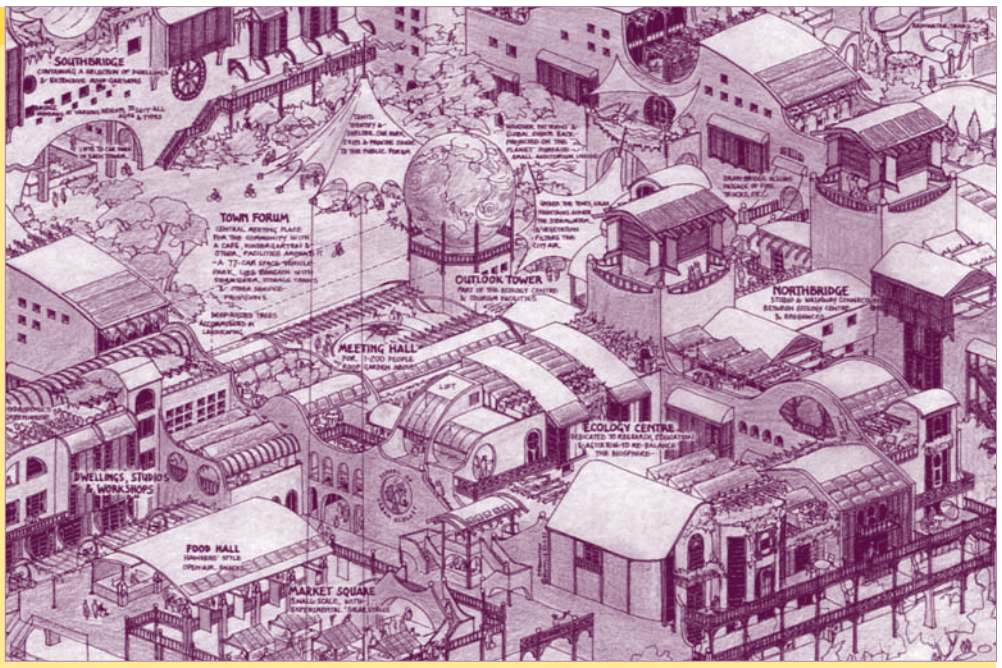
Development form: The form of the development is the same as that described in previous issues of SUN Dial:

- The neighbourhood will be built to a residential density of at least 120 bed

CASE STUDY: HALIFAX ECO-CITY

Halifax is an ecological development proposal earmarked for a 2.4 hectare, remediated brownfield site in the heart of Adelaide, South Australia. The development will be mixed-use in order to support cultural diversity and avoid a 'monoculture' of built form. It is expected to accommodate around 800 people and 30 businesses, along with various community facilities. A range of housing types and tenure aimed at middle to lower incomes will ensure affordability. The project will add value to the city as well as supporting and promoting appropriate economic activity and investment.

The project is underpinned by urban ecological development principles. State of the art solar architecture will be employed, with climate responsive design addressing passive gain, landscaping and ventilation, and this will be complimented by solar heat and power technology. Rainwater will be captured and all effluent (including sewage) will be biologically treated and recycled on-site using a solar aquatics treatment system. Courtyards and roof gardens will create ecological corridors and help to make the new urban environment heal-thy and attractive. Links will also be made with an area of rural land which will be revegetated and rehabilitated as part of a community supported agriculture project.



The planning and design of every feature of the development has been worked up in partnership between architects, planning consultants and the community. A pilot project called Bourne Court has been initiated to trial the technologies and design strategies to be employed on the main site. This comprises of five townhouses and is being developed by a privately financed, not-for-profit co-operative.

Contact: **Urban Ecology Australia**
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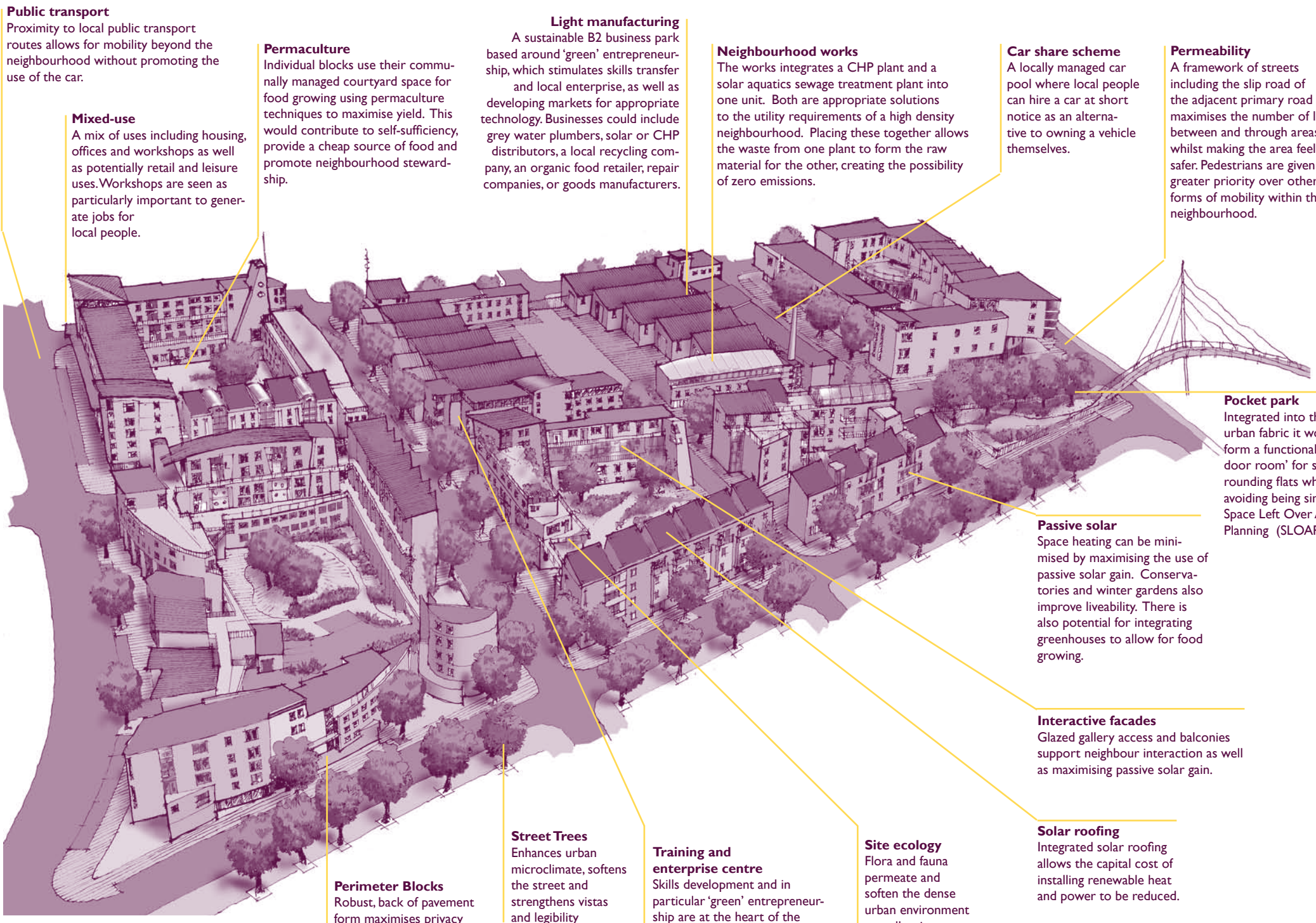

spaces to the acre (288 to the hectare). This was identified from the previous exercise as sufficient to support high quality public transport and to maximise urban land capacity and is additional to other uses accommodated.

- It will incorporate a mix of uses including housing, offices and workshops. Workshops are seen as particularly important to generate jobs for local people. These uses will be mixed across the neighbourhood, within blocks and vertically within buildings to assess the optimum arrangement.
- It will incorporate a variety of tenures and housing types to create a mixed community including housing for sale, work homes and co-operative housing.
- It will be based on a permeable street pattern to create a series of urban blocks and a lively public realm.
- It should be acceptable to the local community and attractive as a place to live and work.

Environmental Targets: As part of the Homes for Change scheme an environmental brief was developed which included a series of 23 environmental targets. These were monitored throughout the development and it was concluded that 17 of the 23 were met in full and only two were missed entirely. These targets have now been updated to more fundamentally address ecological principles and resource issues in a practical and cost effective way. The brief therefore incorporates the following targets:

- To reduce the eco-footprint of the neighbourhood to an ecologically sustaining level and to achieve a net balance of CO_2 emissions.
- To look at the lifecycle costs and impacts of the designs, technol-ogies and materials used in the neigh-bourhood.
- To use ecological design principles and environmental purchasing criteria to minimise the eco-footprint of the development, maximise the use of recycled and recyclable materials and minimise embodied energy.
- To eliminate fossil fuels for power and heat by maximising insulation, airtightness, using passive solar gain and by incorporating an on site CHP system, fuelled by recycled waste or biofuels, and solar heat and power (including photo-voltaic cladding). As well as more radical solutions such as hydrogen storage with fuel cell generation.
- To create a closed water system by reducing usage and meeting the needs of the site with rainwater, grey water restor-ation and on-site sewage treatment.
- To explore local food growing, possibly utilising waste CHP heat, and incorp-orating an on-site permaculture project and training. Maximising opportunities for flora and fauna to per-meate the urban environment to encourage bio-diversity and improve the micro-climate.
- To reduce car use to the practical minimum by providing no off-street parking and developing a car sharing scheme.
- To maximise added value from waste recovery and recycling by developing on-site collection, recovery and remanufacturing businesses.
- To develop a community planning app-roach to generate practical local sustain-ability solutions managed by and employing local people.
- To include business space for firms developing or using environmental technologies and activities.

> The neighbourhood will demonstrate that urban development can address ecological principles and tackle fundamental resource issues in a practical and cost-effective way

Both the design principles and the environ-mental targets are seen as starting points for the exercise. It is accepted that they are set at levels which will be difficult to achieve and which will require an integrated approach. The scheme will not have failed if it does not meet all of these targets but the hope is that it will push the limits of urban development to show just what is and is not possible at present and how they could be tackled in the future. It will also assess the impact of this on viability and social acceptability of the neighbourhood and hopefully demonstrate that the truly sustainable urban neighbourhood is a practical goal.

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It was not so long ago that foyers were a novelty. They have come along way in the last few years, so much so that government can suggest that they want to see one in every town. They are a good example of the new forms of housing emerging as a result of demographic change. But how well have they translated from the French and are there still questions to be answered? **Kieran Yates** seeks some answers.

One in every town?

Young people face increasing competition and difficulty in securing adequate housing and employment. For some, a combination of factors can lead to home-lessness, long term unemployment or a sense of falling out of the mainstream. Social exclusion comes at considerable cost to the individual and the wider community – demands upon welfare, policing or social services. Such expenditure does little to turn the problem around, but what else can be done?

Foyers offer an integrated approach to the needs of young people who cannot rely on a family household to provide for their needs in early adulthood. The concept has been transplanted from France where there is indeed a foyer in every town. In France they are a combination of a youth hostel and a student hall of residence and are aimed at young people who have no where to stay. However while French foyers often have close links with social services there is less of the emphasis on employment and training that has characterised the UK model. In the UK they provide affordable housing combined with economic initiatives and support to enhance the independence, self-esteem and employment prospects of young people. In a nutshell, foyers attempt to break the spiral of social decline that has seemed intractable for so long – offering a way out of the no-job, no-money, no-home, no-job syndrome.

The Foyer Federation for Youth, the national umbrella organisation for foyers in the UK, is campaigning for upwards of 500 foyer schemes in Britain. This has been given support by the Labour government who have talked about a foyer in every town. Demand for the schemes has been considerable with over 120 local authorities expressing an interest in estab-lishing foyers. There are currently 35 foyers either open or under construction and a further 41 are planned. Depending on their size of operation they can include the following features:

- they serve a population of around 40,000;
- they provide affordable self-contained accommodation;
- they include restaurant/catering facilities;
- they provide in-house training/counselling support services and management;
- they are located within walking distance of training and education facilities as well as other amenities and public transport;
- they provide communal space for residents;
- they may offer facilities to businesses;
- they provide residents with a 'Personal Action Plan' contract with the Foyer.

Several schemes have also succeeded in achieving the re-use of redundant buildings or sites that have proven difficult to develop and have also assisted in bringing people and economic activity into urban areas. The format can be varied to suit local requirements and location. Start-up business or workshop space is sometimes provided and some have a ground floor café which serves both the foyer and the public to generate revenue.

> Foyers have not really been established long enough in the UK to fully assess their track record. However the feedback from the early schemes is very positive.

Foyers have not really been established long enough in the UK to fully assess their track record. However the feedback from the early schemes is very positive. They have achieved high levels of success in getting people back into both work and permanent housing. They have also ended up provide quite short term accommodation because of the intensive support that they provide and the contract between the Foyer and each resident.

The one quesion that remains is over the long term funding of Foyers. Because they take a holostic approach to the needs of young people, they cross funding boundaries. This relates to both capital and revenue funding. In terms of capital, Social Housing Grant cannot be spent on the non-housing elements and European funding cannot be used for the housing. Most of those that have been built have used a cocktail of grants, the key element often being City Challenge or the Single Regeneration Budget.

In many respects the revenue position is even less certain because the income from Foyers covers as little as a third of the running costs. Many of the Foyers now operating have short term revenue funding agreements with a variety of agencies. This may include Special Needs Management Allowance from the Housing Corporation, grants from TEC's and support from social services. However many are reliant on support from the SRB or City Challenge bodies that established them leaving a question-mark about what happens when these projects come to an end.

However Foyers remain a good example of the new forms of housing that are emerging in responce to the growing numbers of single person households. They demonstrate how innovative housing provision can help mend the social fabric of our towns and cities and overall sustainability of urban neighbourhoods.

Left:
The inside of the award winning Swansea Foyer developed by Gwalia Housing Society and designed by PCKO Architects. This involved the conversion of a former working men's club and is based around an internal street. As with all Gwalia developments the scheme is built to the highest environmental standards with solar and photovoltaic panels, a highly insulated timber frame construction and natural thermal mass.

CASE STUDY: THE WIGAN FOYER

The Wigan foyer is one of the most innovative in the country. It has been developed by Grosvenor Housing Association and involves the conversion of the Coops Building, a 19th century warehouse on the edge of the town centre. This has been undertaken through a partnership between Grosvenor, the Employment Service, Wigan MBC, Wigan City Challenge and the Wigan Borough Partnership. The building is in three sections and each has been developed for different uses:

The Foyer - Developed in the left wing of the building, this provides accommodation for 16 to 25 year olds although the majority of residents are below 21. The scheme includes 42 units, 24 of which are one bed flats and 18 of which are bedsits. In addition to the living accommodation there is a communal lounge, a resource room and information technology suite, a meeting room which is also used for training, and a staff office. Part of the foyer is also leased to Social Services as a day care centre.

The Workspace - The central section of the building has been developed as a business enterprise centre with City Challenge funds. This totals 15,000 sq.ft. on six floors and is being let to mainly office-based companies.

Housing and Office space - The right wing of the building has been developed for Grosvenor's area office with flats above. The first floor provides 11 flats for social letting to single people and the second to 18 market rent flats, also for single people.

Kieran Yates is a planner and urban designer who has recently joined URBED's Manchester office to replace Christina Swensson. He was formerly with FPD Savills.

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City Life City Limits

The urban exodus appears to have finally abated. Pioneer urban communities have begun to recolonise depleted city and town centres. Of crucial importance is how a broader range of households can be seduced into urban living? **Nicholas Falk**, URBED's founder Director asks what prerequisites are needed for urban repopulation and how this can achieve lasting gains for the sustainability of the wider urban area.

Above: Urban streetlife in Manchester city centre

Below: Brindley Place in Birmingham

In the debate over where new houses should be developed, a strong case has been made that only suburban development can meet the aspirations and requirements of the majority of new home seekers. While there is little published evidence to counter these arguments URBED's own research suggests that we are at the point where the tide is turning; the examples of successful urban development provide clues as to how urban revitalisation and new housing choice can be achieved. Analysis by the Bartlett School of Planning for URBED's Vital and Viable Town Centres report suggested that the population was rising again in many urban centres even though the population for the district was declining. Manchester's Whitworth Street Cor-ridor, Glasgow's Merchant City and Swansea's Maritime Quarter show that sustainable urban neighbourhoods can be achieved; yet resistance to major residential development within cities persists, why is this?

Urban development sites face different constraints and opportunities than those beyond the city limits. Matters such as site assembly, condition, cost and planning considerations vary considerably and are oft cited by the development industry as necessitating the release of green fields. It is presumed that the detached dwelling, as promoted at the Ideal Homes Exhibition is the unassailable ideal for living, and that city living is for the determined solo 'urban venturers' living amidst the 'urban have-nots'.

Critical to achieving an 'urban shift' is the need to pitch urban living to the hearts and minds - as well as the wallets - of a wider cross section of people. Urban liveability lies at the core of this question and that of sustainable development. Recent urban capacity studies identified greatest potential for new development in areas that are at the interface between town centres and the inner urban neighbourhoods. Such areas are within easy reach by foot or public transport to a wide range of services and employers in comparison to the nomadic life of the suburban exile. Whereas new estates may have had some notional exclusivity, this has been challenged by the emergence of urban chic and the desire for more distinctive neigh-bourhood living.

Whereas peripheral estates may be out of sight and out of mind, urban sites demand greater rigour in design and development standards than elsewhere. It is simply not good enough to build suburban house types at ever higher densities; inn-ovative yet robust housing solutions such as the Scottish tenement or US condominium need to be explored.

The conservatism of the volume house-builders is being challenged on all fronts. Consu-mers have become more discerning in their tastes, seeking places that match their lifestyle or aspirations; household projections indicate a fragmentation of the market towards a diverse mix of individuals and living groups that require more flexibility in tenure, type and location. If we are to accept the need for increasing levels of urban orientated residential development, the question is how new insertions to the urban fabric can bring about gains to the wider area.

Urban regeneration, like life itself, tends to follow the principles of ecology. Good places evolve over time, rather than the result of one 'Big Bang', it is why new development must be responsive to its context in order to retain the best of existing elements and to ensure lasting benefits to the locality.

> Critical to achieving an urban shift is the need to pitch urban living to the hearts and minds - as well as the wallets - of a wider cross section of people

Rather than a physical blueprint for the area, what is required is a set of prin-ciples that can guide development, adapting and changing over time. This is of benefit not only to the immediate occupants as a wider choice of accommodation is available, but to future generations as requirements change and the neighbourhood continues to be utilised. URBED calls this process Balanced Incremental Development and can take 10-20 years to nurture. The following points illustrate the principles of such a process:

Shared Vision: Effective regeneration must achieve a democratic consensus derived from local people and key stakeholders in the development process. Action planning and round table workshop techniques enable diverse groups of people to develop common ground. URBED have recently put these approaches into play at the Vision for Leeds initiative, seeking to find new roles and re-positioning of the city as a post industrial urban centre.

Impetus for regeneration: Selective enhancement projects can act as a catalyst for change over wider areas. Thus in Sowerby Bridge, a small Yorkshire mill town, the impetus came from establishing a canoe slalom course which opened up the river side for the first time, encouraging the conversion of a former mill building to flats.

Development Balance: Successful areas are those that offer a rich mix of uses, tenures, and spaces open to the public or private use. Bristol Docks demonstrates how early projects to open up the waterfront, upgrading buildings and public spaces led to imaginative housing schemes.

Driving force: The long term persever-ance of local authorities or committed individuals lies at the heart of many schemes to bring about sustained regeneration. Where risks are consider-able a development trust, a not for profit comp-any can be created to take on direct management of buildings and organise finance. The ongoing work of Tendring District and Essex County Council at Mistley, is set to restore the quayside maltings to viable and appropriate new uses, securing the preservation of a landmark building, job creation and public access to the waterfront.

Implementation: Planning can no longer concern itself solely with ideal end states, regen-eration of difficult sites often entails the partner-ship of public and private sectors, with the aim of bringing lasting benefits to the community. Development briefs can prime sites that have fallen by the wayside, introducing certainty and opportunity for the developer and guarantees of public gain, such as public space, affordable housing or other public facilities.

Conclusion

Town and city centres cannot and should not be expected to replicate suburban environments. New life can be found for run-down zones at the fringes of town centres due to their unique locat-ional advantage, accessible on foot and public transport to unrivalled amenities and the pot-ential to draw upon historic elements or urban character. The new urban dweller can enjoy a richer more varied quality of life to that of their suburban counterpart, only if the liveability of the wider urban neighbourhood is upgraded and the choice and quality of the development industry product is improved.

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Our use of resources is based on a linear, 'once-through' approach which needs radical change. As Jane Jacobs envisioned thirty years ago, we must begin to 'mine' urban waste for raw materials. Yet currently relatively little of our household waste is recycled and given current spending by councils this shows little sign of improving. We have failed to foster a more environmentally responsible attitude to the waste we all produce. Household collection is the key to developing a culture of waste avoidance hand-in-hand with industry that can give value to the recycled waste.

Here we bring together two articles which describe these approaches. **Keith Collins**, a consultant for London Pride Waste Action, describes current work to develop cost effective materials collection. **James Horne** from Urban Mines then illustrates how this approach is being linked to job creation through the development of a new eco-business park in West Yorkshire.

Recycling

No longer just a middle

London PRIDE

Keith Collins

The public perception of recycling is of grannies and greens dropping bottles in a bank - not as something real or important or economically significant. The way Britain's cities manage resources appears to the rest of the world as some form of strange cultural insanity. One foreign commentator put our treatment of these high-tech materials in the following light. "It is as though a family raised a child, fed and clothed it and kept it healthy, spent vast amounts on its education, right through university, helped it find its first job, and when, after a few months or years, the young adult leaves that first job, they are offered two options - burial or cremation." Materials, like humans, can do more than one job in a lifetime.

Recent developments in London (triggered by the work of a joint British-Canadian team) mark a new surge of activity and innovation in the recycling industry. They are also creating a set of tools which have the potential to rapidly improve the sustainability of urban communities - for transport, employment, the health & safety of estate housing and public spaces, CO_2 emissions and air quality, civic involvement, as well as waste management.

These tools are either already either being implemented (pedestrian-controlled electric vehicles and materials marketing consortia) or are under active development (eco-industrial parks and community-based environmental franchises).

A six month programme of 'action research' began the process 'from the ground up' and changed the mindsets of the London partners including Borough recycling officers, planners from LPAC, private industry, Demos, environ-mental groups, the community sector, the Environment Agency, DETR and the Govern-ment Office for London.

When asked about the barriers to recycling in the UK, most waste management professionals listed: weak and unstable materials markets; an uneducated or lazy population; a lack of start-up capital; the low-cost of landfill; a weak regulatory framework; and the cost of kerbside recycling collection. We found each - except the last – proved relatively easy to resolve. The surprise was what we found to be at the heart of kerbside recycling's high costs.

PCV's and kerbside collections

The incredibly high levels of traffic congesting London's narrow residential streets meant that kerbside recycling collection was vastly more expensive than in North America. Congestion meant that the productivity of a vehicle and 2-3 staff dropped from 600-1200 households per day to just 200-600. We also found levels of road rage that are difficult to describe, other than to say that our drivers often had to flee the scene, releasing traffic, but leaving the crew stranded on the pavement! The process was not helped by the solid rows of parked cars along every street.

The solution required months of reorientation in order to see it, believe it, test it, and then fully implement it. What we saw were the street sweepers of London, a seemingly pre-industrial system of (largely) men with brooms pushing a cart down the pavements.

We undertook time-motion tests in Haringey, breaking down the components of kerbside recycling; walking between houses, finding the box, walking to the collection vehicle, sorting materials into compartments, returning the box, and walking to the next house. As well as driver-time in the vehicle, inching it along the street. We began our trials by taping buckets to an old street sweepers cart, pushing it along the route, and sorting materials into the buckets - no huge vehicle, no hydraulics, no high-tech equipment. But we found that one person using a (modified) sweepers cart beat every other system by at least 30%, and the time per person (since no driver was required) was 60%-70% lower.

What at first looked crazy began to appear logical and we then went to work to improve on the original "cart plus buckets" and select an appropriate vehicle to put this into practice. A wide range of ideas came forward and the electrically powered Pedestrian-Controlled Vehicles (PCV's) was born and tested in Haringey's Green Lanes neighbourhood. The vehicle is radical in a number of ways. It is directed by a hand-drawn tiller and powered by batteries beneath the loading platform, producing no local emissions or noise. It is a human-scale, pedestrian-friendly vehicle, and thus travels along the pavements, rather than the streets.

It holds recyclables in six 'builders bags' into which materials are sorted at the point of collection. Once full, the sacks are left at drop points (taking up less than half a parking space) for collection by a larger vehicle (the 'mother-ship') for transfer to the Materials Recovery Facility (MRF). The 'mother-ship' can serve 5-10 PCV's, collecting 10-20 tonnes of material daily (versus 2-3 tonnes in a traditional system). It stops only briefly to load (thus reducing traffic blockage), and acts as the central supply, repair and carrier base for the PCV's and their operatives.

> The performance of recycling has leapt ahead of the best conventional systems - not just in environmental and transport terms; but in labour and capital productivity; operative health and safety, and public acceptability

The result has been that the real-world performance of recycling has leapt ahead of the best-practice vehicles and systems in the UK - not just in environmental and transport terms; but in labour and capital productivity; operative health and safety; and public acceptability.

So what are the benefits of PCV's?

Environmental: PCV's require 10-20p per day of off-peak electricity and a battery replacement every 3-5 years. In the future we may fit photo-voltaic panels to the Materials Recovery Facility - or even the PCV's - to remove them from the grid altogether. Compared to ANY other existing UK system for refuse collection, the emissions per tonne of waste are vanishingly small. They eliminate 80%-90% of the emissions of the street-based recycling vehicles; and reduce the collection time, emissions and (eventually) numbers of heavy refuse collection vehicles by between 10%-30%. As more material processing plants are built in urban centers, there will be additional savings both in exports of waste to landfill and in imported virgin-based materials such as paper and aluminium.

Capital & Running Costs: PCV's cost around £9,000 and will last 10 years. We expect costs to fall to £5-6,000 as more are built. This compares to an average refuse vehicle at over £100,000, a kerbside recycling vehicle at £70,000 and the previous lowest-cost models at £30,000. The running cost of a PCV (electricity, insurance, servicing etc.) is approximately £300/annually.

Labour Productivity: PCV's have already achieved between 30%-100% increases in labour productivity compared to existing kerbside systems. Time-motion results show the reasons for this gain:

- the driver no longer sits in traffic waiting while sorting is done, but is able serve 5-10 operatives in the mother ship;
- operatives no longer have to carry boxes back and forth across the pavement to a street vehicle - an average distance of 20-30 metres per box;
- the PCV is low & small enough that sorting is faster than on a higher & larger vehicle;
- the PCV operative can act independently, there is no time lost through drivers and operatives waiting for one another.

All photographs taken by Laurence Bruce; Courtesy of Friends of the Earth

ng class fad

Health & Safety: Perhaps the biggest surprise is that the recycler's workload is made much easier, and the risks and strain reduced, even while handling more material. This is because:

- there is no need to carry boxes between parked cars and through traffic - cutting an average of 500 return crossings/day, or 250,000 such trips - and their associated risks - in a recycler's working year;
- it reduces the distance a full box (weighing about 5 kg.) is carried by at least a 20 metre round-trip, 400 times a day, a saving of 4km a day with a full box, and the same with an empty box - 2,000 kilometres per year;
- it reduces the height at which the recycler has to lift and sort materials; and
- there is nearly a 100% reduction in exposure to vehicle fumes and noise.

Public Acceptability: The most powerful test was the use of PCV's on the same streets that had resulted in road rage with a trad-itional street-based recycling vehicle. In three months the crews have reported no incidents, and the central Borough hot-line has reported no complaints. On the contrary, it is apparent that the public responds very differently to a PCV system. They ask the crew about recycling (what day? what materials?) and about the vehicle (where did it come from? what does it run on?) - with a high level of interest from children. Residents appreciate that the PCV's are small, safe, clean and quiet - and are improving their neighbourhood and the environment. The PCV's are also designed and 80% made in the UK, as well as being a good candidate for recharging through renewable sources.

They also allow the decentralisation of recycling activities, since the vehicles can be stationed and serviced in depots throughout the community. With proper support, it is possible to even 'franchise' routes to community groups or local businesses. The Big Issue's kerbside programme to be launched in Islington this Spring is likely to involve PCV's, trained ex-vendors, and partnerships with community groups and ethical businesses.

Estates Waste & Recycling:

One-third of London's residents live on housing estates – conventionally considered unlikely to participate in recycling. Research into estate waste management revealed that the cost per tonne collected was as high as £300, versus £40-£50/tonne for low-rise areas. This is because of refuse chutes and paladin bins which are inconvenient for residents and costly for local authorities (some pay as much as £600,000 annually for staff to unblock chutes).

However, the waste from estate households is large enough, and contains enough recyclables to make doorstep recycling viable. The key is to take high volume/low weight recyclables (metal and glass containers, plastic bottles, board packaging) out of the chutes and paladins through recycling, reducing the waste volume by 40%.

A doorstep system which achieving even a 20% volume reduction would generate signifi-cant savings in: the number of paladins and the frequency of collection; the number of blocked chutes; the amount of overflow which cleaning staff must manage; and so on.

The next step was to implement a pilot scheme. Two blocks on a Hackney estate were chosen and residents and cleaning staff consulted. Open-top recycling baskets were distributed to every household with promotional materials and weekly doorstep collections initiated. Recycling staff use a modified trolley to collect from the boxes outside each door weekly. Initial participation rates were 100% in the 3 storey terrace block, and over 50% in the 10 storey tower block. Capture rates of materials were around 100 kg per household per year, including both participants and non-participants - better than many kerbside collections. Contamination rates were extremely low, and feedback from residents very positive. The cost are lower than for traditional kerbside systems - since carts cost about £100-£200 each; the distance between flats is small; and the materials are simply removed from the building for collection.

Such systems are now being implemented in Hounslow and Hackney and can significantly improve the quality of life on estates, reduce estate management costs, can be delivered cost-effectively, and with strong resident support. The myth that lower income residents won't participate in something as 'middle-class' as recycling has been shown to be just that, a myth. The core principle - that providing a recycling service that is at least as convenient as refuse disposal will produce high participation rates - has again been proven. This sort of project can also lead to small-scale job creation and real community business opportunities - in composting, sales and distribution of reusable or refillable products (nappies, cleaners, etc.), and micro-MRF'ing of collected materials (e.g. sorting plastics or cans).

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Urban MINES

James Horne

A sexy topic it may be, but it is possible to count on the fingers of one hand the successful and truly sustainable projects dealing with waste in this country. Urban Mines hope this is all about to change as the groundbreaking 'Sustainable Growth Park' initiative develops apace.

Established in 1995, the Urban Mines Sustainable Growth Park is firmly rooted in the fundamentals of sustainable development. Agenda 21 states: 'Environmentally sound waste management must go beyond the mere safe disposal, or recovery, of the wastes generated and seek to address the root cause of the problem by attempting to change unsustainable patterns of production and consumption'. Based on environmental and economic trends (existing and anticipated) the aim of the Park is to reduce the consumption of primary raw materials by circulating waste, as secondary raw materials, back into the local economy. This, in turn, will reduce waste for final disposal, the need to transport both primary and secondary raw materials as well as benefiting the local economy through a more labour intensive activity. Whilst this may appear rather simplistic, it is based on a long, hard inspection of the rudiments of recycling. This is not recycling for recycling's sake, but an attempt to promote good resource management, built around a framework of economic regeneration, employment creation and market potential.

Written in the early nineties, the Delors White Paper on Employment clearly identified, 'The current model of the community is... characterised by an insufficient use of labour resources and an excessive use of natural resources, leading to a deterioration in the quality of life'. The employment credentials of recycling based on figures from Stephen Tindale, Director of Green Alliance (see table) show that it compares well with incineration and land-fill. Thus recycling can go some way to bucking the detrimental trend identified by Delors. Moreover it can help reinvigorate dwindling employment opportunities in urban areas, in turn con-tributing to economic growth.

> The Park will reduce the consumption of primary raw materials by circulating waste, as secondary raw materials, back into the local economy creating economic activity and jobs

Another economic driver behind the vision is burgeoning environmental legislation, both domestic and European. This has created an increasingly level playing field for recycling and recycled materials in the UK. Most obvious is the land-fill tax which has sought to encourage waste minimisation, re-use and recycling. Increased in this months budget to £12/tonne, it is argued that the tax will not have the desired effect until it reaches somewhere around the £20/tonne mark. While 20% of landfill tax revenue is reserved for environmentally enhancing projects it has also been used to offset the reduction in employers National Insurance contributions.

This is one example of the increasing shift in taxation from labour to resources whch will increasingly make the re-use of materials more financially viable. The introduction of a carbon tax would also make a locally delivered solution to waste disposal more attractive through a reduction in transportation.

Waste Disposal Method	Jobs/1m Tonne of Waste
Landfill	50
Incineration	150
Recycling	500

Legislation from Brussels is falling thick and fast, most significant has been 'Producer Responsibility' which shifts responsibility to the producer for prod-ucts that have reached the end of their useful life. This led initially to packaging regulations, but will soon be applied to batteries, tyres, electronics, white goods, end of life vehicles and construction and demolition waste. Each area is ripe for resolution and will be underpinned by legal recycling requirements, reducing the risk on the part of the recycler. The EU is a particularly strong advocate of market instru-ments to make current economic patterns more sustainable. Taxes on primary raw material - with obvious price advantages for secondary materials - have been discussed, together with differential product taxes according to the amount of secondary materials used. The Urban Mines project has pre-empted much of this legislation, and each new environmental directive strengthens the case for this type of economic development.

Although the project continued to develop through 1995 and 1996, it was not until the end of the second year that truly significant steps were taken. A feasibility study was commissioned by Job Creation Ltd in October of that year which proved to be an intensive and crucial insight into the concept and provided a much clearer vision of the Park. With funding from English Partnerships and Calderdale & Kirklees TEC, the study was completed in November 1997. It helped to establish a project management team for the Park with a remit to establish the first demon-stration Sustainable Growth Park in the Yorkshire and Humber area. Significant funding was also provided by the Environment Agency allowing the recruitment of two full-time staff.

In essence the Park will be a 'green' industrial centre dedicated to the use of second-ary raw materials. It will include a Materials Recovery Facility (MRF), material reprocessing facilities and on-site manufacturing organisations able to use the steady supply of secondary raw materials in their production process. The Park will be linked to the local authority's waste collection system. Waste materials will be sorted into type

Continued page 8

CASE STUDY: HOUNSLOW

The London borough of Hounslow has been at the forefront of the introduction of intensive door to door recycling. The first target has been to reach a 25% recycling rate and counter the upward trend of household waste. The key to their efforts has been to recognise the limitations of 'bring' recycling banks.

A Flexible and ultimately self-financing door-to-door recycling collection service has been made the objective. Existing waste collection contracts expired in 1996 and this created the opportunity to introduce this new form of collection using sub-contractors. Recycling services were gradually built up over a one year period with quality materials being segregated at source using green boxes. 68,500 households are now serviced, including 1,500 low-rise flats (up to four storeys) and 200 high rise flats (in a pilot scheme).

Collections from tower blocks have been shown to reduce maintenance costs. The recycling contract was awarded to a not-for-profit company. Capital funding for the start-up of the scheme was successfully arranged and aspirational targets were set for achievement mid-contract.

Implementing door-to-door recycling borough wide helped capitalise on publicity. Quality service, promotion , education and household involvement have been the key to success.

and fed through the reprocessing facilities to be returned to a workable secondary raw material for use by the on-site manufacturers. Once sold to, used and disposed of by local consumers, the waste product is collected by the local authority and the cycle begins again. It is this model which forms the basis of sustainable waste management and the efficient use of global resources.

Alongside facilities for dealing with waste, the Park will provide educational and training facilities to encourage environmental best practice in the use of raw materials and waste generation within the local business sector. It will also offer technical advice, promotional assist-ance and laboratories for development of new uses for traditionally recycled materials. All are crucial to the success of the Park.

It is predicted that the Park will be able to deal with 40,000 tonnes of waste per year, will create around 300 jobs and, crucially, develop a range of new markets for waste material. This will allow coll-ectors to get better prices for secondary materials which are of standard specification and quality. Over time such materials will be regarded as commodities for sale in competition with primary raw materials.

As David Dougherty of the Clean Washington Center, Seattle noted in his talk at the National Recycling Forum Conference last year: "[Markets] remain the Achilles heal of the recycling industry. Whilst local governments are responsible for collection, no one is responsible for the most difficult challenge - market development."

Herein lies the key. To be successful a recycling venture needs a prevalent market. Such a market cannot exist without a widespread change in attitudes towards recycled materials by consumers and manufacturers, along with a general acceptance of the quality of such materials. The Park attempts to address this problem by providing facilities for on-site manufacturers, offering an outlet and market for the recycled material. In the course of its work, Urban Mines is also carrying out projects looking into sustainable design and consumer attitude in respect of the use of secondary raw materials.

One example of the type of manuf-acturing opportunities presented by the Park is in the use of green glass. The UK manufactures and exports mainly clear glass (wrapped around whiskey for example), but imports a lot of green and amber glass (in the form of wine bottles), most of which is returned via bottle banks. One of the UK's leading collectors and suppliers of glass cullett, has a stockpile of 30,000 tonnes of green glass for which it cannot find a reasonable price from the container manufacturers. Estab-lishing a pilot business making green tableware and gift items containing recycled glass would provide a much needed outlet for these stock-piles. There is a similar Spanish project which has enjoyed tremendous success in the space of a few years, growing from 100 employees to a significant industry employing several thousand. It is estimated a similar project located on the Park would initially create in the region of 16 jobs with potential for growth to 130.

> The Park is a major step towards developing the cottage-type industries that take their materials from the detritus of local urban life and return to the locality a usable commodity

Finding a location for the Park has recently become an issue because there is doubt over the original site and local author-ity partner. However this is a minor setback, since the Park is easily applied and replicated elsewhere. Indeed, once the success of the pilot has been moni-tored, it is hoped individual Sustainable Growth Parks can be developed throughout the UK and into mainland Europe.

As a tool to achieve urban sustainability the Urban Mines Sustainable Growth Park does not provide a pre-packaged solution. Whilst it cannot ensure material flows are purely cyclical in a local context, it can progress the sustain-ability cause significantly. The Park ia a major step towards developing the cottage type industries that take their materials from the detritus of local urban life and return to that locality a usable commodity. It is such industries that will not only be essential in achiev-ing future urban sustainability, but will also provide a local solution to society's problem of resource and waste management. Of equal importance is economic regeneration. The Park provides a serious opportunity for economic regeneration, employment creation and the development of new manufacturing industries to an area.

Along with material gains, the Park will also help stop the unsustainable drain on raw materi-als as well as stemming the continuous flow of CO2 emissions from transportation. But one cannot be completely altruistic, whilst the importance of the environment cannot be underestimated, the Park has to be financially self-sustaining and the businesses on the Park have to be viable. What is needed is a shift in emphasis from the use of primary raw materials to the use of secondary raw materials. Ultimately this means a culture change on all levels and it is hoped the Urban Mines Sustainable Growth Park can provide a catalyst to this change.

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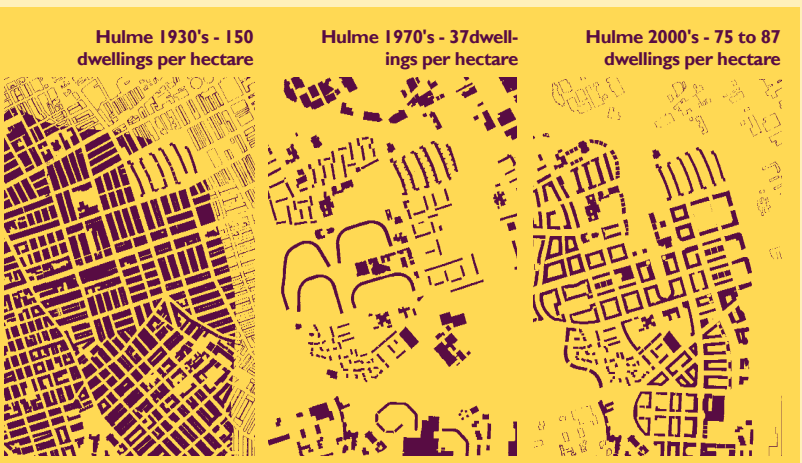
Density or town cramming: There is a great deal of confusion over housing density. Hulme in Manches-ter was home to 130,000 people in the 1930s. How-ever there is a perception that it was too dense in the 1970s as illustrated by central sketch. Yet the central figure ground plan shows that its was anything but. It was in fact only marginally above garden city densities (15 houses to the acre) and combined the worst of both worlds by appearing to be crammed but lacking the population to support lo-cal facilities and to make the area feel safe. The illustration of Edinburgh New town shows that dense urban areas can create attractive places to live, something which the cur-rent Hulme redevelopment is seeking to achieve by doubling densities.

The great SUN presentation



These images are taken from the recently launched SUN presentation. This is now available as a set of 35mm slides which have recently been used at presentations in Northern Ireland, Liverpool, Preston and Manchester. The slides are made up of a series of black and white line art images. Together they outline the histo-ry of urban development and the roots of the low density suburban sprawl that characterises many of our towns and cities today. It then looks at the influences on the future and develops this into a justification for the sustainable urban neighbourhood.

The slide show is available from the SUN office along with an exhibition which covers the same ground. We are happy to make presentations to organisations in-terested in sustainable development provided that expens-es are covered. For details, please contact David Rudlin or Kieran Yates.

The Sustainable Urban Neighbourhood Initiative is supported by the Department of the Environment, Transport and the Regions' Environ-mental Action Fund, and URBED

The initiative is managed by URBED from its Manchester office by David Rudlin with administration by Helene Rud-lin and Kieran Yates. Additional research is by Nick Dodd.

The views expressed in this newsletter do not nec-essarily represent those of the Department of the Environment Transport and the Regions or any of the project's sponsors

This news sheet has been researched, written (unless otherwise credited) and designed by URBED which is a not for profit urban regeneration consultancy set up in 1976 to devise imaginative solutions to the problems of regenerating run down areas. URBED's services include consultancy, project management, urban design and economic development. The SUN Initiative further develops URBED's growing involvement in housing development and continues the work of the 21st Century homes project.

WHY NOT GET INVOLVED?

The SUN Initiative has been established as a broadly based net-work of organisations and individuals interested in the sustainable urban development. We do not have a membership but people can get involved in a number of ways...

MAILINGS: If you did not receive this newsletter by post please contact us and we will add you to our mailing list.

CONTRIBUTIONS: We would welcome letters or articles for future issues of this newsletter.

EXAMPLES: We are compiling a resource base of good examples of sustainable development nationally and internationally. We would therefore welcome details of projects that might be of interest.

SPONSORSHIP: We are seeking sponsors for future issues of this newsletter and for exhibition material. Details are available on request.

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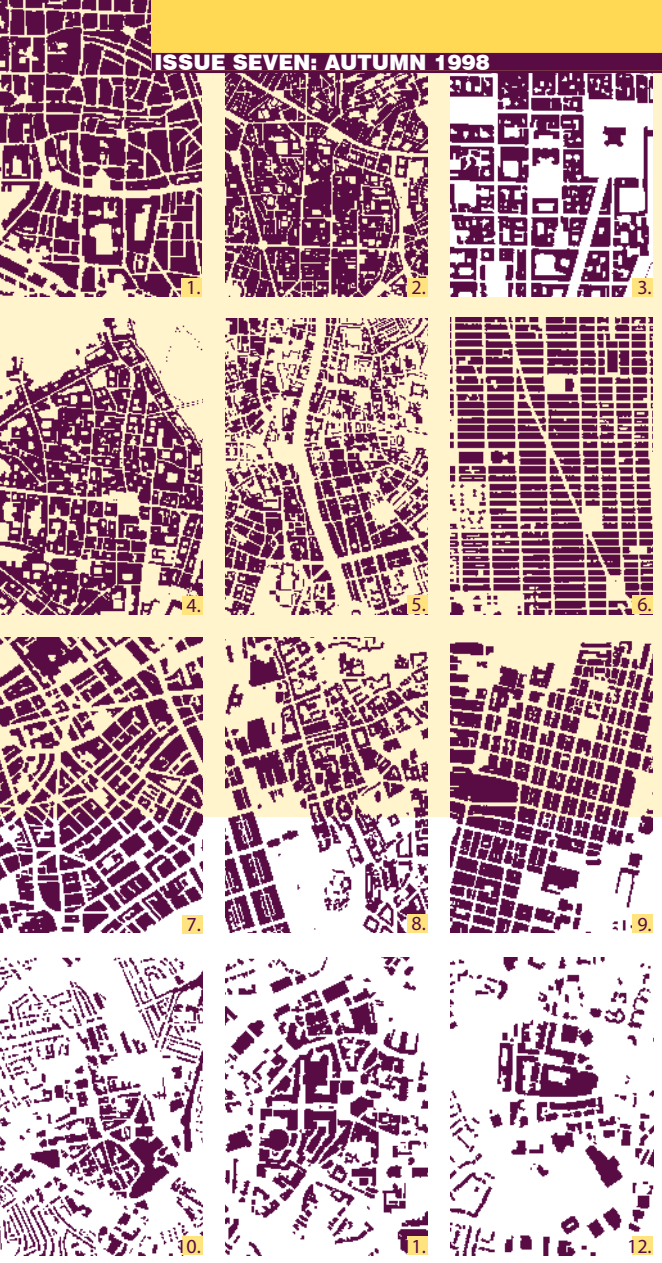
the Sustainable URBAN NEIGHBOURHOOD



An illustration from our forthcoming book, **Building the 21st century home: The Sustainabile Urban Neighbourhood.** Details can be found along with other SUN publications on page 8

It illustrates how continental towns (top two rows) are based on a strong network of streets defined by buildings. Many UK cities (third row) retain a clear urban framework although this has often broken down around the edges as a result of inner city decline and ring roads (9 and 10). This is more pronounced in places where where comprehensive redevelopment has taken place (11 and 12).

STILLShining: The SUN Initiative lives on. Established in March 1996 the SUN Initiative was funded up until March this year by the DETR's Environmental Action Fund. The intention was always that it would be self-funding after that and we are pleased to announce that further funding has now been secured.

We have recently secured funding from the BRE and the European ALTENER Programme for research into Autonomous Urban development. We are also undertaking a survey of waterfront development as well as being involved in schemes in Manchester and Leeds. We also undertaking research for the Urban Task Force and at long last the great SUN Book is to be published. These and other developments are described inside along with articles on innovative housing, LETSystems and urban housing capacity.

URBAN Autonomy

We have recently secured joint funding from the Building Research Establishment (BRE) and the European Union's ALTENER renewable energy fund to carry out research into autonomous urban development. **Nick Dodd** and **David Rudlin** describe some of the initial work on the project.

The aim of the project is to look at the feasibility of autonomous urban development. This is based upon a site in Hulme, Manchester (see illustration above) but is intended to be applicable to a range of urban sites. The BRE have recently completed a piece of work looking at autonomous housing and the SUN project will explore the application of these ideas at the neighbourhood scale. The project, which will be carried out in conjunction with the Aarhus School of Architecture in Denmark, will look primarily at issues of heat, power, water, waste treatment, mobility and food growing for a hypothetical urban neighbourhood and examine the financial, technical and management implications of autonomous technologies and solutions. The aim is to produce a number of integrated options for a neighbourhood which produces zero-emissions, uses renewable resources and which recycles its waste.

Understanding the urban environment

Have you ever wondered just what is going on behind the site hoarding that you walk past every day. If you are lucky there may be an artist's impression on the site board, or a picture in the local paper but for most of us the first we see of the building is when the scaffolding is removed.

The planning system is very poor at giving people a say in decisions which affect the places where they live, work and shop. The resulting sense of powerlessness is linked to a widespread view that urban areas have been damaged by planners, engineers and architects. It has contributed to the flight of people from cities and to the concerns that prevent them from returning. There are a number of initiatives which are seeking to change this by raising the level of knowledge and debate of the urban environment.

The **Liverpool Architecture and Trust** have recently launched an education project funded by the Arts Council and Royal Sun Alliance to bring together young people, teachers, architects, urban designers, artists and planners to learn from each other. The aim is to raise the awareness and understanding of architecture and urban design. One of the programmes is called the Liverpool Young Urbanists which aims to equip people with the knowledge and understanding to help them demand excellence from the people who shape their urban environment.

A collection of resources are being assembled which young people can use to manage their own programme of talks, exhibitions.

Meanwhile Manchester saw the opening of **CUBE**, the Centre for the Understanding of the Built Environment on 17th November. The building which has been developed with funding from the Arts Lottery and a a range of sponsors includes four galleries, a seminar suite and the RIBA Bookshop. It opened with the RIBA exhibition Portable Architecture but the real attraction has been the models of the Commonwealth Games Stadium and other major building projects in the city which are on display for the first time.

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CUBE: Graeme Russell, 113-115 Portland Street, Manchester, M1 6FB, 0161 237 5525

SUN dial Initiative

Welcome to the SEVENTH issue of SUN DIAL, the journal of the Sustainable Urban Neighbourhood Initiative. The ideas that seemed radical three years ago when the SUN Initiative started are now being accepted with remarkable speed. 1998 has been a good year and our report for Friends of the Earth on urban housing capacity has put us at the centre of the policy debate. The year ends with the publication of the SUN Book by the Architectural Press and funding from the BRE and the European Union's ALTENER Fund. Details of the developments along with articles on green housing, LETSystems and urban attitudes can be found inside.

INSIDE

NEXT ISSUE

- **Smithfield:** Sustainable urban development in central Manchester
- **Urban neighbourhoods - Sustaining whom or what?** Joe Ravetz, Manchester University
- **Lean Economy:** More jobs, less resources - a formula for economic development
- **Sustainability Indicators:** Seeing the wood through the trees

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Developing a Framework

While the research is about autonomous development this clearly means something very different at the neighbourhood scale than it does at the scale of the house. It is neither practical or sensible to pretend that a neighbourhood or a block within a city can be entirely independent of surrounding areas. It may, for example, be possible to use waste heat from a nearby industrial plant or to tap into a local recycling network. Complete autonomy may therefore preclude sensible responses to the site conditions and is at odds with the nature of urban areas. However, even if resources are shared with other districts the overall aim is still to develop sustainable supply systems.

As a starting point our approach to autonomy is based on the energy and resources consumed by the neighbourhood, those naturally available through rainfall, sun and wind, as well as the wastes that it produces. The aim is to convert as many of these flows as possible into circular systems so that the neighbourhood generates zero emissions and is not reliant on non-renewable resources.

The starting point has been to develop a flowsheet of annual supply and demand to expose the 'metabolism' of the neighbourhood, much as Herbert Girardet has done for London (see page 8). This then forms the basis for looking at possible technical responses in a high-density urban area. These technical responses should, in an ideal scenario, be based on renewable systems, adhere to ecodesign principles, and maximise internal efficiency.

Integrated Responses

In order to achieve this we need to take a more integrated approach to environmental design. In the past efforts have been rather one-dimensional with the main focus being on increasing efficiency through reducing resource consumption. This generally leads to diminishing returns as costs and complexity increase while the incremental gains become smaller and smaller. Amory Lovins, one of the authors of 'Factor Four', in a paper entitled 'tunnelling through the cost barrier' recognises that beyond this point of diminishing returns there needs to be a redesign of the system itself. We therefore need integrated solutions, in which the waste from one process provides the fuel for another. The flowsheet therefore starts to makes links between these outputs and inputs.

Urban autonomy

This has been done at the scale of the individual home but the potential may be even greater at the neighbourhood scale. We already know that urban building forms use less energy – terraces and apartments perform on average 15-20% better than detached housing, primarily due to factors such as reduced external wall areas. The Martin Centre's Project ZED (Zero Emissions Development) has also highlighted the interrelationships between the built form and the efficiency with which renewable resources can be 'harvested'.

In addition to this there are implications for economies of scale. Clearly with a neighbourhood certain processes such as water restoration, Combined Heat and Power and car pooling become much more viable than they would when dealing with an individual home. Working at the urban scale also has implications for the availability of skills and resources to procure and manage efficiency improvements. It also becomes viable to have a caretaker, on-site management or a co-operative to manage capital plant. Links can also be made with the local economy, whether it be training, trading or waste collection and recycling.

Peabody Housing Trust: Towering Ambitions

Peabody are at the forefront of innovations in sustainable housing. Recently proposed schemes have explored high-density urban development forms.

In Sutton a brownfield site is being developed for 90 homes which will incorporate solar power, biomass fuelled Combined Heat and Power and a range of water saving measures. The Peabody Trust and the Bioregional Development Group have formed a partnership to work up the plans.

A very different development in Islington involves a 'green' tower block designed by Hunt Thompson Associates containing 40 social housing units, 30 homes for sale (at more than 750 habitable rooms per hectare) along with ground floor commercial uses. The scheme was rejected by Islington planners in October because it breached density guidelines, exceeds height restrictions and had insufficient parking. As Peabody points out all of this is true but the scheme, which is directly opposite a tube station, is exactly the sort of thing being promoted by LPAC and the Urban Task Force. It is clear that there remains a gap between the strategic urban agenda and the reality of planning decisions

SYSTEM COMPONENT	SUPPLY	DEMAND	POTENTIAL RESPONSES
HEAT			
1. Space and water heating		3.3 GWhr	■ Community heating fuelled by CHP, dedicated boilers or through connection to a neighbouring heat load ■ Solar heating ■ Passive solar design ■ Structural and internal energy efficiency options ■ Heat recovery systems
POWER			
2. Lights and appliances		0.7 GWhr	■ Solar power ■ Biomass / biogas fuelled CHP with engine, turbine or fuel cell prime mover ■ Dual use of fuel cell vehicle power unit ■ Efficiency measures such as appliances / fittings
SOLAR			
3. Average annual insolation	40.0 GWhr		■ Optimised integration of solar heat and power units ■ Solar aquatics organic waste treatment ■ Biomass production for food and fuel ■ Water hydrolysis to produce hydrogen fuel ■ Passive solar design
WIND			
4. UK average for open location	6.5-7.5 m per second @ 50 m		■ Wind turbine sized as appropriate to site ■ Utilise enhanced stack effects for ventilation
WATER			
5. Supply and demand profile	48,040,000 litres	32,652,608 litres	■ Rooftop collection, storage and treatment for grey water or potable supply ■ Capture for use as heat storage medium ■ Raw material for hydrogen generation ■ Efficiency measures such as grey water systems ■ Harvesting of sites surface run-off ■ Condensed or purified water supply from CHP prime mover
WASTE			
6. Human organic waste 7. Compostible household organic waste	152003.5kg 128790.4 kg		■ Anaerobic digestion for human and household organic waste stream ■ Solar aquatics waste treatment ■ Composting toilets ■ CO_2 recovery from CHP engine or turbine for biomass production ■ Oxygen recovery from solar hydrolysis for waste treatment systems ■ Kerbside collection as social tool to initiate culture of waste minimisation ■ Fermentation or digestion to produce fuel ■ Processing to produce insulation material
8. Household waste paper	142672.0 kg		
MOBILITY			
9. Car energy consumption for high density urban location		2,285,836MJ	■ Car share reduces total car miles per participant ■ Fuel cell or electric powered vehicles improve fuel efficiency and can be fuelled with hydrogen, biofuels, or charged from renewable electricity sources. ■ Mixed use urban blocks help reduce journeys ■ External measures such as public transport and cycling routes. ■ Zero emissions and renewable fuel systems for public transport eliminate displaced car emissions.

Whole Life Costing

Working at the neighbourhood scale also raises the prospect of a more enlightened approach to funding. The problem with autonomous development is that by conventional viability measures it does not always make sense. The capital costs are higher yet the returns from this investment may not come back to the developers. A simple example is energy efficiency which increases capital costs and reduces bills for future residents. Yet the market does not allow the developer to sell the properties for more or the landlord to charge a higher rent.

Partnership bodies such as Energy Service Companies (ESCO's) and Co-operatives are being developed to overcome these problems. They seek to realise whole-life cost benefits by allowing financial planning to cut across and incorporate all the different stakeholders involved in the supply chain for the service. They can also make service providers more accountable for delivered outputs, such as comfort levels.

Normally each of these stakeholders would invest on the strength of their own return and not that of a combined stake in a project. A good example are the partnerships that have been formed to deliver energy services. These can include local authorities, tenants organisations, utility companies and private companies specialising in manufacture or distribution of energy efficiency goods and services. Such a 'team' might be able to reap the following net gains:

- Access to large number of new customers
- A finders fee from a utility partner for introducing new customers
- Bulk tariffs for tenants so reducing bills
- Shared returns on energy efficiency sales
- Design, Build, Operate and Finance (DBOF) arrangements for new equipment such as CHP so that it does not appear on capital cost balance sheets
- Skills training and potential for local economic development and resident service organisations

Such financial models are just as important as technical innovations. Without them bright ideas will remain just that and innovations will extend no further than isolated demonstration projects (as so often has happened in the past). The project will therefore be exploring different financial models such as ESCO's, Contract Energy Management (CEM) or share options such as the Triodos Banks Wind Fund, which make projects viable and can also give local communities a stake.

Responsive Urban Forms

There is of course no one right answer. The solution for a private scheme aimed at young professionals with 24 hour lifestyles will be very different to that for a co-operative or housing association or indeed for family housing. Each scenario will demand a different solution. As

a result there is a need to produce responsive and robust financial, management and technical responses. It is also our aim throughout the project to develop a kit of 'off-the-shelf' components to produce the most efficient response for any given site. It is our hope that many of these components already exist and one of our first tasks has been to track down case studies of projects who have addressed some of these issues.

The initial results were not very promising. There are few examples of large scale UK housing projects which incorporate environmental technologies in an integrated fashion. There are however some plans on the drawing board including the Greenwich Millennium Village, Canmore Housing Associations 'car-free' estate in the Edinburgh, and the Sutton ZED (described opposite). There are also some examples of retrofits of social housing which are innovative by virtue of their financing and / or environmental technologies (mostly consisting of large scale CHP and District Heating schemes). We have had to go further afield to find more radical approaches, although again schemes at the neighbourhood scale are rare. They include the Freiburg experimental solar-hydrogen house in Germany, the Kolding neighbourhood 'bioworks' in Denmark, and the Halifax Eco-City project in Australia, which still only exists as a development proposal.

If you know of other examples of urban development that we should be exploring or would like to find out more about the project then please contact Nick Dodd at the SUN Office.

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Different approaches to autonomy: Far right, the autonomous house designed and built by Robert and Brenda Vale. **Above:** the Freiburg solar-hydrogen house, a more high-tech solution to energy self-sufficiency. Meanwhile in Kolding the pyramid bioworks processes the sewage of the surrounding refurbished housing and at the same times supports a local horticultural business

greenframe

The traditional construction process in the UK seems so illogical that there are always people asking why houses cannot be built more efficiently. With the publication of the Egan Report from the Construction Task Force in July this year and the setting aside of funding for innovative construction by the Housing Corporation, prefabrication is firmly back on the agenda. **Gordon Snape**, Chief Architect for North British Housing Association, explains why they have chosen to develop timber frame prefabricated housing.

N orth British, the countries largest housing association has recently taken the step of setting up a joint venture company to produce sustainable timber framed housing which is ecologically sound and economical to build. We became involved with timber framed housing primarily because it supports our sustainability policies and presents clear environmental benefits over traditional masonry construction. The opportunity also presented itself to link timber frame manufacture to training, jobs and housing development. The joint venture is also a means of raising extra capital to support the association's development programme and so provide more housing for those in need.

There is clear mood for change in the UK construction industry. Most house building is carried out within a culture of poor quality and with a low-skill labour force in a work environ-ment which is cold, damp, dirty, unhealthy, slow, unsafe, and has tremendously wasteful working practices. There must be a better way.

By taking housing production into the factory, we can work in a more civilised environ-ment which is warm, dry, safe and, in being so, is conducive to the achievement of quality. This also changes the nature of employment from the casual worker moving from site to site with uncertainty of future employment and no oppor-tunity to receive training, to the long term em-ployee given some security and ability to plan for their future with the opportunity to receive the training investment that a long term employer would make.

With factory production and the commitment to training, we can move away from the constrictive single trade approach to con-struction into multi-skilling enabling teams of staff to construct sections of the building without needing individuals skilled in only one trade. We are already reducing the need for plasterers on some projects through using joiners to fix plaster-board and decorators to fill and tape boards before decoration.

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There is a danger, however, in pursuing factory based production. On the wave of enthusiasm for the Latham and Egan findings, there has been some attention paid to the Japan-ese methods of large scale factory production. Whilst there may be some good lessons to learn here about quality, customer service and choice, there is a danger that we become attracted to the regionally based large automated housing factory which benefits one community slightly by providing investment and a few jobs at the expense of many other communities who have traditionally had a section of their workforce employed in construction.

The Greenframe model supports local replicability with production based in individual urban centres producing frames locally with local people for local projects, minimising economic leakages from that community.

Timber frame can also provide an appropriate housing solution for inner urban areas as it can be built up to eight storeys. In fact TRADA and the BRE have completed work on a demonstration project six storeys high.

Training is an important part of the Greenframe ethos. The factory is located next door to Huddesfield Technical College which has developed a centre of excellence for construction skills. Greenframe is working with the College to set up a curriculum for courses in timber frame construction. The College will also offer a short general construction course for self-builders using timber frame. The students will gain wider exper-ience within the Greenframe factory as part of their training.

The Greenframe system presently follows the traditional platform frame principles using the tried and tested detailing as set out by the Timber Research and Development Assoca-tion. The decision to use UK grown timber was taken on sustainability grounds. Cheaper timber is available from the Baltic states, but the embodied energy in bringing timber from the Baltic is higher that for timber sourced in Scot-land. We also feel that the growth of the UK forest industry has an important contribution to make to our future sustainability through emp-loyment, wealth generation and carbon dioxide absorption. Until recently, UK grown timber had a reputation as being low grade and was used mainly for pallets, fencing, particle board and paper. However, the plantations laid down between the wars are now ready for felling and are now producing good quality general structural grade timber.

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By using relatively local sawmills, partnerships can be set up to guarantee long term supply and pricing structures which give assurance to both the supplier and manufacturer, and by working in this way an understanding of the customers needs can help the effective management of the whole timber supply chain. Forestry is no longer a manual operation. Trees are now felled by computer controlled machines which cut logs to suit the customers require-ments, optimise the use of the tree and crucially, minimise waste.

Greenframe also uses UK manufactured products for sheathing and flooring which are made from timber waste. This combined with internal linings from a range of UK manufactured boards and cellulose fibre insulation made in the UK from recycled paper, produces a housing solution which is amongst the most sustainable available today.

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LETSystems

Design and Development Issues

'Successful cities will be those whose individuals and communities-of-interest organise them-selves effectively through connecting and collabora-ting with others, locally, within the city-region and far beyond'

Robert Cowan, The Connected City

LETSystems are a specific model of Community Economic Development (CED), which have evolved in the form of community currencies, since they were originally designed in Canada, in 1983. In this article **Rob Squires** outlines the fundamentals of LETSystem design, and in particular, how they can be used as a tool for increasing the turnover, and hence the sustainability of local businesses.

Historically trading in LETSystems has been low, largely due to lack of business involvement. In this article I therefore want to explore a strategy to integrate businesses with community currency systems, and in so doing expand LETSystem trading into a wider cross section of the local economy.

Fundamentals

A LETSystem is basically a trading network with its own 'score-keeping' system. This allows participants to trade with each other without using cash. It is not a barter system, rather it provides a provisional means of exchange in the form of a LETS currency, which is tracked as it moves between the accounts of the various participant's. It provides a means of exchange without money being 'issued' centrally. LETSystem currencies are radically different to conventional currencies. They could be thought of as electronic circulating IOUs. The total number of LETS units in circulation starts at zero and always adds up to zero, although at any particular time some participants will have accounts that are negative (they have bought more goods and services than they have supplied) and some positive (they supplied more goods and services than they have bought). The LETSystem was designed to address the following perceived problems with conventional money: it's *scarce*, because: it *moves* (anywhere), and it comes from '*them*' (governments and banks) as opposed to '*us*' (communities).

LETSystems address the problem of money *moving* away, since they are finite net-works, and the 'money' can only circulate amon-gst those registered as being part of that network. All new accounts start at zero, and LETSystem pounds are 'issued' by participants when they buy goods or services, and their accounts go negative. It is therefore 'personal money', since it comes from '*us*' and not '*them*'. Because LETSystem account holders are empowered to issue their own 'money', there will always be enough LETS currency to purchase the goods and services which are available in the system, since we simply create the 'money' when we need it. Also, since it is personal money, which we issue ourselves, nobody can charge us interest for the privilege of using it. It can therefore be said that LETS currency is a user-friendly form of money.

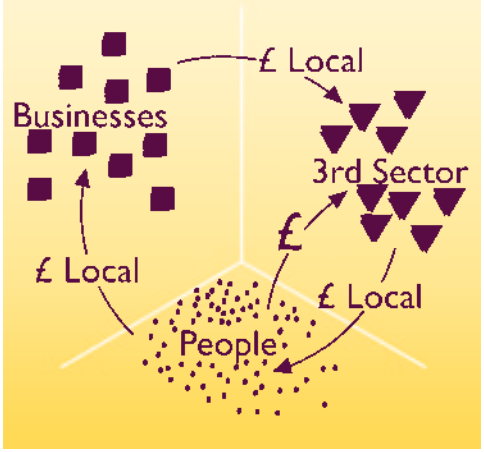
LETSystems are developed around the three design principals of community, personal and practical. Personal ensures participant's freedom to make individual choices, but in context with the well-being of the LETSystems community. In practice, this means that nobody can be forced to do anything, but all participants have a mutual responsibility for maintaining the integrity of the system. The principals also demand that nobody may exert ownership, or profit from the operation of Systems (this is not the same as saying a participant may not profit from operating *in* a LETSystem). Systems are integrated with the mainstream by establishing the value of the LETSystem unit as equivalent to the national currency (i.e. one pound).

Multi-LETS is an extension of the funda-mental design, which provides a framework for participants to open accounts in a variety of different systems with different functions. So for example in the diagram below an individual could have an account in the Redbricks LETSystem, which is used for trading with other Redbricks account-holders in that neighbourhood. Round the corner, Yellowbrick residents could trade with each other using Yellowbrick LETS. Should a Redbricks participant wish to trade with a Yellowbricks participant, they can both open an account in the M15 LETSystem, which operates across the whole district.

The advantage of Multi-LETS therefore, is that it allows Systems to be kept at an optimum scale, whilst enabling participants to gain a diversity of goods and services by access-ing a multitude of different trading networks. Within such a framework, LETSystem *Registries* provide a vital service. These comprise a decen-tralised network of non-profit micro-enterprises, each with the objective of providing accounting services for local LETSystem traders.

The LETSystem was originally designed in 1983, by Michael Linton, a Canadian with a background in engineering. The model is an adaptation of Commercial Barter Networks (CBNs), which are highly effective in North America, with annual turnovers totalling over $8.4 billion in 1995 [1]. Like LETSystems, CBNs enable participants to exchange goods and services, using an 'internal currency', thus reducing the need for conventional money. Unlike LETSystems which operate on a non-profit basis, CBNs are profit making, with typically 10% of the value of the business exchange being procured by the commercial barter company, as commission for stimulating the transaction. As may be expected in such a system, a major cost for commercial barter companies is in sales.

The Community Support Cycle



Development

Although there are currently many LETSystems in the UK, growth has failed to achieve the level expected, and trading is still a marginal activity. Moreover participation in many groups is poor, with low numbers, and relatively few trades. Research indicates that in order to increase the level of participation it is necessary to raise confidence in systems, and increase their usability. These two objectives are inter-connected, with the linking element being business participation.

In Britain, LETS emerged from the 'green' community, and has more recently made in-roads in the regeneration industry and the voluntary sector. Due to the areas in which it has been traditionally applied, LETS has acquired the stigma of being an 'alternative' person's scheme, and because of it's reputation, it is mostly avoided by the business sector, or else it is simply unheard of. Increased business participation is key to improving the usability of LETSystems, since the principal reason for low trading in many LETS, is the lack of genuinely useful goods and services on offer. Targeted development is therefore required to raise confidence and awareness, and hence, acceptance by the business community.

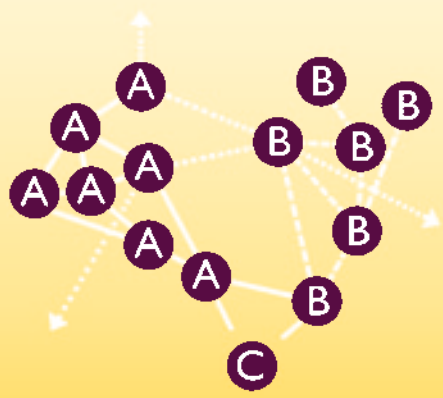
Within the confines of the conventional sterling system, where money is in short supply, the basic rule is to achieve the greatest return on your expenditure, so that if a product is 10% cheaper in one store than it is in another, then the cheaper store will obtain a higher proportion of the market. However, by presenting the customer with the option of a new, user friendly money in the form of LETS, which is easier to obtain than sterling (since there is no shortage of it), then highest returns become less of a clinching factor when making a purchase. In other words, if a produce costs £9.99 in one store, and £10.99 in a second where 20% of the cost is payable in LETS, then the store with the 20% LETS offer, has a tool with which to increase it's market share. In this context, LETS can be used as a business tool in much the same way as a conventional discount scheme. By offering a 10% discount on selected goods, the profit margin on those goods is reduced, but more customers come through the door, and overall sales increase. Alternatively, the business could offer the same products at 10% LETS. The advantage here of course, is that overall sales are increased without reducing the profit margin on special offer produce, since the LETS income can be used to offset other overheads.

In order to effectively promote the advantages of LETS, for both communities, and businesses, models are required. A good model must entail a balanced capacity for consumption and production, and a mechanism to ensure a meaningful deployment of currency across these sectors. An engine can also be introduced to pump-prime the LETS currency around the system, thus increasing local economic activity. The Community Support Cycle (CSC) is designed to both pump and deploy:

As seen in the diagram, producers (businesses) issue LETS, which are donated to 3rd sector organisations (charities/non-profits etc.). Consumers (the public) then make a direct sterling for LETS exchange with 3rd sector beneficiaries, and the LETS pounds thus acquired are spent at the participating businesses. The CSC is a win-win-win situation, driven by the business objective of increased profits, which is achieved through attaining the loyalty of customers. It is the incentive of helping others less well-off which stimulates the public to alter their habits by purchasing LETS pounds, and in so doing the currency which was originally issued by the business sector, becomes suitably deployed amongst consumers. The overall result is that new and useful currency is introduced into the area, whilst at the same time, sterling is channelled into the less well-off communities.

In order to implement a CSC an intensive development process is required, and to cover the costs of such development, it is necessary to conduct a relatively large scale project. However, once the CSC has been demonstrated in an area, there is little reason why

Multi-LETS Framework



Each black circle represents a LETS participant, the letter illustrates which LETSystem registry they are serviced by.

Multi-LETS is a term used to describe a framework wherein multiple LETSystems are supported by accounting services, called 'Registries'. Such a framework is comparative with the internet, which is an inclusive term for a vast array of computer networks. Just as internet surfers need to use many networks, future traders will use multiple LETSystems, with specific networks supporting specific requirements. Like the internet, Multi-LETS is a server-client relationship: the web surfer (client) is connected to the internet via a service provider (server), which gives the client access to multiple computer networks. Clients of different service providers can both browse the same network. LETSystem Registries have a similar function to internet service providers by allowing the client to operate in a multitude of LETSystems. Clients of different Registries can open accounts in the same LETSystem, and the Registries exchange data on trading via Email.

LETShare

LETShare is an enterprise tool which is used in the development of specific projects. Often when developing a new venture, the greatest costs which need to be met, are those of labour. A LETShare enables development costs to be tracked, with a view to reimbursing this value from future profits.

LETShare projects differ from conventional projects, in that they encompass the community, personal and practical values of LETS. Unlike the conventional workplace, which operates under a 'carrot and stick' regime, LETShare takes the emphasis away from control, and re-focuses on individual empowerment, within a framework of common objectives.

Just as the growing LETSystem Registry network is providing accounting services for Multi-LETS, it is capable of providing a tracking service for projects which utilise LETShare structures. More groups are becoming aware of the value of recording 'volunteer' input, since this is considered as 'sweat equity', or 'private sector' investment, and can be used to procure matching funding.

LETShares are already being used by a variety of projects, including regional LETSystem Development Initiatives (LDIs), and innovative training consortiums. 'Off the shelf' LETShare agreements are available, which enable new groups to become 'constituted' in a simple manner.

the cycle should not continue on an ongoing basis, at a low cost, introducing new money into the local economy, stimulating economic activity and channelling wealth into poorer areas. The Community Way (CW) project is a self financing initiative which utilises CSC principals. It is forecast that in an urban conurbation the size of Greater Manchester (population 3.5M), £2.0M can be raised for 3rd sector organisations, at a development cost of 10%, or £200,000. In addition CW is designed to ensure that LETSystems in the area gain such critical mass, that they continue to grow through their own appeal, without the need for ongoing intensive development.

CW projects are currently at varying stages of design and development, in the North-west (Greater Manchester), the Midlands (Sandwell), Southeast (Canterbury and Brighton), Vancouver (Canada), and in the USA.

LETShare (see box) is a tool which has been developed in parallel with LETSystem development projects, although it is equally applicable to any new enterprise. LETShare recognises that initial lack of income for wages can act as a major hindrance, and therefore tracks investment of time and money, with the aim of reimbursing value from future income.

Sustainability

Business has a vested interest in ensuring that their local economy is in a healthy state. The more money that is in circulation, the greater their potential sales. The more local currencies are integrated into local economic activity, the more stable local economies will be, since the likelihood of money draining out of the area is reduced. However, the proportion of economic activity which can be done with local currencies is limited by their usability, or what can be purchased with them.

The CSC demonstrates how corporations can be bought into the loop, theoretically making anything from food to electricity or train tickets available for local currency. However a region which is heavily dependant on corporations is largely unsustainable. Firstly, corporations are, on the whole, owned by share holders so profits drain out of the area. Secondly corporate produce is generally imported so that local enterprise is not supported and that there are high externalised costs such as pollution. Thirdly the global economy creates social monocultures, where communities lack the skills and resources to support themselves. There are therefore high hidden costs associated with dependence on the global economy, which are leading to breakdown of social, economic and ecological systems, and even if local currency were to be introduced into the economy by corporations through CSCs, there would still be a net drain in real wealth.

It is in the interest of corporations to invest in the sustainability of a region just as much as it is for the people who live there. This should be accomplished through a policy of developing regional independence, wherein communities have the capacity to make decisions, and are able to exercise a high degree of ownership and control over their own resources and infrastructure. Rather than being seen as a model for sustainable development, the CSC should be viewed as a mechanism for generating and channelling funds for *sustainable* CED. In the broad context of sustainability community currencies can therefore compliment and support the development of community projects linked with skills transfer, which are designed to introduce environmentally sustainable products and services into neighbourhood and regional economies.

by Rob Squires (LETSystem developer / permaculture designer). For information on LETSystems development, and/or training opportunities: Rob Squires: 01744 612778, Email: robgil@yesyou.u-net.com. http://www.yesyou.u-net.com/

References
1. International Reciprocal Trade Association http://www.irta.net/barterstatistics.html

Other Contacts
LETSystems Trust: c/o Robert Soutar Ltd: 01204 524262, rsl@letsgo.u-net.com. http://www.gmlets.u-net.com/

Sustainable CED (SusCED): Les Moore 01273 672952,

What shapes urban attitudes?

To urbanists the many surveys of attitudes towards urban areas can make depressing reading. Time after time they show people rejecting urban living in favour of suburbia or better still rural areas. A growing number of people are however returning to urban areas yet we know little about why they do so or what shapes their attitudes. We are therefore pleased to be working with MORI and the School of Policy Studies at Bristol University to explore these issues through a series of focus groups for the Urban Task Force. The results will not be available until the new year but in this article **Dr Gary Bridge** of SPS reviews some of the key issues.

In the last half century the prevailing trend of population movement in Britain has been away from cities. Although this trend still dominates there is growing evidence of a stay-in-the-city movement, particularly among young professional gentrifiers.

Personal experience obviously plays a large part in the formation of attitudes to urban living. However, the non-personal influences on choosing to live in the central city are diverse. Estate agent advertisements in newspaper and brochures stress the convenience for work and leisure of central city living. The intensification of densities and mix of uses that this often entails are marketed with reference to other cultural and historical symbols. The small Victorian terrace has, for instance, historic value and authenticity. The mix of uses means a social and land-use diversity that makes for exciting neighbourhood character. New-build developments (such as dockside apartments) at higher density are marketed in developers promotional material in terms of convenience, low maintenance, high security and nodality (being in prominent central city locations). Here urban living means being at the heart of things, being sophisticated and cosmopolitan, in implicit contrast to the staid, homogeneous, 'middle' middle class suburbs. Such new-build apartments are often marketed to an international audience in this way.

How much do images in Children's books shape our earliest

Despite newspaper reports of central city crime rates, sink schools, pollution and deprivation, the branding of an urban lifestyle has continued apace. This can be highly specific, as in magazines drawing on urban references. These magazines have proliferated in the last 10 years and draw on a number of references of the soph-isticated, tasteful, urban dweller. This set of images is also drawn upon in the positioning of a raft of products in TV, press and magazine advertising that denote cosmopolitan taste such as the new blue AMEX card being set in the context of vibrant and stimulating urban living.

Another rapidly growing source of information about cities is the Internet. Each city is now developing its own virtual city, where people can find out about events, job and housing opportunities and explore the city in cyberspace. It is likely that the Internet will become an inc-reasingly important tool of inter-city competition and imaging to a world-wide audience.

Some of the sources of information that have influenced young professionals are also increasingly bringing empty-nester households back into the city. Affluent couples whose child-ren have left home are increasingly buying low maintenance apartments in central city locations in order to take advantage of the amenities and leisure activities to be found there. This movement is in its early stages, but with an ageing population this greying of the central city is likely to become more significant in the future.

As well as age differences, there are also gender and household status distinctions in attitudes to, and sources of, information on urban living. There is a growing proportion of single-person households resulting from choice, marriage dissolution or bereavement for whom the city potentially offers a more convenient, social and congenial environment (in comparison with the dominance of the nuclear family in suburbia). Within single-person households there are a number of discrete demands which housebuilders have begun to niche-market. These groups could provide a particularly important constituency in the process of revitalising cities, and will form a focus of the research.

Much of this information and our understanding of how attitudes (both positive and negative) to urban areas are formed remains anecdotal. There is a real need for research on these issues if the much-discussed urban renaisance is to become a reality.

An illustration from Urban Splash's publicity. All of the items in the fridge are listed and can be found

Dr Gary Bridge: School of Policy Studies, University of Bristol, 0117 974 7777, gary.bridge@bristol.ac.uk
Mike Everett or Bobby Duffy, MORI

- What information sources do people use to inform their view of urban areas?
- Are the new urbanites a niche-market or are they a sign of the fragmentation of the housing market?
- Is urban housing seen as a good investment?
- Is it the type of development that attracts/ repels people or its location?
- How do people respond to words like urban, suburban, city, inner city, urban lifestyle.
- Do people react differently to different types and sizes of town and city?
- Are people attracted by the vitality of urban life or do they want safe enclaves?
- How do attitudes change as people grow older or havechildren?

Tomorrow:

A peaceful path to urban reform

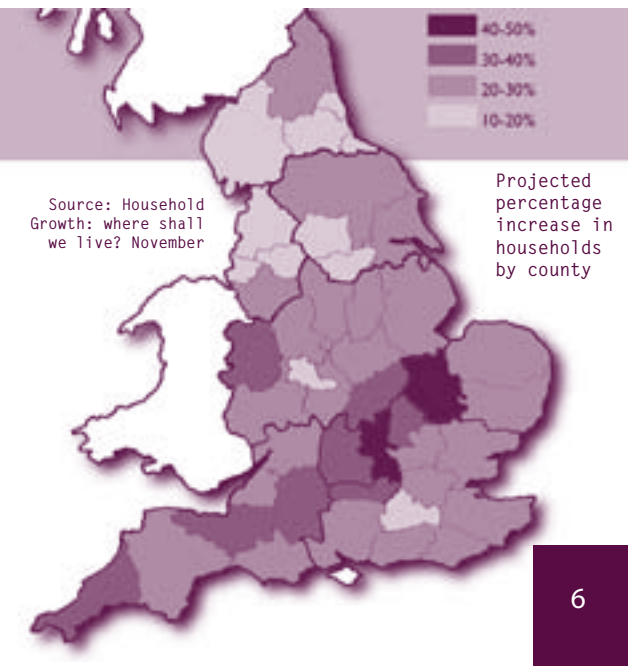
This time last year we were we contacted by Friends of the Earth asking whether we could produce a quick report on urban housing capacity as part of their submission to the Environmental Select Committee. They wanted us to explore whether it was possible to accommodate 75% of household growth within urban areas. The result was an intensive period of work and the publication in the early summer of our report **Tomorrow: A peaceful path to urban reform**. The initial reaction was hostile and the letter's pages of the profesional press accused us of taking Ebenezer Howard's name in vane. However the report has since been used extensively by the Urban Task Force and indeed has been in such demand that initial stocks sold out. For those of you who missed it here is a summary of the main findings.

It is 100 years since Ebenezer Howard published his seminal book, Tomorrow: A peaceful path to real reform. Howard saw cities as 'ulcers on the very face of our beautiful island' and for much of the intervening century many people in Britain have tended to agree with him. The reforming zeal of planning pioneers to provide decent homes away from the smoke of the city chimed with the mood of the times – but times have changed. We cannot continue to reject urban areas if we are to accommodate household growth while protecting the countryside and promoting more sustainable patterns of growth. We must develop a new agenda for our towns and cities – a peaceful path to urban reform.

Our report for Friends of the Earth was commissioned to test the viability of the sugges-tion, made in February 1997 by the UK Round Table on Sustainable Development, that 75% of all new homes should be accommodated within urban areas. We started by exploring the implica-tions of household growth, the nature of new households and their geographical spread. We then assessed the capacity of urban areas by looking at the historic rate of building on recycled land, the loss of population from urban areas and at some of the recent urban capacity studies that have been undertaken. We went on to collate national data on various forms of urban housing capacity, concluding that, in theory at least, there is the space to accommodate 75% of new households within England's towns and cities.

However, the issue is not so much the physical capacity of urban areas but the willingness of people to live there, of developers to build there and of planners to allow it to happen. In our report we explored these barriers to urban development and set out a series of recommendations to bring about change. These concerned the workings of the planning system, fiscal measures such as a greenfield tax and initiatives to promote urban areas. We concluded that there is a need to alter the financial balance between greenfield and urban development by taxing the former and promoting the latter.

Household growth



Source: Household Growth: where shall we live? November

Projected percentage increase in households by county

The government has projected an increase of 4.4 million households between 1991 and 2016 although it is anticipated that this may increase to 5.5 million. To this should be added half a million homes to meet existing unmet housing need and from it should be subtracted the homes built since 1991. We therefore assumed a need to accommodate 5.1 million homes by 2016, (five times the number accommo-dated by the entire post war new town programme!).

> By using the projections as the basis for regional housing allocations, governments have accepted the trends for population to drift from north to south and from larger cities to smaller towns and rural areas

While household growth at the start of the century was due to the emergence of the nuclear family, in the future 80% of new households will be single people. Just as the housing of the twentieth century reflected the rise of the nuclear family so the housing of the next century will be influenced by its decline. By using the projections as the basis for regional housing allocations, governments have accepted the trends for population to drift from north to south and from larger cities to smaller towns and rural areas. Yet, having done this, they have set targets for the proportion of households to be accommodated in urban areas. Growth is there-fore concentrated in the districts with the least urban capacity while surplus capacity in cities has remained unused.

While household growth must be accom-modated we need not accept the geographical spread of growth or the rates of urbanisation that they imply. These are legitimate concerns of government and can be influenced by policy.

The Urban Dimension

If we are to accommodate a significant pro-por-tion of household growth within urban areas we must confront their poor image. English people have been abandoning cities in their droves for over a century. This is why people have been able to argue that it would be wrong to force new housing into existing urban areas, because it is not what people want and because it runs counter to very powerful ideologies and market forces.

Since the industrial revolution the city has been seen as bad and the countryside good so that people with the power to do so have moved out of urban areas leading to urban sprawl and inner city decline. Cities now struggle, not with growth, but with decline. It is poverty, urban decay, crime and traffic congestion which causes 'respectable' society to shun urban areas. These areas must be transformed if people are to be attracted to live there.

Three reasons have been put forward for building more housing in urban areas; sustainable development (Particularly the reduction of car use), the regeneration of urban areas and the protection of the countryside. We reviewed each of these arguments, concluding that, on balance, it is clear that urban development has more benefits than suburban sprawl.

Finding the capacity

How much housing could be accommodated within urban areas? To answer this we started by looking at the historic rate of building on brown-field land. If we are already building almost half of all new housing on recycled land, why could we not build more? We conclude that there are a number of problems with this assumption and that data on the previous use of land developed for housing does little to illuminate the future housing capacity of cities. We also looked at the population that has been lost from urban areas in the past. While we speculated that the replacement of these lost urban populations could go a long way to accommodating household growth the data is inconclusive and it is not to these urban districts that household growth is being directed. We also reviewed the three leading studies which have sought to identify additional housing capacity in urban areas; in Hertfordshire, the North West and London. We concluded that they are a huge improvement on past app-roaches, but uncover only part of the capacity required or indeed represented by past building rates. The relevance of these studies therefore rests on whether the capacity uncovered is additional to existing rates of infill.

Sources of urban housing capacity

We cannot therefore base an estimate of urban housing capacity on either past trends or recent capacity studies. We therefore reviewed national data on various forms of urban housing capacity in order to produce a national estimate of the capacity of the urban areas of England.

- **Recycled land:** Derelict and vacant land data shows that there are 45,000 hectares of vacant land in urban areas and that, if past trends continue, this could increase to 75,000 hectares by 2016. If this was all to be developed for housing at urban densities (admittedly unlikely) it could accommodate almost 3.5 million homes.
- **The redevelopment of Council Estates:** Many high-rise council estates were built to quite low densities and their redevelopment could provide 22,500 additional homes.
- **The development of car parks:** Traffic reduction measures could release town centre car parks for housing. Up to 200,000 homes could be provided in this way.
- **The conversion of empty commercial space:** The conversion of historic buildings and modern offices to housing could provide up to 100,000 homes.
- **Living over the shop:** There is very considerable scope for the use of vacant

Population change in the urban areas of England 1911-1994

Population (thousands)	1911	1931	1951	1961	1971	1981	1991	1994	% change 1911-61	% change since 1961
Greater London	7,161	8,110	8,197	7,977	7,529	6,806	6,890	6,967	11%	-13%
Inner London	4,998	4,893	3,679	3,481	3,060	2,550	2,627	2,662	-30%	-24%
Outer London	2,162	3,217	4,518	4,496	4,470	4,255	4,263	4,305	108%	-4%
West Midlands	1,780	2,143	2,547	2,724	2,811	2,673	2,629	2,628	53%	-4%
Birmingham	526	1,003	1,113	1,179	1,107	1,021	1,007	1,008	124%	-15%
Greater Manchester	2,638	2,727	2,716	2,710	2,750	2,619	2,570	2,578	3%	-5%
Manchester City	714	766	703	657	554	463	439	431	-8%	-34%
West Yorkshire	1,852	1,939	1,985	2,002		2,067		2,104		5%
Leeds	446	483	505	710	749	718	717	724	59%	2%
South Yorkshire	963	1,173	1,253	1,298	1,331	1,317	1,302	1,305	35%	1%
Sheffield	455	512	513	581	579	548	529	530	28%	-9%
Merseyside	1,378	1,587	1,663	1,711	1,662	1,522	1,450	1,434	24%	-16%
Liverpool	746	856	789	741	610	517	481	474	-1%	-36%
Tyne and Wear	1,105	1,201	1,201	1,241	1,218	1,155	1,130	1,134	12%	-9%
Newcastle	112	267	286	292	336	312	384	278	161%	-5%
Other Cities										
Kingston-upon-Hull	278	314	299	302	288	274	267	269	9%	-11%
Leicester	227	239	285	286	285	283	285	293	26%	2%
Nottingham	260	269	308	311	302	278	281	282	20%	-9%
Bristol	357	397	443	436	433	401	397	399	22%	-8%

Estimate of potential recycled land available for housing within urban areas

Source	Area (ha)	Capacity at net densities of.. 30units/ha	62units/ha
Derelict urban land justifying reclamation	19,759	415,000*1	879,000
Half of all reclaimed derelict land since 1988 in 'soft uses'	1,236	26,000	55,000
Urban land reclaimed since 1988 with no end use	772	16,000	34,000
Vacant urban land which has previously been developed	9,226*2	194,000	411,000
Vacant urban land not previously developed	13,965*3	293,000	621,000
SUB TOTAL	**44,958**	**944,000**	**2,000,000**
Urban land likely to become derelict 1993-2016	19,800*4	416,000	881,000
Urban land likely to fall vacant 1993-2016	9,245*5	277,000	573,000
SUB TOTAL	**29,045**	**693,000**	**1,454,000**
TOTAL	**74,000**	**1,637,000**	**3,454,000**

*1 All capacity figures assume that half of the land will be large sites and therefore subject to gross densities of 12 and 27 units/hectare rather than net densities. All figures are also rounded to the nearest thousand and may not sum to the independently rounded totals
*2 Based on the figure from the 1990 survey of vacant land discounted to take account of reclaimed derelict land
*3 We have assumed that half of the vacant previously undeveloped land could be brought forward for development.
*4 Based on the annual rate of land becoming derelict in urban areas and justifying reclamation between 1982 and 1993.
*5 Based on the same rate of increase as that for derelict land

space over retail premises. Using shopping floorspace data we estimated that the capacity could be 1 million homes.

- **The subdivision of existing housing:** Based on occupation density figures the potential from the subdivision of large houses could be 6 million homes although, at most, 30% of this is likely to be practical.

- **The intensification of existing housing areas:** As household size declines, it should be possible to increase housing density without increasing population density. We estimated a capacity of around 280,000 extra homes from this source.

- **The better use of the existing housing stock:** There are presently 767,000 empty homes in England just under half of which could be brought back into use.

These figures add up to a total potential urban capacity of 7.2 million homes of which, we estimate, that 3.8 million is achievable if the right policies are put in place. We make no claim for these figures other than that they give some order of magnitude to overall capacity levels.

Barriers to unlocking the capacity

This theoretical capacity is of little value if people do not wish to live there, if developers refuse to build there, if the housing is not viable or if the planning system will not allow it. Each of these issues was considered in the report. We discussed surveys of suburban and urban residents as well as the attitudes of developers and the market for urban housing. We looked at the economy of urban areas and whether there will be jobs for people living in cities, before reviewing the concerns about town cramming and the attitudes of local planners.

This theoretical capacity is of little value if people do not wish to live there, if developers refuse to build there, if the housing is not viable or if the planning system will not allow it

We concluded that these are formidable barriers to the development of urban housing. While markets and attitudes will take time to change, there are signs that this is starting to happen and the role of public policy should be to encourage and accelerate these changes.

Unlocking the capacity

The limits on capacity are defined as much by the market, public attitudes and planning policy as by physical capacity. We therefore suggested a set of policy recommendations to maximise the development of housing in urban areas as set out in the box below.

To accommodate household growth within urban areas we will have to use every option available to us. Our report suggested that it is feasible to aim for a 75% target for new homes in urban areas by developing a new agenda for the renaissance of urban Britain. This is partly about the physical capacity of urban areas but it is much more about our attitudes to cities and our willingness to challenge historic trends. At the end of the millennium the time is right to bring about these changes.

Copies of the reprinted report are available from Friends of the Earth, see order details on page 8

What do we mean by urban capacity? When there is intense demand to build - as there was when this building was erected in Manchester - developers will seek out capacity where none could have been measured. The

Summary of potential urban housing capacity (thousands of units)

Net densities (units/hectare)	Unconstrained capacity 30	62	Policy target	Adjusted capacity 30	62
Current and reclaimed derelict land	457	968	60%	274	581
Previously developed vacant land	194	411	80%	155	329
Vacant urban land not previously developed	293	621	70%	205	435
Land likely to fall vacant 1993-2016	693	1,454	60%	416	872
Redevelopment of large council estates	22	22	100%	22	22
Redevelopment of underused car parks	100	200	80%	80	160
Conversion of industrial buildings and offices	100	100	80%	80	80
Living over the shop	1,000	1,000	40%	400	400
Subdivision of larger under-occupied property*1	1,900	1,900	20%	380	380
Intensification	280	280	80%	224	224
Bringing empty homes back into use	325	325	100%	325	325
TOTALS*2	**5,364**	**7,281**		**2,561**	**3,818**

*1 To give a realistic figure the capacity from the subdivision of existing property is based upon the 30% of properties which Llewelyn-Davies suggested could get planning permission
*2 Similar estimates of urban housing capacity have been made recently in 'Tomorrow's World', published by Friends of the Earth in 1997. Based on comparable assumptions, and adapted from the UK to England, those figures suggest capacity for approximately 3.5 million dwellings in towns and cities, but propose greater additional potential for the planned regeneration of urban areas towards the end of the household projection period.

Note that figures are rounded and so the columns may not sum exactly.

POLICY RECOMMENDATIONS

The planning system

- A presumption against greenfield development until all alternatives have been considered, should be a central pillar of national planning policy.
- A sequential test for developers is probably unworkable but a sequential test should be applied to local authority land allocations.
- Local authorities should be able to manage the release of housing land on an annual basis and to specify that a certain level of brown-field development takes place before greenfield releases are considered.
- Specific land allocations should be made for social housing.
- There should be a democratic mechanism within regions to direct a higher proportion of household growth into urban areas with surplus capacity.
- Where this is not possible, regions should be able to under-provide for household growth by up to 5%, with ministerial approval.
- Planning policy guidance should be amended to promote higher density development.
- Local authorities should be encouraged to take a proactive approach to urban development.
- A national good practice programme should be instigated to share experience between local authorities.

Fiscal recommendations

- There is an important role for grant subsidy in regeneration areas and on sites with abnormal costs.
- VAT rates on new-build and conversions of existing buildings should be harmonised.
- A greenfield tax should be considered to make urban development more financially attractive.
- The revenue from this should be hypothecated to promote urban development.

Promoting urban areas

- Urban Priority Areas should be designated to promote urban housing and to provide tax relief on housing development.
- Social housing investment should ensure that it avoids social exclusion and creates mixed communities.
- Initiatives should be targeted to improve inner city schools.
- Government sustainability policy should be focused on urban areas.
- Transport policy should reduce car travel to out-of-town facilities and use income from traffic restraint measures to invest in urban public transport.
- Mixed-use development should be promoted as a way of attracting employment back to urban areas.
- Models for urban development such as the Millennium Village should be used to promote urban living.

A mixed-use model?

A Sustainable London?

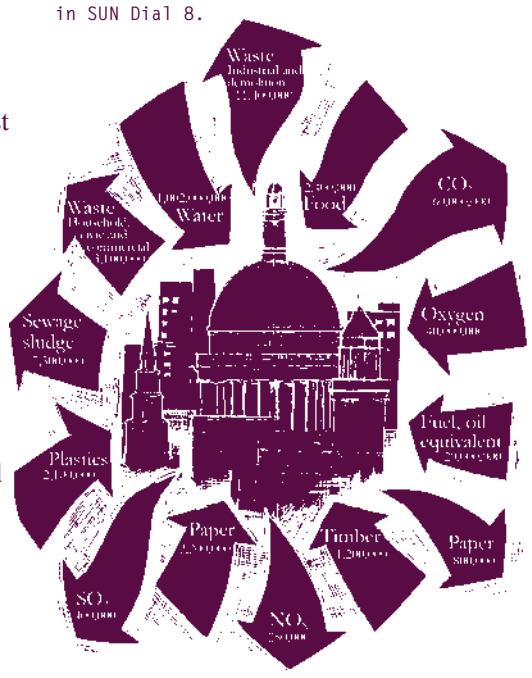
We are currently working for The Corporation of London's Bridge House Estates Trust Fund to explore the idea of a sustainability centre for London. The Bridge House Trust first began providing grants in 1995 and the environment is one of five of its priority areas. Under its environment programme it has made grants of over £2.7 million to 53 organisations. It would however like to increase support in this area and to expand its work to the wider sustainability of London rather than solely its environmental impact. The study has therefore been commissioned to explore a sustainability centre for the capital. A newsletter and questionnaire has recently been produced and the report will me available next Spring.

The newsletter and questionnaire is available from the SUN Office or by emailing Sustainability@urbed.co.uk

The schemed illustrated below has recently been selected by Manchester City Council for the Smithfield section of the Northern Quarter. The scheme was submitted by Amec and Crosby Homes. The scheme was put together by Building Design Partnership working with the SUN Initiative. It includes buildings by many of Manchester's leading architects including MBLC, Hodder Associates, Sagar Stevenson, and Stephenson Bell. While the proposals include 250 residential units at 60 units to the acre, most of the ground and first-floor floorspace is in commercial use. This is made possible by an innovative development partnership. Rather the dividing up the sites, Amec and Crosby will undertake the scheme as a joint venture investing and splitting the profits equally regardless of the mix of uses.

In this way they are able to combine their different areas of expertise and overcome commercial conflicts between different uses.

The scheme will be described in more detail in SUN Dial 8.



THE URBAN WATERFRONT

Until recently urban watersides were dingy places best avoided after dark, even 10 years ago there were plenty of plans for the regeneration of waterfront sites but few completed examples. Today many schemes are showcases for regeneration and mixed use development. To chart the changes we are currently undertaking a survey of waterfront developments.

The work will build upon previous water-front surveys which URBED undertook in 1979 and 1988. The current research is being supported by English Partnerships, British Waterways and King Sturge. The aim is to explore a range of schemes and to ask why some have succeeded while others have not. Information will also be gathered on new schemes. The material will be developed as a series of detailed case studies and a gazzeteer of waterfront schemes in the UK. This will allow us to explore the issues raised by waterfront development, the factors which lie behind success and the best practice which can be applied to other schemes.

The launch of the survey coincided with the Judging of the 'Excellence on the Waterfront Awards' organised by the Waterfront Centre in Washington DC. Nicholas Falk of URBED was one of the award judges. The waterfront report will be available in the new year and details will be carried on these pages.

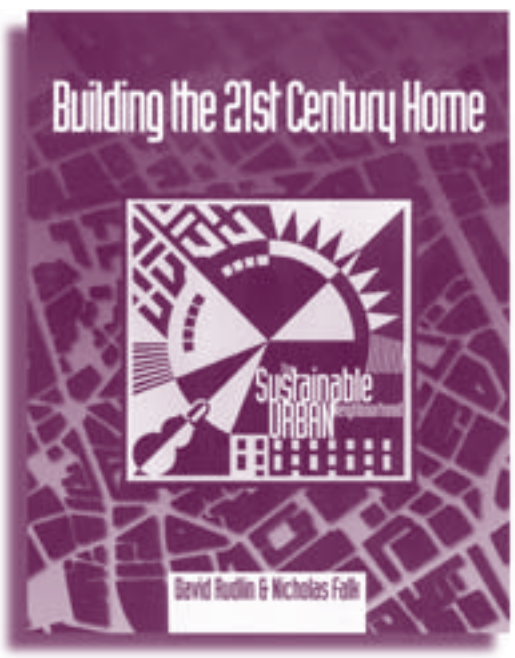
Contact Kieran Yates at URBED's Manchester office. Waterfront Centre of Excellence, Waterfront Awards can be viewed on www.waterfront center.org.

Urban waterfront development can be a catalyst for lasting regeneration, though success cannot always be assured. This study will glean insight from UK experience, offering ideas and lessons from best practice with the practical aim of supporting future schemes

Millenium Village STOP PRESS

The SUN Initiative is part of a consortium which is one of three shortlisted schemes for the second Millenium Village at Allerton Bywater in Leeds. The consortium is led by Daniel Libeskind of Berlin along with Allen Tod Architects of Leeds.

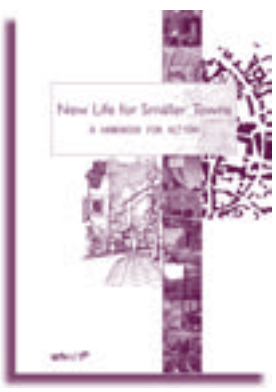
The Millennium communities competition was initiated by Deputy Prime Minister John Prescott and aims to promote 'exciting and innovative schemes that combine the highest of design aspirations with sustainable and innovative technologies'. The submission will be made in February next year at which point we will provide



Building the 21st century home: The sustainable urban neighbourhood – David Rudlin & Nicholas Falk
Over the last three years we have been working on a book which explores the issues behind the sustainable urban neighbourhood. It is written in three parts. The first charts the fall from grace of cities and how public policy, however well intentioned, has made things worse. The second part then looks at the forces for change which are gathering at the turn of the millennium and how demographic, environmental, social and economic change will shape future settlements. Part three then describes a vision for the Sustainable Urban Neighbourhood as a model to reinvent towns and cities. This is not just a physical model and chapters are devoted to the social sustainability of neighbourhoods, to environmental urban design and the process by which change can be bought about.

In the book we quote Lewis Mumford when he wrote 'if we would lay a new foundation for urban life we must understand the historic nature of the city. It is our hope that we do this and that the book will help to reveal some of the deeper currents behind the froth and bubble of the current debate over cities and urban areas.

Published by: The Architectural Press 1999
Price: £19.99
Available from: 'All good bookshops'
ISBN: 0 7506 25287



New Life for Smaller Towns – URBED
A practical handbook for those who want to make the most of the assets of smaller towns. It includes a review of proven methods of revitalising town centres and a number of new ideas for reusing empty buildings and finding new roles for groups of towns.

The report covers 5 themes; improving shopping, diversifying attractions, coping with the car, creaing a pride of place and resour-cing initiatives. It includes a checklist of 100 questions to assess the health of a town centre, 30 programmes to produce results along with illustrations of good practice of relevance to everyone involved in area regeneration be it in large cities or the deepest countryside.

Published by: URBED, Sponsored J. Sainsbury plc
Price: £13.50
ISBN: 0 9525791 1 1
Available from: Action for Market Towns, 12 Loom Lane, Bury St. Edmunds IP33 1HE

Building to last: 21st century homes – David Rudlin & Nicholas Falk
Our work on the Sustainable Urban Neighbourhood all started from the 21st century homes action research project that we undertook for the Joseph Rowntree Foundation between 1993 and 1995. This explored the type of housing that would be required in the next century. It included a detailed study of three demonstration projects through their design, tendering and construction.

The report has been widely used since it was published and due to the continuing demand we have recently undertaken a reprint. Copies are therefore available from the SUN office.

Published by: URBED/Joseph Rowntree Foundation
Price: £10
ISBN: 0 9525791 0 3
Available from: The SUN Office

Valuing the Value Added: The role of housing plus in creating sustainable communities – URBED and Newbury King
In 1997 we were commissioned by the Housing Corporation to devise a system to measure Housing Plus so that it could be more effectively incorporated into decisions about funding for new social housing. Housing Plus is a term used by the Housing Corporation to describe the added value that housing associations bring to their develop-ment by addressing wider social, economic or environmental prob-lems. As part of the work we developed a sustainability checklist for all new housing along with a categorisation of housing plus. This has already been incorporated into the bidding procedures.

Published by: The Housing Corporation 1998 – Source Working Paper 3
Price: £5
ISBN: 1 84111 023 X
Available from: The Housing Corporation, 149 Tottenham Court Road, London, W1P 0BN

Tomorrow: A peaceful path to urban reform – David Rudlin
See article on page 6

Published by: Friends of the Earth
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The SUN Project is managed from URBED's Manchester office by David Rudlin, Kieran Yates, Nick Dodd and Helene Rudlin.

The views expressed in this newsletter do not necessarily represent those of the project's sponsors

This news sheet has been researched, written (unless otherwise credited) and designed by URBED which is a not for profit urban regeneration consultancy set up in 1976 to devise imaginative solutions to the problems of regenerating run down areas. URBED's services include consultancy, project management, urban design and economic development. The SUN Initiative further develops URBED's growing involvement in housing development and continues the work of the 21st Century homes project.

Why NOT get involved?

The SUN Initiative has been established as a broadly based network of organisations and individuals interested in the sustainable urban development. We do not have a membership but people can get involved in a number of ways...

- **Mailings:** If you did not receive this newsletter by post please contact us and we will add you to our mailing list.
- **Contributions:** We would welcome letters or articles for future issues of this newsletter.
- **Examples:** We are compiling a resource base of good examples of sustainable development nationally and internationally. We would therefore welcome details of projects that might be of interest.
- **Sponsorship:** We are seeking sponsors for future issues of this newsletter and for exhibition material. Details are available on request.

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Finding the capacity

We have recently been commissioned by the DETR to undertake research into urban housing capacity. This follows our report for Friends of the Earth which explored the potential to accommodate 75% of new housing in urban areas (SUN Dial 7).

The revised PPG 3 is likely to require local authorities to assess the housing capacity of their urban areas. We are looking at the capacity assessments that have been done to draw out best-practice.

It is clear that this is a subject which is currently exercising local authorities, many of whom are undertaking some form of assessment in addition to their work for the National Land Use Database. It is however clear that the methodologies used vary hugely which has implications for the ability to compare figures from different areas.

Details of this work will be carried in a future issue of SUN Dial. However we would welcome details of Urban Capacity assessments that have been undertaken to ensure that our list is as comprehensive as possible.

A design exercise by Llewelyn Davies as part of the Sustainable Residential Quality research which looked at the capacity of London's town centres for LPAC

the Sustainable URBAN NEIGHBOURHOOD

The **Sustainable Urban Neighbourhood Initiative** will have achieved little if it concentrates on utopian models for urban development. Much more important are the anti-urban trends that currently dominate the development industry and the public attitudes behind these trends. In this issue we therefore review our recent work with MORI for the Urban Task Force looking at attitudes to urban living. Joe Ravetz also describes how policies to promote the sustainability of the city region impact on the neighbourhood and can reverse these very same trends to create a positive cycle of reurbanisation.

There is no one physical model which responds to these challenges as illustrated by the variety of schemes descibed inside. From Libeskind's extension to Berlin and waterfront development to the Ideal Home Show's slim house and an urban village in Lincoln.

SUN dial Initiative

Welcome to the SEVENTH issue of SUN DIAL, the journal of the Sustainable Urban Neighbourhood Initiative

The ideas that seemed radical three years ago when the SUN Initiative started are now being accepted with remarkable speed. 1998 has been a good year and our report for Friends of the Earth on urban housing capacity has put us at the centre of the policy debate. The year ends with the publication of the SUN Book by the Architectural Press and funding from the BRE and the European Union's ALTENER Fund. Details of the developments along with articles on green housing, LETSystems and urban attitudes can be found inside.

INSIDE

But would you live there?

Shaping attitudes to urban living

In SUN Dial 7 we described some work commissioned by the Urban Task Force to research attitudes to urban living. The findings were published in February 1999. David Rudlin, the report's author outlines the main findings

Urban housing is sold not so much a dwelling or even a location but as a lifestyle choice

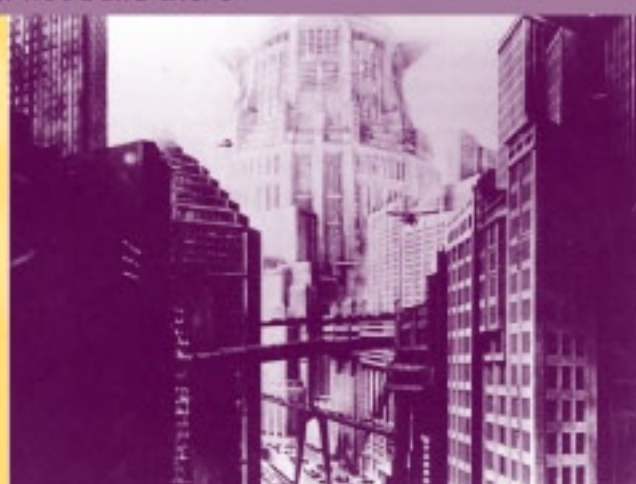
Britain, we are told, is on the verge of an Urban renaissance. But are the British public willing participants in this great enterprise? With the work of the Urban Task Force nearing completion and the promise of an urban white paper to follow there is a great deal of talk of urban living and cosmopolitan lifestyles, yet surveys of residential attitudes of British people suggest that they are as wedded to their suburban home as they ever were.

The urban renaissance will not happen if people have to be dragged kicking and screaming back into the towns and cities that they have been abandoning for years. If the British public really cannot be 'sold' the idea that they could live in urban areas they will not do so and developers, for want of a market, will not build there. One of the Task Force's concerns is therefore how people's attitudes to urban areas might, if not be shaped, then at least be influenced. The research therefore sought to explore these issues through citizens' workshops in Manchester, Bristol and London.

While a great deal has been written about attitudes to urban areas, very little work has been done to research how these views are shaped. Our work therefore started by reviewing related fields like tourism, housing sales and place marketing - such as the Glasgow *Smiles Better* campaign. These were contrasted to other sources of information on urban areas such as the news media, advertising and popular culture. It is extraordinary how diverse the images of the city projected by these different media can be. While the local news may be filled with stories of urban problems the commercial breaks are littered with images of bright young urbanites enjoying city life.

The developers who have successfully marketed urban housing have made good use of these advertising images. What they have been selling is not so much a dwelling or even a location but a lifestyle. The buyer is pictured as someone with taste who wants to set themselves apart from the 'herd' as represented by suburbia. Such messages are effective, even in run-down areas, because of the way that people create 'scripts' to reconcile their conflicting impressions of the city. So, for example, Bristol can be marketed to young people as an exciting clubbing centre and to an older group as a cosy provincial city while in the local paper it appears besieged by crime. Each view is true in its way and matches the experience of (or script created by) different groups. One of the aims of the research was therefore to explore the impact of these different sources of information on attitudes to urban areas.

If the British public really cannot be 'sold' the idea that they could live in urban areas they will not do so and developers, for want of a market, will not build there



Urban settlers

The aim of the workshops was to explore the attitudes of people who might be persuaded to move into urban areas. We therefore excluded people already living in city centre apartments because they were already converted. We also excluded families with young children, not because we felt that cities were inappropriate for them, but because they were felt to be unpersuadable at present. This led to the idea of urban repopulation taking place in waves. The first people to move into urban areas were characterised as *urban pioneers* who enjoy the excitement of urban life. We however were more interested in the waves that follow these pioneers who we characterised as *urban settlers*. It seemed to us that the attitudes of these settlers could be quite different to the pioneers and the workshops were therefore designed to explore their views. The workshop participants were therefore made up of childless households. We did however ensure a mix of ages, sexes and social groups. The recruitment process also ensured a mix of people currently living in urban and suburban districts and of these who described themselves as cityphiles and cityphobes.

Balancing priorities

Given the anti-urban tenor of much attitudinal research, it came as a surprise to us how positive the workshop participants were about urban areas even those who described themselves as cityphobes. However the discussions revealed a range of tensions in their views. They liked access to shops and facilities but disliked the noise and congestion that this often implied. They liked the peace and quiet of suburban areas but regarded them as dead and boring. The ideal location seemed to be a local centre with a village atmosphere and a range of facilities. This included districts like Clapham in London, Chorlton in Manchester or Clifton in Bristol. They also wanted access to the countryside and greenery but also to be able to walk into the city or at least to local facilities. This was seen as a particular strength of Bristol and highlighted a strong preference for compact or concentrated centres. With only a couple of exceptions they relished the diversity of urban areas which is in contrast to most surveys of suburban housebuyers. As one participant said *'I have an Asian family on one side, I have some hippies on the other and I wouldn't swap them for the world!'*.

In deciding where to live people therefore appear to be weighing up what could be called urban and suburban aspirations. Those living in suburban areas relished the peace and quite, space and greenery but missed the diversity, convenience and excitement of urban life while the opposite was true of people living in urban areas. While both groups felt that they had struck the best possible balance between these different aspirations it did not seem take much to tip the balance one way or another.

The ideal location seemed to be a local centre with a village atmosphere and a range of facilities

Key Themes

Based upon the discussions at the workshops we drew out five key themes in our report to the Task Force:-

The lack of a shared language: The first was that people can have very different understandings of words like 'urban', 'suburban', 'city' and 'inner city'. The word 'urban' to some people meant factories and smog while to others it was everything that was not rural. Indeed to Londoners urban meant outlining suburban centres.

However despite the pro-urban tenor of the discussion, people very rarely used the word 'urban' in a positive sense, being more likely to use the word 'city'. The exceptions to this were the positive connotations of 'urban lifestyles' and the negative view of the 'inner city'. We concluded that attitudinal research on views about different types of area needed to be treated with caution. This issue also has implications for the language used to promote urban areas.

Generic views and real places: It was also clear that people hold strong generic views of urban and suburban areas which can be very different to the views that they have of places that they know. Generic views of suburbs, for the young at least, seemed to be tied up with their views of their parents' generation. The generic views of urban areas, by contrast are much more based on media images, both positive and negative. However we found that people's generic views are quite easily overridden by their experience of real places, even if that experience was just looking at a photograph. We concluded that real examples of urban areas which had changed were probably more powerful than the most sumptuous images of idealised urban areas in changing attitudes.

The sophisticated consumer: It was also clear that people are able to spot when they are being sold something and tend to distrust the information that they are given as a result. The most reliable source of information about urban areas was seen as friends and relatives. Television news and local papers were trusted to tell the truth even though the picture painted was felt to be exaggerated. Television programmes like 'Friends' were seen as pure fantasy but were so attractive that people did not really care and therefore responded well to publicity material which tapped into these images. Further down the scale came estate agents and other developers who were trusted to the extent that you at least knew what they were selling. The least trustworthy of all were councils and public agencies who were regarded in a surprisingly poor light.

Open to argument: It was clear that people could be persuaded to live in urban areas. While attitudinal research may show a preference for suburban environments our work suggested that this preference is the result of quite a subtle balance of what might be called suburban and urban aspirations. While the balance may have been tipped in favour of the suburb for many years we believe that it is possible to tap into people's urban aspirations to tip the balance of individual decisions more firmly in favour of urban areas.

An aversion to risk: If this is to happen it is important to understand that the *urban settlers*, as we have called them, have different aspirations to the *urban pioneers* who preceded them. The most important difference is that the *urban settlers* are risk-averse. They are not attracted by the excitement of urban living nor by contemporary design. Rather they want to be assured that urban areas are safe places for them to live and to own a home.

Despite a century of decline, there remains - or at least has been rekindled - a desire for urban living in the hearts of many British people

Conclusions

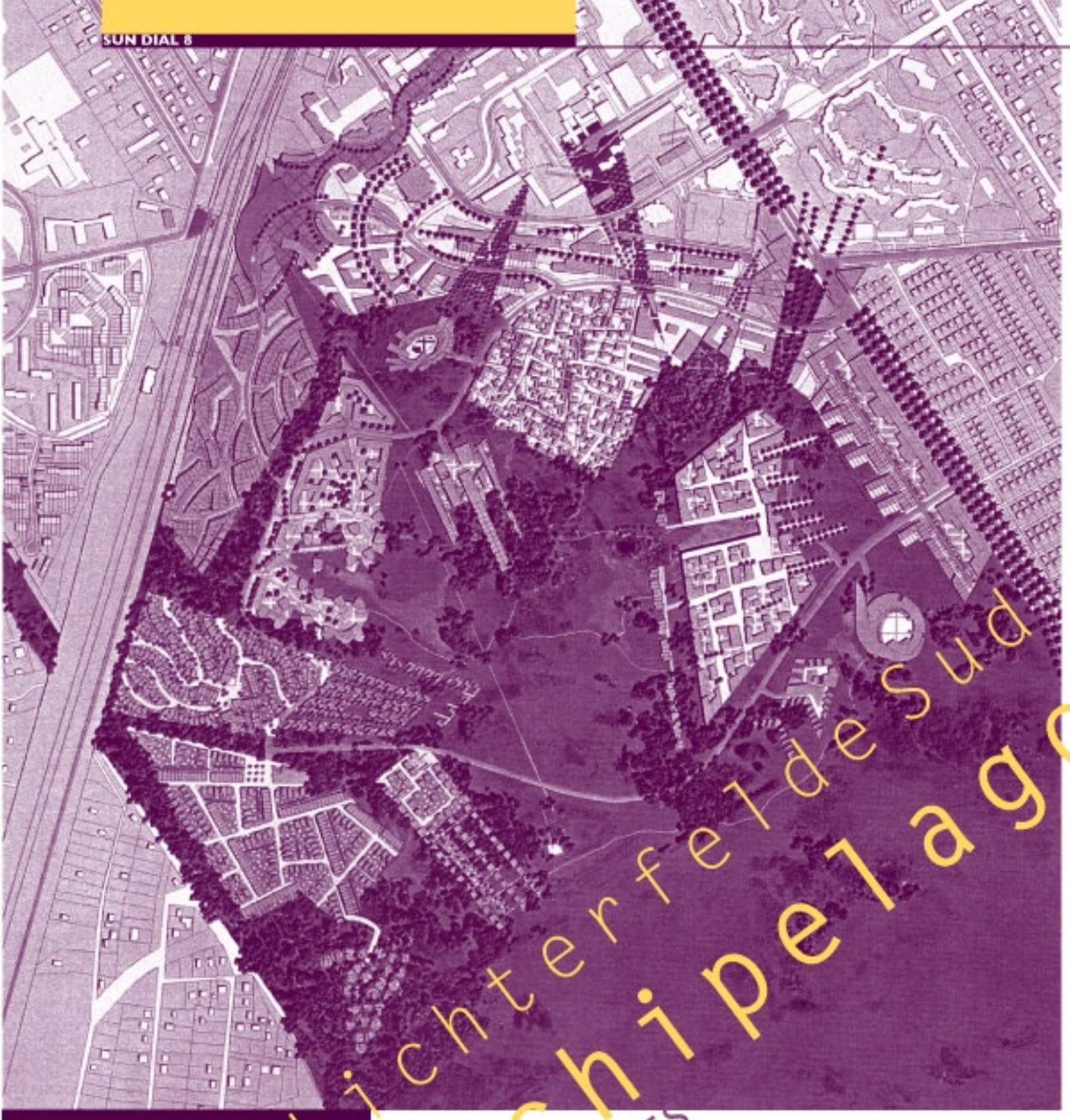
Because population has been drifting away from the urban areas of Britain for more than a century there is a tendency to believe that this movement is inevitable. Our research suggested that it is not. Throughout the twentieth century Britain's urban exodus has been driven by lifestyle aspirations which have prioritised suburban environments. As urban areas have lost population and invest-ment they have declined and the problems of decline have caused more people to leave creating a vicious circle of depopulation.

The challenge facing the Urban Task Force and the Government is to break this cycle of decline. The findings of our research give some cause for optimism that this is possible. Despite a century of decline, there remains - or at least has been rekindled - a desire for urban living in the hearts of many British people. Many people have returned to live in urban areas and our work suggests there are many more who could be persuaded to follow.

The research was undertaken by MORI working with URBED and the School for Policy Studies at the University of Bristol. It was commissioned by the Urban Task Force in association with the DETR and published in February 1999.

Copies of the report can be obtain from the Department of the Environment, Transport and Regions, DETR Free Literature, PO Box 236, Wetherby, LS23 7NB.
Telephone 0870 1226 236

People valued the diversity of urban life such as New York's China Town (above). Their ideal seemed to be a compact urban centre or village within a large city like Clapham, Clifton or Chorlton (illustration Moseley Village in Birmingham).



When the Libeskind consortium was shortlisted for the Allerton Bywater Millennium Village competition many people were suprised at their involvement in the planning of a new village. However through their work in Berlin, Studio Libeskind are exploring a new language of residential design. In this article **Daniel Libeskind** describes their scheme for an extension to Berlin at Lichterfelde Sud

Lichterfelde Sud on the outskirts of Berlin is dominated by a harsh transition between Berlin's urban structure and Brandenburg's open landscape. Developing this very special urban housing scheme in response demanded progressive design planning and a flexible framework in line with the dynamics of city planning, so as not to be overrun by future developments.

The diversity and ever-changing nature of urban living requires the development of new patterns of thought to facilitate a far reaching modern debate, taking into account such themes as the form of the family, the emancipatory need for mobility, as well as other factors. This is a prerequisite for an understandable and readable vision of the city. A city which does not make allowances for this growth loses its capacity for effective communication and competitiveness, and inevitably loses its life force.

The exceptional location of the planning area puts forth questions and problems which serve to emphasise, on the one hand the relationship of structures to each other, and on the other the city boundary to its surroundings, requiring a new and adequete long term typology of responses.

Inspired by the Genius Loci of urban structure and landscape, the design team developed an urban planning concept which blends with the existing landscape symbiotically, to create a completely new form of city outskirt. The image of an 'Archipelago' presents a new opportunity in the current discussion on city boundaries. A collection of heterogenous islands disperse from the outskirts of the city towards the countryside, penetrated by the 'sea' of the Brandenburg landscape.

Orientation Points

The energy forces arising from this are marked by three generic points of orientation. The railway station 'Gateway', the 'Emblem' and the 'Tornado' spread out to form an area, not only in the immediate vicinity of the existing city outskirts, but also integrated within the overall structure of Berlin. These three 'points of navigation' create a network of vectors and entrances, resulting in a gateway from Berlin to the planning area of Lichterfelde Sud. Like icons, the are easily recognisable landmarks to the passing motorists, train commuters, cyclists and pedestrians alike:

- The '*Emblem*', a green wedge, opens up a view of the Archipelago's attractive landscape to passing travellers. A gateway to the Archipelago and Berlin is thus created in Osdorfer Straâe. The *Emblem* is defined by the generic connection between green and urbanity.

- The '*Gateway*', an ensemble of various horizontal and vertical levels and directions in the railway station square, represents an unmistakable association between urban infrastructure and landscape for those arriving to and departing from the area.

- The '*Tornado*' gives the impression of living on a vertical island, and can be seen directly from three different directions. A vertical composition, it embodies a magnet for the vectors.

The collection of views between these three orientation points unite the island world of the archipelago and create a connection with the neighbouring city areas. The integration of the *thermometer* housing project connects to the areas west of the railway through the gateway and the station square which houses two higher buildings, as well as the arch of the green wedge into the district around the Woltmannsweg across Ostforder Straâe and beyond, integrating quite naturally the Archipelago's outskirts into the structure of Berlin as a whole. The *Tornado* fulfills its full potential when seen from a distance and marks a new entry to the city.

Every part of the area is integrated by the composition of the three elements, through which a generic self sufficient structure arises. In each of the three building phases this structure transfers its power of orientation and integration onto the various characteristics of the individual islands. It ensures quality and creates the possibility for the small and varying quarters to be home to diverse lifestyles.

The Archipelago composition and its formation in the vicinity of the countryside allows future residents the opportunity of experiencing the constant exchange between open landscapes and the complex nature of urbanity.

The individual islands of development can be adapted, appropriate to their location and requirements, to fit the city's changing needs. Various architectural expressions and a varied choice of buildings satisfy differing social individual needs, strengthening the area as an urban form. This also provides space for the most diverse forms of lifestyle, work and living conditions, to contribute to a new form of city boundary.

Defining the City

In the project, the outskirts of the city take on an organic relationship to the countryside. A clearly defined end to the construction is marked, but the city still remains permeable. City and countryside visually interweave to form a gateway open on both sides. Residential flows and landscape dovetail, optimising an urban balance with nature. The connection of the residential area bordering on the north to the landscape is achieved by the interplay of green wedges.

The concept takes into account varying landscape conditions to the greatest possible extent, further reflected by the variety of expression and construction in both the city and landscaped areas. Clear distinctions exist between private and public space, with public space expressed through the diverse characteristics of each of the islands and as defined by streets, squares and fields, all widely differing from each other, each with diverse individual patterns of orientation.

The variety of urban development and building typology also demands a comprehensively thought through spectrum of appropriate residential building ground plans. The development of living spaces along the railway line in the Dunes were proposed as a new and exciting low energy form. A more open form of construction in the south contrasts with the higher density in the north. Continued on page 8..

Urban NEIGHBOURHOODS

Sustaining whom or what?

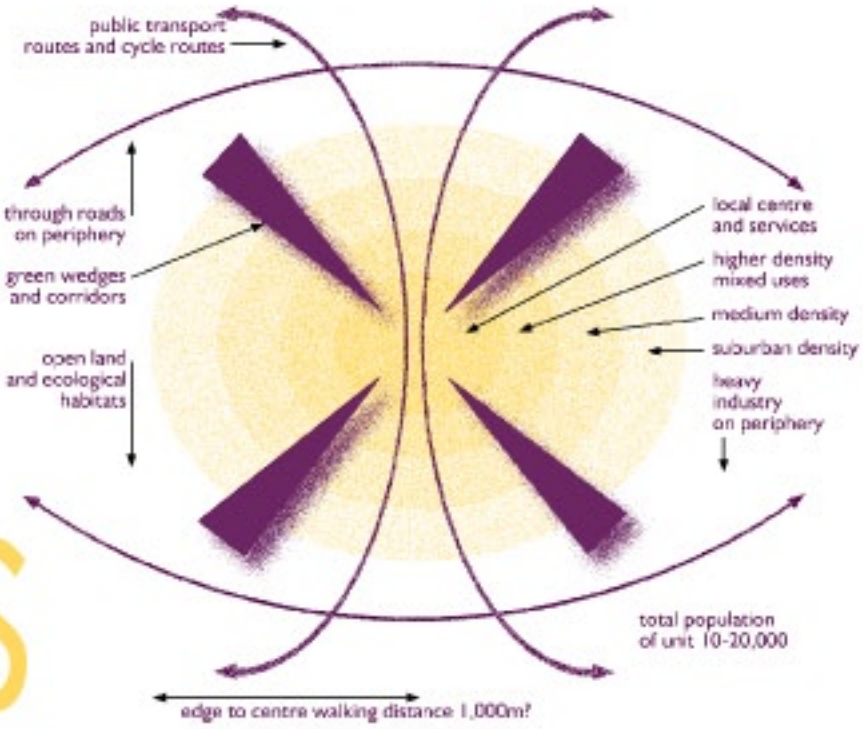


Figure 2 - Human scale neighbourhoods: Spatial model for pedestrian-based clustered development, based on Calthorpe 1994, Bolt 1995

Can urban neighbourhoods really be sustainable? It all depends what you mean by 'sustainable', or for that matter, 'neighbourhood' argues **Joe Ravetz** of Manchester University.

For urban developers, any kind of consumer-friendly building with a hint of green is 'sustainable' – a supermarket with a bottle bank in the car park. For scientists, anything which leads towards prevention of global eco-catastrophe is sustainable – but there is precious little that meets that standard. For people in the cities, anything which enhances quality of life might be 'sustainable' – it all depends on who you ask.

So a first question raised by the sustainable urban neighbourhood is – 'sustaining whom or what?'[1] Another might be, at the risk of being naive – 'what is a neighbourhood?' And a third question might be, how to unravel the endless complexity of cause and effect in physical and human systems, to bridge the gap between practical action on the ground and a viable long term future for cities as we know them?

Sustaining whom or what?

A 'sustainable neighbourhood' sounds wonderful, but there are many layers to be unpicked. Some of them are in the diagram below *(Fig 1)*. In reality each of these physical systems is not an end in itself, but is driven and regulated by human needs and demands and inextricably tangled in the linkages between social, economic and environmental spheres.

We therefore have to look for a balance and synergy between many goals. For instance a neighbourhood might be energy efficient but socially divided, or culturally rich but energy intensive: a holistic path looks for the 'win-win' actions which meet both social and environmental objectives.

There are two further sides to the argument – time and space. Few neighbourhoods have ever been static, and the future is likely to bring accelerating change. Neighbourhood location and structure can be seen as a manifestation of economic competition, territorial conflict and class struggle, and each neighbourhood type is a step on the housing and income ladder for individuals, households and communities.

In practice few of these physical or human systems really make sense at the neighbourhood level. Some neighbourhoods might appear to be overcrowded with high levels of crime and dependency – while social policy might see them as 'problems', an alternative view sees them as opportunities for lower income groups to pass through and establish a place in society[2]. Other more suburban neighbourhoods might lack local services, but likewise perform an essential social or economic role in the city-region.

For a wider view on the sustainability of neighbourhoods we have to look at the context – the 'social city-region' as a diverse and broad-based functional unit[3]. The first question is perhaps the huge growth in household numbers and their demand for space – 'where will the people go?'[4].

Local spatial systems

The challenge is to use this major demographic shift as the catalyst for restructuring urban form as suggested by the SUN Initiative. This centres on the dual themes of 'local viability' and 'human scale', where the optimum of local services and opportunities are available within walking distance[5]. It is also important to realise that the bulk of household growth is in smaller units, which have different needs to the standard housing industry 'product'.

> People will resist higher densities without compensating local services, but local services will not be viable without higher densities

The relationship of density, population size and accessibility can be charted to show a 'viability' threshold in the region of 10 000 persons/km² *(Fig 2)*. This contains a critical mass which can support local services such as secondary schools, within walking distance of most dwellings. However such densities may make it more difficult to meet modern standards and expectations for space in and around dwellings. We therefore have a chicken-and-egg situation – people will resist higher densities without compensating local services, but local services will not be viable without higher densities. To move beyond this impasse, we have to look for catalysts in development policy.

But how far could development policies help to restructure urban form over the next generation? The sample calculation below looks at the effect of 'best practice' policies over 25 years: this assumes for simplicity an even distribution of local centres and population in a continuous urban area, as found in our study of the Greater Manchester city-region *(Fig. 3)*. Such broad-scale policies might be: half of all new housing to be within 400m or easy walking distance of local centres, each serving 10-15000 population, at average net densities of 125 pph (20-25 dw/acre): and a further quarter of all new housing to be within 400-625m, or the current average distance from housing to local centres, at an average net density of 80 pph (15-20 dw/acre).

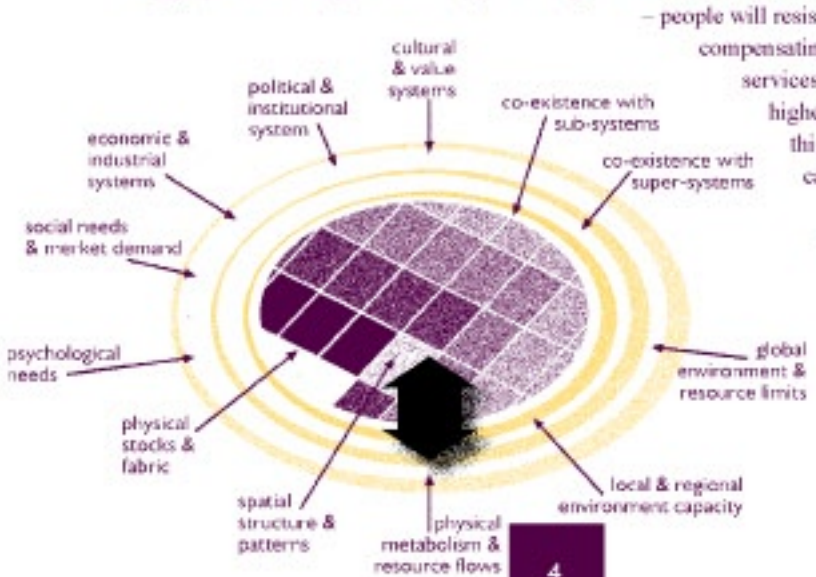


Figure 1: Sustainable Neighbourhoods: Outline of 'integrated assessment' analysis for sustainable development.

The results show that by 2020 nearly a third of the population could be within 400m or easy walking distance of local centres, and nearly 2/3 of the population will be within the current average 625m radius. At present such policies are rare in most local authorities, and there are many barriers to promoting them[6]. The Manchester *City Development Guide*, for example, suggests such standards, but making them work may need a greater focus on the vision for neighbourhood units'. One view would argue that 'housing capacity' is still seen as a problem of 'numbers and hectares', when the solution lies in a holistic vision for the consolidation of neighbourhood units and local services[8].

> by 2020 nearly a third of the population could be within 400m or easy walking distance of local centres

Local environmental systems:

The spatial pattern of neighbourhood units is clearly linked to transport demand – in simple terms, where local jobs and services are within easy distance, a proportion of local travel can be shifted to walking or cycling, and the clustering of people around public transport nodes increases its viability. But the studies which led to 'PPG13' stressed that density can be considered at various scales, from the city-region to the local unit, and that only if 'planning to reduce the need to travel' was applied throughout, could a reduction in car mileage of up to 20% be expected[9].

It also seems that local transport demand may be linked to social and economic factors as much as to urban form – the propensity of people to drive for short distances, to avoid the inconvenience of public transport, and to fulfil deep-rooted 'mobility desires' as well as 'travel needs'[10]. European studies confirm that socially 'acceptable' walking distances range from 200m to 1000m, depending on urban environmental quality[11]: and local studies show that public transport usage depends on perceived insecurity and contact with 'undesirables'[12]. This suggests that the 'solution' to sustainable local transport lies in environmental quality, integrated public services and a rebuilding of social cohesion, as much as changes to urban form.

For energy demand and supply, higher urban densities suit combined heat and power (CHP) systems, whose viability increases rapidly at above 40 dwellings per hectare (15dw/acre)[13]. At these densities, dwellings will be more frugal on internal area: they will abut each other, reducing the overall external wall ratio: and they provide shelter for localized micro-climates, further reducing energy demand in summer and winter. However the scope for passive solar conservatories is reduced by overshadowing at above 37-50 dw/ha (15-20 dw/acre).

The emerging solar photo-voltaic technology may be fully competitive within 25 years: however the theoretical potential will tend to reduce at densities above 50dw/ha (20 dw/acre). In general, improved supply infrastructure may conflict with reduced energy demand: the more buildings are converted to ultra-low or zero-energy performance, the less viable is any CHP or other localized supply[14]. Whilst local building efficiencies can be greatly improved, energy demand is projected to rise with growth in household numbers, domestic appliances, and standards of comfort[15]. One solution might be for the optimum balance of improvements to supply or demand to be tackled through a neighbourhood-based 'total energy' strategy and regeneration programme.

Food is also a significant source of energy demand. The net effect of transport demand, energy supply/demand, and food potential are shown very approximately in the chart *(Fig 4)*: this shows significant energy reductions for densities up to 25 pp/ha, and diminishing benefits after that. Higher densities can also enable other environmental services such as recycling, where 'bring' recycling banks can serve larger popula-

Figure 3 - Effects of density policies on urban form in Greater Manchester

Total population in built-up areas: Total urban area	2400,000: 55,000ha
Gross population density of urban area	44 pph
Mean density of local centres	1 / 275 ha or 1 / 2.75km²
Average spacing of local centres Average distance of population to local centres	1.6km 625m radius
Exg. Population within 400m of local centres Exg. Population within 625m of local centres	2,250 18% 6,250 50%
New housing development to 2020 (mid-estimate, including replacements)	220,000
New housing average per local centre	1,100 units 2,400 pop
Housing land required per local centre at current/proposed densities (50 / 125 pph net)	48 ha or 20ha
Housing land required for 1 / 2 of new housing Within 400m at proposed densities of 125pph net	10 ha per centre
Total proposed population & proportion within 400m of local centres	3,500 28%
Housing land required for 1 / 3 of new housing in 400-625m radius at proposed medium density of 80pph	10 ha per centre
Future population & proportion within 400-625m of Local centres	3,500 36%
Total proposed population & proportion within 625m of local centre	8,250pp 65%

General estimates assuming continuous gross urban density & distribution of local centres each serving 10-15,000 population. Source Ravetz 1996

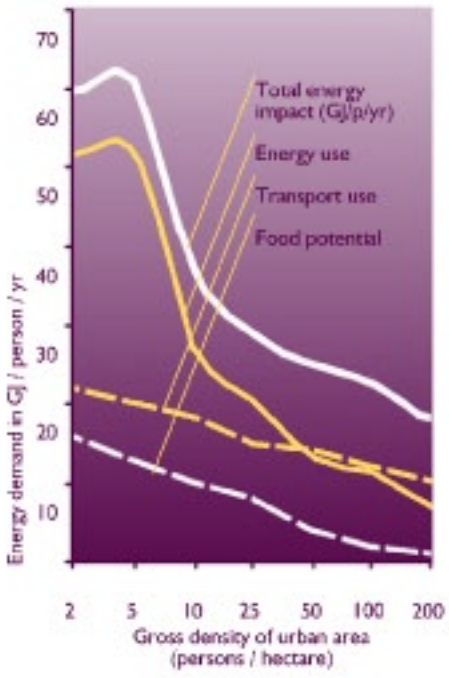
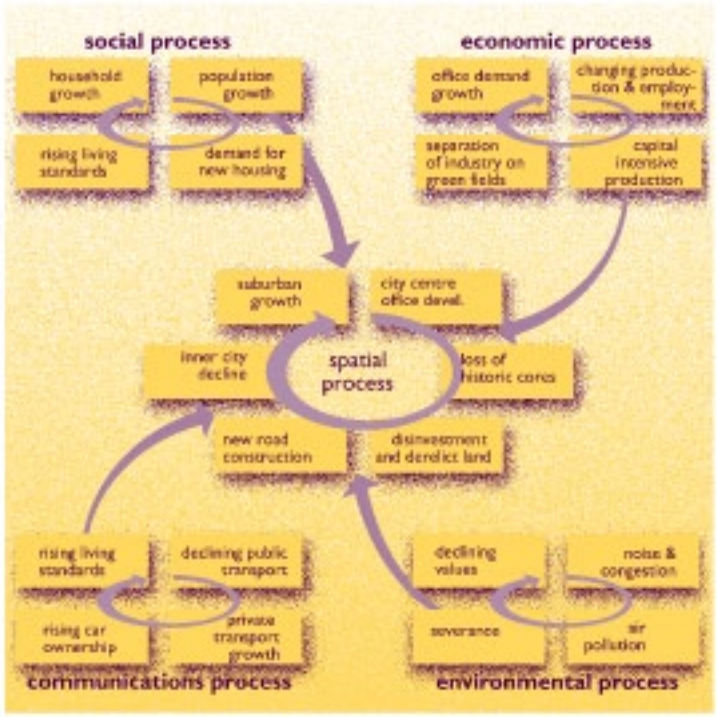
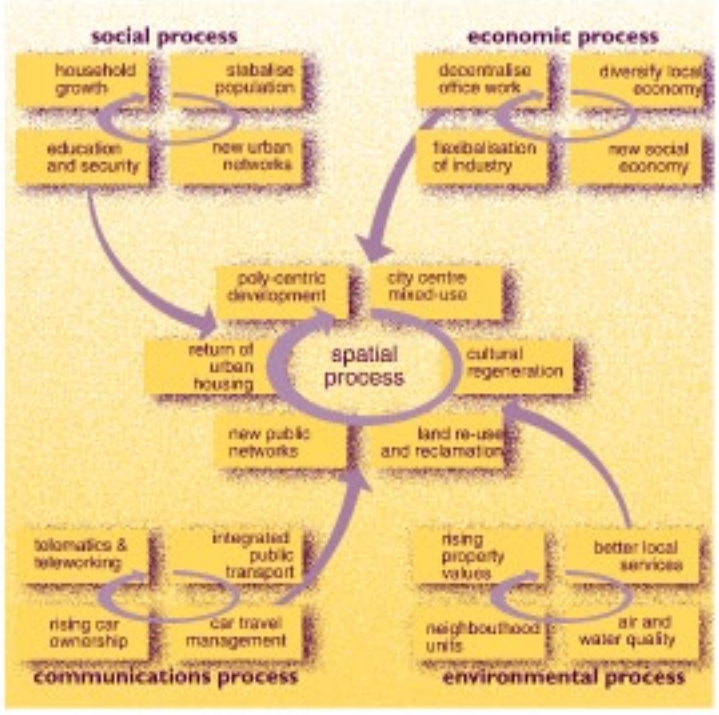


Figure 4 (left) - Density and total energy: Estimated average energy demand by urban density. Transport based on travel data & settlement analysis in UK cities and regions: Energy use based on solar and biomass potential, CHP potential and average building fabric losses: Food potential based on calorific value per unit open space in dwelling curtilage. Source ECOTEC 1993, Owens & Cope 1995

Figure 6 (right) - Cycle of ex-urbanisation: Adapted from CEC 1990

Figure 7 (below right) - Cycle of re-urbanisation: Adapted from CEC 1990





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tions, and street runs are more economic. Higher densities may hinder the storage and re-use of furniture and equipment, leading to greater consumption: shared storage and workshop space could overcome this, depending on social cohesion and trading networks.

In summary, 'sustainable' neighbourhood forms for reducing total energy demand appear to require optimum net densities of 80-100 pph or 35-50 dwellings per hectare (15-20 dw/acre), dependent on orientation, design and layout. Reducing the 'ecological footprint' of a neighbourhood depends on actions for the supply, demand and infrastructure sides at the city-region or national level, and a full picture of local environmental metabolism has to consider both direct and indirect effects[16].

Neighbourhood economy

There is clearly some kind of 'sustainable' balance between economic activity and dependency: a threshold defined in Greater Manchester draws a line at one third of households in dependency, and on that basis over half the city would be 'unsustainable'[17]. Poverty itself is a complex and contested definition – for instance 'households without a car' features in many indices of deprivation, but might also be taken as an indicator of environmental sustainability[18]. An active 'third sector' or social economy can also alleviate material deprivation through mutual aid and non-monetary trading[19]. However if widespread poverty implies a socially unsustainable neighbourhood, widespread affluence suggests environmental unsustainability.

Property values are a rough indicator of the stability and viability of any neighbourhood. Level or slowly rising values provide a base for re-investment in the local physical fabric: but rapidly rising values may indicate displacement of native communities and businesses through accelerated re-urbanization. Falling values indicate dis-investment and decline, leading to fragmentation of social networks and businesses.

As any local economy is vulnerable to global pressures, diversity is the key to longer term robustness and adaptability to change – both diversity in sectors, and in skills and occupations.

Figure 5 - Sustainable communities: Outline of cultural diversity & social cohesion relationships, with generalized examples. Source

The highly geared service sector suburbs are perhaps as vulnerable as former neighbourhoods dependent on single industries. But the inexorable restructuring of the global economy can also enable the diversification of local economies around a new generation of tertiary services, personal services and craft industries.

Neighbourhood communities

And what of the people in the SUN? Their livelihood and quality of life rests on a combina-tion of cultural, social, psychological, economic and environmental needs. Where these are unfulfilled, conflict and tension are spread through the social system, of the household, neighbourhood, city or any other unit. Perhaps two qualities underly the problems and opportunities for social 'sustainability' in any neighbourhood *(Fig 5)*:

- **cohesion** – linkages and networks, mutual support, and capacity for self-help and innovation, within and between communities
- **diversity** – mixing of cultures and communities, with interactions based on mutual co-existence (as with ecological 'biodiversity')

In practice, cohesive neighbourhoods can be exclusive and intolerant, and diverse communities can be divided and lack cohesion. The ideal of the SUN is easily tarnished by the reality of social polarization, which reduces both cohesion and diversity in any neighbourhood. So while public policy cannot expect to change human nature, there is a strong case for a 'normalization' app-roach to many areas of social strategy and public services with the aim being to achieve balanced and diverse communities. Meanwhile special interest groups should be enabled to create cohesive living and working environments, through housing cooperatives and managed workspace[20].

Looking beyond the effects of physical urban form, if we ask why and where do people move, the first answers are 'good schools and safe streets'[21]. In education, both state and independent systems encourage social polarization by offering 'choice' to families and communities, and so local house prices reflect local school ratings.

For the safer streets which are crucial to re-urbanization, crime prevention includes physical, economic and social factors. Neighbourhood design for security seeks to create layers of 'defensible space' and encourages public prese-nces on the street. Only a long term neighbourhood strategy can rebuild a positive social struc-ture at street level. An economic response looks at income disparity as a prime factor in property crime, and a social response looks at exclusion and alienation as a prime factor in violent and 'impulsive' crime or disorder: with both hinging on social cohesion and diversity.

Neighbourhood politics

To achieve the physical, economic and social objectives above, political power and management capacity has to be devolved to the neighbourhood level as far as possible. This results in greater effectiveness in the 'product' of local services and resources: and greater empowerment through the 'process' of local decision-making.

Countless practical actions depend on localized cooperation and coordination – use of vacant land, recycling and re-use, traffic calming, sharing of cars & household equipment, local trading schemes, social provision such as child-care and many others. But the political representation of 'local communities' is often a minority, overtaken by the wider networks of a globalizing economy – local 'nimby' interests can be defensive or exclusive, as much as innovative or altruistic.

Where township or neighbourhood councils or forums are effective, they generally rest on a common interest, access to resources, legitimation of authority, and appropriate structures: these are the requirements for a new generation of local bodies[22]. Truly representative local democracy has to start from the diversity of public perceptions, needs and opportunities. Such a package can then evolve over time to match local needs and resources with inward investment and local regeneration programmes.

> if sustainable neighbourhoods are so great, why are they so difficult to achieve?

Barriers to sustainable neighbourhoods

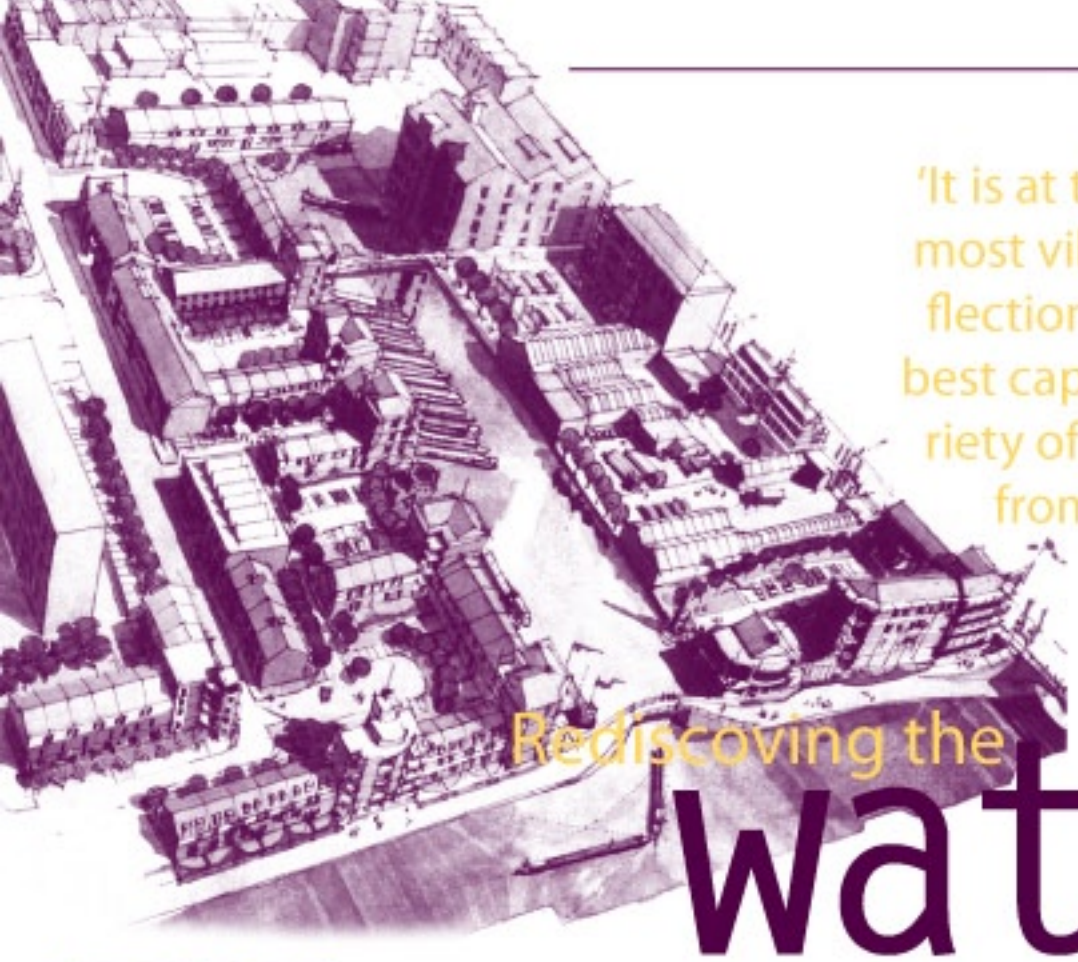
The final question is perhaps the hardest – if sustainable neighbourhoods are so great, why are they so difficult to achieve? The balance of forces which should create and maintain the SUN needs to be resilient to destabilizing pressures, but at present the 'sustainable' friendly corner shop can be destroyed overnight by an out-of-town super-market.

Again we have to look beyond the neighbourhood unit at the compounding of social, economic and environmental pressures and trends across the city-region *(Fig 6 and 7)*. Physical restructuring results in a 'low-entropy' jumble of urban form, while local centres are degraded by traffic, and the city continues to 'hollow out'. Car ownership brings status in contrast to public transport, while longer journeys are encouraged by specialization in jobs and services. For environmental systems such as energy, falling prices make investment in renewables more difficult, and market uncertainty hinders CHP development.

Economic restructuring brings decentralization of production, specialization of labour and employment markets, economies of scale in public services, and the pressures for large-scale and single-use property development. Social restructuring results in polarization of commun-ities, demand for space and territory, fragmentation of kinship networks, and consumer choice in services and leisure.

These barriers, and many more, appear to be endemic in the urban restructuring process. So the challenge is to match the pressure of globalization with the opportunity for localized human-scale development – a shift from 'quantity' of space, mobility and goods, to 'quality' of life and community. This requires a reversal of the above 'vicious circle' of comp-ounded trends towards a 'virtuous circle'. To be long lasting and adaptable – in other words, 'sustainable' – SUN models also need to be directions for change and evolution rather than fixed blueprints.

Joe Ravetz is researcher based at the University of Manchester. His book on the 2020 project has recently been published on Earthscan



'It is at the edge that man is at his best, that life is most vibrant. It is the lure of water, its spell, its reflection, its endless movement and change, that best captures man's imagination and provide a variety of applications from business to recreation, from calm to passive activities, the water's edge is where life is

Rediscoving the waterfront

In 1979 and 1989 URBED undertook surveys of waterfront development in the UK. It therefore seemed only right that we should do the same. The result is the 'Urban Waterfront' research projecy which will give a unique insight into 30 years of waterfront development in the UK. **Nicholas Falk** and **Kieran Yates** reviews work in progress.

Whereas continental cities such as Hamburg and Amsterdam have always treated their waterfront as part of the city's heart and soul, until quite recently British towns turned their backs on their waterfronts. Though most British towns and cities grew up alongside canals, rivers and docks these waterfronts were dominated by industry and became forgotten or even dangerous 'no go' areas symbolised in films like *'On The Water-front' or* the *'Long Good Friday'*.

A 1989 URBED survey sponsored by the Royal Town Planning Institute found a very different picture. The magic of the urban waterfront had been discovered, often inspired by well publicised projects in Boston, Baltimore, and other US cities. Many more projects were underway and interest had spread to inland waterways including major schemes in cities such as Birmingham and Gloucester, as well as many smaller schemes that never received much publicity. Over 90 schemes were identified, 63 of which were on rivers, 27 on canals with the balance on ports and harbours. While the schemes included every imaginable use, genuinely mixed-schemes were disappointingly rare. Housing for sale was the predominant use in 30 schemes and a further 16 included an element of housing. A smaller number of schemes included leisure and recreation although retail and car parking was also common. In hindsight this activity on the waterfronts of 1980s was the origin of many of the regeneration ideas which have dominated urban policy since then.

While these waterfront schemes may have been inspired by American, the lessons were not always learnt which sometimes led to disappointment. It is important to remember that these US waterfront schemes were part of a wider movement to celebrate the downtown and urban values, walkability and sense of place.

Less inspiration has been drawn from Europe although the lessons there may in fact be more relevant. Waterfront schemes in Europe have been successful in encouraging people to live in city centres and in sustaining a livelier street life. Indeed some of the liveliest waterfronts are not in the US but in cities like Stockholm, Venice, and Istanbul that are bustling with boats.

As Azeo Torre in his book *Waterfront Development* suggests successful developments, whether they be in the US or Europe have a number of things in common – image, authenticity, and function. They have created a mix of uses which does not feel artificial and have generated a life of their own rather than being purely a visitor experience. Yet successful schemes must also engage the public because, as he says 'it will be their attachment to and attendance at the development that will allow it to live or die'.

After twenty years it is clear that the potential of waterfronts is enormous. The initial battle may have been won but achieving high quality schemes which meet Torre's test of image, authenticity, and function remains difficult. Information on best practice remains patchy and difficult to disentangle from the hype that inevitably accompanies schemes. Much publicised projects such as Newcastle's Quayside or Birmingham's Brindley Place may be inspiring but hardly provide models for the many smaller towns that are now trying to regenerate their waterfronts

Waterfront development, like urban regeneration generally, is most effective when it is done gradually rather like creating a garden. It is relatively easy to sweep away the past for comprehensive development but the results can often lack soul and identity. Investors and planners need to understand how areas evolve and how different uses establish themselves in a kind of ecological succession, with for example, artists often acting as pioneers. This means taking a balanced perspective, and understanding the role of communities and local authorities, as well as that of the private developer and investors.

Planning has a crucial role in securing the best in waterfront development through an understanding of area needs and character through the use of development briefs, consultation and planning requirements. While no one waterside site is the same and should be approached afresh, fundamental aspects of successful waterfront development are suprisingly universal. Four major waterfront typologies have been identified:

- **Landmark** - Portsmouth millenium tower
- **Quarter** - Castlefield, Manchester
- **Linear** - Mile End Park strategy, London
- **Local** - Merton Abbey Mills, London

Urban design principles can be utilised to interpret and codify aspects of successful development.By using urban quality criteria comparative assessment within each waterfront catergory can be achieved and lessons for success or otherwise ascertained.

Delivering sustainable urbanism is the key to the revival of our towns and cities, waterfronts have and will continue to be at the forefront of change.

The Urban Waterfront project is sponsored by English Partnerships along with King Sturge, Crest Homes and British Waterways

Waterfront urban quality criteria

Spirit of Place
- Positive relationship established with body of water
- Buildings and spaces assert a clear role and function
- Vitality and viability achieved from appropriate mix of uses and public realm quality

Integration to Context
- Connections and linkages to wider urban area established
- Socio-economic circumstances, local culture and heritage acknowledged
- Public access and usage opportunities

Resourcefulness
- Waterside ecology and water quality protected or enhanced
- Opportunities for innovative and active water uses
- Development makes optimal use of site and intrinsic assets including re-use of buildings

Melbourne Docklands, Australia: A successful property led regeneration initiative achelved without the support of public funds but also without the input of the public. A partial model for UK urban waterside rennaisance?

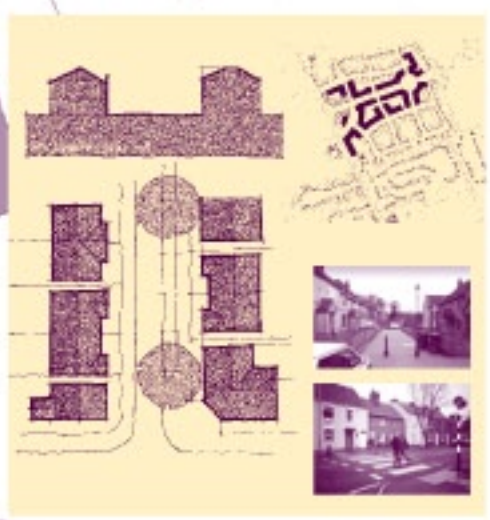
Simply Slim

Kieran Yates looks at the winner of the Ideal Home Show Concept House competition

What is your idea of the 'ideal home'? This question posed by the RIBA Concept House 99 competition sought to reinvent the English terraced house. The winning entry built for this years Ideal Home Show will be the first to offer an urban vision of the future, but have they got it right? Slim House by Pierre d'Avoine Architects updates the terraced house for the next century, offering flexible and attrac-tive accommodation for a range of potential households. It is ingenious in that the building footprint makes total use of the available site, integrating what is often the forlorn front garden and backyard into two internal courtyards. From here on in is new territory; the main body of the house separate to the façade of the property, creates in effect a vertical garden, the building then starts with a conventional two storey block with single storey to the rear, in doing so a continuous roof platform is created over and above living accommodation. The outcome is both private and social, compact and spacious, yet what could the implications of this form of housing be in terms of neighbourhood character? Slim House presents well articulated interior space yet curiously chooses to ignore the street. The vertical steel façade offers a striking face, but one might question its desirability.

Streets are crucial aspects of urban life and are an intrinsic aspect of neighbourhood convivi-ality and liveability. Interaction between buildings and the street is an urban fundamental and is ignored at the urbanists' peril. It is the quality of urban spaces, such as local streets that define the character of the neighbourhood, however it is the buildings that frame the street scene and not the street itself. The investigation of the potential of urban housing is positive and a welcome shift from semi-detached thinking. Slim House goes a long way in making dense housing an attractive and viable proposition, could Slim become Sublime?

Rather than developing a master plan the brief was based upon a very basic indicative layout and a series of guidelines for each type of street (below right). Only once this had been done was an indicative layout (main illustration) done to show how it could develop.



Long Leys

a village in the city

The local plan for Lincoln identifies two urban villages. The smaller of the two involves the redevelopment of a hospital. David Rudlin describes the development of a brief for the site which explores a gentler form of urbanism.

Despite the fact that St. George's Hospital lies only a mile or so from Lincoln City Centre it is surrounded by countryside. Originally built as an isolation hospital the site sits within one of the green wedges which penetrate into the very heart of the city. When one of the two NHS Trusts on the site declared the land surplus to requirements the City Council saw an ideal opportunity to promote the site and the adjacent housing and industrial areas as an urban village.

However allocating the site as an urban village is one thing, implementing it when a sale agreement has already been reached with a private developer, quite another. This is particularly true when the land currently available for development is just a small part of the urban village identified by the council.

We have therefore been working with council officers and local people through a mini design *Charette* in Lincoln to develop a brief for the site. This has drawn upon the Duaney Plater-Zyberk model by developing a very simple structure of blocks and streets for the site. Different character areas were then identified which were set out on, what DPZ would call, a regulatory plan (inset plan). For each of these character areas guidance was developed in the form of a typical street plan and section and a set of critical dimensions. The example shows the Compact Urban character area, the others being the village centre and fringe residential.

The guidance for each of these areas was based upon tissue analysis of exemplar areas in Lincoln including both traditional areas and new development. This helped to ensure that the scheme had a local character as well as being useful in illustrating the nature of each area and proving to developers that they were viable. Once this had been done an illustrative layout was done for the site (main plan) although this was only intended to show how it could look rather than to be a master plan.

The nature of the site meant that we were not looking at a the sort of high density mixed-use urban village that you might find in a city centre. However we were able to increase the number of units on the site from 169 to 224 (only 19 of these additional units were flats). This was achieved by increasing gross densities from 20 to 27 units to the hectare (from 8 to 11/acre). This meant that we achieved a 32% increase in housing and yet only increased the length of road and infrastructure by 17%. The village centre was additional to these figures. Here densities were further increased to 35 units/hectare (14 units/acre). This accommodated another 69 units giving a total site yield of 293 units.

The scheme shows that new forms of urban development need not be radical. The scheme gently increases densities and creates a sense of identity on traditional streets while still producing a viable scheme using the sort of housing that developers desire.

At the time of going to press the brief is out to consultation and will be considered by committee in March. Contact: Steve Kemp, Lincoln City Council, 01522 01522 email dplan@lincoln.gov.uk

Continued from page 3..

The accommodation of vehicles in an underground car park along the northern denser area is seen in contrast to the decentralised concept of dispersed open parking in each of the residential islands. A pedestrian network connects all of the residential islands, enabling residents to enjoy the qualities of the open landscape.

Creating an Urban 'Coastline'

The creation of many islands maximises the urban 'coastline' to nature, thus facilitating immediate access to the country for future residents. In order to protect the natural landscape and maintain its original character, the islands will be laid out and built as compact city areas in such a way that they appear as city fragments in the existing landscape. Each island develops its own individual character and identity while at the same time being integrated into the collective of the Archipelago's island world as a whole.

This island arrangement, along with the three orientation points – the Gateway, Emblem and Tornado – allow for freedom of development. The heterogenous nature of the islands can only further gain in character through such a process. The urban development concept can also be realised over a longer period of time, without the whole concept being compromised, and through its physical and visual variety it is also expected to attract good market values.

The city outskirts not only mean the dispersion and thinning of the masses, but also the slowing of time, expressed visually in an appropriate area whose character is defined by departure and arrival. In this way, the planning area Lichterfelde Sud proves itself to be one of Berlin's most significant topogrophies, as well as being a paradigm of Berlin's city boundary. The light and progressive nature of this outlying development negates the need to draw on the reductional, the historical and on the nostalgic, which have in the past defined the outskirts as the end of the city alone: 'Visible Cities' are experiencing a rebirth, their driving force being on the city outskirts.

This article was edited and translated by Wendy James from Studio Libeskind. Their work currently includes a proposal for the second Millennium Community at Allerton Bywater (to which URBED has contributed through the SUN Initiative), the Imperial War Museum for the North at Trafford, and the extension to the Victoria and Albert Museum in London.

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SUN directory

SUN Dail is now entering its third year and is establishing a substantial back catalogue of articles. We list below the articles that have appeared in SUN Dial and would be happy to send copies out to people who are interested. SUN Dial 1 and 4 are now our of print but copies of the articles are still available.

SUNDial 1 Summer 1996
- Introducing the SUN Initiative
- New Urban Models: traditional principles

SUNDial 2 Autumn 1996
- Environmental Sustainability and the Urban Neighbourhood
- The role of Community Heating: Michael King Combined Heat & Power Association
- Homes for Change: SUN demonstration project
- From Neighbourhoods to City Regions: Strategies for the future Joe Ravetz Manchester University

SUNDial 3 Spring 1997
- Ensuring lasting solutions: Social sustainability and the urban neighbourhood
- The decline of the family and the Sustainable Urban Neighbourhood
- Stemming the tide: the Five Estates in Peckham Simon Bevan, Southwark Council

SUNDial 4 Summer 1997
- Model neighbourhoods - SUN principles
- The model sustainable urban neighbourhood?
- Live-Work: Bringing work home
- Advanced Technology Housing Marcus Wilshere, Avery Associates
- Bicycling and the multiple main street model Richard Rosenburg - Los Angeles

SUNDial 5 Autumn 1997
- Managing gridlock: a sustainable transport policy
- Could housing co-operatives have the answer? Andy Hansford, Homes for Change Co-op
- Living over the shop Ann Petrenoli, University of York

SUNDial 6 Summer 1997
- The eco-neighbourhood: a brief for a sustainable urban neighbourhood
- Foyers: One in every town?
- City Life, City Limits: Town centre living Dr Nicholas Falk
- Re-cycling: no longer a middle class fad Keith Collins, London Pride WasteAction Programme
- Urban mines: Sustainable growth park James Horne, Urban Mines Ltd

SUNDial 6 Summer 1997
- Urban Autonomy: Is the autonomous urban neighbourhood possible?
- Green Frame Gordon Snape, North British Housing Association
- LETS Systems: Design and development issues Rob Squires
- What shapes urban attitudes Dr Gary Bridge, School of Policy Studies, Bristol University
- Tomorrow: a peaceful path to urban reform A summary of URBED's report on urban housing capacity for Friends of the Earth

Uncredited articles written by David Rudlin, Nick Dodd or Kieran Yates

Building the 21st century home: The sustainable urban neighbourhood – David Rudlin & Nicholas Falk

Over the last three years we have been working on a book which explores the issues behind the sustainable urban neighbourhood. It is written in three parts. The first charts the fall from grace of cities and how public policy, however well intentioned, has made things worse. The second part then looks at the forces for change which are gathering at the turn of the millennium and how demographic, environmental, social and economic change will shape future settlements. Part three then describes a vision for the Sustainable Urban Neighbourhood as a model to reinvent towns and cities. This is not just a physical model and chapters are devoted to the social sustainability of neighbourhoods, to environmental urban design and the process by which change can be bought about.

In the book we quote Lewis Mumford when he wrote 'if we would lay a new foundation for urban life we must understand the historic nature of the city. It is our hope that we do this and that the book will help to reveal some of the deeper currents behind the froth and bubble of the current debate over cities and urban areas.

Published by: The Architectural Press 1999
Price: £19.99
Available from: 'All good bookshops'
ISBN: 0 7506 25287

Ferensway in Hull: A submission by Amec for a 23 acre site on the edge of Hull which includes a mix of retail, leisure and high density residential development. The scheme was master planned by Shyam Khandaker who provided a framework for a series of local architects. The scheme incorporates advanced environmental specifications including wind turboines and photo-voltaic cells.

The Sustainable Urban Neighbourhood Initiative is managed by URBED and funded by a range of sponsors. The Autonomous urban development project is funded by BRECSU administered by the Building Research Establishment and the European Union's ALTENER Fund.

The SUN Project is managed from URBED's Manchester office by David Rudlin, Kieran Yates, Nick Dodd and Helene Rudlin.

The views expressed in this newsletter are those of the authors and do not necessarily represent those of the project's sponsors

This news sheet has been researched, written (unless otherwise credited) and designed by URBED which is a not for profit urban regeneration consultancy set up in 1976 to devise imaginative solutions to the problems of regenerating run down areas. URBED's services include consultancy, project management, urban design and economic development. The SUN Initiative further develops URBED's involvement in housing development and continues the work of the 21st Century homes project.

Why NOT get involved?

The SUN Initiative has been established as a broadly based network of organisations and individuals interested in the sustainable urban development. We do not have a membership but if you do not normally receive this newsletter please contact us and we will add you to our mailing list.

ENGLISH PARTNERSHIPS

This edition of SUN Dial has been sponsored by English Partnerships

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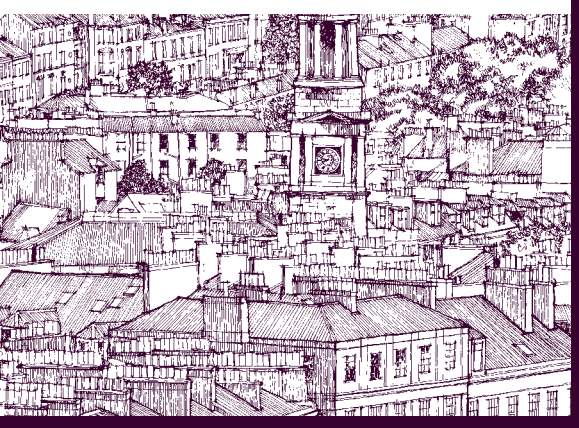
ISSUE NINE 1999

This special issue of SUN Dial has been published to coincide with *My Kind of Town...?* a consultative symposium that is an initiative of the Building Centre Trust. The symposium will bring together leading experts to discuss how to attract people to live in urban areas following the publication of the Urban Task Force findings and the agenda is designed to produce recommendations for the Urban White Paper. The symposium will be chaired by Will Hutton editor of the Observer and Nick Raynsford will be responding to feedback from the discussion groups. By way of briefing we publish here an article by Nicholas Falk of URBED responding to the Task Force report and setting out some of the key issues to be addressed at the symposium.

The event takes place in London on Tuesday 2nd November 1999, and attendance is by invitation. For further details please contact Debra King on 0171 692 6209.



the Sustainable URBAN NEIGHBOURHOOD Initiative

Welcome to the NINTH issue of SUN DIAL, the journal of the Sustainable Urban Neighbourhood Initiative. This is the second issue to be sponsored by English Partnerships and it is themed around issues raised by the Urban Task Force. In our lead article Dr. Nicholas Falk discusses some of these issues while inside we feature an article on the urban renaissance of that most suburban of American cities Los Angeles. Bill Hillier describes important research into the effect of urban layouts on burglaries while Mike Biddulph describes the idea of Home Zones. We also look at research from Oxford Brookes University on mixed-use main streets and the role of car share schemes in reducing car use. All issues that contribute to our understanding of how to make urban areas more attractive as places to live and work.

urbed

INSIDE

Towards an Urban renaissance

When the Urban Task Force report was launched Manchester it was illustrated by this scheme which is being developed by Ician – a joint venture between AMEC and Crosby Homes. The scheme, which includes 260 residential units, is the epitome of the high-density mixed-use development envisaged in the report. Working with the SUN Initiative, Ician are also seeking to incorporate state-of-the-art environmental specifications and technology into the scheme.

The publication of the Urban Task Force's report in June is an important step in developing a new urban policy, which will be set out in a White Paper later this year. **Dr. Nicholas Falk** of URBED reviews the report and highlights some of the issues that need to be addressed.

'How can we improve the quality of both our towns and countryside while at the same time providing homes for almost 4 million additional households in England over a 25 year period?' This challenging question marks the start of Lord Rogers introduction to *Towards an Urban Renaissance,* and could be the key issue for the next century. For the last couple of decades British policy has been largely shaped by US models, by a focus on the inner city areas that were developed in the 19th century, and an objective of encouraging private development and job creation. Now there is a welcome emphasis on looking to the Continent for inspiration. Other ideas include addressing the wider city or region, using quality design to change attitudes, providing fiscal incentives rather than relying on grants to secure private investment, and developing new housing to promote an 'urban renaissance'.

At URBED we were pleased to be involved as advisors to the Task Force and to see that many radical ideas have survived the consensus finding process. The report reinforces the conclusions set out by myself and David Rudlin in our book *Building the 21st Century Home* that the government's objective of building the majority (60%) of the anticipated new housing on brownfield land simply will not happen without changes in policy to overcome the constraints. Planning by itself is too weak a mechanism to overcome market failure on a grand scale.

Yet the report will inevitable be greeted with cynicism by those who say cities are beyond redemption, or that architects are the problem not the solution. The debacle over the Greenwich Millennium Village, and the apparent failure of the new housing to mix tenures or apply modern construction methods, will be used to show the folly of relying on demonstration projects. The report will be attacked by all the special interests who feel left out, including no doubt those concerned with education and the social services, or with economic development and training.

A great deal depends on whether the necessary climate of support can be generated to secure the radical changes needed to 'turn the tide'. The Italian renaissance, after all, would not have been possible without a series of champions for the arts, and a financial system that ploughed trading profits into city building. Unfortunately the trends do not, at first, appear promising. A decreasing minority live in cities, and people are said to be deserting the North, which has the greatest stock of redundant land. The financial institutions who dominate investment have the world to choose from. Even the richest UK regions lag far behind comparable European areas. Outside a narrow area that stretches between Warwick and Southampton, Cambridge and Swindon, the rate of innovation in industry is depressingly low, and with it the capacity to generate the wealth needed to rebuild our cities.

A great deal depends on whether the necessary climate of support can be generated to secure the radical changes needed to 'turn the tide'

Continued page 2 ▶

Furthermore, despite the Task Force's enthusiasm for cities like Barcelona and Amsterdam, the examples of success are still far outweighed by the publicity given to failure. US trends, highlighted in Joel Garreau's influential book *Edge City*[1], are brought home by recent census data. They show that even though the US economy has been booming, and creating jobs at a record rate, the older cities are still declining. (Baltimore for example lost 3.9% of its population between 1996 and 1998, while the new suburbs continue to grow, just as they seem to do in Britain[2]. Unless there is a new confidence that investing in urban regeneration can be made to pay, the Task Force report will join all the others on the shelf.

Yet all is not gloom. The Task Force could have made more of the British urban success stories. They include the resurrection of Glasgow's Merchant City and the doubling of population in Edinburgh's Old Town. House-builders in Manchester's once-notorious Hulme district are now achieving such high values that they are unable to claim grants. The cultural industries quarter in Sheffield with its thousands of creative workers helps attract students to the city, and loft living is now possible on the rediscovered River Don. Birmingham city centre is now known as an international meeting place rather than for its concrete ring road and city centres such as Leeds, Newcastle and Bristol are booming. Could it be that the tide is at last turning?

In conclusion - the well-argued and stimulating report of the Urban Task Force rightly deserves to be on the agenda of every public agency. An urban renaissance is within our grasp, but only if we will the means as well as the ends. Governments tend to follow not to lead. Hence it is the responsibility of all who care about the future of our civilisation to ensure that on the trickier aspects of their proposals, work is done to turn the vision into reality. I set out in the attached box my thoughts on six of these; better buildings, safer streets, rapid transit, area management, flexible funding, and working cities.

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1 *Joel Garreau Edge City:* Life on the new frontier - Anchor Books - 1988
2 *America transformed by siren call of sunbelt suburbs*, Guardian 3/7/99

Issues raised by the Task Force Report

Better buildings: There is little point promoting the virtues of building housing on brownfield land, if new housing is no better than that which is already available. The Task Force talks about 'Long-life, loose-fit, low-energy buildings', and raises the issue of whether there should be minimum space standards. There is a need to spend more on the house and less on the land and infrastructure, as other European countries do and to use the mortgage valuation system to encourage better practice. Surely a house that costs less to run should be worth far more in the future?

Urban lifestyles: One of the main reasons for people continuing to desert urban areas is fear, and the poor reputation that many urban areas have. The Task Force talks about urban design being used to create attractive places, but it can take a generation to change these perceptions. Many areas are effectively 'redlined', and do not offer enough in the way of benefits to overcome the risks for both occupiers and investors. Our research for the Task Force in *But Would You Live There?* suggested that attitudes can be changed through targeted marketing. However we also need the means to celebrate and reward success, as cities such as Glasgow and Barcelona have done.

Rapid transit: The environment of urban areas is being spoilt by traffic congestion, and public transport generally does not present an attractive alternative to the public car. The Task Force proposes reducing parking provision and improving the alternatives, including walking and cycling, and refers to Dutch experience in particular. But without a means of financing a reliable high-quality system that matches continental standards, those with jobs and money to spend will continue to use their cars. This must go hand in hand with discussions about dense walkable neighbourhoods if urban areas are to be revived.

The skills for the job: Neither local authorities or private developers are seen as having the capacity to regenerate urban areas on their own and various types of agency have been tried, including Urban Development Corporations and partnership companies to manage Single Regeneration Project programmes. The Task Force call for local authorities to take the lead, and it also recommends the setting up of Regional Resource Centres. Yet both planning and architectural education are losing popularity and there would seem to be a case for producing a cadre of 'urbanists', with the kind of prestige that MBAs have given to management training. Their role would be to co-ordinate efforts on the 'front line' and cut across sectoral divisions.

Flexible funding: No one expects government any longer to provide all the funding, but someone has to tip the balance in areas that have been declining. The Task Force points out that most countries (though not intriguingly Holland) have a much higher proportion of funding raised locally, and are much less dependant on a centralised private financial system. The Task Force has accepted that fiscal incentives are needed to encourage a new breed of developers and also to encourage occupiers to move into what are currently marginal areas. However the Treasury prefers to maintain control over how money is spent on a year by year basis, and has never been convinced that urban regeneration makes economic sense. The Task Force is to be congratulated for providing a range of alternatives, drawing on work by KPMG. The designation of Urban Priority Areas through which efforts are to be

Allerton BYWATER

Dreams of village life

Earlier this year the SUN Initiative was part of the Libeskind consortium which was a runner up for the second Millennium Village near Leeds. **David Rudlin** explains some of the thinking that went into the scheme

The turn of a Century is a time to look to the future, to question received wisdom and to ask whether things can be done differently and done better. This is what the Garden City pioneers did a hundred years ago through developments like New Earswick in York and it is what we tried to do in Allerton Bywater.

WHY NEW MODELS ARE NEEDED

Change for its own sake is of no value. However in the UK we have become so fearful of repeating past mistakes that we have stifled innovation and allowed housing design to become out of step with the needs of a changing society. The design of housing and the planning of settlements needs to evolve in response to these pressures:-

Demographic change: Just as the garden city was a response to the emergence of the nuclear family, new settlements forms are needed to cater for a much broader range of housetypes.

Economic change: Allerton Bywater grew up around the pit which offered 'job for life'. Such employers are a thing of the past. The future lies with new ways of working, micro business, self-employment, information technology and networking. Our aim was to develop a learning community able to embrace these changes.

Social change: The community bonds of village life survived the closure of the pit but may not last forever. We sought new ways to sustain a mixed community with a strong identity and pride.

Environmental change: Dominated by the pit and surrounded by power stations, Allerton Bywater was a product of the coal age. In a future of scarce resources Allerton Bywater should have a new role as a model of sustainability and for the economic opportunities that this heralds.

A MODEL FOR THE FUTURE

Despite these trends most new housing differs little from that of a hundred years ago. There are many who are currently questioning this and models like the Urban Village are being promoted for towns and cities but what of other areas? What of brownfield sites in villages like Allerton Bywater and other coalfields? It would be as inappropriate to export the city to Allerton Bywater as it was to impose the suburb on urban areas. We need new models that can respond to demographic, economic, social and environmental change but which are appropriate for villages and smaller settlement. This is what the Libeskind consortium sough to achieve. The aim was to generate new physical forms to respond to the changing nature of the community.

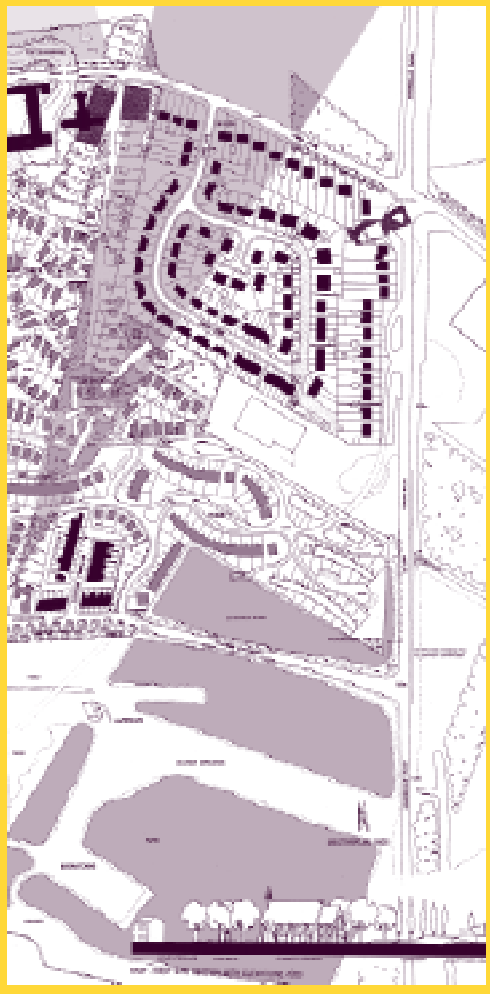
THE SCHEME CONCEPT

There was a number of challenges facing the teams bidding for Allerton Bywater. The greatest was how to build a settlement over a short period in a market which had traditionally taken up less than 30 new houses a year. This was possible if the new housing had been turned into a commuter suburb of Leeds but that was hardly the point of a Millennium Village and would have sat uneasily next to the existing pit community. How then were we to create an economic role for the area as a place to both live and work. What is more while innovation in housing design and construction may be viable in Greenwich how much would be possible in the weaker market and at the values achievable in Allerton Bywater.

The response to these issues was to use design to create a unique sense of place. The design of the village would be such that it would be attraction to people in its own right.

This design was based on a new synthesis of town and country that was not suburban but which retained the contrasts and variety of a traditional village. At the heart of the village was a high-density, live/work quarter which was to be developed by Urban Splash. This was originally called the Kasbah but renamed the Market Place for the Yorkshire audience. Next to this was an area of medium density courtyard housing beyond which there were sections named ridgeway, cliff, creek, and dune to reflect their different characters. The lowest density Dune housing included earth-sheltered housing on the lower sections of the site.

These residential neighbourhoods were bisected by shards of countryside penetrating into the very heart of the village. The concept also built upon the village's traditional connections with water by making it the centre of a regional water park and making extensive use of water in the layout. The water theme was carried through into the development of a Living Machine to process water and waste from the village. This was part of sustainability systems



focused therefore becomes a key task, and one that the new RDAs could well take on, to avoid wasteful competition and duplication.

Making towns and cities work: The second part of the Task Force report is given over to this theme, and yet there is very little about the future of the urban economy, and where the jobs are going to come from for those living in urban areas. This was not really their job, but is crucial to providing a sense of hope and purpose to those who have seen the erosion of the traditional economic base. Transitory call centres and IT training programmes are not enough. Yet the job of rebuilding our cities could, if properly organised, provide the necessary economic boost (as for example it did to Athens and Barcelona). Construction can readily employ young males, who have the greatest difficulties getting work, and town and city centres create plenty of service jobs. We could re-establish some of Britain's traditional expertise in the field of bus and railway construction, rather than relying largely on imports. We need to ensure that the urban renaissance pays off in terms of jobs and investment as well as capital values.

designed to make the village autonomous within ten years.

These elements were weaved together into what Daniel Libeskind called 'layered systems of organisations and landscape forming the warp and weft of the village'. The housing together with new workspace combined to create a living, working community which would have preserved the best elements of the mining community and welcoming newcomers without becoming a dormitory settlement.

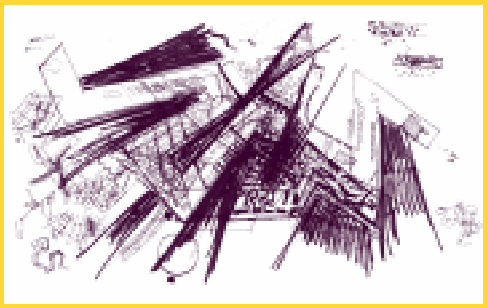
A REALISABLE VISION

However as exciting as these proposals were, the real challenge was to make the development of the village viable for the developer members of the consortium. As we have said the first element of our strategy was the attraction of living in a new village designed by one of Europe's leading architects. This was then linked to the idea of a building exhibition modelled on those in German and Scandinavian. This would have included a series of demonstration houses in a completed neighbourhood along with a Housing Consumer Centre, exhibits and other attractions. It would have provided a show case for the innovative technologies while raising the profile of the site and thus generate demand and increased values.

The key to delivering this approach was then to be a Community Development Trust. This would take on the ownership of the land, provide infrastructure, the landscape framework and run the exhibition.

Our strategy was therefore not to compromise on design but to turn it to our advantage. However there are clearly tensions between this approach and the needs of the market. At the end of the day we believe that our strategy would have been successful and but not necessarily within the time and financial constraints of a Millennium Village.

Consortium members:
Team leader - Daniel Libeskind
Developers - Alfred McAlpine Development Limited, The Environment Trust, Home Housing Association, Urban Splash
Consultants - Allen Tod - Contact architects, Alan Baxter Associates - Engineers, URBED - Sustainability, Professor John Shutt - Business Development, Par Gustaffson - Landscape Architects, Bernard Williams - Cost consultants, Brian Cheetham Partnership - Business planning



The distant sound of a Miracle

The boom in city centre housing development has surprised many people in the UK. The same is true in the US where downtown housing seems set to take off in that most suburban of cities Los Angeles. As **Robert A. Jones** of the LA Times explains - if it can happen in there it can happen anywhere.
Pictures by **Richard Risemberg**

A curious phenomenon is taking place in American downtowns, known as reaching the 'tipping point'. Young people rediscover their downtown and, like urban refugees, return to live and work in the ruins. A few pioneers arrive first, then a few more. The process finally blooms into a movement. Abandoned office buildings get converted to apartments. A thousand boarded-up storefronts blossom into cafes and shops. No government help is required.

Downtown Seattle and Battery Park in New York tipped some years back. More recently, the old cores of Dallas, Memphis, and even Detroit tipped. Of course, nothing ever tips in Los Angeles. Our old financial district contains one of the largest collections of vintage buildings in the country, yet it remains mired in scummy degradation.

But wait! At the corner of Spring and 4th, developer Tom Gilmore has initiated a project which just might tip the scales in our downtown. Gilmore has assembled an entire block of buildings extending along 4th Street, from Spring to Main. It includes the 12-storey Continental Building, generally regarded as the city's first skyscraper; the Farmers and Merchants Bank complex, and the San Fernando Building.

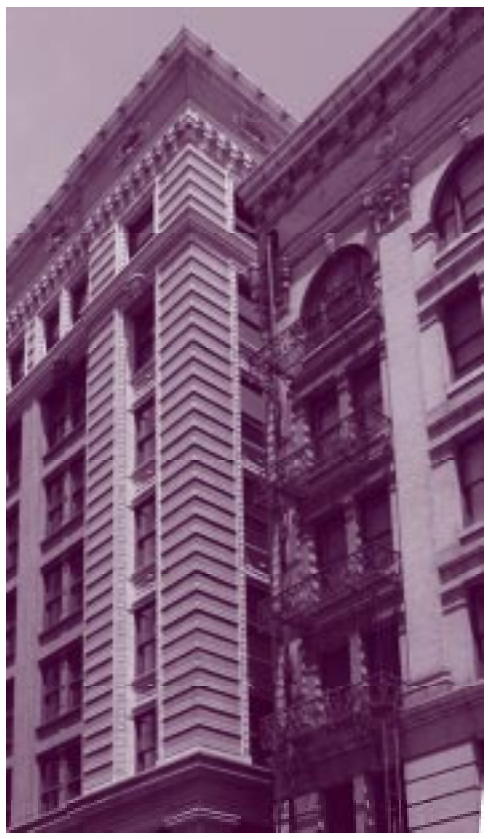
In all, Gilmore will have enough space to create 250 rental apartments. In addition, the buildings will offer him a block of storefronts to fill with the required coffee outlets and Trader Joe's. The whole thing has sheer bulk never seen in past efforts to bring downtown back to life. And it will cost $30 million. That's not a huge amount by mega-project standards. But ask yourself: If you could raise $30 million, would you invest it in a block of pee-stained buildings abandoned for a decade or more?

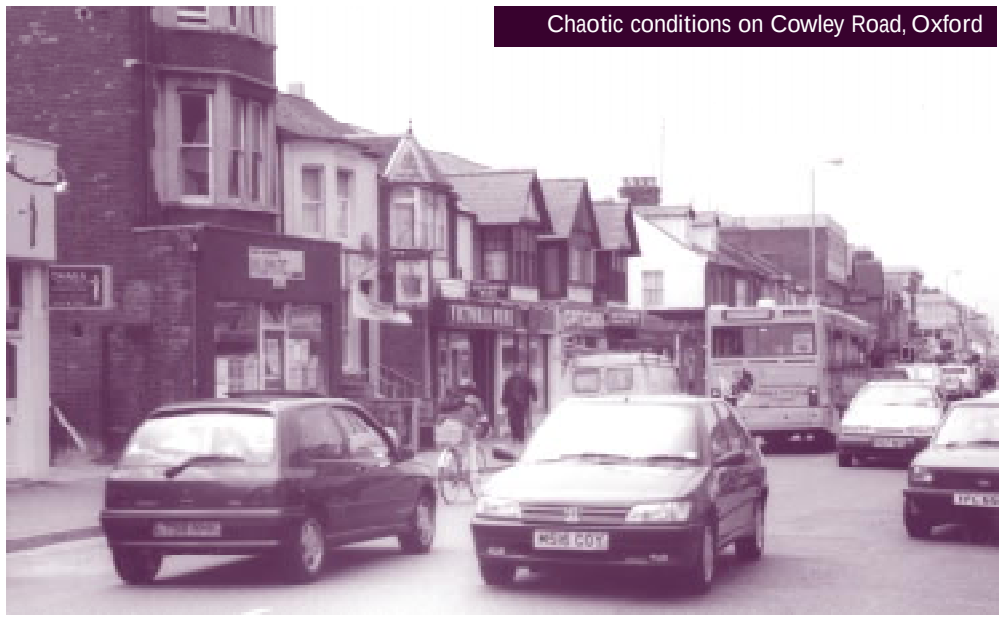
That's what makes Gilmore different. 'Three years from now, people will see me as a visionary or as a maverick moron who lost his shirt', Gilmore says. 'Right now, I think most people believe it will be the latter'. Gilmore seems to embrace risk. He also loves city life and believes, contrary to popular wisdom, that many young people in Los Angeles share his love. A primary distinction between Gilmore's project and past downtown efforts lies in his intention to ignore the upscale condominium market. Rather, he will target his rentals at young, single people just starting their careers. 'These people don't want to buy a condo, they want to rent an apartment. And that's what we'll offer', Gilmore says. 'They also want a little adventure in their lives, they don't want boring neighbourhoods. They want to mix it up, to hang out with people like themselves'.

Walking along the 4th Street sidewalk, Gilmore can see the whole thing in his mind. The windows of the early 20th century buildings will glow with the light from hundreds of living rooms. The sidewalks will be filled with people walking, sitting, eating supper under the trees. The ceiling of the corner storefront space in the San Fernando building, rises 25 feet over an ancient tile floor and sunlight pours in through the huge windows. 'I see restaurant, right?' he says. But a hundred caveats must precede any prediction that a restaurant, in fact, will appear on the ground floor of the San Fernando Building, or that hundreds of young people will come to live there. Thus far, Gilmore has used only private funding for the project and has not sought any subsidies from the Community Redevelopment Agency or other government agencies. Still, he needs to secure construction financing, and regular banks won't touch it. If he fails to get the funds, the project could collapse.

The ghosts of other revitalization projects stand as a reminder of where good intentions often end up. The CRA's own Premiere Towers project at 6th and Spring now sits half empty, awaiting sale. On 7th Street, an attempt to convert the magnificent Roosevelt building into apartments died last year for lack of financing. Still, there is reason to hope. First and foremost is the sense that Gilmore's timing may be right. Almost in spite of itself, Los Angeles has grown into a city, and the newest generation of young adults here may, indeed, hunger for the city experience. 'In every other city where downtowns have been reborn, the process has been met with disbelief', says Dan Rosenfeld, a real estate executive and former Los Angeles city official. 'The experts always take a look at the first project and say, "It will never work". Yet it has worked in places as unlikely as Dallas. Believe me, if it can happen in Dallas, it can happen here'.

Also, shockingly enough, it turns out that demand is high for the 3 000 rental apartments in downtown. Overall, downtown buildings operate at 98% occupancy, and many buildings have waiting lists. Charles Loveman, a real estate consultant, says demand far exceeds supply. 'The market can easily absorb 250 more units' Loveman says. 'In fact, it could absorb much more than that'. So we'll see. I have a friend who often expresses his good-bowl-of-soup theory of city life. If you can walk around a neighbourhood and easily find a place that offers a good bowl of soup, he says, then you know you've found a good place to live. At his most basic, Gilmore seems to be following that theory. He is determined to offer not only a place to hang your hat but a neighbourhood where people can find the things they need, including a good bowl of soup. If he can do it in downtown Los Angeles, it will be a miracle.





Chaotic conditions on Cowley Road, Oxford

Mixed-Use Main Streets

Managing Traffic within a Sustainable Urban Form

Mixed-use development is widely recognised as providing a model for sustainable urban form[1]. By bringing people closer to where they work, shop, live and play, mixed use development can help reduce car dependency. Commercial areas on radial main streets provide some of the most successful examples of mixed-use we have, supporting a wide range of activities within a dense urban area. Research by Snell[2] however identifies that the current approach to the road hierarchy is incompatible with many of the objectives of mixed-use development. The needs of traffic on main streets, take priority over local vitality and viability

Methodology:

The research sought to evaluate two approaches to the management of the conflicting demands of movement, loading and parking. Two case studies in Oxford were chosen which exhibit the conventional approach to traffic management through Traffic Regulation Orders (TROs). A further two case studies, one in Oxford and one in Borehamwood provided an alternative approach where the needs of parking and loading are recognised and further supported through physical measures.

The research was undertaken by observations at different times of the day, supported by a range of measurements including accident figures, traffic counts, and traffic speeds. These were based on four, 400m sections of street that were chosen according to the following criteria:

- main radials into the city centre which do not bypass local centres and, as such, provide for through as well as local traffic (including public transport);
- commercial streets with a high proportion of retail uses, linked to the adjacent urban area.

The Conventional 'TRO' Approach

On both Cowley Road (East Oxford) and London Road (Headington, Oxford) parking and loading is controlled through TROs. On Cowley Road loading and parking occurs at the kerb side, very limited on-street parking is provided (approximately 11 car parking spaces), but no loading restrictions are in place. Within London Road seven bays are provided, predominantly for loading during the day but with a limited amount of on-street parking (approximately 9 spaces).

Both streets are single carriageway in each direction although the latter has additional right turning lanes at the main cross road junction. The main carriageway of both streets is between 9.4 and 10.4 metres (excluding parking and loading bays) with the total width of streets being 16.6 and 23.3 metres respectively (from back of footway). Similar peak traffic flows are present with up to 1 700 vehicles per hour (12 hour flows of 14 000 vehicles and 16 900 respectively). There are no bus lanes on either street although bus bays are provided on London Road. Both streets have cycle lanes and significant levels of vehicle turning movements.

Problems with the 'TRO' Approach

From the observations on both streets a number of key conflicts were identified:

- On-street parking/loading or waiting vehicles which temporarily block the free flow of traffic (particularly where this occurs on both sides of the road simultaneously);
- Vehicles parking/manoeuvring within cycle lanes, creating conflict with cyclists;
- Unauthorised parking/waiting at bus stops;
- Vehicle speeds were excessive for the prevailing conditions (when traffic flows were light enough to allow);
- Right turning movements restricting the free flow of traffic;
- Overtaking vehicles crossed the centre of the road, creating potential conflict with oncoming vehicles and cyclists;
- It was difficult for pedestrian to cross the road other than at formal pedestrian crossings

Three key conclusions can be drawn from these observations.

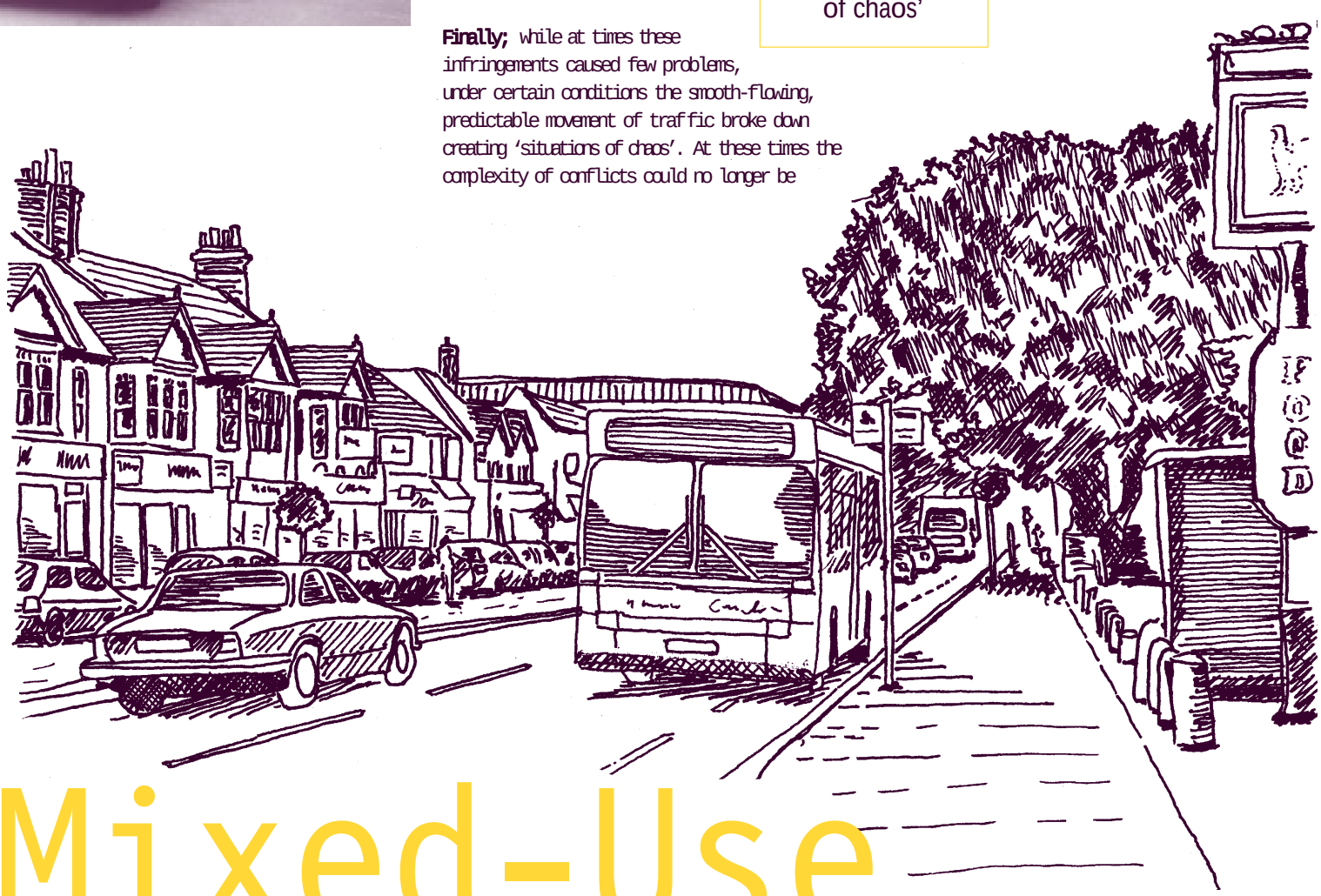
Firstly; whilst these streets are capable of supporting a great diversity of different activities, the conventional TRO approach fails to adequately resolve conflicts.

Secondly; TROs are by themselves an inadequate means of controlling parking and loading. In the absence of convenient on-street provision TROs are frequently flaunted, with vehicles either parked within the carriageway or within loading bays. As a result these streets often operate in a different way to that prescribed by the TROs.

Finally; while at times these infringements caused few problems, under certain conditions the smooth-flowing, predictable movement of traffic broke down creating 'situations of chaos'. At these times the complexity of conflicts could no longer be resolved without risk of accident. Accident figures confirm these findings with both streets having higher than average accident figures for Oxfordshire with 24.4 accidents p.a. on Cowley Road and 10.8 on London Road[3].

> under certain conditions the smooth-flowing, predictable movement of traffic broke down creating 'situations of chaos'

This chaos resulted from a complex interplay of factors but typically occurs at times where high traffic volumes (130 vehicles in a five minute period - the equivalent of 1 500 vph) coincided with high levels of loading/parking or right turning vehicles block the free movement of traffic. Modal split (HGVs, PSVs and vulnerable road users) and traffic speeds are also important factors.



All towns and cities have radial roads. These have traditionally have played the role of high streets and important roues for traffic. They are a crucial part of the urban fabric just as they are a vital element to the highway network. Yet too often these requirements are in conflict and it is the highways engineer who has won the day. New research by **Graham Freer** and **Graham Paul Smith** at Oxford Brookes University considers an alternative approach.

Banbury Road - Summertown where the slip road separates parking and loading from movement activity.

Shenley Road, Borehamwood

Shenley Road is Borehamwood's main high street. It provides an appropriate case study because it has not been possible to bypass the town and it therefore provides a main route for through traffic including buses. The road was redesigned because of the impact that high levels of traffic were having on the accident levels, environmental quality and economic viability of the town. The aim of the scheme was to control illegal parking and vehicle speeds by achieving a regular but slower flow of traffic as a means of avoiding congestion at peak periods. The improvements became permanent in 1994.

NOTES

1. Including within Central Government guidance PPG1 and 13
2. Snell, Catherine (1994) Unpublished Masters thesis, Oxford Brookes University
3. 1990-1994 figures

Towards a New Approach: TRO's backed by physical measures

On the other two case studies - Banbury Road (Summertown), and Shenley Road (Boreham-wood) - parking and loading is physically segregated from movement activity. On Banbury Road a slip road provides access for parking and loading bays along virtually the entire length of the shopping area, separated from the main carriageway by a raised dividing strip. No on-street provision is made on the eastern side of the street (which has off street parking and rear servicing bays). On Shenley Road slip roads are, where possible provided on both sides of the street. Where there is insufficient space, bays are provided adjacent to the carriageway as found within London Road. Shenley Road has also been subject to traffic calming along its length.

These streets are single carriageway in each direction but in both cases, the carriageway is much narrower (approximately 7.6 metres). With the total width of Banbury Road being 34.0 metres. Despite this similar traffic flows are achieved with peak flows of up to 1 800vph (10 hour flows of over 14 000 vehicles) on Banbury Road and 16 hour flows of 16 500 on Shenley Road. No bus lanes are provided on either street and only Banbury Road has a single, cycle lane.

Research Findings:

Both streets achieve a relatively smooth, free flow of traffic with very few conflicts; even during peak periods. At no point was either street observed to become 'chaotic' or unpredictable. A number of factors are important in achieving this.

Firstly; by segregating parking and loading within a separate slip road, conflicts between these activities are adequately resolved. Where parking/loading bays are provided adjacent to the carriageway they are sufficiently wide to allow vehicles to manoeuvre without creating conflict with oncoming traffic.

Secondly; physical measures are used to enforce TROs. In both cases, narrowing the width of the carriageway has been an effective deterrent for drivers from stopping, as to do so would completely block through movement. Within slip roads themselves however, motorists are able to stop and wait without disruption to traffic. On Shenley Road loading bays are raised to footway level with full height kerbs to deter unauthorised parking.

Thirdly; on Shenley Road eleven raised flat-top humps at intervals along the street together with a central reserve between carriageways to prevent overtaking has been effective in reducing average speeds from 26 to 20 mph. The humps act as informal at-grade crossings, aiding pedestrian movements across the street yet are shallow enough for buses. As a result, motorists almost always slowed-down or stopped to give way to pedestrians and accident rates halved from 15 to 8 per annum. This approach has achieved smoother vehicular movements than would be achieved with use of formal pedestrian signals.

The absence of any major road intersections throughout the commercial area of either street has also been important in achieving smooth traffic flows. In the case of Shenley Road roundabouts had replaced traffic signals at either end of the street to reduce stop start traffic.

Conclusions

This research has shown that supporting TROs with physical measures can effectively resolve the conflicts within mixed-use main streets. TROs alone are often infringed creating very different conditions to those envisaged by the engineers. Conventional highways responses may help, but at the expense of the vitality and viability of the centre. Vehicles do not need to be segregated from each other (as in bus lanes), what is important is the segregation of parking/loading from movement activities. Roads do not need to be widened since minimising carriageway width can, in reality, improve road capacity by preventing unauthorised parking and loading. Such an approach can improve viability by accommodating on-street parking and loading, make the road easier to cross and improve traffic flows and safety. We need no longer sacrifice historic local centres in order to accommodate traffic. ■

This approach can improve viability by accommodating on-street parking, loading and making the road easier to cross and improve traffic flows and safety

Graham Paul Smith is senior lecturer at the Joint Centre for Urban Design, Oxford Brookes University, Graham Freer is a qualified Urban Designer

Could you live without your car?

What we can do to reduce our use of that most desirable of objects – the private car? Integrated public transport is a worthy aim – but is it the whole story in a society obsessed with the comfort and convenience of the private car? One alternative is the car share service. **Simon Birch** takes a closer look at the Edinburgh City Car Club.

Kay McBurney (42), who lives in Edinburgh recently gave up her car and is now a member of a car share scheme. She admits that abandoning the car was far from easy: "When I first moved to Edinburgh I did think about giving up my car but because of the sheer convenience of having one I couldn't bring myself to getting rid of it". Kay's history of car ownership and the importance she placed on it is typical of many motorists. "I had a car for most of my life. It was one of the first things you did, you got a job, a flat and a car - it was what you aspired to".

What finally helped Kay to give up her car was the launch of the UK's first City Car Club, a pay-as-you-drive car share scheme that gives residents of high-density cities such as Edinburgh a viable alternative to car-ownership. "When I heard about the scheme I thought this is wonderful and exactly what I need. I work from home and have the car sat outside for days on end not being used. So I joined the scheme, took the plunge and sold my car".

Delivering the Service

The City Car Club is a joint venture between Edinburgh City Council and Budget, the car rental firm and was launched in response to the city's deepening inner-city transport crisis. The difference between City Car Clubs and regular car hire firms is that, "the cars are parked up close to where members live and the fact that they can be booked over the phone on an hourly basis", says Roddy Graham from Budget.

The scheme takes its cue from Europe where car share schemes have been an accepted part of consumer's transport mix for many years. There are currently more than 23 000 members in schemes operating in eight European countries. Current research suggests that each car club vehicle replaces between four and six private cars. Participants car usage tends to fall by around 50%, as participants tend to choose the most appropriate mode of transport for their journey, but without compromising their freedom of mobility. This leads to corresponding reductions in fuel use, noise and air pollution. Schemes also help free up parking spaces for public amenity within high density developments.

Simplicity and Convenience

So how does the scheme work and is it as convenient as 'booking a taxi and as simple as hiring a video' as Budget claim? "Yes, it's that straightforward," agrees Kay. "All I have to do is phone up and book". Budget are keenly aware that the simplicity and convenience of the operation is the key to its success and have invested £250,000 on electronic systems to ensure the smooth running of the scheme.

After booking their car, which they can do with as little as 15 minutes' notice, members gain access to the car with the aid of a personalised electronic key fob from one of the two parking stations in Edinburgh's inner city districts of Marchmont and Sciennes. A satellite tracking system logs members in and out of the cars, but monitors their mileage and timings and knows whether or not a car has been returned to the right parking station on time. The only paper-work involved in the entire operation is a monthly statement which is billed to members.

Membership costs £99 a year which includes fully comprehensive insurance and breakdown cover and gives members access to eight new vehicles which range from Ford Fiestas to larger estate models. In this way schemes can also be tailored to local requirements so in the USA, for example, they have included different vehicles as 'fit-for-purpose' from small 'smart cars' to vans.

Aside from paying for petrol used, drivers pay five pounds for the first hour of booking and then £2.50 for subsequent hours. This compare favourably with the experience of users of existing European schemes which suggests that motorists who clock up around seven or eight thousand miles a year, which is around 45 per cent of UK motorists, could save themselves up to £1,500 on their annual motoring costs.

So does Kay feel that she's lost any mobility since she chucked out her car keys? "Not at all, I live in Marchmont and the car share parking station is literally a two minute walk from my flat. I use the City Car Club cars for shopping and visiting friends who aren't on the main bus routes. I just choose the best mode of transport for the particular purpose that I have in mind"

"Nothing is as convenient as having your car parked outside your house," admits Kay, "but now I've got no hassle about getting the car through it's MOT, fixing flat tyres - that stuff has been taken away from me and I don't have to worry it any more," says Kay, adding that, "I wish I could have done it sooner".

But despite the obvious benefits arising from the scheme, Roddy Graham from Budget doesn't underestimate the difficulty in getting people weaned off their petrol-driven dependency. "What we're up against is an emotional attachment that people have with their car. We acknowledge that we're not launching a new product here, this is a lifestyle change". He believes that the only way to break the chain of car-dependency and get people to give up their cars is to offer people something comparable in return. "Despite all the talk of increasing public transport and reducing congestion and pollution, there is still no realistic and acceptable alternative to car ownership. What we offer," continues Roddy, "is the consistency, privacy and convenience that go with having your own car".

Simon Birch is a freelance environmental writer.

Information and Contacts

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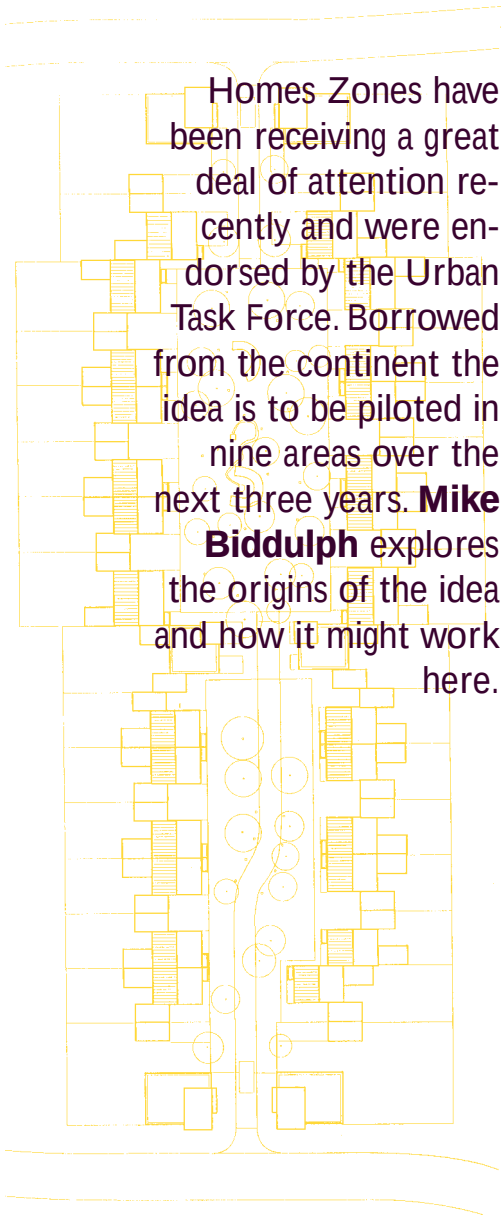
For details of future City Car Clubs within the UK, Tel: (0181) 750 2560

HOMEZones

Reducing the impact of the car in residential areas

Homes Zones have been receiving a great deal of attention recently and were endorsed by the Urban Task Force. Borrowed from the continent the idea is to be piloted in nine areas over the next three years. **Mike Biddulph** explores the origins of the idea and how it might work here.



In 1998 the Children's Play Council launched *Home Zones*. This initiative promotes residential streets that are designed to give priority for the needs of resident pedestrians and cyclists over the needs of the car. The idea is a direct translation of the Dutch *woonerf*[1] or 'living yard' idea into the British context. The Government have started to show a developing commitment to the *Home Zone* idea, nine pilot projects around the country are currently being monitored by the Department of the Environment, Transport and the Regions.

The *Home Zone* approach can be viewed as a physical solution which addresses the combined issues of reducing the impact of motorised vehicles whilst promoting a sustainable urban form and contributing to the Government's commitment to reducing road traffic accidents. As such the *Home Zone* idea has appeared repeatedly in relevant Government policy documents.

The draft *Planning Policy Guidance Note 3: Housing*[2] suggests that the needs of people should be placed before the needs of cars in residential areas, that maximum parking standards should be introduced, limiting parking to 1 - 1.5 spaces per dwelling, and that greater attention should be paid to urban design qualities that promote more activity in the public realm of housing areas.

Possibly more significantly however is *Places, Streets and Movement*[3] in which the cul-de-sac approach to managing traffic within residential streets has finally been rejected as a means of achieving these aims. Despite being a quiet place for children to play it was noted that where they are introduced they increase the length of pedestrian journeys and subsequently encourage car use. The document suggested the adoption of direct pedestrian and cyclist routes, and also suggested that in residential areas the public areas should be designed for pedestrians first, for emergency vehicles and public transport second, and only finally for the car. The *Home Zone* can therefore be seen as an alternative approach, which allows a high level of connectivity whilst placing controls over the movement of motorised vehicles.

The *Towards an Urban Renaissance*[4] report of the Government's Urban Task Force provides further support for this change in approach. *Home Zones* are suggested as a form of development that will contribute directly to the desired urban renaissance while also contributing to the government's commitment to sustainable patterns of urban development. Finally, in *A New Deal for Transport: Better for Everyone*[5] a commitment was made to extending 20 mph zones and introducing the *Home Zone* idea where possible. It was pointed out that where 20 mph zones have been introduced there has been a 60% reduction in accidents, and a 67% reduction in accidents involving children.

> At the heart of the concept is the desire to give certain streets more of the qualities that would make them places for people, rather than just spaces for cars

What is a *Home Zone*?

At the heart of the concept is the desire to give certain streets more of the qualities that would make them places for people, rather than just spaces for cars. The *Home Zone* should be attractive, with planting and variety in paving materials. The surface should be shared between all space users, and ideally the law should be changed so that vehicle drivers accept all liability for accidents. In certain acceptable areas children's play facilities should be introduced. Car parking is then restricted to areas where it doesn't interfere with pedestrian activity, and vehicular speed is limited by chicanes, humps and short sight lines. Areas of a town should ideally be developed with these qualities, and one way systems for vehicles should be introduced so that necessary vehicular journeys are possible, but shorter journeys might be quicker or more convenient by walking or cycling.

The *Home Zone* should fulfil a number of objectives. It should improve the safety of residential areas. It should promote greater use of the public spaces in residential areas, especially by children who can reclaim their local territories from the car. It should encourage people to walk and cycle within their local area. Ideally it should also contribute to improving the quality of the

Burglars don't understand def

There has been a growing conflict in recent years between the police and the promoters of new urbanism. Secured by Design seems to be based upon the sort of low density suburban development that the SUN Initiative has been arguing against. While it seems sensible that robust urban design should deter crime much of the previous research seems to prove the opposite. However recent research by **Bill Hillier** and **Simon Shu** provides new evidence that permeable urban areas can reduce crime.

About ten years ago, research on patterns of residential burglary suggested that rates were lower in integrated streets which provide more potential for through movement. These results were based on Space Syntax techniques and ran counter to the fashionable consensus. Then as now Secured by Design was based on 'defensible space', a 'strangers equal danger' mentality and a reliance on curtain twitching residents in cul-de sacs to provide protection against crime.

The great difficulty in researching crime and space is that you can only show that there are genuine effects from spatial layout if you first take out the effects of the social composition. As the British Crime Survey shows, there are huge variations in crime rates from inner cities to suburban and rural areas, and from poor to well-off communities. In our 1980s studies, we tried to overcome this by plotting the location of each crime exactly, and using space syntax analysis to identify the spatial characteristics of each location. We could then ask if, in an area with a homogenous population, criminals would tend to select targets in one type of location rather than others. Movement was a key question. Would there be less crime in spaces with less movement potential, as 'defensible space' would suggest? In fact we found the opposite. We saw a clear tendency for burglaries to be less frequent on the most integrated streets and more frequent on the segregated streets. Defensible space, we concluded, seemed to be on the wrong track. You were safer in spaces with more passers-by. An important advantage of using space syntax to analyse crime patterns is that the absence, or relative absence, of crime in the different parts of the layout becomes as informative as its presence. We can go beyond the usual identification of 'hot spots' which usually turn out to have specific social causes, and tell us little about the layout.

Simon Shu added to this a further innovation. He studied burglary not in terms of the address of the dwelling, but in terms of how the burglar actually gained access to the dwelling from public space. With the help of the police Shu chose three towns about fifty miles from London with very different overall social characteristics, one very affluent, another much less so, and the third a New Town. He then selected an area within each town with a range of population types in different sub-areas, and a full 'menu' of spatial types, cul-de sacs, through streets, footpaths, back alleys and so on. His conjecture was that if criminals consistently selected targets in certain types of space in spite of social variation, then it would be unlikely that this could be assigned to anything but spatial layout.

> The evidence all points in the same direction: passers-by help in deterring crime, more visible neighbours is better than fewer, good visual relations to the public domain is better than seclusion

Shu's findings show that it is quite clear that crime migrates to the more spatially segregated parts of the layout, where lines of sight are visually broken up and movement potential is least. Some, but not all, culs-de-sac and footpaths are particularly at risk, mainly those where space is relatively segregated. Culs-de-sac which are more linear and 'well constituted', are safer.

These results suggest that there is not single factor which deters crime. Several factors must be present together. On the whole, linear integrated spaces with some through movement and strong intervisibility of good numbers of entrances (highly 'constituted') are the safest spaces, while visually broken up spaces, with little movement potential and few intervisible entrances (poorly constituted) are the worst. This is all confirmed by statistical analysis, which also shows that you are safer from burglary from carriageways than from footpaths, and from spaces with good visual connections rather than from visually isolated parts.

We cannot then simply say that through streets are better than cul-de-sacs. They can be,

urban environment, and help to reduce demand for housing in rural areas.

The *Home Zone* concept can be applied to new streets, but the most critical task is to find existing streets where the concept might be successfully implemented. *Home Zone*s can only be established where a number of criteria have been met. In existing streets resident support is critical. Streets need to be used by less than 100 - 200 vehicles at peak times. Streets should be less than 500 metres in length, and design should take into account the needs of emergency vehicles, so that access is maintained to an acceptable standard.

The DETR's Monitoring Programme

The Department of the Environment, Transport and the Regions will not provide additional funding to implement the concept, although local authorities can use funding from existing regeneration initiatives. In monitoring the new *Home Zone*s it is interested to see the criteria used to judge success:

- street activity
- fear of strangers and scope for social contact
- impact on house prices
- use of public transport, and
- use of the spaces by certain social groups (especially children and the elderly)

Some Reflections

Currently there are no plans to change the existing legislation which makes pedestrians liable for accidents that occur on the carriageway. Can the *Home Zone* concept be implemented in a meaningful way without car drivers being made liable for road accidents in these designated areas?

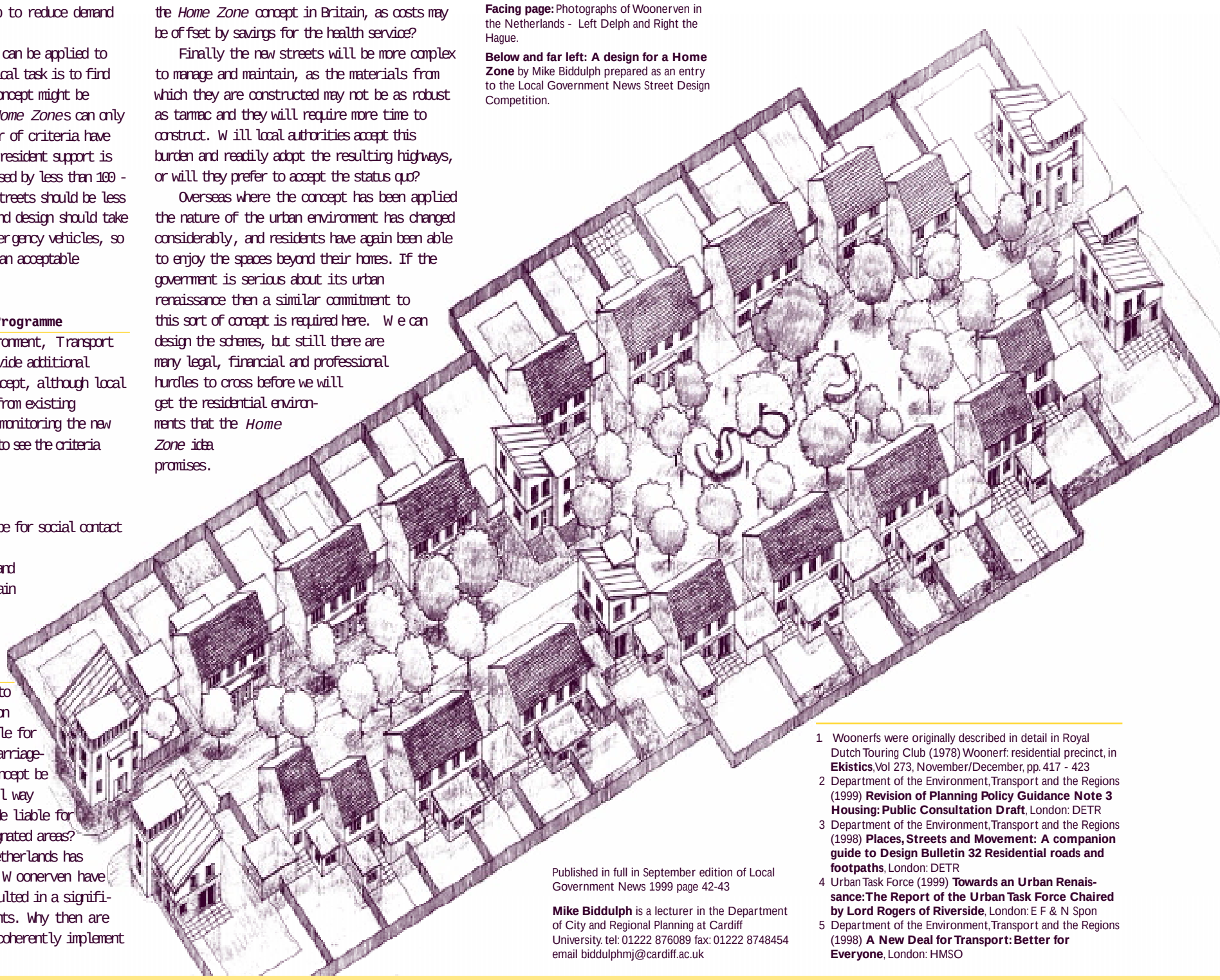
The experience in the Netherlands has consistently been that where Woonerven have been introduced they have resulted in a significant reduction in road accidents. Why then are there no resources to more coherently implement the *Home Zone* concept in Britain, as costs may be offset by savings for the health service?

Finally the new streets will be more complex to manage and maintain, as the materials from which they are constructed may not be as robust as tarmac and they will require more time to construct. Will local authorities accept this burden and readily adopt the resulting highways, or will they prefer to accept the status quo?

Overseas where the concept has been applied the nature of the urban environment has changed considerably, and residents have again been able to enjoy the spaces beyond their homes. If the government is serious about its urban renaissance then a similar commitment to this sort of concept is required here. We can design the schemes, but still there are many legal, financial and professional hurdles to cross before we will get the residential environments that the *Home Zone* idea promises.

Facing page: Photographs of Woonerven in the Netherlands - Left Delph and Right the Hague.

Below and far left: A design for a Home Zone by Mike Biddulph prepared as an entry to the Local Government News Street Design Competition.



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1 Woonerfs were originally described in detail in Royal Dutch Touring Club (1978) Woonerf: residential precinct, in **Ekistics**,Vol 273, November/December, pp. 417 - 423
2 Department of the Environment,Transport and the Regions (1999) **Revision of Planning Policy Guidance Note 3 Housing: Public Consultation Draft**, London: DETR
3 Department of the Environment,Transport and the Regions (1998) **Places, Streets and Movement: A companion guide to Design Bulletin 32 Residential roads and footpaths**, London: DETR
4 Urban Task Force (1999) **Towards an Urban Renaissance: The Report of the Urban Task Force Chaired by Lord Rogers of Riverside**, London: E F & N Spon
5 Department of the Environment,Transport and the Regions (1998) **A New Deal for Transport: Better for Everyone**, London: HMSO

fensible space

but it all depends on all the other properties being present. In our third town, for example, there are two parallel through roads adjacent to each other, one with very high intervisibility of dwelling entrances, the other with entrance intervisibility everywhere broken up by long driveways with high hedges, concealed entrances, and culs-de-sac drives giving secluded access to a few dwellings. The former has virtually no crime, while the latter is a veritable crime 'hot line'.

We fully expect, then, that there will be areas where a linear, well constituted shallow culs-de-sac will be safer than poorly constituted, visually broken up and spatially segregated through spaces. It all depends on how the local 'menu' of layout targets is put together. Criminals will always select the most vulnerable locations on offer. The evidence we have does all points in the same direction: passers-by help in deterring crime, more visible neighbours is better than fewer, good visual relations to the public domain is better than seclusion.

The common ground between these findings and current 'Secure by Design' (SBD) guidance is the importance of natural surveillance. The difference is that SBD seeks to achieve this wholly from the dwelling, and actively seeks to eliminate natural surveillance from passers by. Our results suggest that both must be in place to maximise the security potential of the layout.

The problematic aspects of the SBD guidance come from a single source: the 'defensible space' ideology. The evidence we have so far suggests we should move on from the universal culs-de-sac, with through streets only as a necessary evil – a layout with frightening implications for the future of the public realm of our towns and cities. Instead we should develop integrated and 'everywhere constituted' street and road networks, with constituted linear culs-de-sac directly linked to the through streets for the sake of variety and choice.

We must begin to design the connecting tissue of our cities again, and populate it with those who choose its lifestyle. Paradoxically, this view is supported by many burglars. In a remarkably interesting study, Tim Pascoe of the BRE asked burglars which type of space they preferred as targets. Many, it turns out, liked small cul-de sacs, especially if they were visually broken up. What layout would then deter them? Ordinary terraced streets, they said, which are protected at the rear by back to back gardens and at the front by passers-by. Burglars, it seems, do not understand defensible space.

Professor Bill Hillier is chairman of the Bartlett School of Graduate Studies at UCL - Simon Shu is a PhD student at the Bartlett School of Graduate Studies. Contact Bill Hillier tel: 0171 391 1739 email: b.hillier@ucl.ac.uk
A full version of this article was first published in Planning for London - Issue 29 - April 1999

Workbikes IN LONDON

Dense urban neighbourhoods means that we can rethink the way that goods are delivered. **Andrea Casalotti** describes the growing use of workbikes in London

Those who still doubt the reintroduction of human-powered freight and people transport in modern cities should come and see what is happening in London. Pioneered by ZERO (Zero Emissions Real Options Ltd.) the trend is gathering pace as illustrated by the following examples:

- **Red Star:** Graeme Rivett is in his second year running seven vehicles for Red Star, one of the leading national couriers. The Red Star Brox quadricycles have a new livery and Graeme is looking to double the fleet. A recent TV program, featuring a Red Star trike, has shown how vans cannot compete with bikes in dense urban areas.
- **Local authorities:** Hackney and Lewisham, have set up shopping services for elderly and disabled residents, using quadricycles. Both schemes are due to start this summer.
- **Taxis:** A pedicab operation managed by Simon Lane has established itself in the West End, with more than ten vehicles being ridden by enterprising riders most evenings. Ownership of the vehicles has now passed to BugBug a non profit company. A recent experiment of running a pedicab-rank has not been as successful; probably because the location was not ideal
- **Advertising:** Adbikes, a company that uses bikes to promote new products, has built some very eye-catching promo-bikes with two-metre tall advertising structures. They can be on the South Bank and in various other towns.
- **Delivery service:** ZERO is working with the Borough of Kensington and Chelsea on the Portobello Kiosk, a focal point for local bike deliveries in Notting Hill. Shoppers can visit the market and local stores and leave their shopping at the kiosk for delivery. Alternatively, stores can arrange deliveries through the Kiosk.

It will also feature a web-based bulletin board allowing residents, retailers, and local groups to post ads, announcements etc. as well links to the council website. Kiosk attendant will also act as neighbourhood porter, accepting parcels when people are away, letting the plumber in etc. The Kiosk has been young team of architects as an attractive structure which will become a central focus of community activity.

Now in its third year of operation, ZERO's customer base is broadening; riders transport groceries, flowers, books, restaurant meals, food, magazines, parcels etc. Businesses who begin offer a delivery service to their customers are attracted by the promotional goodwill of having their logo on the delivery bikes. Our vision is that by tackling niche markets, these operators are showing that jobs can be done more efficiently, more inexpensively and more reliably with human powered vehicles. Gradually more sectors will be proven viable and the whole urban freight infrastructure will begin to change. Instead of running 10 vans a distributor can have one larger lorry, making deliveries at a number of mini depots, from where products will be delivered by bikes. The cost savings for the distributor will be substantial, and the local communities will have less traffic, noise and pollution and more jobs for young people.

Zero Emissions, Real Options Ltd
Tel/Fax + 44 (0207) 723 2409 Mobile 07712 64 85 88 email zero@workbike.org - http://www.workbike.org/zero
For more information on the Portobello Kiosk contact either ZERO or Kensington & Chelsea at dehhrk@rbkc.gov.uk

Autonomous urban development

As part of our jointly BRE and EU Altener funded 'Autonomous Urban Development' project the SUN Initiative held an experimental workshop at the end of the May. The workshop brought together a range of experts in CHP, water supply, waste treatment, energy efficiency, renewable energy, and green architecture, together with a number of private developers, to explore issues of designing and delivering more environmentally efficient local services.

The workshop stimulated a wide ranging debate exploring different system designs and service concepts, the results of which we have been examining over the last few months.

Our EU partner on the project, Asst. Professor Rob Marsh from the Aarhus School of Architecture in Denmark, also made a presentation on some innovative housing projects in Denmark including the Bioworks project and the Solgaarden photovoltaic system in Kolding, the Yellow (energy) and Blue (water) houses of the Dansmarksgade project in Aarlborg, and the recent Ecohouse 99 competition in Aarhus.

In support of the project we also visited the World Sustainable Energy Fair in Amsterdam. Amongst the vast array of companies promoting solar, wind and biomass energy technologies, work by the Netherlands agency for energy and the environment NOVEM and the energy utility

REMU stood out as being particularly impressive. NOVEM have been mapping out energy efficiency strategies to the year 2020, and at the Fair had constructed a demonstration 'energy neutral' house incorporating all the latest techniques. REMU have recently completed work on the Amersfoort Nieuwland urban development project with installation of 1 MW of solar power, as well as demonstrating a range of energy efficiency measures, on 500 houses and public buildings.

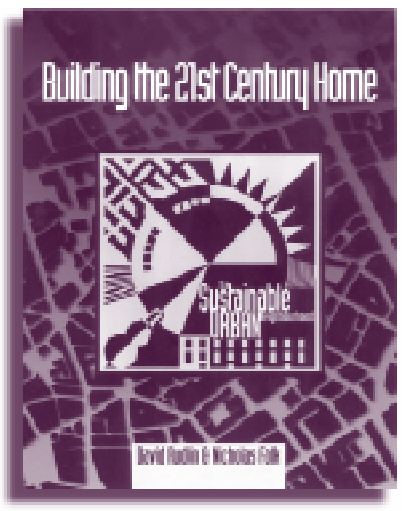
New England Regeneration

URBED and the SUN Initiative have been appointed as masterplanners for a major site near Brighton Station. The scheme follows the refusal last year of permission for a Sainsbury's Supermarket following an appeal and a concerted campaign by local residents. The redesigned scheme will include a smaller supermarket below apartments as part of a wider mixed-use, high-density development. The council is organising a community planning weekend on the 8th-10th October to develop a brief for the site.

Case Studies Renaissance

The Government Office for the South East and the DETR have commissioned URBED to prepare a guide to good practice in achieving urban renaissance in the South East. URBED will be working with the Bartlett School of Planning and Professor Sir Peter Hall. The guide will look at urban renaissance in the round and will be based on some 30 case studies covering developments and approaches from which lessons can be learned. The results are expected to be published in Spring 2000.

late news



Building the 21st century home: The sustainable urban neighbourhood – David Rudlin & Nicholas Falk
Over the last three years we have been working on a book which explores the issues behind the sustainable urban neighbourhood. It is written in three parts. The first charts the fall from grace of cities and how public policy, however well intentioned, has made things worse. The second part then looks at the forces for change which are gathering at the turn of the millennium and how demographic, environmental, social and economic change will shape future settlements. Part three then describes a vision for the Sustainable Urban Neighbourhood as a model to reinvent towns and cities. This is not just a physical model and chapters are devoted to the social sustainability of neighbourhoods, to environmental urban design and the process by which change can be bought about.

In the book we quote Lewis Mumford when he wrote 'if we would lay a new foundation for urban life we must understand the historic nature of the city. It is our hope that we do this and that the book will help to reveal some of the deeper currents behind the froth and bubble of the current debate over cities and urban areas.

Published by: The Architectural Press 1999
Price: £19.99
Available from: 'All good bookshops'
ISBN: 0 7506 25287

STREETWISE

The journal of places for people

Issue 38 of Streetwise focuses on the Sustainable Urban Neighbourhood and contains contributions by David Rudlin and Nick Dodd of SUN, Nicholas Falk on 'Towards and Urban Renaissance' (the report of the Urban Task Force), David Pearson and Brian Edwards on ecological buildings, Katharine Mumford and Anne Power on social issues and measures that will keep people living in our cities, Chris Wood on movement and transport, and Joe Howe and Martin Carahar on local food production and distribution. Changing lifestyles, LETS and live-work relationships are touched on in reviews and an interview with Charlie Monkcom of New Ways to Work.

Streetwise is the quarterly journal of Places for People, the National Association for Urban Studies. It aims to inform and inspire people interested in urban environmental education and the process of public participation in positive change. It goes to environmental professionals, educational professionals, local authorities, schools and institutions of further education.

Streetwise is available on subscription or by single issue c/o ETP 9 South Road, Brighton, BN1 6SB; tel/fax 01273 542660; email streetwise@pobox.com; website http://pobox.com/~streetwise

The Sustainable Urban Neighbourhood Initiative was set up by URBED and is funded by a range of sponsors. The Autonomous Urban Development project is funded by BRECSU administered by the Building Research Establishment and the European Union's ALTENER Fund.

The SUN Project is managed from URBED's Manchester office by David Rudlin, Nick Dodd and Hélène Rudlin. Additional material on this issue of SUN Dial has been provided by Graham Freer

The views expressed in this newsletter are those of the authors and do not necessarily represent those of the project's sponsors

This news sheet has been researched, written (unless otherwise credited) and designed by URBED which is a not for profit urban regeneration consultancy set up in 1976 to devise imaginative solutions to the problems of regenerating run down areas. URBED's services include consultancy, project management, urban design and economic development. The SUN Initiative further develops URBED's involvement in housing development and continues the work of the 21st Century homes project.

Why NOT get involved?

The SUN Initiative has been established as a broadly based network of organisations and individuals interested in the sustainable urban development. We do not have a membership but if you do not normally receive this newsletter please contact us and we will add you to our mailing list.

The Sustainable Urban Neighbourhood Initiative
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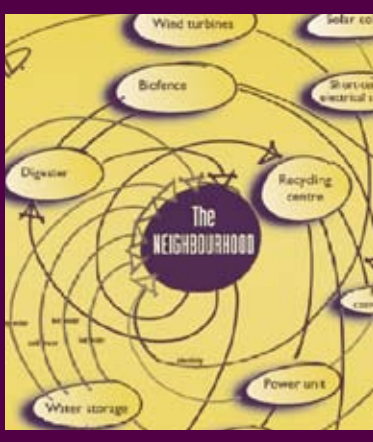
10

the Sustainable URBAN NEIGHBOURHOOD

SUN dial Initiative

This special issue of SUN Dial has been produced to describe the interim results of the Urban Autonomy Project. With funding from BRECSU and the European ALTENER Programme we have been working on a project to explore the feasibility of autonomous urban development. This was discussed at a workshop organised jointly by the Building Research Establishment and URBED on 10th November 1999. In this SUN Dial Special David Rudlin, Nick Dodd and Charlie Baker outline the thinking behind the research and describe the systems that are being explored.

INSIDE



Above: The Blue House in Aalborg built as a test bed and demonstration project for water saving and restoration.

Right: An urban villa in Amstelveen, Netherlands incorporating superinsulation and communal solar heating

Urban AUTONOMY

Why is it that the image of sustainable architecture has tended to be of vernacular buildings in a rural Arcadia? Somehow 'greenness' and cities just don't seem to go together. Cities after all are noisy, dirty, congested, resource hungry and - even in the post-industrial age - polluting. Cities are surely the very antithesis of sustainability?

But sustainability is about far more than a 'back to the land' lifestyle choice. It is about facing up to a century in which, to take just one example, CO_2 emissions may need to be cut not by the 12% agreed at Kyoto but by 60% on 1990 levels by 2020 if global warming is to be reversed[1]. Yet much of the work on eco-housing has concentrated on individual homes or small resident-inspired eco-villages. As Margrit and Declan Kennedy say in their review of ecological settlements in Europe:[2] 'There is no shortage of concepts, planning and proposals. However concrete examples of the magnitude required - i.e. anything over an above a detached house or a small settlement of 10 to 20 dwellings – are still few and far between'. We will not fundamentally change the pattern of resource consumption if we concentrate on individual houses for the committed minority. We must build for the majority and this majority is overwhelmingly urban.

> We will not fundamentally change the pattern of resource consumption if we concentrate on individual houses for the committed minority. We must build for the majority and this majority is overwhelmingly urban

There has been much talk over recent years about household growth and the 3.8 million extra households projected by 2021. The implications in terms of greenfield development have been widely explored but less attention has been paid to the wider environmental consequences. Resource-use, after all, is related as much to the number of households as it is to population. A one-person household will use less resources than a family of five but not five times less. The effect of household growth even with a stable population could therefore easily eclipse improvements made elsewhere as demonstrated by recent work in Swindon[3]. Household growth therefore makes it even more important that we tackle the resources use of the urban majority.

Over the last 4 years URBED has been working through the SUN Initiative to explore new models for urban development which reflect changing environmental, demographic, social and economic trends. Our work has mirrored and hopefully influenced that of the Urban Task Force and is part of a rapidly emerging urban agenda in many parts of the UK[4]. In the last 12 months we have been able to take this further through the *Urban Autonomy Project* funded by BRECSU (The DETR's Energy Efficiency Best Practice Programme) and the European Altener Programme. This follows a BRECSU project last year undertaken by Robert and Brenda Vale[5] that brought together research on autonomous homes. The aim of the *Urban Autonomy Project* has been to explore autonomy at the scale of the urban neighbourhood. This is something that has never really been done in the UK which is why we have linked up with Professor Rob Marsh at the Aahus School of Architecture in Denmark to draw upon European experience. This special issue of SUN Dial summarises the interim conclusions of the work which were discussed at a special BRE/URBED conference on 10th November 1999. These ideas will be developed by the SUN Initiative over the next six months as we further test the feasibility of these ideas.

1. Intergovernment Panel on Climate Change First Assessment Report – Cambridge University Press 1990
2. Margrit Kennedy and Declan Kennedy (Editors) – Designing Ecological Settlements: Ecological planning and building – experiences in new housing and in the renewal of existing housing quarters in European countries – European Academy of the Urban Environment – Dietrich Reimer Verlag, Berlin
3. Ricaby Associates and Manchester University – EPSRC study of Swindon - 1998
4. The Urban Task Force - Towards an Urban Renaissance - E&FN Spon – June 1999
5. DETR, Robert and Brenda Vale – Building a sustainable future: Homes for an autonomous community – General Information Report 53 – October 1998

1.

Sustainability and the URBAN RENAISSANCE

The Urban Autonomy Project has been driven by two imperatives: the Urban Renaissance and environmental issues. David Rudlin describes the overlap between sustainability and urban renaissance but asks why there remains little eco-design that has embraced the urban agenda

The Urban Renaissance

As we have described in detail elsewhere[1] anti-urban attitudes in the UK date back to the Industrial revolution. Prior to that British towns and cities, like those on the continent, had been magnets for population and the most fashionable addresses were those in the centre of town. However the appalling conditions of the industrial city reversed the polarity of the magnet and started a process of dispersal that has continued ever since. The exodus was led by the affluent middle classes but, with the collusion of, amongst others, the Garden City pioneers, the planning profession, the housebuilding industry and council housing depart-ments the exodus gathered momentum and expanded to include all but the most disadvantaged members of society. With the exception of parts of London, success in the 20th century success has been measured by how much distance you can put between yourselves and the city. As a result urban areas have sprawled over the country-side leaving town and city centres marooned in a wasteland of inner city decline. Inner cities have declined as they have been drained by an exodus of people and investment and left as the home for those least able to escape.

> The phrase 'drivers of change' is well chosen. It implies that these issues are not just challenges and opportunities for the future but trends that are already at work shaping urban areas

This, at least, is the story of the Anglo-American city - what Joel Garreau[2] has called the growth of the 'Edge City'. We need only look across the Atlantic to the social polarisation of a city like Washington DC or the phenomenal sprawl of a city like Phoenix to see our future if we allow this process to continue unchecked. The Urban Task Force looked in the other direction, to continental Europe, where very different forces have been at work and where urban areas have retained their vitality.

It is not possible for the UK to simply import urban forms from continental Europe (our his-tories are too different). There is however reason to believe that the conditions may be right for an urban renaissance in the UK. The forces of change are gathering at the start of the century just as they did at the birth of the modern suburb a century ago. The SUN Initiative has summed up these forces of change as the Four Cs – Conservation, Choice, Community and Cost. The Task Force covers similar ground when it describes three 'drivers of change':

- **The information age:** The way in which the transition from a carbon based economy to a knowledge economy has caused the decline of industrial areas and the social exclusion of urban communities and yet has also reinforced the importance of cities as information hubs.

- **The ecological imperative:** The increasing recognition of the importance of environmental issues and the realisation that while urban areas may be an important source of environmental problems they are also part of the solution.

- **Changing lifestyles:** The way that lifestyles are changing as people spend more years of their life in education and retirement and less in work. Linked to this is the growth in household numbers and the increase in single and childless households who may have very different views about urban living to the families for whom suburbia was built.

The phrase 'drivers of change' is well chosen. It implies that these issues are not just challenges and opportunities for the future but trends that are already at work shaping urban areas. It also suggests that the city centre development and loft apartments of the recent past are not just catering to a niche market but are the first evidence of these 'drivers' at work. In our work for the Urban Task Force[3] we suggested that this fragmenting of the housing market could be the start of a process that will affect the 21st century city as fundamentally as the garden city influenced the city in the 20th century. The beginning of the century therefore sees a confluence of environmental, demo-graphic, economic and social factors that are creating conditions ripe for the urban renaissance.

Sustainability and an urban society

According to the Urban Task Force almost 90% of the UK and 50% of the world population live in urbanised areas. This has led people like Herbert Girardet[4] to argue that, while cities may be environmentally damaging, they are a fact of life and must be reformed. While this may be true, we should remember that it is not cities that damage the environment but the people within them.

Take London for example. When we look at the pall of pollution that hangs over London, the barges burdened with waste bound for landfill sites, its arteries clogged with traffic and its use of the equivalent of a super tanker of oil a week, it seems hard to imagine a less sustainable form of development. However, London is home to 7 million people and it is doubtful whether those people would tread any more lightly on the environment if they were to be dispersed at garden city densities across southern England. Even if this were possible and politically acceptable – which it is not – and even if everyone was to live in super green housing – which is unlikely - the environmental impact of travel, distribution, infrastructure and waste would cancel out most of the benefits.

It is therefore possible that urban areas are not just a fact of life to be tolerated but are potentially the most environmentally efficient form of human settlement. If we are going to build 'super green' housing, as we must, then we should be doing it within urban areas and not isolated in the countryside.

Density and travel: The most important reason that has been used to justify the environmental benefits of urban development is its effect on car-use. Transport is the only sector of the economy where CO_2 emissions and pollution are increasing. While car makers have been no less active in improving the efficiency of vehicles, the growth in car-use has been far greater. As a result, in addition to congestion, car-use now threatens our ability to meet targets for CO_2 reductions and has replaced power generation as the main cause of poor air quality.

The link between urban development and transport is based upon research in the US[5] and UK[6] which demonstrated that the denser the urban area the less people travel by car. While this research has been extensively challenged, it has been remarkably influential with governments across the western world. However, while it makes sense not to build in locations that can only be reached by car, the importance of density as a means of reducing car travel may have been overstated. As Michael Breheny has demonstrated[7], if we were able to reverse the dispersal of urban areas that has taken place since the war – which would be a tall order – the reduction in transport energy use would be little more than 2%. The national reductions in travel possible through more compact urban development are therefore insignificant compared, for example, to an increase in fuel tax.

This however misses the point. One need only look at the projections for future car use to see that they are simply not sustainable. It is therefore inevitable that car use will be constrained in the future - if not by taxation or

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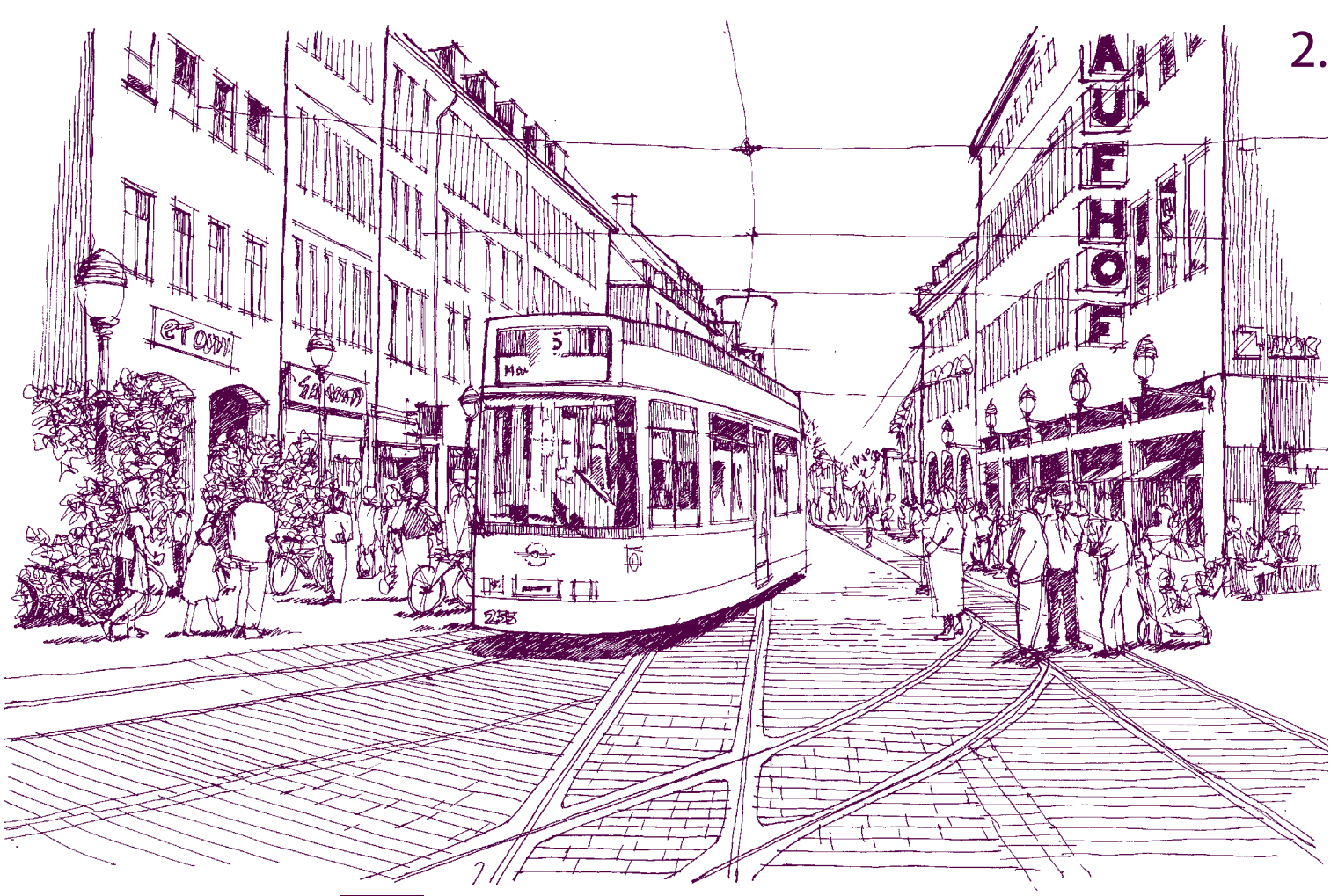
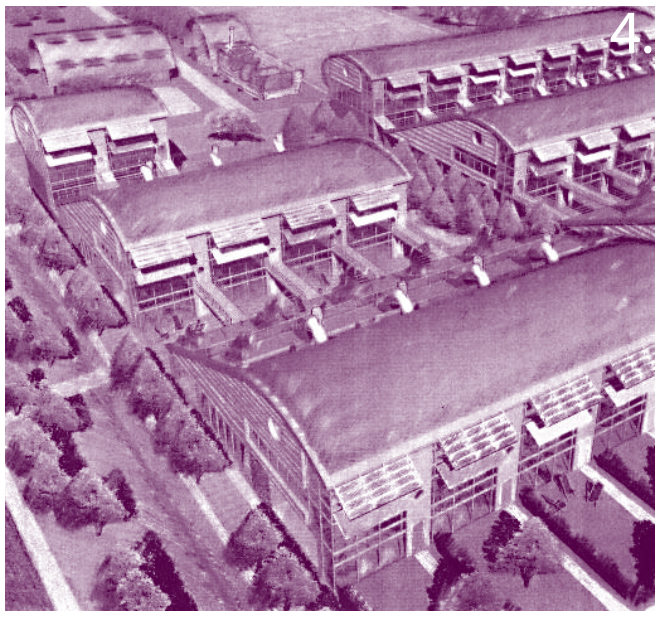




ILLUSTRATIONS

1. **Solgaarden, Kolding (Denmark):** Photovoltaic array on the roof of a block generating 100 KW.
2. **Freiburg (Germany):** Where integrated transport and measures to reduce car-use have reduced the distance travelled by car despite increasing car ownership.
3. **Project ZED:** An experimantal design by Future Systems in conjunction with the Martin Centre in Cambridge exploring buildings with minimal surface area and a centrally mounted wind turbine meeting 50% of the buildings electrical requirements.
4. **The Beddington Zero Energy Development:** Designed by Bill Dunster Archiects and Ove Arup for the Bioregional Development Group and the Peabody Trust in Sutton.
5. **La Cite Industrielle** by Tony Garnier from the 1920s showing that a concern with environmental utopian design is nothing new.

regulation then by sheer congestion. As car use becomes more difficult it is possible that people will increasingly shun car-dependent locations. While compact development may not on its own reduce car-use it has an important role to play in promoting the alternatives of walking, cycling and public transport. Densities of at least 100 persons/hectare are required to sustain a bus services more for a tram service[8]. Compact urban development may therefore be the result of restrictions on people's ability to use their car rather than the means by which traffic reductions are achieved.

Urban resource-use: Car-use is not however the only reason for making a link between sustainability and urban development. Urban areas help to reduce distribution distances for goods and services because of the proximity of large numbers of people to transport hubs. This allows the greater use of rail freight and the potential use of bikes for local deliveries[9]. Urban areas also support local shops and markets as an alternative to the trend of car-borne out-of-town shopping.

Building in urban areas also makes use of existing infrastructure. Quite apart from denuding the countryside, greenfield development requires the provision of new roads, services, transport infrastructure and even schools, shops and community facilities. This infrastructure consumes resources in its construction and use while perfectly serviceable infrastructure lies underused in the inner city.

Urban buildings are also more resource efficient than detached structures. Heat is lost through the external walls and roofs that are minimised in terraced housing and flats. Like-wise with mixed-use development where – rather than loosing heat though the floor housing can benefit from the heat of commercial occupiers. While it is true that urban areas may reduce solar gain due to overshadowing the compensation may be the sheltering effect of surrounding buildings which can also reduce heat loss.

Urban economies are also very efficient at converting linear resources flows into circular ones. Jane Jacobs talks of a future in which we will mine our urban waste for resources[10], a concept picked up by the Urban Mines group in the UK[11]. There are many examples of this from commercial recycling operations, to small scrap yards and second-hand shops, and even to the skip on the urban street corner. We will return to the importance of urban economies later in this article.

Sustainable Urban Models

Given the importance of compact urban development to the sustainability debate it is surprising how little effort has been put into urban-eco-development. There is now fairly widespread agreement of what we mean by the word urban. It implies a compact urban form, based on traditional streets, perimeter blocks, a density of population and a mix of uses. There is however still a significant gulf between these urban forms and the nature of most eco-development.

The best examples of the latter include schemes like the Vales houses for North Sheffield Housing Association, the group of six earth-sheltered houses at Hockerton, the Gledhow Bank eco-houses in Leeds, the Environment Trust's houses in Mile End Park or the high-profile BRE Integer House. These schemes have broken some useful ground and provide attractive models but they are largely based on individual homes rather than neigh-bourhoods and provide no real insight into the delivery of more efficient services.

At a larger scale there is a long tradition of environmentally conscious housing schemes, particularly in new towns like Milton Keynes. More recent examples include some excellent developments by Gwalia Housing Society in Swansea and the planned Newark Energy Village. Perhaps the most important current schemes in this tradition are Bioregional Devel-opment Group's scheme for Sutton by Bill Dunster Architects. This is a brownfield development of 90 homes which links low-energy design with district heating, CHP and grey water systems. While this is an important scheme that does incorporate neighbourhood systems it is difficult to see how it would fit into an area based on traditional, dense, mixed-use streets.

Given the importance of compact urban development to the sustainability debate it is surprising how little effort has been put into urban-eco-development

There are other examples of more urban environmental design. Three of the most signif-icant schemes are Scottish - the Canmore Housing Association car-free scheme and the Comely Green Place scheme, both in Edinburgh, and the Shettleston Housing Association scheme in Glasgow. These are brownfield developments incorporating CHP and grey water systems. The Shettleston scheme also includes a geothermal heat pump and solar systems. In all three cases it is easier to imagine the housing fitting within a mixed use urban area.

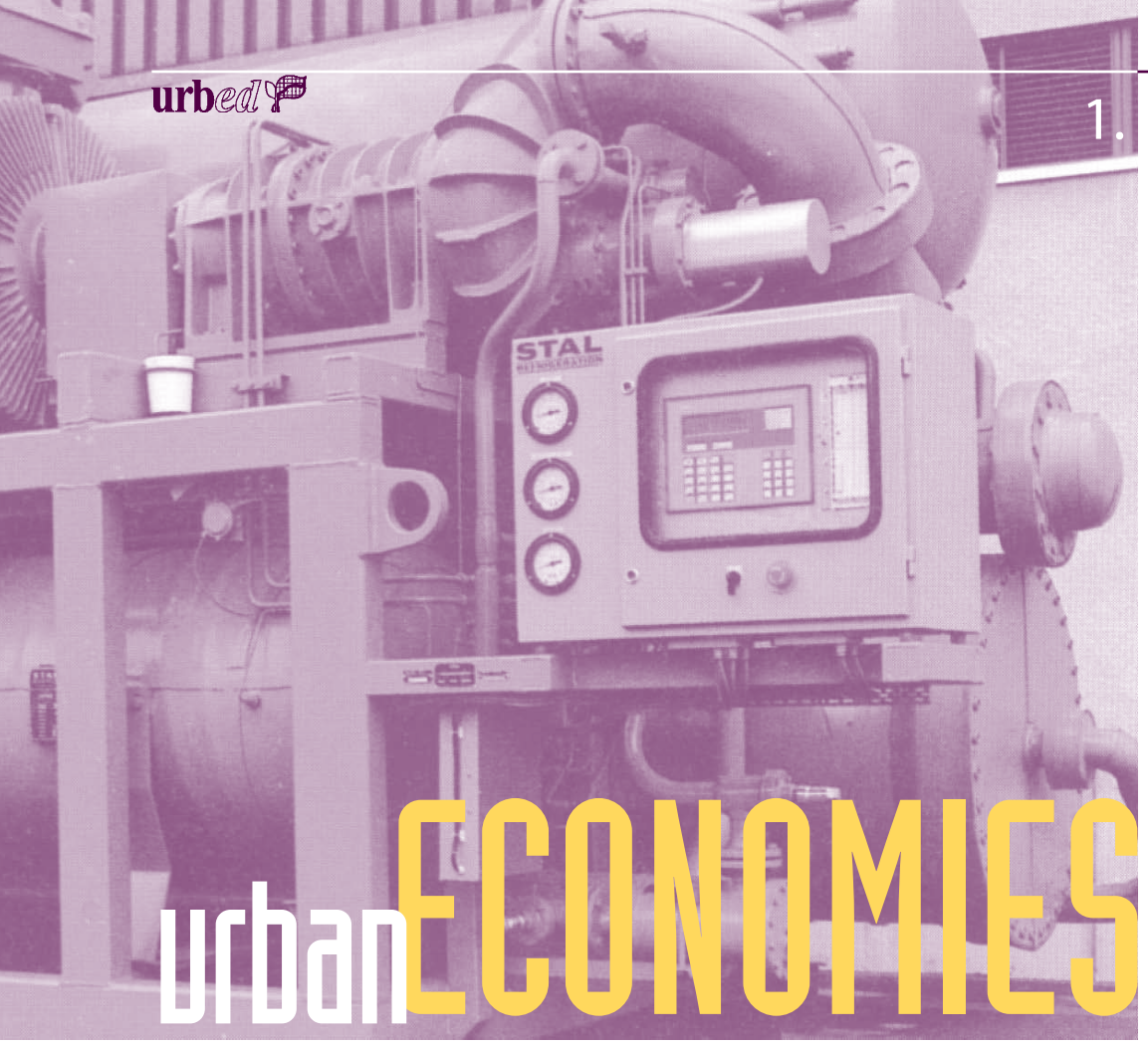
Urban eco-design has also been an important element of the two Millennium Village competitions in Greenwich and Allerton Bywater. Both the winning and running up schemes illustrate a synthesis of advanced eco-design and urban forms. There are however doubts about how far the concept will be implemented in Greenwich and the Aire Design scheme for Allerton Bywater will be difficult to judge fully until it is published.

There is also a more utopian tradition of sustainable urban development. This includes Garnier's Ville Industrielle, Corbusier's Ville Radieuse and Frank Lloyd Wright's Broadacre. This tradition is alive and well and includes examples like Halifax Eco City in Australia, the recent work by The Martin Centre at Cambridge with Future Systems and Bioregional Develop-ment Group's proposals for Velo City. These concepts tend to extrapolate from a relatively limited number of issues to illustrate how they could influence built form. So just as Broadacre illustrated the form of a city in which mobility was not a constraint, the Martin Centre/Future Systems schemes illustrate the effect on buildings of making them entirely self-sufficient. In the latter case the form is determined by the desire to minimise surface area and create sufficient airflow for a centrally mounted wind turbine. Such visions bear even less relationship to the urban agenda that we have described above. They are valuable in illustrating and exploring ideas but potentially dangerous if seen as a prescriptive model for future development.

It is clear that there remains a gap between the generally accepted principles of urban development and much of the practice of eco-development. It is true that this gap is closing and that the more recent developments have concentrated on brownfield land and increased densities. However many of these schemes are based on forms that are determined by environ-mental considerations (be it solar gain or surface area) rather than urban principles. Indeed on occassions they suggest that eco-development is incompatible with urban form.

Our aim through the SUN Initiative and specifically through the Urban Autonomy project has been to explore a synthesis between eco-design and urban form. We have taken the latter as our starting point and set out to explore whether it is possible to build a dense mixed-use urban neighbourhood that is as resource efficient as the most radical eco-housing scheme.

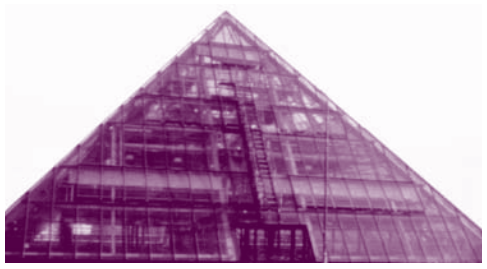
1. **David Rudlin and Nicholas Falk** - Building the 21st century Home: the Sustainable Urban Neighbourhood – The Architectural Press 1999
2. **Joel Garreau** – Edge City: Life on the new frontier – Anchor Books - 1988
3. **URBED, MORI and University of Bristol** – But would you live there? Shaping attitudes to urban living - Urban Task Force, DETR - February 1999
4. **Herbert Girardet** – The Gaia Atlas of Cities – Gaia Books 1992
5. **Newman P. and Kenworthy J.** - Gasoline consumption and cities: A comparison of UK cities with a global survey - Journal of the American Planning Association 55 24-37 - 1989
6. **ECOTEC** - Reducing transport emissions through planning - HMSO 1993
7. **Michael Breheney** – The compact city and transport energy consumption – Institute of British Geographers – NS 20 81 101 - 1995
8. **H. Barton, G. Davies & R. Guise** - Sustainable Settlements - A guide for planners, designers & developers – University of West England & The Local Government Management Board – April 1995
9. **Andrea Casalotti** - Workbikes in London - SUN Dial 9 1999
10. **Jane Jacobs** - The Economy of Cities - Vintage Books 1989
11. **James Horne** - Urban Mines - SUN Dial 6, 1998



1.

urban ECONOMIES

There are two sides to the idea of autonomous development. The first is the minimisation of resource-use and the second is the supply of these resources from renewable sources. Individual autonomous homes seek to supply resource needs from the rain, sun and wind available to the house and from the recycling of water and waste. This is a very difficult trick and has been achieved on only a few occassions such as the Fraunhofer Institute's self-sufficient solar house in Freiburg or the Vale's autonomous house in Nottingham. The limited availability of resources means that such housing can only work by optimising the resource efficiency of the house to an extent that is difficult within current budgets and modern lifestyles. The question that we have been asking is whether this trick becomes easier at the scale of the neighbourhood rather than the individual home. There are a number of reasons why this might be the case:



- **Neighbourhood-based systems:** The starting point has been to think about systems for the provision of heat, power and water at the neighbourhood scale. So, rather than each unit having its own separate boiler, heating system and water supply, these systems are organised at the neighbourhood level.

- **Sharing infrastructure costs:** This allows the costs of these systems to be shared between a larger number of units potentially making water systems, renewable energy, or CHP units viable in a way that could never be the case on an individual home. Such urban economies of scale would also allow the use of larger, more efficient systems.

- **Integration of different systems:** Organising systems at the neighbourhood level also allows links to be made between different systems such as the use of surplus power from solar systems for charging electric car-share vehicles or the combination of the district heating and grey water systems.

- **Reconciling demand and supply profiles:** One of the problems with renewable energy is that it is rarely available when it is needed. Solar energy, for example, is most plentiful during the day and in the Summer whereas the energy is needed in the evening and the winter. This is exacerbated by the growth of single-person households, likely to be out during the day. This issue becomes easier to deal with at the neighbourhood level where the larger number of units and the greater mix of uses will start to even out demand profiles. Urban economies of scale may also make viable energy storage systems such as heat stores and electrolysis.

3.

- **Flexibility and future proofing:** A further advantage of neighbourhood-based systems is that different components can be changed and updated over time. It may not be viable to build autonomous neighbourhoods now, just as it is not viable to build autonomous individual homes. However if you build in neighbourhood heat, power and water systems there is the potential to upgrade them over time more easily than with individual homes. Initially it may be that the system is powered by gas but when the boiler comes to be renewed the viability of a fuel cell may have changed. It is also possible with a district system to bolt-on different combinations of elements such as wind turbines and solar arrays to retain flexibility in the system.

- **Neighbourhood management:** Urban development at the neighbourhood scale also allows greater scope for neighbourhood management. In both the private and rented sectors it is normal for developers of apartments and mixed-use schemes to retain a much more active management presence than the developers of individual homes. They will often retain responsibility for communal spaces and systems or subcontract these to a local organisation (such as the resident controled condiminim schemes in the US). Not only does this provide a framework to manage neighbourhood energy and water systems but it makes it viable to employ professional managers therefore allowing the use of systems which may be too complex for individual householders.

- **Capital/revenue links:** One of the great problems with eco-design is that, despite the arguments of some of its exponents, it inevitably increases capital costs. If these additional costs cannot be reflected in increased values or higher rents - which is generally the case - then there is little incentive for developers. However neighbourhood-based management and the associated service charges has the potential to transform this equation. We have been exploring scenarios whereby residents pay one service charge covering communal area management, power, heat, water and membership of the car-share scheme. The total home services package may represent a saving to residents on normal utility bills as well as being more convenient. However the real advantage is the use of a local Energy Service Company (ESCo) to manage this local billing and to make it possible to use the revenue to finance the initial capital investment.

These seven factors are the basis of the hypothesis for the Urban Autonomy project. This suggests that while some elements of urban development make autonomous design more difficult - such as the inability to optimise solar orientation - this is more than cancelled out by urban economies of scale and the advantages of neighbourhood resource systems. Our hypothesis is therefore that urban autonomy is possible at the urban scale, that it can be achieved without such extreme measures to reduce the resource consumption of individual homes and that, while it may not currently be viable, it is likely to be more viable in the future than single autonomous houses.

eco

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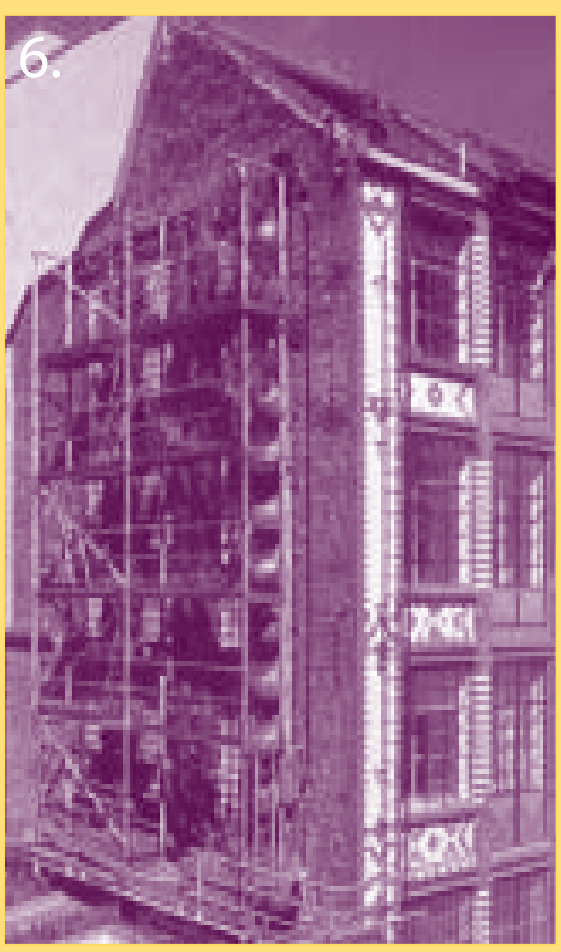


6.

-urban development

The aim of the Urban Autonomy project has been to explore whether it is possible to match the standards of the most advanced eco-housing within the context of mixed-use, urban, high density development. Nick Dodd explores a synthesis of eco-design and urban development – what might be called eco-urban-development.

At the start of the projet we set for ourselves the notional objective of urban autonomy for a mixed-use, urban neighbourhood of say 300 homes and 10,000m^2 of commercial uses. By autonomy we mean a neighbourhood that is self-sufficient in terms of energy and water. We realise that this is a somewhat artificial notion. Urban areas are, by their very nature, stitched into an intricate fabric of urban systems and it would be neither likely nor particularly sensible for any one neighbourhood to cut itself off completely from these surrounding neighbourhoods. The same however could be said for autonomous housing. The purpose of our work, as with previous work on autonomous housing, is not to suggest that all housing should be built this way but to set an notional objective in order to push the boundaries of eco-urban design.

In order to do this a good deal of our work has involved the development of a pallet of technical options for eco-design at the neighbourhood level. We describe these technical options in this section in the three broad areas of energy, water and mobility. We realise that these are not the whole picture and omit, for example – recycling and food growing. However these three areas do encompass the most important environmental issues and serve as good examples of how these issues might be addressed at the neighbourhood level. We describe below a series of technical responses to each of these issues. These are addressed at three levels:

1. **Current UK good practice:** This refers to measures that might commonly be taken by developers concerned about the environmental impact of their developments.

2. **Current European best Practice:** This refers to more radical measures at the neighbourhood scale that have nevertheless been incorporated at least once into a scheme often on the Continent or in Scandinavia.

3. **Blue sky technology:** This refers to technical options that are under development and may have been used in other sectors such as industry but have not necessarily been incorporated into a housing scheme.

These three categories could be seen in another light when considering the autonomous neighbourhood. The first category of current UK good practice is largely confined to demand reduction. On the whole the issues here, if not the responses, are broadly the same whether you are dealing with an individual home of a whole neighbourhood – (i.e. construction, design, lights and appliances).

When we move to the second category we start to deal with supply-side issues and recycling such as renewable energy, combined heat and power and water restoration. Such issues are difficult to deal with at the scale of the individual home since the level of use does not justify the capital investment. Once the house has been built and occupied it is also difficult to go back and retrofit new technology as it becomes available. As we have already described, this viability equation is potentially transformed at the neighbourhood scale. Here capital investment in, for example renewables, can be spread over a larger number of units and can also be renewed and updated over time as technology improves. This however is only possible with systems and services that allow issues to be addressed at the neighbourhood scale. Once these neighbourhood systems are in place a whole range of possibilities open up including our category three 'Blue sky' technologies. Without them we are left with a handful of inspiring but hopelessly unviable autonomous homes and a mass of new homes which improve little on current good practice. This is best illustrated by reference to the issues of energy, water and mobility:

> The purpose of our work as with previous work on autonomous housing, is not to suggest that all housing should be built this way but to set an notional objective in order to push the boundaries of eco-urban design

Energy

Current good practice is largely confined to demand reduction through energy-efficient design and construction and the reduction of electricity-use through efficient lights and appliances and good natural lighting. At the neighbourhood scale we can however introduce a network distributing hot water and electricity. At present it is likely that this network would be fed by a CHP plant, probably burning gas – an improvement on current UK good practice but still a falling short of European best practice.

Once this neighbourhood system is in place all sorts of things become possible. We can, for example cover the roof with hybrid solar thermal and photovoltaic panels heating the water in the system and generating electricity to feed into the network. We might think about a seasonal heat store linked to the district heating network or indeed about appliances like fridges that run off thermal energy rather than electricity. We might even consider electrolysis using surplus photovoltaic electricity in summer to produce hydrogen from water that can be burned to produce electricity in winter or even Stirling engines which generate electricity using thermal energy. We have looked at all of these options - some of them 'clear blue sky' – that open up the prospect of urban autonomy. The main point however is not the choice of a particular system but the fact that it is the neighbourhood heating and power system which makes them all possible. What is more this neighbourhood district heating system is low-tech, tried and tested technology that, viability permitting, can be implemented today.

Water

The same principle can be applied to the water system. Water-use is an important component of resource-use partly because of the scarcity of water resources in parts of the country and also because of the energy used in purifying water, treating waste and, of course heating water for many domestic uses. As with energy current good practice is largely confined to demand reduction measures such as low-flush toilets and appliances, spray taps and showers with some minor penetration of individual home grey water systems into the market. At the neigh-bourhood scale key systems are dual supply for potable and restored grey water possibly with a dual drainage system. This clearly adds to the cost of the scheme but is not technologically demanding. However once it is in place a range of autonomous technologies become possible such as block grey water treatment (likely to be more efficient than single house systems), living machines to treat sewage, or even systems to purify rainwater for drinking. Such systems make it possible in a city like Manchester to reuse grey water and rainwater before turning to the mains supply making autonomy theoretically possible. These systems may not presently be viable in a city like Manchester although the equation will change in more arid parts of the country. However it is only by the provision of the neighbourhood dual supply system that the future possibility of installing such systems is retained.

> By broadening our horizons from the home to the neighbourhood level an entirely new dimension can be added to the sustainability debate

Mobility

The use of the car is another good example of the step change that could occur by thinking about issues at the neighbourhood scale. It is accepted that urban density can have a limited impact on car usage. However the cost of owning a car (road tax and parking charges) as well as running a car (fuel tax and road pricing) is likely to increase in the future. It is already the case that a residential parking place in city centre Manchester or Leeds can cost more than £1,000 a year (far more in Central London). Yet in these areas it is probably more convenient to walk or use public transport for most trips. In these circumstances the car becomes more of a luxury than a necessity. However once you own a car, the marginal cost of each trip is minimal so that it makes economic sense to use it as much as possible to get the most from your money.

The key neighbourhood scale innovation is therefore the car-share service. Rather than paying all of the fixed costs of car ownership the car share service makes it possible to obtain access to a car on a pay-as-you-use basis, providing vehicles as 'fit for purpose' such as small efficient cars for trips around town, large cars for long journeys and even a van when required. All of this is possible for less than the annual cost of owning a car. This also means that the marginal cost of each journey reflects the true costs of car use thus making people think more carefully about their journey. The experience in Europe, where car-share schemes are becoming common is that they are effective in reducing the car use of most people (except, of course, for people who did not previously have access to a car). However like the district heating system or the dual water supply, the key thing about the car share scheme is the possibility that it opens up for the future. Once a service is in place it becomes possible to introduce a range of vehicle technologies that would be too difficult and costly to sell on an individual basis. This might include electric vehicles for the small run-around cars, fuel cell hydrogen engines for longer ranges, or even vehicles which run on ethanol produced from waste paper or biomass.

Neighbourhood management systems

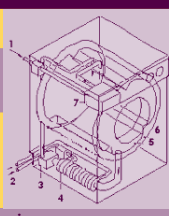
In each of these cases the introduction of relatively simple systems at the neighbourhood scale open up a range of technical options both now and in the future. However just as relevant as the technical systems are the financial and management systems that transform the viability equation. In the past environmental systems have only really been incorporated into social housing. This is partly because of the commitment of certain housing associations but also because it is possible to make a link between capital costs and higher rents offset against lower running costs. This has never been possible with housing for sale because the increased costs have not been reflected in higher values so that savings in running costs have not benefited the developer. However with urban development it is common for developers to maintain a management presence and to charge a service charge for the upkeep of communal areas and equipment such as lifts. It might be possible to extend this so that residents were able to pay for their energy, water and use of the car share scheme as part of one home service charge. This would represent an overall saving to residents because of the efficiency of resource-use and, crucially, the revenue would become available to finance the capital costs. This indeed is recognised by many utilities as the way forward for service provision and a number of power and water companies are actively developing such systems as indeed are car hire companies such as Budget with regard to car-share schemes.

We have dealt here with just energy, water and mobility but it would be possible to work through other examples such as waste collection, recycling, household appliances, food production etc… These examples show that by broadening our horizons from the home to the neighbourhood level an entirely new dimension can be added to the sustainability debate. All of the lessons that have been learnt about reducing resource-use on individual homes are still relevant but to this can be added the economies of scale of urban areas to supply energy, water and services in ways that are more efficient and responsive to the end-user, and with greater use of more integrated and renewable resource systems. It may never be possible or sensible to make an urban neighbourhood entirely autonomous. However it should be possible in the near future to create neighbourhoods where many of the resource flows are circular rather than linear and where the neighbourhood's net environmental impact is neutral or even positive.

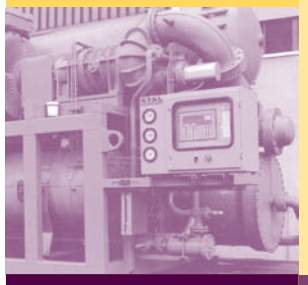
1. **A heat pump** using either electricity, gas or waste heat to extract heat from groundwater or sewage.
2. **Kolding (Denmark)** Ecological urban renewal project incorporating the 'bioworks', an ecological sewage treat-ment plant and rainwater collection for use in washing machines and toilets.
3. **Hedebygarde, Copenhag en (Denmark):** The refurbishment of an urban block exploring solar air heating, hot water and ventilation systems and day lighting using solar reflectors. The common house in the foreground includes a laundry, recycling facilities and district heating works.
4. **Freiburg Flats (Germany):** Solar PV, thermal panels and rainwater collection for 'green' water.
5. **The Yellow House, Aalborg (Denmark):** Low energy solar design with photovoltaic panels integrated into balconies.
6. **Block 103, Kreutzburg, Berlin (Germany):** Vertical reedbeds providing block-based grey water treatment
7. **Nieuwland, Amersfoort (Netherlands):** A neighbourhood incorporating one megawatt of photovoltaic panels.

Energy Supply Energy Demand

End Use	Key Issues	1. Good Practice	2. Best Practice	3. Blue Skies	Service Provision	Design Issues
Cooking	Fuel efficiency	Gas cooker	Electric induction[1]	Gas 'catalytic' hob[2]	Biogas mains supply[3]	Heat main plumbing
Refrigeration		EU A Star Rating[4]	A+ Rating[5], Gas heat pump	Gas boiler/heat pump[6]		
Washing machine		EU A Star Rating	EU A+ Star Rating	District heat exchanger[7] 'Cold' wash detergents[8]	Communal laundry Product market testing	
Lighting		Compact fluorescents	Solar reflectors[10]	Fibre optic daylighting[12]		Overshadowing Overheating

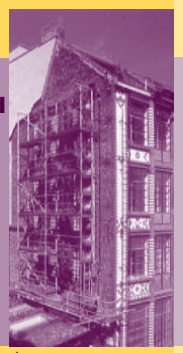


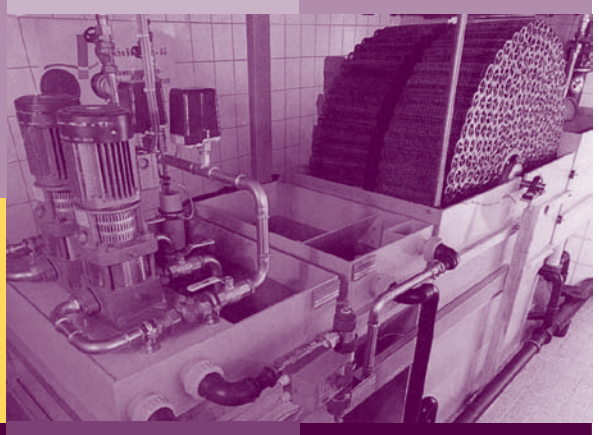
End Use	Key Issues	1. Good Practice	2. Best Practice	3. Blue Skies	Service Provision	Design Issues
District Heating	Heating network Solar thermal energy Building integration Seasonal energy storage	Individual gas boilers Individual flat plate solar collectors	District Heating network[14] Heat exchangers / meters Evacuated tube solar collectors[15] Distributed Control System[16]	Seasonal heat storage[17] Heat 'batteries'	District Heating network is fundamental	Roof integration Heating network Sizing and locating the heat storage
Space Heating	Air tight, insulated, low emissivity building fabric Heating system Passive solar gain Ventilation heat recovery	SAP 100 / NHER 10[18] Double glazing Passive solar design	'Zero heating' <10 KWh/m²[19] Super-insulation Triple glazing Low °C heating Thermal mass Mechanical heat recovery[20] Ground/solar pre-heating[21] Workspace heat recovery[22]	Passive heat recovery [23]		Knowledge, detailing and quality control Structural cold bridging Urban microclimate[24] Block heating systems Ventilation ducts
Power Supply	Renewable energy Generating efficiency Short term and long term energy storage	'Green tariff'[25]	Neighbourhood PV cladding[26] Biofuel / hydro-gen CHP plant [27] PV roofing and cladding [28] Embedded generation, Distributed Control System	Urban wind power Vertical / horizontal axis[29] Building as wind concentrator[30] Water cooled PV's [31] Vacuum flat plate collector /low °C Stirling engine [32] Flywheel / ultracapacitor[33] Hydrogen fuel cycle [34] Zinc fuel cycle [35]	Utility owned and maintained roofing, cladding and turbines[36] 'Intelligent' real- time metering: source, efficiency and cost Fuel handling and risk management	Cladding of buildings and car ports Structural supports Microclimate modelling Efficiency hierarchy: direct supply, short store and long store.



Water

End Use	Key Issues	1. Good Practice	2. Best Practice	3. Blue Skies	Service Provision	Design Issues
Drinking	Efficiency measures Local supply Treatment systems Energy consumption	Spray taps Low-flow showers [37] Rain / borehole water [38] 'Point-of-use' treatment Gravity feed and slow sand filter treatment systems	Rooftop urban rain catchment system & storage[39] Neighbourhood or district 'point-of-entry' treatment and mains distribution	Grey water treatment for bath/ shower or all other uses [40]	Regional supplier inset appointment/private supply [41] Embedded benefits of reduced losses and resource efficiency	Aqueduct design Seasonal storage provision
Green (recycled grey water)	Acceptable end uses[42] Wastewater drainage Treatment systems Distribution mains	Washing machine Low flush toilets Individual grey / rainwater treatment	Green water for showers Dual drainage with block grey water treatment[43] or single drain with modular ecological sewage works[44] Block / neighbourhood treatment and green water mains distribution	Vertical reedbed [45] or biofence ecological grey water treatment [46]	User perception	Treatment works
Black Water (sewage)	Risk management – separate grey and black	Composting toilets	Modular ecological (tertiary) sewage treatment works	Vacuum toilet waste (and household solid organic waste) feed anaerobic Digestor producing biogas [47] Biofence modular ecological (tertiary) treatment plus biomass production		





Mobility and Services

End Use	Key Issues	1. Good Practice	2. Best Practice	3. Blue Skies	Service Provision	Design Issues
Private car use	Living / working patterns Comfort and convenience Renewable energy Vehicle technology	Mixed use neighbourhood with good public transport links[48] and flexible work patterns[49]	Location Efficient Mortgages[50] Car share services[51] Electric vehicle hire[52]	Battery / fuel cell electric or biofuelled car service[53] Neighbourhood fuel supply[54]	Service logistics and customer charges Refueling infrastructure	Car port/refuelling locations

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the autonomous neighbourhood MODEL

To test our hypothesis that autonomy is easier to acheve at the neighbourhood scale we have constructed a model to test some of the technologies set out on the facing page. **Charlie Baker** describes the thinking behind this model and some of the initial findings

Gelsenkirchen, Ruhr Valley (Germany): High level aquaducts to capture rainwater from

Cities are polluting, cities are unsustainable – all 6 billion of us should go and live in the countryside – Malthus would have been proud. Of course this is not feasible, we must make the best of our unsustainable cities. But maybe we can go further than this – it may be that cities are actually the most sustainable settlement form. While the evidence to support this view is thus far patchy, the SUN Initiative's Urban Autonomy Project has been seeking it out. In this article we outline some of the initial findings.

The task that we set ourselves was to assess the practicality of building urban neighbourhoods that are self-sufficient for all their basic resources – including water, heat, power and mobility. In doing this our first step was to set out a balance sheet of the energy and resources consumed by the neighbourhood and the resources naturally available from rainfall, sun and wind, as well as the wastes that it produces.

As part of the research we have used this balance sheet to rethink the service provision of a hypothetical urban neighbourhood. Our target has been to achieve self-sufficiency without degrading the surrounding environment, achieving a net balance of CO2 emissions, and by providing energy from on-site renewable energy systems. In doing so the neighbourhood would meet the standards for Zero CO_2 and Autonomous housing recently set out by the DETR[1]. This work has been guided by several parameters.

1. We did not want to achieve autonomy on a one-off basis, but sought to develop a model that could be applied across the country. For example solar cells will produce a surplus of electricity in the summer which can be sold to the grid. However if every neighbourhood did this the national grid would be overloaded every time the sun came out. We therefore set ourselves a target of reconciling energy demand and the intermittent supply of renewable energy within the bounds of the scheme.

2. The second parameter was that the measures adopted to achieve self-sufficiency should not compromise urban design principles. The work of the SUN Initiative and indeed the Urban Task Force has set out a vision for an Urban Renaissance in the UK. We were concerned that our proposals should be compatible with this. This immediately questions one of the 'givens' of eco-housing - namely passive solar gain. Development based on urban blocks will inevitably mean that some units face east-west and others north-south. This means that some housing in high-density developments will get insufficient direct sunlight to contribute significantly to space heating needs.

> We adopted a resource balance sheet approach. The precise linkages between different systems did not need to be worked out first but all useable resources could be totalled up and matched with the resource requirements

3. We were also concerned that, unlike some autonomous housing, our neighbourhood should be easy to live in. The system should not come crashing to the ground if someone opens the wrong window. Heating systems should be controllable, toilets should flush and new products or services should be feasible and user-friendly.

4. We did not want to dabble in science fiction and have therefore mapped out realistic technological options into the future. We have therefore confined ourselves to technologies of which we have at least been able to find prototypes if not production models.

The neighbourhood model

The principle advantage of looking at a neighbourhood rather than a house is that while per-capita waste production is the same, there is sufficient quantity to be worth treating. When we look at the neighbourhood as closed system we find an impressive array of useable resources, both primary resources from the sun, wind and rain and secondary resources from the neighbourhood waste streams and the by-products of different processes. If we are to stand a chance of autonomy then as few as possible of these resources and by-products should be wasted and where possible, the product of one process should form the fuel for another.

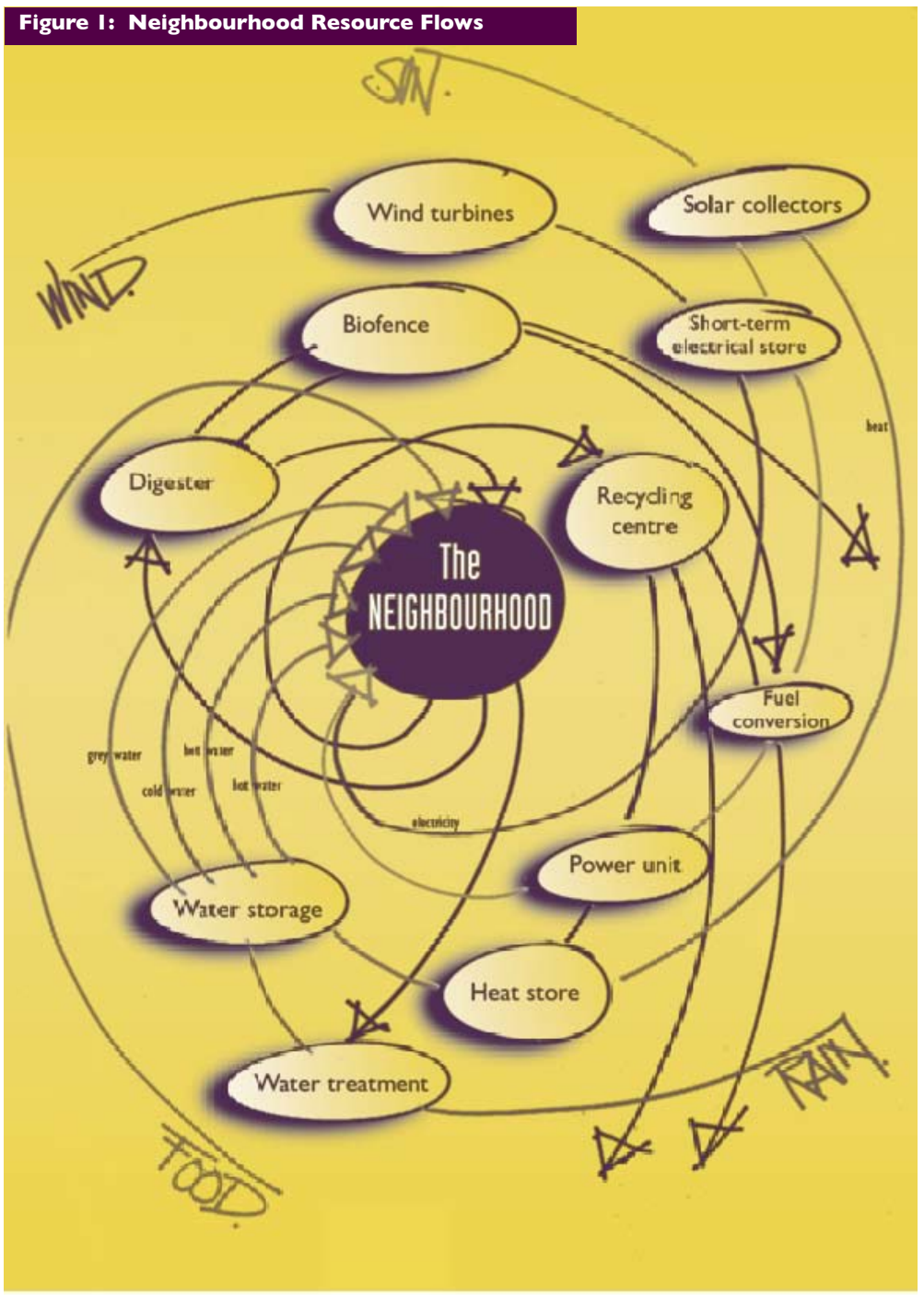
Figure 1 attempts to represent the swirl of interacting processes involved in achieving this. First comes the primary resources - wind, sun, and rain, to which are added to and subtracted from, various forms of waste and resource use. Feeling like Harry Beck when he first sought to make sense of the London Underground, the flow of resources around the system soon became impossible to follow making it difficult to try out different options.

To simplify the model we therefore took advantage of our closed system and adopted a resource balance sheet approach. In this way the precise linkages between the different proposed systems did not need to be worked out first. All the useable resources in the area were totalled up and matched with the resource requirements. Systems could then be devised to link the two although, of course, these systems also produce by-products. We put each process onto a different page of the balance sheet so that, as the system evolved, we were able to replace or adjust different processes without having to track changes through the whole model. The model, illustrated in Figure 2 (back page), has allowed us to study different scenarios and to evaluate them in empirical terms. We have also been able to adjust parts of the system to optimise efficiency and also to produce data to size the infrastructure and plant.

So what does this model tell us? It shows that the autonomous urban neighbourhood is, in theory, possible. With a grey water recycling, for example, along with standard water-saving measures, there is enough rainwater landing on the roofs of the buildings to supply the entire neighbourhood with its water needs. This rain water can be purified for drinking, cooking, bathing and washing. These in turn produce waste 'grey water' which is cleaned to create 'green water' to for toilets, washing machines and showers, (but not baths because, as most parents know, children drink bath water). The waste from these processes then drains as black water that goes to the neighbourhood sewage processing plant.

This sewage plant produces enough methane by digesting sewage and organic kitchen waste to supply all the neighbourhood's gas powered fridge/freezers or all the gas hobs (using a mix of existing and 'second generation' appliances) and nearly half of the ovens. There may however be a sales problem if people think too hard about what they are cooking with!

Figure 1: Neighbourhood Resource Flows



Those with a stereotypical view of Manchester will not be surprised that we are self-sufficient in water. It may however surprise you that with only 70% of the roof covered in solar cells we are also self-sufficient for heat and power. Research into the most efficient solar collectors has uncovered a product based on a Stirling (heat) engine linked to a high temperature vacuum flat plate collector, rather than photovoltaics. This has the potential to produce electricity at the same or greater efficiency as a PV but also produce heat as a by-product at a rate comparable with the most efficient evacuated tube solar thermal collector.

Those with a stereotypical view of Manchester will not be surprised that we are self-sufficient in water. It may however surprise you that with only 70% of the roof covered in solar cells we are also self-sufficient for heat and power

In theory this means that there is no need for a central Combined Heat and Power [CHP] unit. However it is likely that a CHP plant would form part of an energy storage system. Surplus electricity in the summer would be used to produce hydrogen that would be stored for use in a CHP unit (or mixed with biogas) when it is needed. It has even been suggested that the Stirling engines could use hydrogen as well as heat from the solar collectors, which would cut costs for capital equipment. Excess heat produced throughout the summer would then be stored to provide for winter heating and hot water, possibly in the form of hot water storage. As the losses involved in long term energy storage are quite high we have also assumed that there will be some form of short term power storage to remove the peaks and troughs. There are various products (such as fly wheels) designed to produce uninterruptible power supplies for industry, which we have been investigating.

Harnessing the wind's energy in an urban environment is another area we have looked at. However, on the basis of current information, it would appear that even with the most efficient turbines and careful building design the contribution from the wind is likely to be minimal.

We have calculated that there could also be sufficient electricity to power the neighbourhood's car pool. Waste paper can be converted to ethanol to power a limited number of converted traditional internal combustion engines for flexibility on longer journeys while short journey needs are catered for by a pool of electric vehicles with a range of up to 125 miles. We have looked at fuel cell vehicles although the losses involved in converting electricity to hydrogen are likely to make it more efficient to use electrical energy directly.

Next steps

Autonomy is therefore possible, if not maybe yet viable. It is however likely to be no less viable than individual autonomous homes. In the next part of the research we will be testing the practicality and viability of these systems. The first part of this will be the design implications of these systems. Collecting rainfall and solar energy will affect the outside of the building while the storage of water, heat and energy will affect the interior. We are going to need a substantial amount of infrastructure and a central plant. Should this form a central feature to raise awareness of environmental systems in the neighbourhood?

This design work will allow us to assess overall costs. While there will be scope for some savings overall it is inevitable that the system will be expensive. But sunlight will always be free while the costs of oil and gas continue to rise both financially and environmentally. These costs also need to be offset against the benefits of more resource efficient on-site supply systems, the whole-life costs of maintaining and running these systems, and the added value of these new local services. Indeed practical experience with developers over the last twelve months suggests than we may be closer to viability that we first thought. The key to this is not the expense of a particular system or specification but the urban economies of scale and access to finance from revenue streams from utility bills. It is these innovations that will eventually make the autonomous urban neighbourhood a viable reality.

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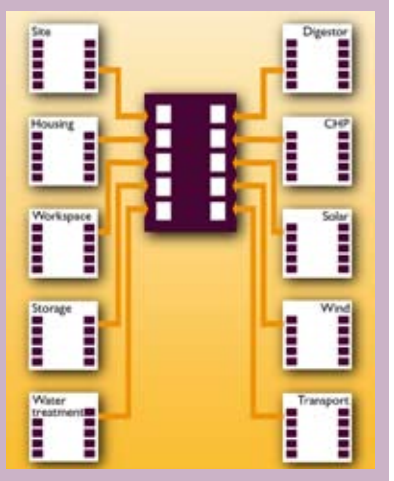
Figure 2: The Neighbourhood Metabolism

Site footprint	m²
Buildings	13,779
Landscape	639
C-yard&roads	21,870

Housing	units
5 bed	10
4 bed	20
3 bed	90
2 bed	120
1 bed	60
TOTAL	300
people/ household	2.4

Workspace	area m²
live/work	750
retail	750
office	2,000
B1	2,800
B2	4,000
TOTAL	10,300
Workforce	300



As part of the research a computer model has been developed (illustrated above). This represents the balance sheet for resource-use in our neighbourhood.

Supply and Demand		Housing	Workspace	
Water:	white water	-9,423,220	-312,000	litres
	green water	-15,181,430	-234,000	litres
	grey water	17,490,917	234,000	litres
	black water	4,410,115	525,013	litres
Organics:	human solid organics	41,672	4,961	kg
	kitchen waste	50,100		kg
	Waste paper	55,500	8,400	kg
Energy/fuel:	Methane	-56,280		kWh
	electricity	-428,634	-488,150	kWh
	heat	-2,215,026	-955,000	kWh

Solar		
Energy/fuel electricity	1,036,743	kWh
heat	3,298,727	kWh
Energy Storage		
hydrogen	524,366	kWh
electricity	-160,266	kWh
t	-280,542	kWh
CHP		
Energy/fuel, hydrogen	-520,111	kWh
electricity	208,044	kWh
Transport		
Energy/fuel electricity	-149,780	kWh
Waste paper	-63,900	kg
Ethanol	-129,509	kWh

Water Treatment			
Water	rain	-11,160,990	litres
	white water	10,044,891	litres
	green water	17,724,917	litres
	grey water	-17,724,917	litres
Energy/fuel	electricity	-45,055	kWh

Digestor			
Water:	black water	-5,240,077	litres
Organics:	human solid organics	-14,016	kg
	kitchen waste	-12,525	kg
Energy/fuel:	methane	56,645	kWh
	heat	-16,993	kWh

Balance Sheet		total production	total consumption	% spare capacity in system
Water (litres)	rain	11,160,990	-11,160,990	
	white water	10,044,891	-9,735,220	3.00%
	green water	17,724,917	-15,415,430	13.03%
	grey water	17,724,917	-17,724,917	
	black water	5,240,077	-5,240,077	
Organics (kg)	human solid organics	47,304	-14,016	
	kitchen waste	50,100	-12,525	
	paper	63,900	-63,900	
Energy (kWh)	methane	56, 646	-56,280	0.65%
	ethanol	129,509	-129,509	
	hydrogen	524,367	-520,111	0.81%
	electricity	1,244,787	-1,271,885	1.92%
	heat	3,506,772	-3,467,561	1.12%

IN BRIEF

A New England in Brighton

In the teeth of controversy the SUN Initiative has been working on a master plan for the Station Site in Brighton. Following the rejection of a Sainsburys supermarket at an appeal last year the SUN Initiative has been amending the scheme to include a smaller supermarket with housing on top along with a mix of high-density housing blocks, a hotel and workspace. The supermarket was opposed by a very effective local campaign organised by BUDD (Brigh-ton Urban Design and Development). Keith Taylor a member of BUDD and a local Green Councillor has said that the new scheme is 'miles better than the original one' but they remain implacably opposed to a supermarket in whatever guise. The SUN Initiative by contrast believes that this is exactly the sort of model that we should be developing as an alternative to out-of-town superstores.

Manchester Resource Exchange

Working in partnership with Manchester-based recycling company EMERGE the SUN Initiative has recently secured ERDF funding to work up plans for an urban resource exchange. Light industrial units will house businesses recovering, re-using, remanu-facturing and recycling domestic and com-mercial 'waste'.

Uses are likely to include furniture, white goods and computer recovery, a kerbside recycling company, electric vehicle services, and metal and timber stockholding, fabrication and carpentry. Offices will house an enterprise centre delivering services such as a waste exchange network, eco-design consultancy, training programmes, as well as the research and development of new business opportunities.

Details of the project from Nick Dodd, URBED (tel. 0161 226 5078) or Paul Cobban, EMERGE (0161 232 8014)

Building the 21st century home: The sustainable urban neighbourhood
David Rudlin & Nicholas Falk
Published by: The Architectural Press 1999
Price: £19.99 **ISBN:** 0 7506 25287

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The SUN Project is managed from URBED's Manchester office by David Rudlin, Nick Dodd and Hélène Rudlin. Additional material on this issue of SUN Dial has been provided by Charlie Baker

The views expressed in this newsletter are those of the authors and do not necessarily represent those of the project's sponsors

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Why NOT get involved?

The SUN Initiative has been established as a broadly based network of organisations and individuals interested in the sustainable urban development. We do not have a membership but if you do not normally receive this newsletter please contact us and we will add you to our mailing list.

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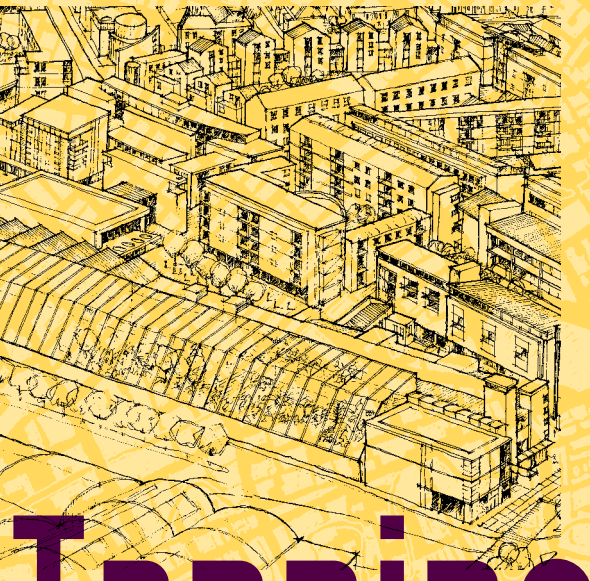
Manchester 1774
This map from the 18th century shows a compact market town surrounded by market gardens that had changed little over the previous hundred years. It is one of a series of images of the four ages of Manchester prepared for an exhibition at CUBE (Centre for the Understanding of the Built Environment) in Manchester. The circle which is common to all of the maps represents a mile from from Piccadilly Gardens.

18th century

the Sustainable URBAN NEIGHBOURHOOD Initiative



Tapping the potential

Planning policy for housing now requires local authorities to undertake urban capacity assessments. URBED were commissioned last year to produce a good practice guide on this issue – due out this summer.

David Rudlin describes the thinking and research behind the guidance.

Welcome to the eleventh issue of SUN Dial, the journal of the Sustainable Urban Neighbourhood Initiative. In this issue we develop two themes.

The first is the relationship between where we live and work. In our lead article David Rudlin discusses the findings of research on measuring urban capacity, followed by articles exploring mixed-use urban design concepts for the UK and Netherlands, Location Efficient Mortgages, and the potential of workstations to reduce commuting.

The second theme is regeneration and the role of the social economy. O-Regen describe their long-view of regeneration in Waltham Forest, while the Aston Re-investment Trust report on the financing of new enterprises in Birmingham. We also look at how a communities in Manchester and Liverpool have been developing their own computer networks and community garden projects.

Compact sustainable cities or town cramming? – the accommodation of more homes in urban areas has dominated the recent planning debate. Most people now accept the benefits of urban housing – saving the countryside, promoting sustainable settlement patterns, reducing car-use and regenerating urban areas. Concerns remain however about the capacity of many urban areas to accommodate more housing and the resultant risk of 'town cramming'.

New Planning Policy Guidance on housing (PPG3)[1] includes a presumption that new housing should be built in urban areas. It does this by introducing a sequential test allowing greenfield sites to be built upon only once urban housing sites have been exhausted. To inform this judgement PPG3 requires local authorities to undertake urban capacity assessments to measure the amount of housing that can be accommodated in urban areas (and therefore the numbers of homes that will require greenfield sites).

This all sounds logical but it begs the question what is an urban capacity assessment and is it really possible to measure the housing capacity of an urban area? To answer these questions URBED were commissioned to produce a good practice guide on urban capacity to be published Summer 2000. This is based on a local authority survey and 15 case studies of recent capacity studies.

A huge number of urban capacity studies have taken place in recent years. There is probably nowhere in England that has not been studied at a regional, county or district level. These studies vary enormously however they all follow 4 basic stages as described below:-

Sources of Capacity:

At the outset of a study it is important to establish the capacity sources to be addressed. Some studies look at specific issues – such as living over the shop – however where the aim is to measure total capacity it is important to consider all potential capacity sources. Data from our previous work for Friends of the Earth[2] is used in the DETR work to explore the relative importance of different capacity sources. This illustrates that the brownfields that dominate the debate make up as little as a third of total capacity. By cross referencing the case studies against these previous findings we concluded that some studies are ignoring more that half of the housing capacity potential.

2.Identifying the Opportunity:

The next stage is to identify the sites and buildings where potential capacity exists, be they brownfield sites, opportunities for intensification or buildings for conversion. This involves trudging the streets and pouring over maps and aerial photographs. Some studies survey the whole of their area but where this is not possible one of two techniques is used:-

Typical urban areas: This involves dividing the urban area into typical types. A series of case studies are selected for each typical area and surveyed in detail. Assessments of capacity can then be grossed-up to give an estimate for the whole study area. This technique was used by 5 of our 15 case studies. We were however concerned that it had weaknesses. Indeed it was a bit like searching for the weeds on a path by looking only at the flagstones and ignoring the cracks.

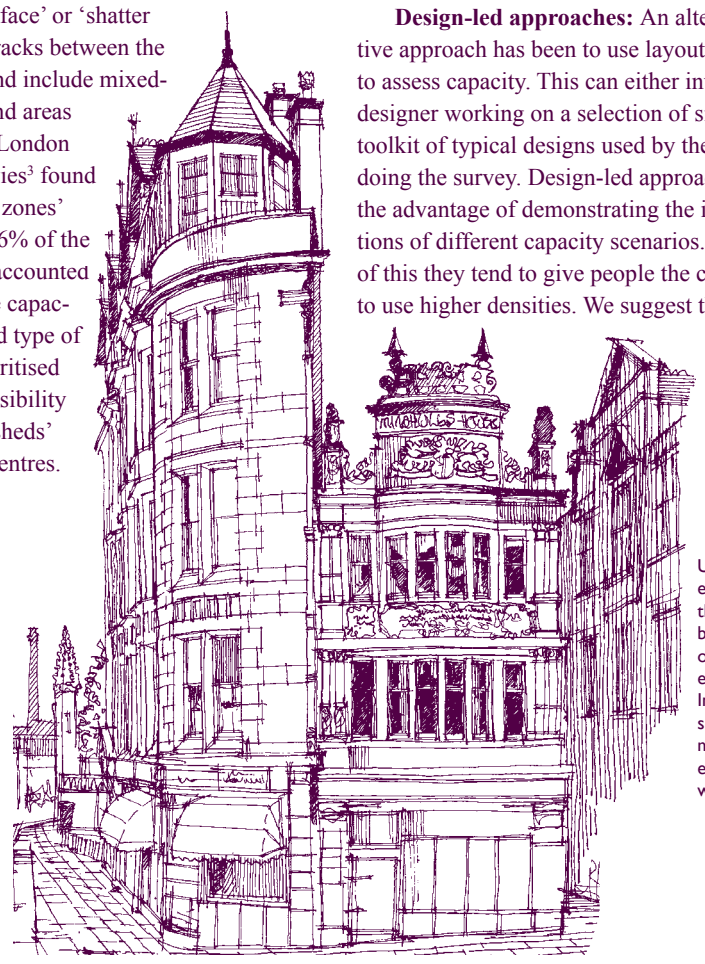
Priority areas: An alternative approach used by 4 case studies overcame this problem by focusing the search on 1) areas likely to yield significant capacity and 2) areas where housing should be encouraged. The former includes 'interface' or 'shatter zones' – the cracks between the flagstones – and include mixed-use districts and areas of decline. In London Llewelyn-Davies[3] found that 'interface zones' covered just 16% of the land area but accounted for 60% of the capacity. The second type of area to be prioritised are high-accessibility areas or 'ped sheds' around local centres.

3. Measuring the capacity:

Having identified the sites and buildings where there is potential capacity, stage three involves estimating the amount of housing that can be accommodated on each opportunity. We identified three main techniques for doing this:

Density guidelines: The easiest technique is to apply a density guideline. Most of the case studies used 25-35 houses/hectare for suburban development, 50-60h/ha for urban development and some also had a city centre guideline of up to 120 h/ha. In the light of PPG 3 it is likely that these density guidelines will need to be increased. These are net densities so that it is important to convert the guidelines to gross densities for larger sites and the guidance suggests a series of gross to net ratios to do this.

Design-led approaches: An alternative approach has been to use layout designs to assess capacity. This can either involve a designer working on a selection of sites or a toolkit of typical designs used by the people doing the survey. Design-led approaches have the advantage of demonstrating the implications of different capacity scenarios. Because of this they tend to give people the confidence to use higher densities. We suggest that studies



Urban capacity is an elastic concept. If there is pressure to build and a shortage of sites developers will find a way. Indeed it is this pressure that has created many of the urban environments that we value today.

urbed

should make use of some design exercises even if density guidelines are used for most sites.

Yardsticks: Many capacity sources are not so easily measured. These include living-over-the-shop, the conversion of commercial buildings, the subdivision of larger homes and the intensification of existing residential areas. In all of these cases we recommend that the use of simple yardsticks applied to existing data sources will produce an order-of-magnitude answer that is as good as can be achieved through extensive survey work.

4. Discounting procedures

Most capacity studies make a distinction between unconstrained and constrained capacity. The former is the maximum amount of housing that could possibly be developed. The latter is the capacity that is likely to come forward under different scenarios as a result of judgements about the suitability and availability of different sites, planning policies, public attitudes and market viability. The adjustment between unconstrained and constrained capacity is made by applying discounting assumptions which in most studies are around 60%. However we found no study that had developed a credible justification for the discounting system. Indeed it almost seemed that studies were starting with an answer in mind and constructing a set of discounting assumptions to produce this answer. The danger of this is that the study ends up projecting existing market rates – in which case one might question why go to all the effort of undertaking the study in the first place.

> No study had developed a credible system to discount capacity - it almost seems that studies were starting with an answer in mind and constructing a set of assumptions to produce that answer

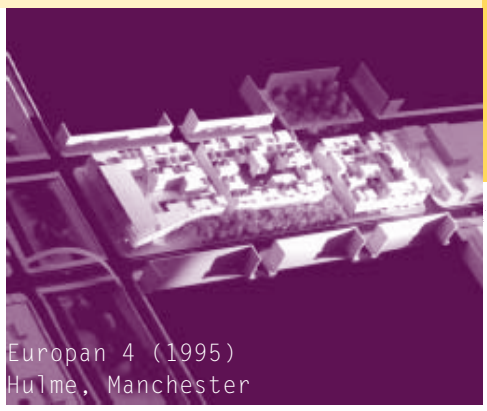
Conclusions

We conclude that many of the capacity studies undertaken in recent years are flawed. They have failed to consider all forms of capacity and many have actually identified less capacity than has historically been taken up by the market. It is important to understand that capacity is not a finite quantity that can be measured objectively. London, for example, has less capacity than most other areas and yet also has the highest proportion of housing built within the urban area. The reason for this is the intense demand to build and live in London, which means that developers are more active in seeking out capacity. The willingness of developers to seek out capacity is therefore dependent on the amount of easily-developed greenfield land available for development. If a pessimistic urban capacity assessment leads to a large number of greenfield allocations there is a danger that it will become self-fulfilling by removing the incentive for developers to seek out urban capacity. Urban capacity studies therefore have an important role to play as part of policies to ensure that more homes are built in urban areas. They are however a creative tool not an objective system. At the end of the day judgements about how much housing can be accommodated in urban areas are political decisions. Capacity studies should inform but cannot replace these difficult decisions.

1. Planning Policy Guidance Note 3: Housing - DETR March 2000
2. Rudlin D. - Tomorrow a peaceful path to urban reform: The feasibility of accommodating 75% of new homes in urban areas – Friends of the Earth – 1998 (see also SUN Dial 7)
3. Llewellyn-Davies – Sustainable Residential Quality - LPAC 1998

S333 Showcase

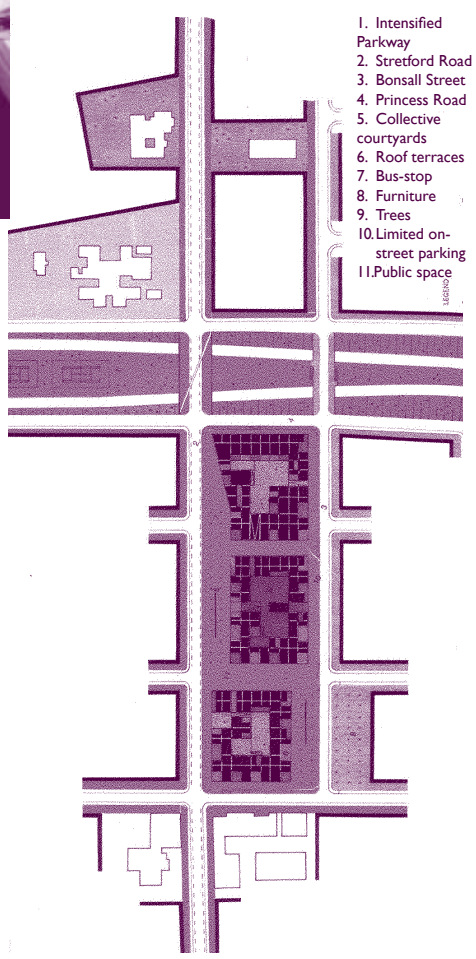
Architects S333 design innovative city blocks which explore a fusion between the comfort of suburban living and the qualities of city living. A few years ago the practice won the Europan Ideas Competition for a site next to the SUN Offices in Hulme. In this article **Chris Moller** describes this scheme along with another currently on site in Groningen.



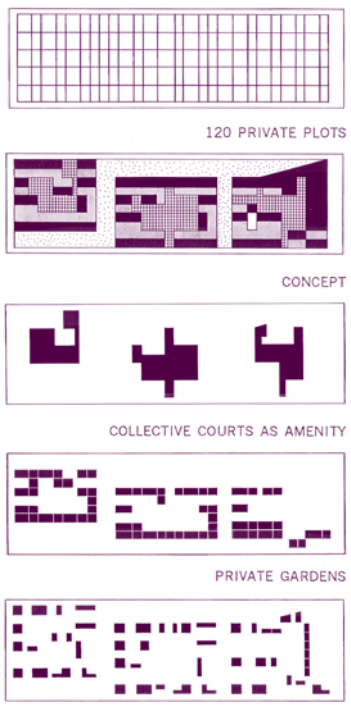
Europan 4 (1995)
Hulme, Manchester

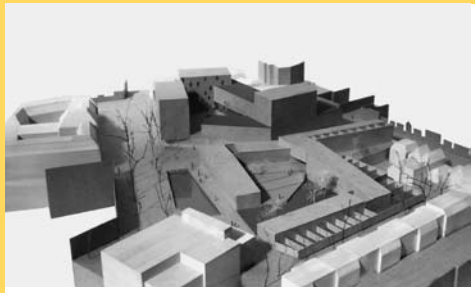
The proposal attempts to create a conceptual framework that accepts the historical discontinuities of the twentieth century landscape while at the same time imagining a critical density for Hulme. This is ensured through the sequential scaling of public to private spaces from the level of the city's public infrastructure to the proportional intimacy of one's own patio. 120 'private plots' were distributed on the site through an organisational system, a kind of 'tartan matrix', providing every dwelling with ground access and private gardens or roof terraces. The system was allowed to self-organise, create coupling, form groupings and to optimise the conditions of the site.

The project developed to form three compact urban blocks of mixed programme that allowed permeability through the site while maintaining ground level access to all the dwellings. A fusion of the comforts of sub-urban living with the sometimes contradictory qualities of city living is achieved through the creation of a new courtyard/patio house hybrid that maximises intimacy without disassociating itself from its context.



Above and top: The plan and model of the scheme.
Below: The hierarchy of spaces, diagrammatically and in section





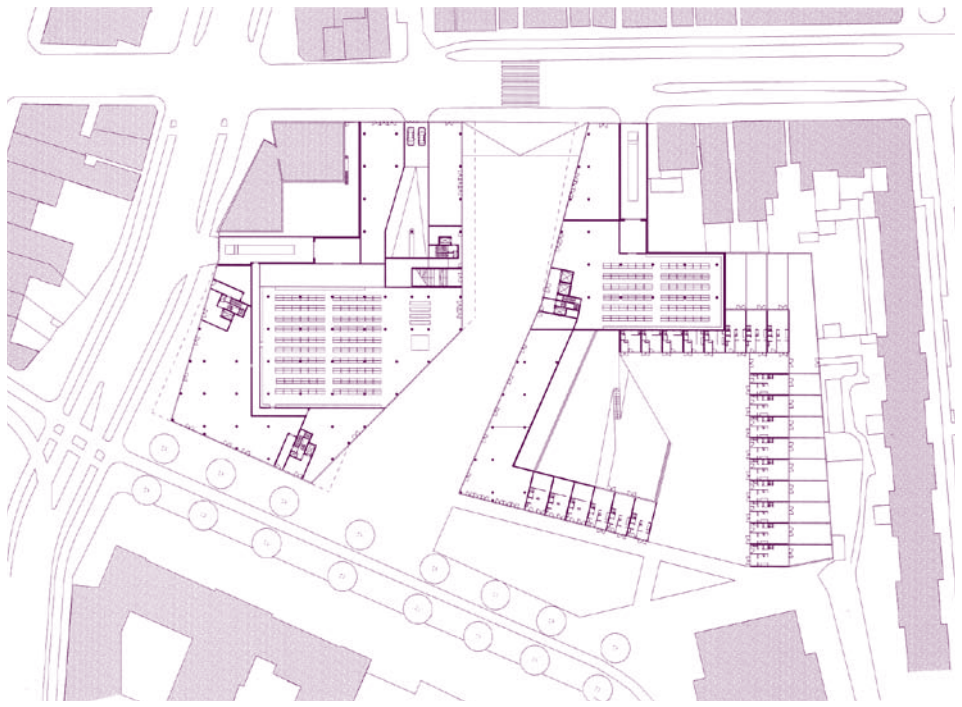
Europan 3 (1994)
Groningen (Schots 1 & 2),
Netherlands (currently under construction)

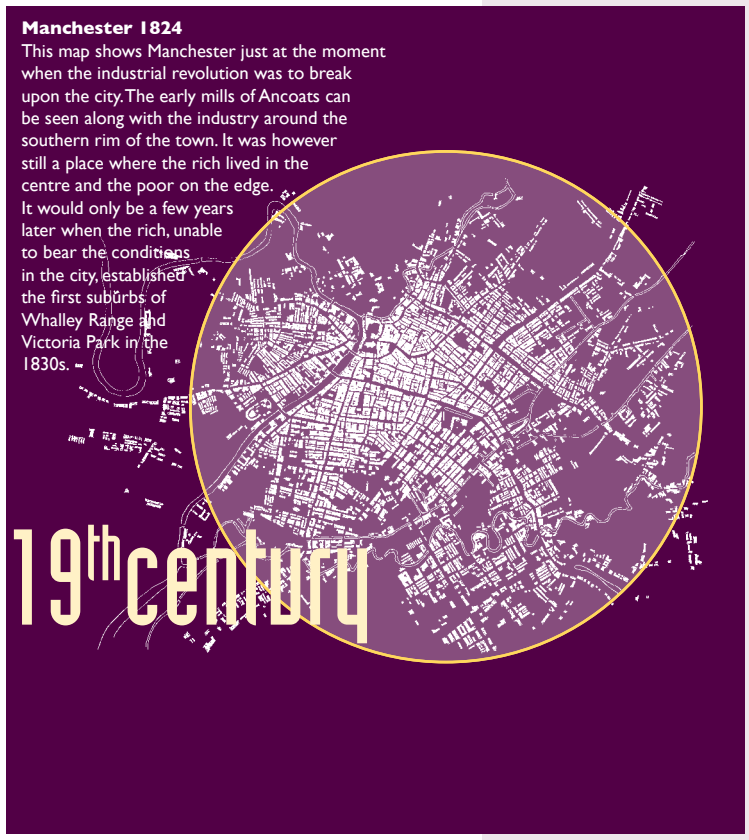
The theme for the competition 'At home in the city - Urbanising Residential Neighbourhoods' sought proposals that rethought the relationship between the city's public and private spaces, and the spatial scaling from domestic intimacy to urban collectivity.

Schots 1 & 2 are conceived as large urban forms sculpted by the existing movement flows and sight lines working in and around the site. Housing, shopping, day care, recreation, and parking occupy vertically organised plateaus whilst movement between them is mostly horizontal. This is complimented by a rich network of roof gardens, winter gardens and courtyards. Although Schots 1 & 2 are connected by an underground parking lot, and at street level with supermarkets and smaller shops, they evolve quite separately. Schots 1 & 2 offer space to new domestic cultures and concentrate activities in order to reinforce the city. This creates in effect a continuation of the urban landscape: something to look at as well as be in.

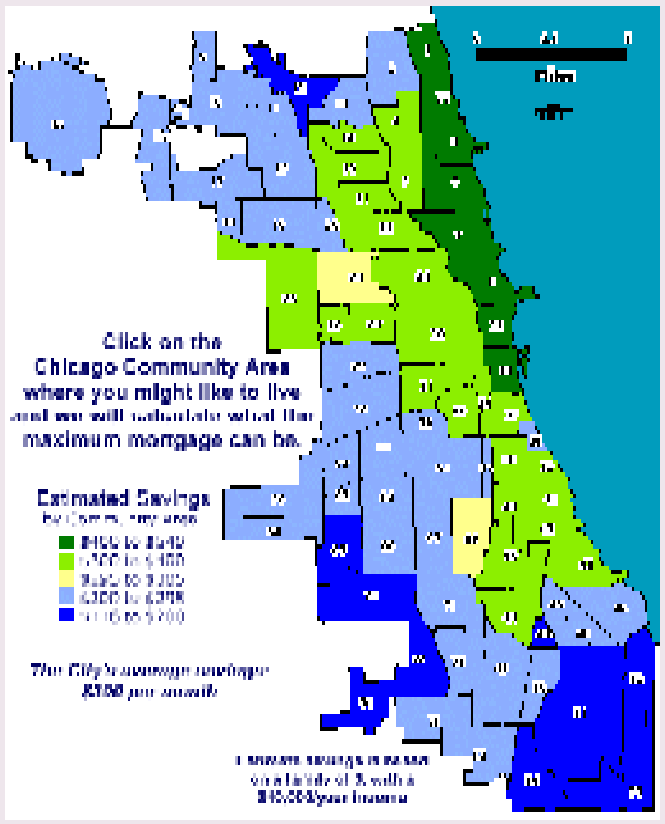
The new programme was introduced as 'events', to set in motion and link into larger existing processes. These elements were defined as attractors (supermarkets, cinema, theatre, health centre, hot plate), condensers (cafes, bars, social services, interactive techno devises, creche, play areas), and mediators (landscaping, interspatial domestic zones, street furniture, screens).

Schots 1 & 2 form an alternative to having





Manchester 1824
This map shows Manchester just at the moment when the industrial revolution was to break upon the city. The early mills of Ancoats can be seen along with the industry around the southern rim of the town. It was however still a place where the rich lived in the centre and the poor on the edge. It would only be a few years later when the rich, unable to bear the conditions in the city, established the first suburbs of Whalley Range and Victoria Park in the 1830s.



The system can be viewed on the LEM website by selecting a geographical area and then clicking on 'proceed' at which point you will be asked to register to use the service.

The Location Efficient Mortgage (LEM) is an innovative new mortgage product being market tested in the USA. **James Hoeveler** describes how it is designed to make urban living financially attractive to homebuyers. As such it may be of great relevance to UK attempts to promote urban living.

The Location Efficient Mortgage

Making Urban Living Affordable

The mortgage is designed to promote 'location efficiency' by helping people buy homes in urban neighbourhoods where they can live more locally, use their car less and make use of public transportation to travel to work, shops, neighbours' homes, and other destinations. Location efficiency, which can be measured, converts into financial savings compared with living in a less efficient suburban areas. People living in a location efficient community can do without a car, or if they own one, they will tend to drive it less than 750 miles per month. The resulting savings can then be used toward a mortgage. The LEM enables participating mortgage lenders to recognise the savings and then 'stretch' their standard debt-to-income ratios.

Accessibility v. Mobility

The difference in the cost of transportation between neighbourhoods which promote car based mobility, and those where car use is reduced through greater accessibility, can be significant. Researchers have found that households in mobility-based neighbourhoods in Chicago pay on average $662 per month for transportation, not including the capital cost of their motor vehicles. Households in a typical Chicago neighbourhood that stresses accessibility will spend about $380 per month on transportation. If one 'lived locally' and relied entirely on public transportation, almost all of that $662 per month could be saved. That could be a savings of as much as $7,000 per year, and for the purposes of assessing a Location Efficient Mortgage it is called the *Location Efficiency Value* or *LEV*.

In the spring of 1996, a research team of 3 non-profit organisations began work on the Location Efficient Mortgage® (LEM). The LEM would enable home buyers to shift a portion of these savings to housing. In 1998, the Federal National Mortgage Association (known as 'Fannie Mae'), America's largest source of financing for home mortgages, agreed to a $100 million demonstration of the LEM in Chicago and Los Angeles. They later expanded the test to include Seattle and the San Francisco Bay Area. Likely LEM borrowers are low - and moderate - income people, especially first-time home buyers, who are interested in living in more densely populated urban areas served by public transportation.

In the qualification ratios and standards adopted by Fannie Mae, the LEV is added to household income so location efficiency has a real and a significant impact on homeownership. The combination of higher qualifying ratios and LEV dollars added to income for the purposes of ratio calculations enables the LEM borrower to qualify for mortgage or to get a larger mortgage than is possible with any other product now on the market. Depending upon the location, the household size, and the number of vehicles owned, a LEM borrower could reasonably be expected to manage a mortgage that is $15,000 to $50,000 more than other mortgage products.

For years the housing market has been stacked in favor of suburban housing. Urban housing has been seen as a poorer, more risky investment by housebuyers and indeed mortgage companies. Location Efficient Mortgages turn these assumptions on their head and could play an important role in convincing people of the economic sense of more sustainable urban lifestyles.

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An Example of How the Location Efficient Mortgage Would Work

Two brief examples of a hypothetical buyer in Chicago will help to illustrate how the LEM works. In the first scenario, we have assumed that a buyer is interested in purchasing a home in Chicago's Rogers Park. The household has a joint income of $50,000/year. The borrower is looking at a home priced at $169,900, is seeking a 30-year mortgage with an interest rate of 8.5%, and has a $5,000 down payment available. The borrower currently has a monthly debt of $200, owns one car, and will use one monthly transit pass (currently costing $75/month) to meet her/his travel needs.

Based on the personal financial information and mortgage values provided by the borrower, the LEM Worksheet calculates borrower-specific cases (described below). The LEM worksheet merges all this information, calculates a Location Efficiency Value (LEV), and enters a predetermined portion of the LEV into the mortgage formula calculation.

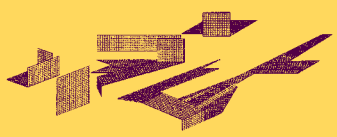
(1) the **Base Case** for Metropolitan Chicago, which represents a hypothetical "least efficient location" within the metropolitan area;

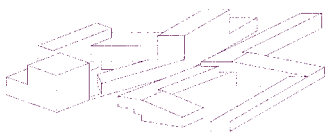
For the "Base Case" the average household would own 2 cars and drive around 20,000 miles a year. This activity would cost $662 per month or $7,944 per year. According to an LEM analysis, if the borrower conformed to the transportation habits of average households in the Base Case, the LEV would be very low or near to zero, they would have very high transportation costs, their maximum debt ratio would be 36% and the maximum they would be qualified to borrow with a standard mortgage would be $121,250.

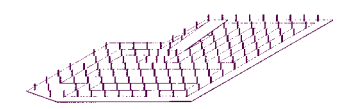
(2) the **Zone Case**, which reflects the Applicant's prefer-

Chicago

Within the Zone Case the household would own one car and would drive less than 5,000 miles per year, and will spend $88 per month on one transit pass.. The average monthly cost of this activity would be $358 or $4,296 per year. Under these conditions, the borrower would achieve LEV savings of $510.23 per month, would have an adjusted total debt ratio of 37.32%, and by using an LEM would qualify to borrow $164,803, which is enough to purchase the home. If the same borrower owned no car, he/she would have no auto costs and would be likely to achieve a further corresponding increase in the mortgage facility available.







to choose either the terrace house, the courtyard block or the apartment tower by creating a true mix of all of these. As your aspirations change one can remain in the neighbourhood. This new hybrid structure is worked out to give a high degree of combinations for mixed-use, different materials, and landscapes (110 winter gardens, 105 apartments, 44 houses,14 patios, 7 community roof gardens, 4 vertical gardens, 2 courtyards, 2 supermarkets, 1 police station, a playground and a glazed arbour). The blocks also explore a three dimensional interpretation of Groningen's ecological corridor (a linked series of green spaces that facilitates the flow of wildlife and planting) and new forms of semi-public space. This diversity delivers 45 different dwelling types ranging from live/work apartments to a five storey townhouse

Biography
S333, studio for architecture and urbanism based in Amsterdam, is composed of a multi-national team of architects and urban designers led by four partners: Burton Hamfelt, Chris Moller, Dominic Papa, and Jonathan Woodroffe.

They won the International Competition for the Revitalisation of Samarkand, CIS in 1991 and two Europan competitions: Europan 3 in Groningen, The Netherlands in 1994 (currently under construction), and Europan 4 for Manchester, England in 1996. They were recently commended for the '1999 Young Architects of the Year' award. This summer will see their project in Vijfhuizen exhibited at Expo 2000 in Hannover. For the year 2001 the office has exhibitions planned for both Rotterdam and Paris.

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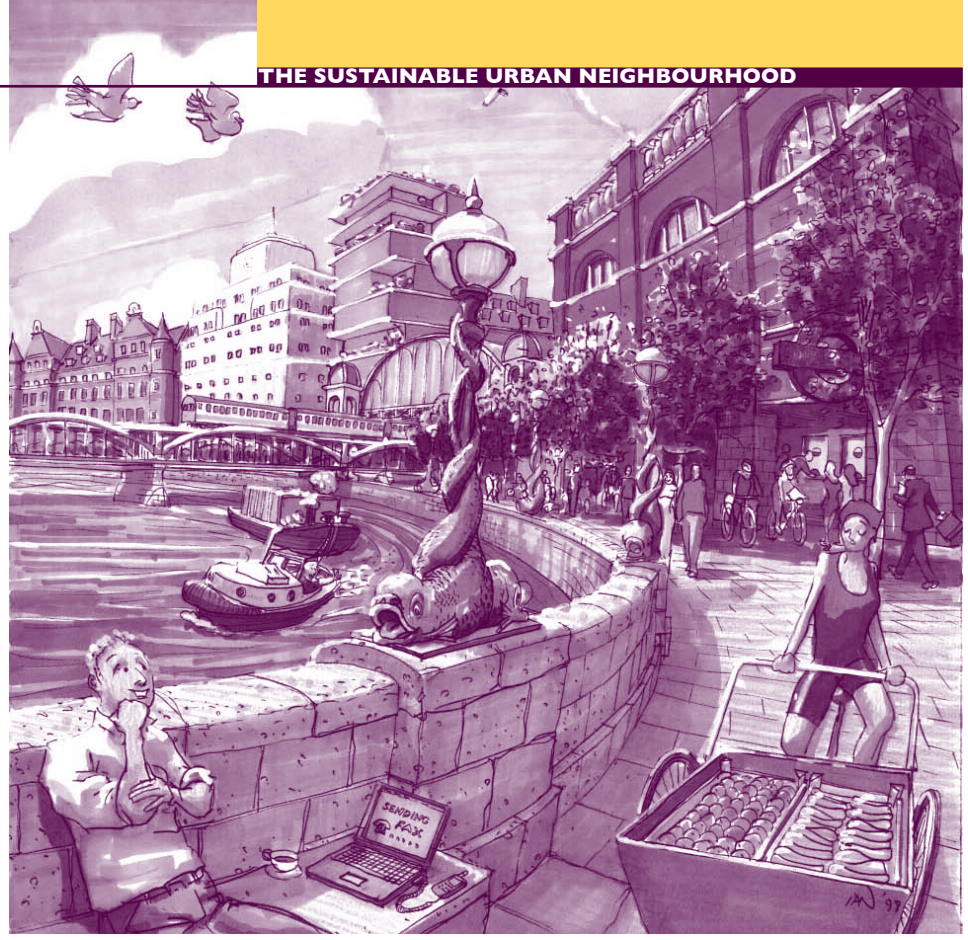
Community Workstations



As patterns of work change so should our work environments. **Duncan Baker-Brown** explores one option that is being developed in Woolwich and Greenwich - The Community Workstation. Could this provide an alternative to the long commute into the city and could Workstations become a feature of railway stations?

As journalist John May stated in his article 'The Shape of Things to Come' in the Sunday Telegraph Magazine from November 1995 - the average worker in Britain spends 480 hours a year commuting, the equivalent of 60 work-ing days. But, as the government is find-ing reducing car journeys is not easy or indeed popular. The key to a change in work patterns os to move information rather than people.

With this in mind, we embarked on our 'Cityvision' research programme. We found that Information Technology (I.T.) was per-petuating the exodus from our cities. By the mid 1990s, the technology to work from home or 'tele-work' was allowing people to live in the countryside, perhaps in a new 'tele-village'. Nowadays this has spread with many people spending their day on a telephone in front of a VDU in a sub-urban or rural 'teleshed'. This perpetuates suburban sprawl and creates a deeper culture of 'haves and have nots'.

We wanted to find ways in which I.T. could create quality employment environments in urban areas. Surely, by enabling the individual to work or tele-work away from the main of-fice, IT could facilitate working near, or in, the urban home as easily as moving to new facili-ties on former green belt land.

We took London, as a model - initially taking a section from the City through Kings Cross and out to Enfield in the extreme North East. We looked at how locations differed, and how they might change if working and living patterns altered. The City, for example, is dominated by highly letable commercial space, which might be less desirable if employees spent more of their time working near home to reduce their commuting journeys by say 25%. The City would remain the public face of the company but the workforce would be distributed around the city freeing up roads and railways.

With this in mind we proposed a working facility that could serve a local working/learn-ing population - A Community Workstation. We all do very different jobs, but more and more of us (up to 70% of the population of Greenwich for example) work in service industries and, more particularly, with comput-ers. If we created a centre that had the best IT and communications facilities, with teaching and technical back-up, a whole cross-section of the community could use it, whether it was for an hour a week or every day. By taking on the ethos of the Internet as a forum for free exchange, people who have previously found problems fitting into conventional types of working environments would be happier to work via the ever expanding communication networks - $60bn worth of work was undertaken over the internet in the US alone last year.

The emphasise of our studies altered when a number of local authori-ties expressed an interest in building Community Work Stations. The London Borough of Greenwich seemed the most committed to our ideals. Over the course of a year we developed an idea for a generic Community Work Station to attract funding. It brought in other partners - Cable & Wireless, SOLOTEC, GEMS and Woolwich Technical College. Our idea was for a building that could fit into a typical high street. It would need to have a friendly and accessible ground floor environment which would provide cafe, exhibition and meeting facilities together with Internet access. To be a success it needed to appeal to a cross-section of the community, not just teenagers, so we had to make sure that it was not seen as a 'cyber' cafe.

The generic centre worked as a vertical hierarchy of spaces with hot-desking and tele-conferencing facilities on the first floor and more dedicated work stations on the second and third floors with technical and training facilities provided by Woolwich Technical College (as an outreach programme to their core curriculum). Isolation is one of the chief concerns of home-working or working from call centres. By paying special attention not only to the workstation facilities but to the social facilities beyond our Community Work Station, we provide a backdrop for informal social networking.

The end of a job for life may mean we will all be surfing the net looking for work. The idea of short-term contracts for a portfolio of clients - in effect being self-employed - is unsettling for many people. This is creating a need for 'hot-desking', flexibility and shared facilities. For many people these ideas are already a reality, for others they soon will be. The nature of workspace needs to respond to these new IT-orientated working patterns.

Each Community Work Station facility would be tailored to the needs of its com-munity. It must also adapt to changing needs requiring ongoing monitoring, research and de-velopment. Woolwich was initially expected to be primarily a training centre and, once trained, its users were expected to use it as a place to work. But Woolwich Technical College uncovered a greater need for existing SMEs to have a resource centre. The tele-services centre will therefore initially cater for existing small companies who are finding it difficult to keep abreast of the perpetual changes and updates in hardware and software required to remain competitive.

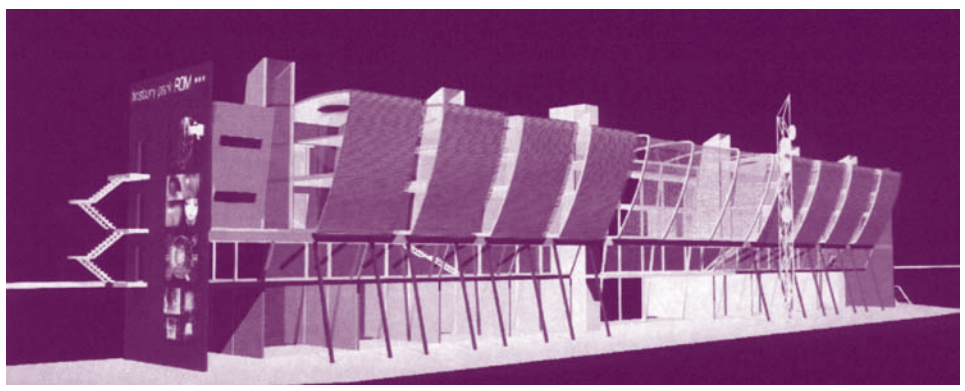
> People spending their day on a telephone in front of a VDU in a sub-urban or rural 'teleshed' perpetuates suburban sprawl. We wanted to find ways in which I.T. could create quality employment environments in urban areas

The project has inspired other projects - another tel-eservices facility for the Greenwich Mil-lennium Village and a Community Resource Centre for Norfolk Park in Sheffield. The most recent development is Baker-Brown McKay's COMStation, networked I.T. facili-tates adjacent to urban or suburban railway stations giving huge numbers of commuters the choice not to commute. COMStations are conceived as prefabricated buildings allowing components to fit on railway tracks thus avoid-ing road congestion.

It seems to us strange that so much effort is being put into housing design to reflect dif-ferent patterns of living while so little attention is being paid to workspace. The growth of in-formation technology and tele-working is radi-cally changing patterns of work and the work environment needs to respond. The Commu-nity Workstation provides a mid point between the corporate office and the spare bedroom. It allows footloose workers to reap the benefits of tele-working, gain access to state of the art I.T. without losing the benefits of a workspace community.

Below: Concep-tual design for Finsbury Park COMStation

Bottom: Greenwich Millennium Village tele-services facility



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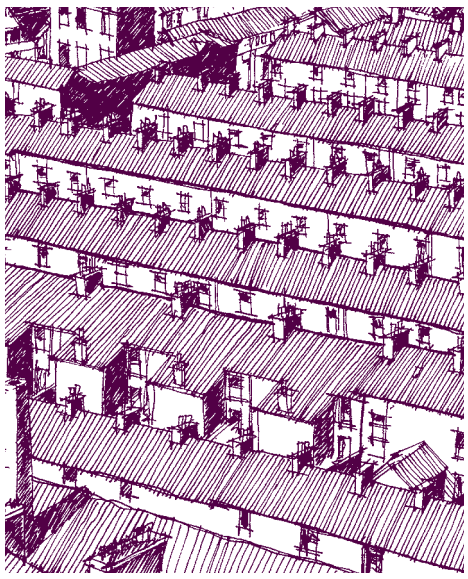
Manchester 1924
This map shows Manchester in the 1920s although much of the growth took place in the 50 years following the previous map when the city's population doubled every ten years. Today it is hard to imagine the power of the city at this time – what H.G. Wells described as a 'great swirling mass of humanity'. It was at once the city described by Disraeli as 'the most wonderful city of modern times' and at the same a place of deprivation and squalor as described by Gaskell and Engels.



Making an Exit

Regeneration is a time-limited process – be it SRB, New Deal for Communities or the earlier City Challenge and Housing Action Trust Initiatives. What happens when the time is up? **Marylin Taylor**, director of O-Regen in Waltham Forest explains their approach.

O-Regen is a new charity established as a Community Development Trust in Waltham Forest in East London. It has been set-up as one of the successor bodies to the Waltham Forest Housing Action Trust which is now nearing the completion of its task to redevelop four large social housing estates.

The Housing Action Trust's regeneration approach was characterised by broader concerns than just the physical transformation of the estates. Working to the vision of the tenant communities, major emphasis has been placed on quality client-centred housing management services, and on interventionist projects promoting community economic development.

In developing its exit strategy, the Housing Action Trust has put in place two new successor organisations to carry on this work. One is a tenant-led housing association, with a culture of responsive and accountable service-delivery. The other (O-Regen) is an organisation formed on the model of a Community Development Trust committed to the provision of integrated community economic development programmes. O-Regen will also take ownership of the community centres constructed as part of the redevelopment. These are quality buildings that require considerable revenue input to sustain their management and effective operation into the future.

Whilst closely linked, the roles of these two agencies reflect the issues residents identified as critical to improving and sustaining their quality of life. These views emerged from the imaginative four-day Citizens Jury that the Housing Action Trust ran in 1999. The question posed was *'What needs to be done by 2010 to achieve and maintain a good quality of life for residents in and around your neighbourhood?'*.

Firstly, and most fundamentally, residents stressed the importance of integrating the former high-rise estates into their surrounding neighbourhoods. In establishing the Development Trust care has been to ensure that this agency takes a neighbourhood approach to delivery of all its programmes. The new community buildings that O-Regen will own and manage provide critical bridges between the new streets and the surrounding housing. New local shops similarly attract people into the area creating valuable footfall in what were previously no-go areas.

> Our residents have definite views on how they want their neighbourhoods to be. They are very clear that this requires a 'neighbourhood' approach, not an estate one

Secondly, they also wanted to see increased community accountability by the major statutory service providers.

Thirdly, residents have been unequivocal in their view that the new neighbourhoods need continuing employment and training support. There is a particular need to work with young people to move them on from actual or potential exclusion to aspiration and achievement. These programmes need to be available for at least 15-20 years to make a difference to areas which have historically been disadvantaged and failed tio meet their economic potential.

The establishment of O-Regen has been an important part of the exit plan. But creating sustainable exit vehicles is not easy. O-Regen was set up some five years ahead of the HAT's exit. Although this has created additional complexity in terms of organisational relationships, it has given us time to establish our programmes and prepare credible business and funding strategies based on reality rather than wish lists. Most critical to this has been the strategy relating to endowment and asset transfer, as the overall aim is to create a body capable of some independence of action beyond shortlife funding streams and the requirements of annualised funding.

Our business plan demonstrates the leverage potential of the public injection of funds we are asking for by making explicit the link to the new programmes we have been able to pull into our portfolio, such as New Deal, Healthy Living Centres, SRB etc. In this way everyone can have certainty that the neighbour-hoods will have 15 to 20 years of sustained community and economic development programmes and a strategic approach to the implementation of the raft of new initiatives coming on stream during the period.

Current local facilities managed or co-managed by O-Regen include:

- Click - new Information and Communication Technology learning centre.
- Epicentre - community facility and conference venue
- Paradox - community and fitness Centre in South Chingford
- Bell Centre - community crèche pre-school

Waltham Forset - How to make an exit...

The key lessons to draw from our experiences in bringing to a close a short-life regeneration initiative are as follows:

1. That long-term sustainability should be a key objective from the start, and programmes and structures established accordingly. There should be a clear strategy for the future ownership and management of community buildings, which should be designed with income-generation in mind, and planned in partnership with other key local agencies.

2. That programmed interventions within socially excluded neighbourhoods need to be sustained for minimum of 15-20 years and structures put in place to enable this.

3. That it takes at least 3 years to establish any new successor body formed as part of an exit strategy, and therefore such bodies need to be established well ahead of the closure of the programme that sponsors them.

4. That local residents need time to work through what is appropriate for them to do directly, and what is appropriate for them to monitor the performance of others in doing. Just handing a building over to community management is not necessarily a sensible long term action. Business planning is key.

5. That development trusts need the powerful partners on their boards to assist residents in 'keeping the spotlight' on their neighbourhoods at the end of a shortlife programme. Otherwise the show just moves on to the latest initiative, and much of the residents' effort is lost.

6. That succession bodies have to be appropriate for the 'future', not designed around programmes delivered in the past.

7. That there must be a clear business case developed for any endowment strategy, ie that endowment is a form of 'social payment' for which a clear value is to be gained. Articulating this value is critical – and being accountable for the delivery of the value equally so.

However, the needs of different neighbourhoods vary and each strategy needs to be carefully designed for each local circumstance. What was appropriate for us will not necessarily work for anyone else, particularly in areas where there is already a thriving and substantial voluntary sector. Our residents have a very definite view of how they want to their neighbourhoods to be, and they are very clear that this requires a 'neighbourhood' approach, not an estate one. At the end of the day, it is their vision which has guided our approach. They are also clear that other areas of the borough, which have not had the benefit of a Housing Action Trust, should benefit from theirs – and our – expertise.

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Growing a SUSTAINABLE COMMUNITY

Urban regeneration cannot be achieved by physical means alone; it is necessary to engage people in the process, and to provide the skills and knowledge for them to participate. In a case study written for the Liverpool Housing Action Trust (LHAT). **Francesca King** of URBED records how one group of high-rise tenants improved their environment while helping young offenders and extending their links with the wider community

A strong community development ethos has driven the work of the Liverpool Housing Action Trust (LHAT), which took over the management of 67 tower blocks across Liverpool in 1993. The Trust's objective is to improve the physical condition of the housing stock and its management, and to improve the social and living conditions of tenants.

Three of these blocks in Wavertree, Olive Mount Heights, are within the Olive Mount estate built in the early '70s. Tenant involvement has increased with the refurbishment of a stand alone community centre, and there are now 6 High Rise Tenant Group (HRTG) representatives from the site on the formally recognised tenant consultation body within the HAT.

Tenant participation has been fostered, and the community garden initiative provides just one successful example of this approach. For many years there had been low expectations about an area of waste land next to the community centre on the Olive Mount Estate with comments such as 'The kids will wreck it', 'Nobody's bothered for 15 years', 'It was a tip – rubbish everywhere – an old shack on the site'. However, following the refurbishment and re-opening of the community centre (which had also been in a state of disrepair and unused for 2 years), and in which the tenants played a major role, expectations of the potential to achieve were raised.

Making the links . . .

In March 1998 a meeting between the LHAT and the Probation Service, who were looking for appropriate community work opportunities for those on Community Service Orders, led to the community garden becoming a pilot project. Despite some misgivings, members from the Olive Mount Heights Tenant Association decided to take up the offer.

> The garden project helped to consolidate the tenant group and also '...provided an opportunity to encourage the HAT tenants to look outward and overcome their mistrust in interacting with the wider community'

Tenants were initially fearful of the idea of having offenders working near their homes. However the safeguards that were put in place overcame these fears with positive results. Dave Mathison, a Community Service Officer explained how 'the Probation Service begins the process with a risk assessment of the offenders, which is based on the type of conviction, existing skills, temperament and behaviour'. 'Choosing the right people for a job is important'.

Eight lads were involved in the project, and many put in additional 'voluntary days' in order to complete the task. They were given time to put forward their ideas and views, and also to make decisions; they felt their contributions mattered. 'They took pride in what they were doing, and their enthusiasm encouraged the manager of a quarry near Shrewsbury to donate £350 worth of rocks.' Motivation was high 'when it rained they put on waterproofs and carried on working'. There were a high number of successful completions of Community Service Orders. Skills were learned – brickwork, gardening, planning and communications.

Their hard work earned the respect of the community, and this enabled their attitude to change - 'nice to have a bit of respect' – and as Dave Mathison noted 'the main thing was losing the chip on the shoulder, and starting to communicate with people'. Barriers came down. Further, the task was considered by everyone to be worthwhile and productive; it was not work for work's sake.

Involving Everyone

The community garden attracted tenants who were specifically interested in the environment, and who had not previously been involved in other activities. An 'adopt a planter' scheme encouraged tenant involvement and showed the importance of diversity of opportunities for involvement. Tenants and offenders worked side by side on 'planting day'. The staff of Liverpool HAT also took an active role with Pauline Vass, a temporary Community Devel-opment Officer, providing fresh stimulus about six months after completion, by bringing together Hope University with the gardening club to plan a second stage of the garden and by making links with other HAT gardening projects.

Not only did the garden project help to consolidate the tenant group, but it also '... provided an opportunity to encourage the HAT tenants to look outward and overcome their mistrust in interacting with the wider community'. In particular barriers to other people using the Community Centre's facilities came down – they had been very protective of the centre. It is an excellent example of overcoming social exclusion.

The project provided an opportunity to improve the local environment which in turn generated community spirit and a sense of ownership. An unexpected consequence has been improvement in estate security: 'there are now too many watchers - when people are out cleaning their cars they also keep an eye on the garden'. There has been no vandalism in the garden and nothing has been stolen, neither plants nor furniture.

Making the Garden Sustainable

What principles of community development can be drawn from this case study?

- **The value of building confidence and a can-do approach through skills training:** Many of the residents involved in developing the community garden had taken part in an Entrepreneurial Management Skills (EMS) programme commissioned by LHAT, On that occasion residents had used the refurbishment of their community centre as their 'live' project to work on during the course. These management skills were transferred to developing and managing the community garden.
- **The need for on-going development and stimulus**: A gardening club has grown up which has attracted residents other than those normally involved in tenant activity; "The tenants have taken complete ownership and are now looking to improve the garden, and in doing so are involving others – the Hope University is helping to plan further stages, and improvements; they are not frightened about looking at costings and finance, and are looking to raise funds."
- **The importance of building on relationships which have been established:** The success of the Olive Mount Heights project has led to LHAT exploring the possibility of transferring the concept to other sites, with the continued involvement of the Probation Service. A wider group has been included in meeting the orders for picnic tables, benches, plates, planters and bird tables, where such skills as carpentry and sign writing have been developed.

In particular the achievement of the garden project has shown

Entrepreneurial Management Skills

URBED's research in the late 1980s for the Department of the Environment into the needs of those working in the voluntary sector resulted in the report Managing Urban Change (HMSO 1988) , which led to the development of the Entrepreneurial Management Skills (EMS) programme. The programme was rolled out as a three year national project with more than 1000 managers participating in over 80 courses. It enables participants to develop skills essential for good performance by working on current projects. Self confidence is built, and a 'can-do' approach fostered. The emphasis on social inclusion and tenant management has led to the need for cost effective training, and we have adapted the EMS programme to meet the needs of tenant and resident groups.

Pride of place

Pride of Place is a response to the Government's emphasis on involving local communities in the regeneration of their own areas, and on tackling social exclusion. URBED have designed a programme of community development that fosters local identity and civic pride, and is designed to make the most of people as well as places. Using oral history techniques and the specially designed EMS training programme, Pride of Place engages communities in their histories and the history of their area to identify the 'magic ingredient' of a place that will spark off new projects reflecting the community's own needs and their vision for the future.

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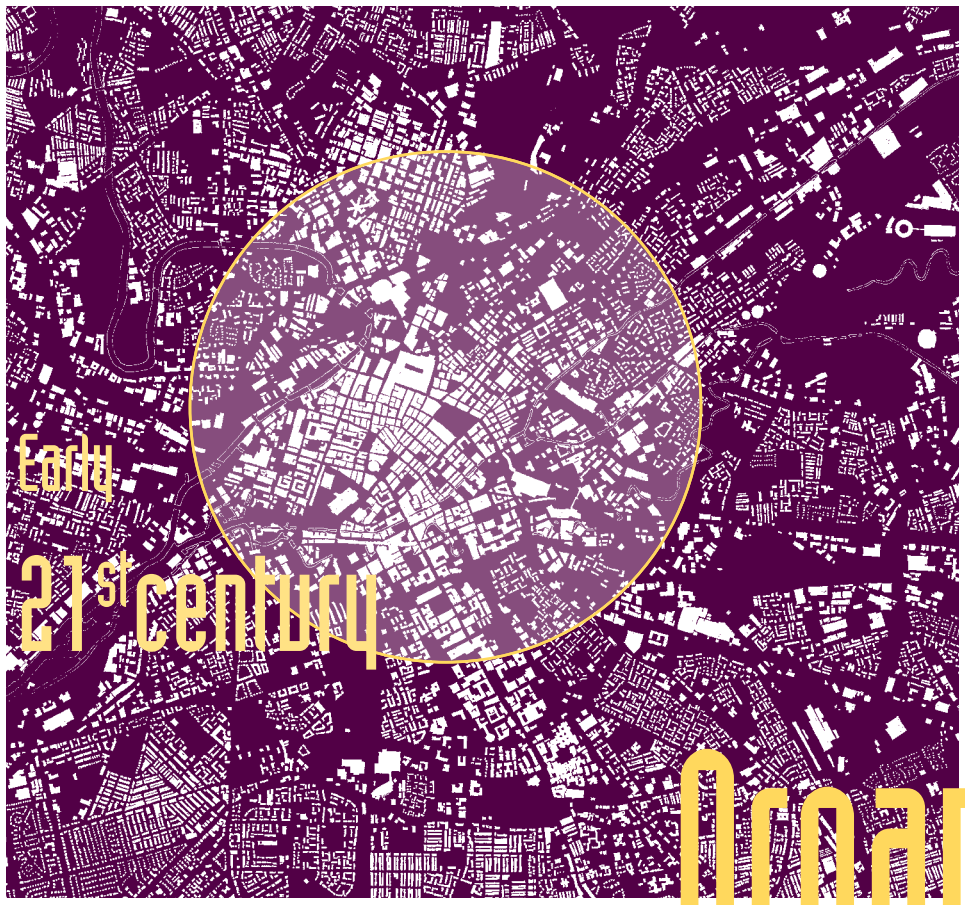
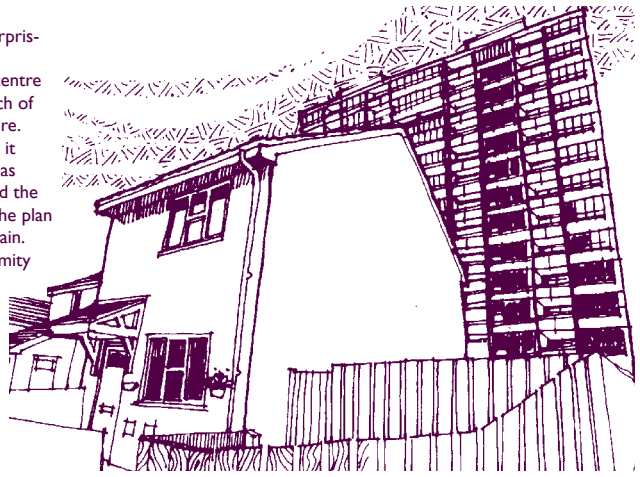
Based on interviews and discussion with members of the Olive Mount Heights Gardening Club, LHAT warden Pam Armstrong and Pauline Vass, a temporary LHAT Community Development Officer, probation office staff - Dave Mathison (Community Service Officer) and Dave Cuddy (Community Service Supervisor), and an interview with Paul Kelly, Community Development Manager.



Manchester 2000
This map shows Manchester today. It is surprising how little of 1924 city remains and the extent of redevelopment. While the city centre retains its character and compactness much of the inner city has lost its form and structure. This is in part due to the city's decline but it is also the result of the way that the city has been planned. This is starting to change and the emerging form of Hulme can be seen on the plan starting to stitch the city back together again. The plan however demonstrates the enormity of this task.



Com- Organic Cities

Each of the four maps shown on this and the previous pages show the city of Manchester. They are drawn to the same scale and the circle is drawn at a one mile radius from Piccadilly. As **David Rudlin** explains they tell a story of growth and decline but also of the damage done to the city by urban professionals

At the one level these plans tell a story about the growth of the city and how a small market town was engulfed by the explosive, almost cancerous growth of the industrial revolution. The map to the left of today's Manchester tells another story. It shows a city that has lost almost half of its population and which, despite the prosperity of the city centre and the suburbs, is dominated by a depopulated disintegrating inner city.

The maps show not only the growth and decline of Manchester but also the structure of the city. The city that appears on the first two maps has many of the characteristics of places like Chester, York or even Italian hill towns. These places hold an enduring appeal and, while they have influenced architects and urban designers, they were not themselves designed by anyone. They were the collective creation of their people who, over hundreds of years, created places of enduring beauty. In Manchester this character has been largely lost by the third map due to the rapid, rough-grained growth of the industrial revolution. However it is gone completely from much of the final map for a very different reason. What this shows is not the result of natural organic growth but the influence of the dead hand of planning. In an attempt to reform the worst excesses of the industrial city planners have sought to smooth the rough edges from the city. In doing so they have destroyed the very thing that they were trying to protect - Manchester like most other cities has been harmed as much by the reforming zeal of its city fathers as it has by the ravages of industrial growth and decline.

The challenge now is to rebuild and repopulate the city – as can be seen happening around the city centre and in districts like Hulme. However an even greater challenge is to rediscover the natural process of city growth that can recreate urban areas where we might all want to live in the future.

Aston Reinvestment Trust

As banks become global, access to finance can be a major bar to innovation in the voluntary and private sectors. The government is promoting the Phoenix Fund to address social exclusion. **Martin Allcott** describes a fund already up and running in Birmingham

Aston Reinvestment Trust (ART) is a Community Finance Initiative working throughout Birmingham to provide opportunity, and contribute to regeneration in the most needy parts of the city. It does this through delivering loans, not grants, to projects that would otherwise fail to get off the ground or dis-appear – which can happen in both private enterprise and voluntary organisations.

ART is a mutual society that is owned by its members, both investors and borrowers. The fund was created initially by personal investors with an ethical outlook who committed anything between £250 and £20,000 essentially to back the local community, but with no immediate financial return. Banks, Housing Associations and Corporates followed, all in the spirit of promoting social outcomes. Operational help came with revenue support, particularly from Barclays and NatWest, and included staff secondments through Business in the Community.

After earlier involvement during the developmental and feasibility stages, ART attracted more attention from the public sector. It gained momentum with support from Bir-mingham City Council, local Area Regeneration Initiatives, and the Energy Saving Trust. Most recently, it has successfully accessed European funding for a pilot Key Loan Fund dedicated to social enterprises. Thus, the total of funds now raised has reached £1.3m.

ART lends to activities with a social and economic purpose, and focuses on job creation and preservation. For introductions, it relies largely on referrals from a wide network of private and public sector agencies. When considering a loan enquiry, ART has to be satisfied at an early stage about its social characteristics. It will examine constitution, purpose, markets, customers and employees (pay scales, where do they live etc.) in a social filtering process. There has to be some flexi-bility in ART's outlook, but equally, it must achieve the best social outcomes as a duty to its investors. The more detailed analysis of viability within a full business plan will only take place once the 'social filter' has been passed.

ART charges commercial rates of interest and fees. Some readers might say 'Hang on, that doesn't sound too social, we need soft rates'. Well, step back and look at it this way. ART believes that the cases it supports should be robust enough to withstand commercial terms at the outset because projects supported by subsidised terms may never be able to be sustainable in the longer run. So, ART is addressing access to finance ahead of cost. That is felt to be the more crucial aspect.

ART's current loan portfolio relates predominantly to small existing businesses that need support to survive or grow. This theme is more a response to opportunities brought rather than the intention to create more balance across not-for-profit organisations, small businesses, energy saving and home improvements. It has now lent almost £700,000 in loans ranging from £2,000 to £40,000, whilst containing the default rate within 8%.

In its experience to date, ART has inevitably learned some key lessons. Firstly, fundraising is a big challenge. Secondly, demand for loans is much more apparent in enterprise, rather than the voluntary sector where a grants culture is imbued. ART is keen to promote sensible lending, and encourage the development of social enterprises to provide inde-pendent income streams that help cover repay-ments. When ART shows the borrower can repay, there is a 'track record' for a bank, and it can graduate to bank borrowing as a result.

Thirdly, there is a gap in support networks to assist businesses transforming from difficult situations, and more specifically community enterprises that are seeking to establish sustainable businesses with local job opportunities. Beyond the setting-up stage, most projects need ongoing help and advice, but all too frequently, it is scarce or of poor quality. ART cannot realistically do this itself, because as a loan provider, it would be a conflict to both help produce plans and then appraise them.

To conclude - ART has made a good start with its particular role in Birmingham. It is planning to build a fund of initially £2-3m, and now looks well positioned to benefit from the Government's recently announced Phoenix Fund.

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RESOURCES
Industrial Common Ownership Finance - finance for co-operatives and businesses operating in the social economy. Loans £5,000 to £50,000. Publisher of 'Setting up a Local Social Investment Fund'. Tel: 0121 523 6886
Investors in Society - a special trust, managed by Charities Aid Foundation offering affordable loans up to £100,000 for charitable projects which the banks cannot consider. Tel: 01732 520029.
Local Investment Fund - providing loans from £25,000 to £250,000 to support social enterprises where conventional market sources are unable. tel.0171 224 1600
UK Social Investment Forum - tel. 020 7749 4880
New Economics Foundation - tel. 0171 407 7447

Examples of projects backed by ART...

Betel of Britain - A charity that was unable to borrow from the bank. ART's original loan to purchase a vehicle for their used-furniture business has now been repaid, and two further loans have financed vehicles that will support other activities.

GME Castings - A small non-ferrous mouldings business run by Geoff Dale, who says: 'I had the opportunity to take over another business from two people who were retiring, and merge it with my own. ART and Barclays helped me to achieve this and relocate to the Jewellery Quarter'.

Energy Saving - With backing from the Energy Saving Trust, ART has been running an innovative Energy Saving Incentive package which comprised: a free initial survey, recommendations on capital expenditure, a loan geared so that repayments match the cost of fuel savings and the incentive of a rebate on interest for achieving targeted savings on fuel consumption.

A supplementary initiative is the piloting of a guarantee facility with a local Credit Union, whereby its members will access twice the normal eligible credit for home improvements on the basis of a guarantee from ART.

Home Improvements - With support from the Housing Corporation, NatWest, and Nationwide, ART has been looking at the feasibility of creating a fund to make secured loans to homeowners for improvements and repairs. Research work has been undertaken in the Sparkhill, Tyseley and Kings Heath areas to examine likely demand for loans of between £500 and £5,000. The result has shown sufficient interest to proceed and arrangements are now underway to pilot later this year.

Redbricks Online

The Internet could widen divisions in society as those without access to the technology are excluded from its benefits. Rob Squires describes how his community in Hulme is harnessing the technology as a driver for community and economic development.

Redbricks Online is a community owned computer network developed on the Bentley House Estate (aka the Redbricks), in Hulme Manchester. The network, technically speaking a Local Area Network, or LAN, has evolved since 1998, and currently connects over 70[1] of the 248 flats on the estate. Resident's com-puters are connected by some 3,500 metres of CAT 5 cable, running through loft spaces, down walls, and over fences and streets.

For £12/month (1.6 pence/hour), residents benefit from 24 hour a day Internet Access. The secret to this extraordinarily cheap service is a 64Kbps leased line. This is a cable rented for £1,200/year, which provides the estate with a direct connection to an Internet Service Provider in Manchester City Centre. An additional £2,400/ year is paid for 'porting' services, which are re-quired in order for the LAN to interface with the Internet - essentially the bulk purchase of Internet connectivity.

This is a true community project. All the ideas, ingenuity and resource have come from the estate. We have received no financial sup-port, although we have accepted help in kind from commercial organisations who respect the pioneering nature of the project. Similarly we have benefited from program-mers who have developed specific applications for the network, such as online directories of local goods and services, and electronic community currencies.

Our message to other communities is that a decade ago this technology may have been inaccessible but today it is established, and within reach. The hardware is affordable and obtainable on the high street, whilst the physical activity of wiring flats is consid-ered 'blue collar' work and the skills are easily transferable. The greatest technical challenge is in the configuration, development and maintenance of the network servers, although training in these skills is readily available.

Most 'community' internet projects are corporate experiments, or the brain child of paid consultants. Redbricks Online exists because the community wanted it and had the skills and creativity to develop the network. Various local authorities have approached us, with the idea of transferring the model to their areas, as a tool for social inclusion. Given the social context of Redbricks, we are unsure as yet, whether the model can be transferred wholesale. One thing we are sure of however, is that if any aspect of the project is to be tran-sferred elsewhere, then the focus must be on developing the capacity of the local community to empower them to do it for themselves.

Benefits

As a model for social inclusion, Redbricks offers genuine potential for communities. Its real potential lies not in sending emails to one-another, but through participation in the development, and maintenance of the service. It is human contact that counts. We are gradu-ally getting more of the community involved in the Redbricks process, by devolving the work. Local people are involved in wiring flats, collecting money, technical support, backup services for recycled computers (see box 1), maintaining the servers, and in-house training. As the network grows, it is feasible that all of these tasks may result in jobs for people, bring-ing genuine economic benefits to the area.

In addition to its job potential from the network provides a platform for Informa-tion and Communications Technology (ICT) enterprise developing Internet applications, including software, online gaming, Web page authoring, financial and marketing tools, music downloads, and training. In essence, Redbricks has the potential to organise as a non-profit, community owned ICT organisation, with the competitive advantage of low overheads, since there are no premises or wage costs. On-line training and educational packages could also be provided, including discussion and mentoring facili-ties such as 'Learning Circles', which can help people acquire new knowledge or skills.

> Most 'community' internet projects are corporate experiments, or the brain child of paid consultants. Redbricks Online exists because the com-munity wanted it and had the skills and creativity to develop the network

Strategic Development

Redbricks Online is more than just a com-mu-nity internet project, since ICT is an essential element of a broader framework for Commu-nity Economic Development (CED) based on common aims, co-operative working practices, and good communication. Whereas Redbricks Online is an example of community infrastruc-ture, MANTAR, and Connected Communities (see box 2) are examples of community devel-opment strategies for ICT at the district and/or regional scale.

To date Redbricks Online has been de-veloped with fierce independence, although it has always been clear that if the project is to be developed beyond the Estate, and is to be transferable to other communities, then co-op-erative partnerships must be formed with local authorities and development agencies. There are still technical issues to resolve such as planning permission and health and safety is-sues in relation to spanning CAT 5 cables over streets[2], and the development of open-source software applications to reduce over-heads. Of equal significance is the work that needs to be undertaken in building relations between local authorities, and communities, so that each sector may better understand the needs, and working methodologies of the other.

They work with established, local organisations to implement projects, and collaborate with tel-ecommunications service provid-ers to help them under-stand the potential of the local market for high-speed services. Connected Communities utilises the Comput-er Systems Policy Project (CSPP) Guide to Elec-tronic Commerce Readiness, which is designed to help communities determine their level of readiness to 'engage fully in global electronic com-merce'.

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Community development strategies for ICT at the district and/or regional scale

MANTAR (Manchester Tenants and Residents)
This proposed strategy is designed to develop community owned ICT infrastructure across the City. With such economies of scale, the organisation would act as an agent, ensuring that com-munities got the best deal from ISPs (Internet Service Providers). The financial capacity of this organ-isation would enable it to invest in new technology, such as high bandwidth radio transmit-ters to replace the existing leased line technology, and the costs as-sociated with renting these lines. On the back of this infra-struc-ture can be built all the personal and social (including economic) benefits that are anticipated for Redbricks Online.

Connected Communities:
This project is based in Silicon Valley in California, and aims to help communities take advantage of the Internet. The company works with a wide range of communities to assess their connectivity, and develop action initiatives, which improve quality of life, and enhance local econ-omic competitiveness. All sectors participate in the process, inclu-ding schools, libraries, local businesses, Chambers of Com-merce and non-profits.

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Rob Squires is a resident of the Redbricks, an inner-city council estate, and is a co-ordinator for Manchester Perma-culture Group, which aims to develop models for sustainable urban living in the area.
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Notes
1. At the time of writing (April 2000)
2. Redchip technology provides a potential technical solution here. These are cards with built-in low power radio transmit-ters, which slot into computers, and can transmit data to other computers over short distances such as over a street.

Recycled Computers

Soon after implementation, we realised that a major obstacle to residents participating, was access to affordable computers. High specification machines are not required for basic applications, and so a hand-full of recycled low specification Pentiums were obtained from Luton based Re-cycle IT, a not-for-profit company which obtains and refurbishes obsolescent computers from the business sector. With an additional mark-up the comput-ers were offered to residents. A second project to provide residents with recycled comput-ers was thus born, and since this initial experiment, there has been a steady turnover. The project has been so successful that there are now plans to establish a similar service to that provided by Recycle IT, for communities in the Manchester area.

IN BRIEF

London Sustainability Exchange

Last year the Corporation of London's Bridge House Estates Trust Fund commissioned URBED to explore and consult on the poten-tial role of a Sustainability Centre for London. The steering group, chaired by Jonathan Porritt, included representatives of the public, private and voluntary sectors.

The results are now be-ing published in a report which brings together the findings from over 450 responses to a sur-vey, interviews, a series of workshops, and 20 case studies of relevant initiatives.

After careful consid-eration the Bridge House Estates Grants Committee, and on the basis of URBED's report, they have decided to make available a substantial grant to help launch and run what will be known as the London Sustain-ability Exchange.

Copies available from URBED London (£12 inc. postage)

Bradford Cathedral

URBED and the SUN Initiative have recently completed a draft masterplan and regeneration strategy for the area around Bradford Cathedral. As a boom town of the industrial revolution Bradford did not merit a Cathedral until late in the 19th century. Because of this Bradford Ca-thedral is surrounded by a run-down area right next to the magnificent Little Germany quarter. The strategy proposes the development of the area as Cathedral Precinct including new-build housing, a rebuilt primary school and develop-ment by a range of faith-based organisations.

The real problem in Bradford is however demand. Masterplanning is all well and good but the real issue is to generate interest from developers in an area where there has been no demand for development for years. The strategy is currently being considered by the key stake-holders in the area before being launched in the Autumn.

Cliveden

On a very different site URBED has been commissioned by the National Trust to develop a masterplan for a model village on a derelict hospital site in Buckinghamshire. The site is part in the grounds of Cliveden House, the former Astor residence and plans will be available for consultation in the Autumn.

Building the 21st century home: The sustainable urban neighbourhood
David Rudlin & Nicholas Falk
Published by: The Architectural Press 1999
Price: £19.99
ISBN: 0 7506 25287

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The SUN Project is managed from URBED's Manchester office by David Rudlin, Nick Dodd and Hélène Rudlin.

The views expressed in this newsletter are those of the authors and do not necessarily represent those of the project's sponsors

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Why NOT get involved?
The SUN Initiative is a broadly based network. We do not have a membership but if you do not normally receive this [illegible] please co[illegible] and [illegible] you [illegible]

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2 the Sustainable URBAN NEIGHBOURHOOD Initiative

After nearly a year we are pleased to return with issue 12 of SUN Dial – the Journal of the Sustainable Urban Neighbourhood Initiative. This issue has been made possible due to the support of ICIAN Developments and describes their work with the SUN Initiative on energy efficient CHP technology for a major scheme in Manchester.

To make up for lost time this issue also includes articles on postwar planning in the UK and Europe, research on mixed-use urban form, sustainable urban water systems and new approaches to providing workspace. As always our aim is to highlight the most interesting thinking and ideas concerned with the reinvention and sustainability of urban areas

Changing Places

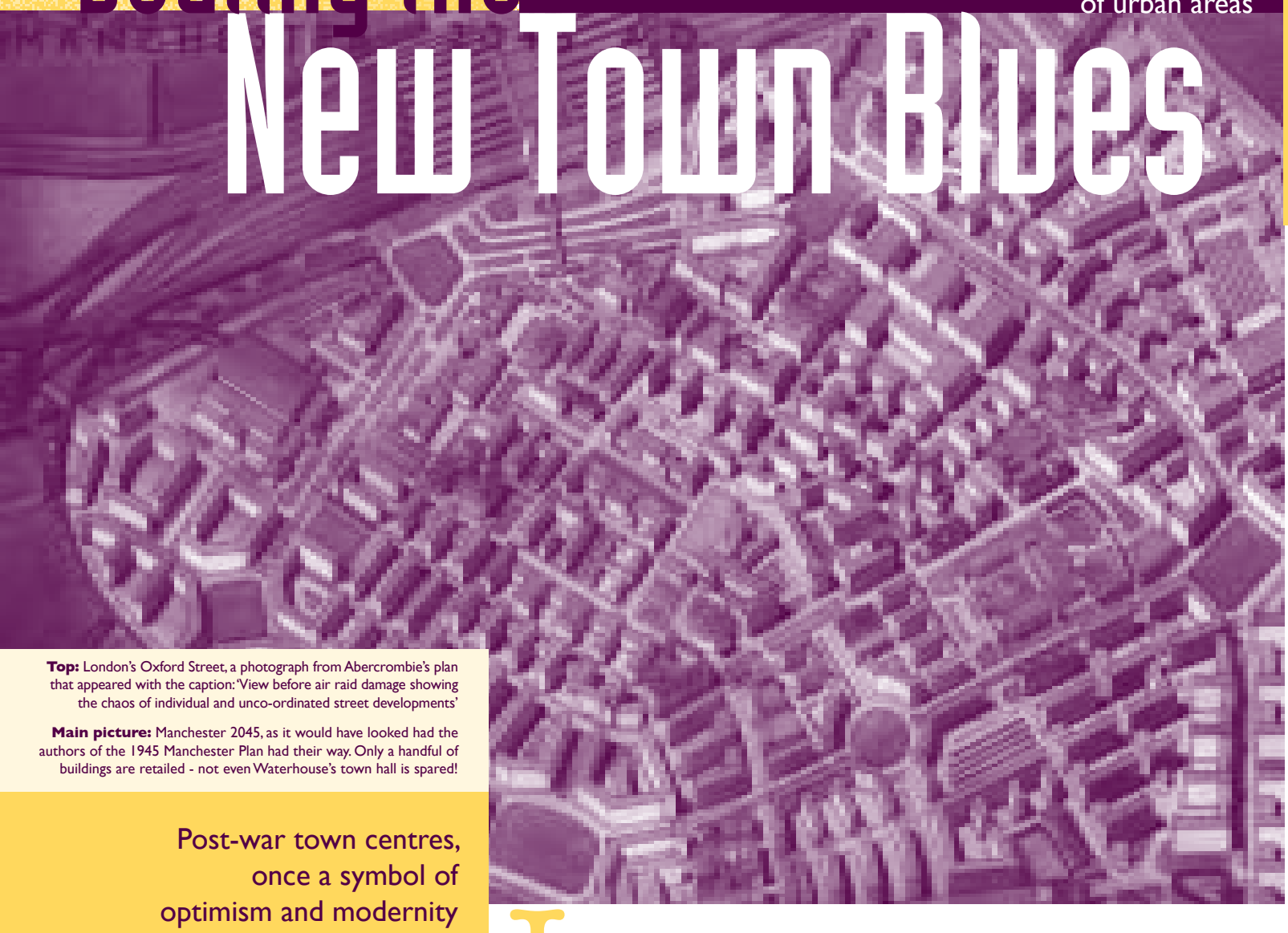
Case Studies of the Urban Renaisssance

Changing Places is a two-year programme to share experience of success in attracting people back to live in urban areas. It is part-funded by the DTLR's Special Grants Programme, with additional sponsorship and support from a range of organisations.

We have recently launched the website changingplaces.urbed.com to disseminate case studies of the urban renaissance. The site will grow and develop as new case studies and features are added.

INSIDE

Beating the New Town Blues



Top: London's Oxford Street, a photograph from Abercrombie's plan that appeared with the caption: 'View before air raid damage showing the chaos of individual and unco-ordinated street developments'

Main picture: Manchester 2045, as it would have looked had the authors of the 1945 Manchester Plan had their way. Only a handful of buildings are retailed - not even Waterhouse's town hall is spared!

Post-war town centres, once a symbol of optimism and modernity are in trouble. Their rain-stained concrete cannot compete with the comfort and convenience of the indoor shopping centre or the authenticity and character of a traditional town. **David Rudlin** discusses the legacy of post-war planning

It must all have seemed so different in the late 1940s. The optimism of that time shines through the pages of reports from the era. The interwar period had seen a huge growth in suburbs but town centres remained a product of the Industrial Revolution. The town planning movement had grown up to bring order and logic to such areas. War-time damage provided the perfect opportunity to do just that. What is more, the war-time spirit provided the confidence that it could be done and the conviction that our quality of life would be improved.

This is why even as the bombs fell plans were being drawn. Abercrombie was working on his plan for London and in provincial cities such Manchester (above) plans were being developed which, if implemented, would have wreaked far more damage than war-time bombs. The legacy of post-war planning is not therefore confined to new towns like Stevenage and Bracknell. It can be found in redeveloped centres like Swansea and Coventry, in London centres like Wood Green and the Elephant and Castle and even in the cores of historic towns like Portsmouth and Bristol. Wherever town centres were comprehensively redeveloped in the 1950s, 60s and 70s the 'New town blues' can be found.

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Outdated principles

The principles underlying these post war plans were drawn from the Continent. They were crystallised at the meeting of the Congres International d'Architecture Moderne (CIAM) in Coventry 1952 entitled *The Heart of the City*. While the conference spoke of piazzas and people friendly spaces, it promoted a set of principles that were to be profoundly damaging:

Private rather than public transport: Despite low car ownership by today's standards, public transport was seen as second rate. Tram tracks were ripped up, buses downgraded, and towns redesigned for the car.

Pedestrian/vehicle separation: This created a need to protect the pedestrian through pedestrian/vehicle segregation such as ring roads, pedestrian precincts, subways, bridges and 'streets in the sky'.

Down with the street: The street was attacked by CIAM as the source of urban ills and was to be elimitated where possible.

Form follows function: The functional modernist aesthetic despised the clutter and inefficiency of traditional towns. The modernists

sought clean lines and logic and buildings that were objects rather enclosers of public space.

Thinking big: Post-war planning was not known for timerity. Tinkering with urban areas was no good – they had to be sweep away to provide a clean canvas for redevelopment.

Complex solutions: Comprehensive redevelopment led to megastructures, such as the Arndale Centres up and down the county. They were even called 'complexes' and included shops, offices, parking and even housing linked by walkways, podiums and split levels.

The town centres shaped by these principles are often logical and functional but lack soul and character. The separation of uses means that they are deserted after 6pm. A public realm dominated by subways and walkways is intimidating and alienating, and many centres are also isolated by surface parking and ring roads. What is more the complex yet monolithic nature of development makes them unable to respond to changing trends.

This was not fatal when people had little option but to use their local centre. However in a mobile world, towns can no longer rely on captive trade. Customers are drawn to the choice and car-borne convenience of out-of-town stores, or the history and character of traditional towns. This is why post war centres like Broadmead in Bristol or Bracknell are declining despite affluent catchment areas.

Addressing the fundamentals

What can be done about these post-war centres? The answer can lie in town centre management, business promotion, environmental improvements, and diversification. However these may not be enough to overcome fundamental physical problems.

One approach is to expand the shopping offer as in Milton Keynes or Crawley. This can work but at the expense of weaker centres and can't work everywhere. In some cases a new round of redevelopment may be the only option such as Birmingham's Bull Ring. For most places however radical change is not possible and it is necessary to proceed incrementally. There is however still a great deal that can be done with a strong vision and strategy (see box).

In conclusion - there are few areas of our towns and cities entirely untouched by the post war planner. However only in the council estate and town centre did planners really get the opportunity to put theory into practice. In this article I have drawn upon URBED's experience to suggest possible solutions. However the general feeling at the Post War Towns symposium was that in many cases this may not be enough.

While much of the architecture of the post war period is coming to be appreciated, the feeling was that the problems of post war planning were more fundamental than just fashion and taste. If we are to achieve the renaissance of our towns and cities these problems need to be overcome – something that is likely to be as great a challenge as the regeneration of our inner cities.

David Rudlin is URBED's Northern Director and is based in our Manchester office. More details of the symposium can be found on the URBED website.

Diversifying the economy: Post-war town centres tend to be monocultures without evening economy uses or housing and with civic and offices separated from shopping. Increasing mix and diversity as has been done in Milton Keynes will strengthen the economy and make the centre more lively especially in the evenings.

A community focus: Because they lack a town square along with community and civic functions, post war town centres are not seen as the heart of the community. Strengthening civic functions, promoting events, and accommodating community activities can increase pride and belonging.

Breaking the ring: Most post war towns have a 'concrete collar' of ring road. This cuts the centre off from its catchment and makes expansion difficult. The ring road can be downgraded and the underpasses removed to create boulevards that unite the centre with its hinterland.

A friendly face: Post war towns were designed from the inside out. The pedestrianised shopping streets may create a pleasant heart but the the outside world sees only service yards and windowless walls. Outward facing residential and office blocks can create a more welcoming face along with improvments to gateways.

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The origins of Urban Order

Philip Meadowcroft describes research at Cambridge University into the traditional European urban block and looks beyond the concept of 'mixed use' to the underlying processes of urban order.

Study 1:Como (Italy)

In Como there is an 'official' culture on the streets – higher rent activities or public / civic functions. Behind this is an 'unofficial' diverse culture within blocks. To make a town work you need both the official or unofficial. The block studies reveal a range from dense blocks close to the historic centre (the smallest courtyards were no bigger than rooms) to larger amorphous blocks. A range of public and semi-public spaces are hidden within and penetrate through the block interiors.

The fabric and activities of the block perimeter have remained stable with 19th Century frontages onto the main arteries. However within blocks is a more varied range of buildings and uses which change more rapidly – including specialised shops, workshops, a bus depot, schools, gardens, housing and offices.

The perimeter remains active throughout the 24 hour cycle while the interior is more dependent upon opening and closing times with pockets of almost permanent tranquillity (residential gardens). Other areas, the school for example, are animated for only short periods.

The degree to which the structure has survived over time is striking. There is a consistent differentiation between front and back, exterior and interior. The degree to which penetrable layers occur allows a range of conditions and activities. At the same time the hierarchy of secondary streets, arcades, alleys, courtyards and gardens maintains the dialogue across the whole depth. At no point is public life entirely excluded.

British cities are undergoing a transformation. The process of dispersal is being replaced by a policy of comp-action. This demands a new approach to urban design yet professionals and developers continue to use out-moded concepts of density and urban form.

As a result, despite the best of intentions, the ideal of making 'good' towns still eludes us. We aspire to paradigms such as Siena, Padua or Paris. Yet these were only partly the product of designers. More significant was a process of conflict and mediation and their capacity to assimilate change.

The Metabolism of Urban Ord er

In our work we have sought to explore this process. We have been careful to avoid the tendency to pacify and make 'safe' urban order. Instead we have tried to understand how urban order mediates conflict and difference (not to be confused with mixed-use). We have sought to consider this over the long term through cycles of change – such as the present trend to reuse and adapt of existing buildings.

Cities are in a permanent state of metamorphosis. This change is not simple, there is an element of recollection, a dialogue between past and present. For example current initiatives to promote higher densities can learn much from the past. Urban order derives from processes of change spanning years, decades or even centuries. This is what we term 'urban metabolism'.

In our search for an alternative to the dispersed and the fractured post-war city, the medieval city remains a pervasive paradigm. Not just its form but the processes by which it arose and its ability to respond to radical cultural change without undermining the fabric of urban life. By comparison 'tailor made' cities designed to accommodate change are often found lacking.

It is ironic that the medieval city is a focus of so much theory and yet came about with the aid of so little. No theory or technique has yet been able to cope with the 'messiness' of its urban form. We don't want to return to med-ieval conditions or even to imitate medieval form. There may however be much to learn from this messiness in planning compact, dense flexible cities.

It is ironic that the medieval city is a focus of so much theory and yet came about with the aid of so little

Investigating the Urban Block

Between 1997 and 1999 students in Cambridge carried out research into the urban block structure of Cambridge, and Padua and Como in Italy. The studies involved historical analysis followed by numerous city walks and detailed mappings of representative urban blocks. The activites of each block were mapped and photographic surveys undertaken of the internal and external spatial relationships.

In contrast to modern blocks, the historic urban block is characterised by a deep hierarchical structure from perimeter (public) to interior degrees of privacy. We use the term 'depth of block' to refer to the structure of block density and to suggest the richness and diversity of life sustained by the block.

All Mixed Up?

There is currently great interest in creating 'socially balanced' communities. However in reality creating them is a difficult process **Ben Wilkinson** reports on experience from the Holly Street estate in Hackney.

The current response to social exclusion is to create 'socially balanced' communities, comprising a mix of local authority, Housing Association and owner-occupied property – with a population comprising working & non-working households, young & old, single people and families. PPG3 now advises planning authorities to "create mixed inclusive communities, which offer a choice of housing and lifestyle". This theory has been instrumental in the redevelopment of the Holly Street Estate in the London Borough of Hackney.

'Socially Balanced' Communities

A 'socially balanced' community may (in theory) be 'engineered' by redevelopment of local authority estates, with inclusion of Housing Associations and owner-occupiers. Although tenure is not indicative of social group perse, the financial requirement of home-ownership implies a community with contrasting income, social and cultural characteristics.

The economic rationale is that mixed communities sustain more prosperous local economies and better public services. This derives from the location of working households, with their involvement in the labour market, and higher incomes improving provision of shops and facilities, widening the variety of role models, and encouraging ambition. Moreover, there are formal and informal social contacts which can help unemployed people to find work.

There may also be a greater proportion of two-adult households, and there might as a result be fewer problems (for example, noise, graffiti, vandalism) resulting from a high density of children. Such a community may be able to absorb 'problem households' without being overcome by them. In this way, deprivation is dispersed rather than concentrated, and there should be less stigma attached to particular places. This dispersion may also restrict 'red lining' of areas by institutions such as banks.

Local Background

The 'Old Holly Street' Estate was built by Hackney Council in the late 1960s, with four 20-storey tower blocks and eighteen medium-rise blocks of interconnected flats & maisonettes; a total of 1,187 dwellings However its design & layout exacerbated the social and economic problems. Towards the end of the 1980s, the estate had become notorious; police would attend only in large groups, and delivery services & taxis refused to enter at all.

The housing-led redevelopment programme has aimed to provide new and improved community facilities, to generate and maintain employment, and to build stable, mixed communities. Hackney Council also recognised that it was a poor landlord, and ownership of over half of its stock was transferred to Housing Associations, and 20% to a private developer.

Five different Housing Associations were appointed with each catering for a particular social group, while collectively aiming to create a sense of community. An example is North London Muslim Housing Association, which provides interpreters for Turkish tenants. Furthermore, Housing Associations tend to have 'grass-roots' style of management, which enables tenant involvement in local decision-making, and increases the likelihood of improvements being sustained.

Fostering Social Contact

The inclusion of owner-occupied housing enabled Hackney Council to oblige the developer to provide various community facilities and environmental improvements, for which a total of £700,000 was negotiated. The council hopes that the facilities provided on the estate (Sports & Community Centre, Early Years Centre, Elderly Day Care Centre, adventure playground, Health Care Centre) will stimulate people of different tenure to meet. The facilities are also advertised Borough-wide, to encourage people external to the estate to use them.

It has been advocated that tenure, in itself, is a minor barrier to social contact, and that such facilities encourage an estate-wide sense of community to develop. Community facilities, although tending to be used by only a minority of residents, do bring people together. Of these, schools & nursery schools are by far the most important local amenity for non-street contact. Moreover, child-centred activity can foster social interaction between parents, and this can then help develop mutual tolerance and understanding. It is therefore encouraging to note that there is already an 'Early Years Centre' within Holly Street, and a school at the north end of the estate.

PPG3 recommends that housing developments should present a wide choice of tenures at block, street and neighbourhood level, in a way that does not distinguish by grouping or house type. Indeed, the redeveloped Holly Street Estate consists of a series of phases, each with a slightly different design, in order that tenure cannot be deduced from physical appearance.

It has been observed that the level at which different tenures are integrated is critical, with mixing at street level preferable to separation in different areas of an estate. Despite Holly Street comprising a mix of tenures, with no physical barriers between them, they are allocated to phases, and do not fully integrate on a door-to-door level.

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Resources
Demos (1999) Living Together - Community life on mixed tenure estates.

s and squares: ture of post-war fficult to change, open up new ase permeability the quality of n. Such improve- important ntal works and

Promoting a unique identity: Post war towns may never fully match the character and interest of a historic town. There are however opportunities to develop strong identity building on the strengths of the town and recapturing some of the excitement of the post-war era as has happened through lighting schemes in Croydon.

Study 2: Cambridge (UK) and Padua (Italy)

Cambridge and Padua are historic cities undergoing radical growth. They have similar populations but Padua occupies approximately a third of the area of Cambridge.

In Padua we identified two broad types of urban block – small central blocks and larger blocks with greater depth and diversity.

Centre city blocks of 50-80m are typical of Italian mediaeval / renaissance cities. At 5-6 storeys they are about twice the height of their Cambridge counterparts. The interior spaces range from Cortili to terraces and light wells. Their occupation is vastly more diverse than Cambridge and changes over gener-ations. Masonry construction allows for rapid and inexpensive reconfiguration and adapt-ation – dwellings can easily transform into offices, shops, small workshops etc..

The second type of block is much larger (150m x 100m up to 400m x 250m) and is found between the 12th and 14th Century walls. These blocks are similar in outward appearance. However inside the block there are several layers of development stepping back from streets. These blocks support dwellings, playgrounds, schools and even University departments and large offices. The interior is made up of buildings of different scales and includes gardens, basement parking, small interior streets, narrow lanes and public gardens.

There is only one block of such size and complexity in Cambridge - bracketing the 2-storey domesticity of Gwydir Street and Anglia University. For the most part Cambridge is characterised by low rise residential blocks or denser blocks dominated by University uses.

Summary and Conclusions

Three themes emerged from this work:

The role of measures: Different scales support different types of activity.

The role of history: The evolution of block configurations and the cycles between the permanence of the block and changing situations and architectural settings.
Urban/architectural order is only the background to the active life of a city. However this background is a deposit for tradition and the context for history.

The role of blocks: Lack of sensitivity in more recent blocks has created dead zones. This is evident in Como's modern housing blocks, but also in recent office/shop develop-ments where 'semi-public' space confuses architecture with urban structure and creates spaces which are neither 'here nor there'.

Block depth and structure provide a matrix sensitive to the interaction between different uses and those of the whole, as well as providing a topography sensitive to cyclical change over time.

Philip Meadowcroft runs a practice in London and has taught with Dalibor Vesely and Peter Carl at Cambridge University since 1986. This article has been compiled from recent articles and reports written by Peter, Carl and Cambridge Diploma students.

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Holly Street Neighbourhood Perceptions

A study explored the contrasting perceptions of residents from the different tenures. This revealed that despite general optimism, there is currently little social interaction on the estate. Holly Street currently appears to comprise two communities; local authority tenants (all of whom live in a tower block) and Housing Association tenants dispersed in low-rise property. The former have very few family or friends across the estate, and little interactions outside of their tower.

In contrast, the perception of Housing Association tenants is proactive. Residents appear knowledgeable of the tenure mix, and aware of potential advantages from integration. 90% regard the estate as a neighbourhood in which they feel at home, and most have forged friendships with their new neighbours.

31% of respondents do not regard any of their neighbours as friends, seemingly contradicting the observation that 87% of respondents regard their local area as a neighbourhood, in which they feel at home.

This low affiliation to their local area may represent a distinction between individuals' social and physical neighbourhood boundaries. This may reflect how an increased female workforce, leisure time, and ownership of cars & telephones, have expanded social networks, and lessened the importance of the immediate neighbourhood for social interaction.

Respondents were asked to state the tenure of their friends. This exposed the tendency for people to be friends mainly with others of the same tenure. This links to research showing that most new mixed estates are not characterised by inclusive social networks - suggesting that although contact increases with time, this is constrained by the physical separation of tenures (as in the case of Holly Street), because people tend to acquaint themselves only with near neighbours.

Only Housing Association respondents appear to have actively sought to live in Holly Street. The local authority respondents were largely decanted from their pre vious homes, and the owner-occupiers were attracted to the district of Dalston, rather than to the estate. Moreover, the owner-occupiers interviewed do not consider there to be advantages from living on a mixed tenure estate. In contrast, 80% of the local authority and Housing Association respondents do perceive potential advantages.
Hackney Council hopes that contact will form and flourish within the community facilities. The Council believes that "one of the most important elements of a sustainable community are: 'resident-led' organisations and facilities able to adapt & react to future challenges, and continue to thrive without further major investment". However, when interviewed the Holly Street Senior Project Manager suggested that the family-orientated structure of the estate may reduce community activism. He explained that family activities in the evening prevent parents from attending meetings.

He also revealed that the redevelopment's design & layout had been directed by a small group of residents. Many of these 'die-hard' activists lived through the last war, and he believes that their enthusiasm emanates from the community spirit of those times. Moreover, he suggested that the younger generation do not have a similar community spirit, implying that the potential sustainability of the community may decline in the future.

If Holly Street is to be regarded as sustainable, therefore, there has to be a body of people wishing to live on the estate. Before redevelopment 80% of residents were actively seeking to leave, and only 2% thought they would return. However, 50% of previous residents returned, and 91% expect to remain long-term.

However, considering the scale of the ongoing investment and improvements achieved, it is not surprising to observe optimism at this stage. Five years should provide time for social & economic interactions to form, and a study then would enable a more definitive conclusion to be made.

Smithfield Energy

The SUN Initiative worked with Environmental Power to assess the potential of CHP to supply energy to ICIAN Developments' Smithfield scheme and CIS in Manchester. **Nick Dodd** describes URBED's experience of the process

In 1999 Manchester City Council held a design competition for the Smithfield site in the cities Northern Quarter. ICIAN Developments (an AMEC Developments and Crosby Homes Joint Venture) won with their mixed use proposal comprising 250 flats and 20,000 sq metres of workspace and commercial uses. URBED wrote the environmental brief, with proposed measures including SAP 100 performance flats, a Combined Heat and Power (CHP) system, a car share scheme, and recycling services.

CHP and District Heating

Our proposal was that Smithfields energy could be supplied by a CHP system, potentially cutting CO_2 emissions by as much as 70%. We also proposed that it be delivered by a new local Energy Service Company (ESCo) 'Smithfield Energy'. The risks associated with the £2.5m CHP investment would be managed by the ESCo rather than ICIAN, who are already managing the property development risks.

Modern CHP uses gas fired engines or turbines to generate electricity, with heat normally wasted by large power stations distributed to local customers via a District Heating network. This raises primary energy efficiency from 30-40% for a normal power station to more than 80%. In summer waste heat can also be used for absorption cooling, displacing electrical air conditioning loads, allowing CHP to meet the full heat and power load for a site.

There are some urban CHP and District Heating schemes in the UK but the potential has never been realised, suffering from the legacy of poor quality systems installed in the 60's and 70's. The CHP industry has matured and the technology has advanced as a result of investment in mainland Europe. Recent UK schemes in London (Citigen), Woking (Thameswey) and Southampton (Utilicom) have demonstrated its viability. Thameswey have developed a number of pioneering schemes (see case study).

Smithfield and CIS

Recognising the need for a partnership approach to overcome potential problems we decided to work with Environmental Power, an Anglo-Irish company backed by Manchester based developers. They had developed the successful Temple Bar CHP scheme in Dublin - a scheme with a mix of uses not unlike that planned for Smithfield.

Smithfield will be phased over several years, making it difficult to justify investment in CHP until heat and power loads have built. This situation could be transformed if we could identify some additional loads. We approached the Co-operative Insurance Society (CIS), whose 24 storey listed 1960's head office is across the road from Smithfield.

We met with CIS's Energy and Business Property Managers to discuss their potential involvement. CIS have been developing their social and environmental policies and CHP represented a practical opportunity to reduce their environmental impact. They required assurance of the 'practicality, viability and environmental benefit' of CHP, with reliability of their power supply being a key issue.

We were able to show how CHP would be exempt from the Climate Change Levy and how a combination of CHP and the local Grid would ensure reliable power. Representatives of CIS and AMEC Developments also visited the Temple Bar CHP – as 'seeing is believing'.

In terms of reliability of supply experience shows that modern District Heating systems with standby boiler plant deliver the same reliability as gas and electricity. The reliability of a CHP electricity supply is greater than normal with two layers of security – the CHP unit (which can operate as a standby generator) and the local network supply.

Feasibility Study

A feasibility study was carried out to validate the initial work. This revealed that with the direct sale of electricity to occupiers (avoiding NORWEB's distribution charges and NETA's low prices), and a premium rate for heat sales to the flats (matching economy 7 tariffs for electric heating systems), a 'Smithfield-only' CHP scheme could be viable, with distributed boiler plant and CHP installed in year 3 or 4. However the phased nature of the scheme created uncertainty for investors and raised a number of issues relating to choice and marketability:

- Specification of all buildings with centralised 'wet' heating systems and independently owned power connections.
- Requirement for residential customers to buy heat and power from 'Smithfield Energy',
- Requirement for commercial customers to sign-up to long-term energy contracts to guarantee capital investment,

The Smithfield / CIS combination was potentially the most attractive proposition for investors. However, the heat and power profiles for CIS tower were mismatched, with the building requiring significant heating at the beginning of the working day. CIS's tariffs are also very low, even with the Climate Change Levy and current high gas prices. This together with punitive standby tariffs (17.36p/KWh) and NORWEB distribution charges (a direct power supply to CIS was not possible) ment that CHP would not be viable without several improvements to the business plan:

- Gas prices are currently high but medium to long term, analysts predict a decline,
- Lower gas prices could be negotiated by working with CIS and the City Council,
- Power could be sold to other sites in the city on higher tariffs and with low Distribution charges (eg. 0.25 p/KWh),
- The 7 year payback and 10% discount rate was too stringent. The investment requires a longer term and lower discount rate.

Together these points illustrate how a CHP business plan can be improved, and the problems encountered in delivering CHP.

Residential Heating

An issue for ICIAN to address was District Heating for owner occupied flats, something that is unusual for the UK. Notable examples include Barratt Homes' 108 flat Park View development in Southampton and Countryside Properties / Taylor Woodrow's Greenwich Millennium Village. Further afield in Dublin, the marketing for Temple Bar Properties has emphasised the environmental benefits.

Making District Heating saleable would require it to be cost effective, user friendly, reliable and perceived to add value to the properties - all achievable with modern systems. Benefits include reduced maintenance, no gas safety risks, and controllable 'wet' space heating. Heat meters have also reduced in price, and costings revealed electric heating systems are no cheaper. Metering and billing can be subcontracted to companies such as Viterra who can provide a complete service.

In anticipation of potential marketing problems we ran four focus groups with MORI to test owner occupiers reactions. Electric heating systems were perceived as being substandard. There were less concerns with security of supply than expected, and most were happy to forfeit choice of supplier for more environmentally friendly heat and power. There was however distrust of the big utilities, and concerns that there would be nothing to stop the operator hiking up prices.

Lessons for Future Projects

Our experience with 'Smithfield Energy' is that the main barriers were a flexible approach to investment and energy supply. This required a longer payback period than UK utilities are willing to consider. We proposed establishing a not-for-profit company to borrow money against long-term supply contracts and over a payback period a bank would be willing to lend over. Initial discussions with the Co-op Bank suggest a 15-20 year term would not be unreasonable.

The company would need a strong local identity to explain the benefits and overcome distrust of the utilities, as well as backers able to provide strong Deed of Covenant. Utilities are also currently split into generation, distribution and supply businesses – a CHP scheme requires bringing together all three areas of experitse.

The Royal Commission for Environmental Pollution (RCEP) recommended developing urban heating networks. In Berlin for example heat, power and cooling for the new Potsdamer Platz is supplied by city energy utility BEWAG who manage one of the largest District Heating networks in the world.

Temple Bar CHP, Dublin

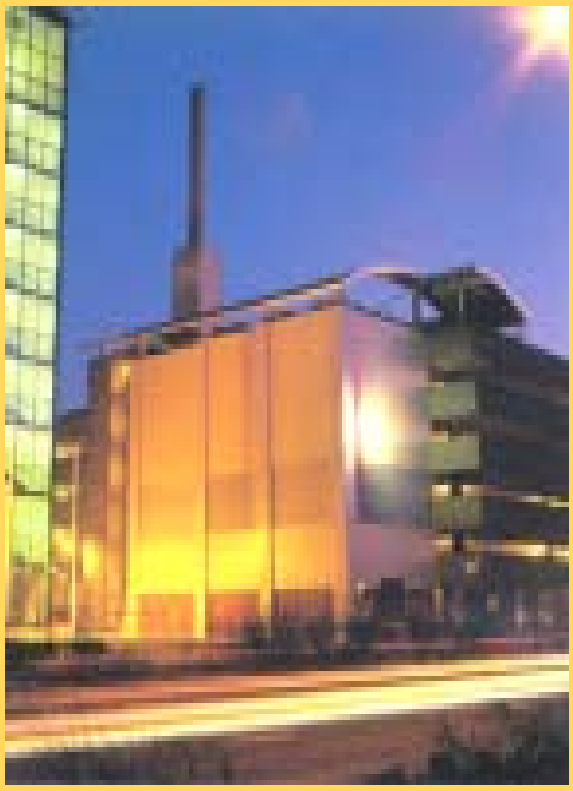
Temple Bar, in heart of Dublin, represents the most successful brown field redevelopment project ever undertaken in Ireland. Temple Bar Properties, set up by the Irish Government in the early 1990s redeveloped the city centre site providing over 100 new retail units, 350 apartments, and stimulating over €125 million of private sector investment. The Dublin Corporation's Civic Offices are located beside Temple Bar consisting of around 25,000 square metres of office space.

In 1996, Dublin Corporation and Temple Bar properties separately commissioned energy audits. The high heat demand of the residential scheme and the high power demand of the Civic Offices indicated that CHP could be viable.

The five hotels in the immediate vicinity created further potential, ranging from 120 bedrooms to a medium-sized student hostel. An appraisal was carried out and showed that CHP

Case Study: Thameswey Energy Services

Thameswey is an Energy Services Company (ESCo) established as a joint venture between Woking Borough Council and a Danish investment foundation. Woking have pioneered investment in CHP to meet their energy efficiency targets - in particular the use of private electrical networks to maximise revenue, absorption chillers which use waste heat during summer, and the UK's first 200 KWe fuel cell CHP unit which will supply heat, power, cooling and fresh water to a swimming pool complex. Phase one of Woking Town Centre CHP started operating last year consisting of a 1.46 MWe gas engine, a 1.4 MWth absorption chiller and a 160 m^3 thermal store supplying civic offices, a car park, a 162 bed Holiday Inn hotel, and a leisure complex. The energy technology has been stacked vertically in a specially designed energy centre. Thamesweys long-term investment potential has been proven through the interest shown by a number of pension companies. Thameswey are looking at CHP for the Brighton New England Quarter, following URBED's Sustainability scoping.



t Manchester did Yesterday.....

Manchester had a successful CHP scheme going before the first world war. The old Bloom Street power station on the banks of the Rochdale Canal in central Manchester opened in 1898, to meet soaring demands for electricity to power Manchester's trams and light its streets.

At the time Bloom Street was the most advanced power station of its kind in the country with a capacity of 7.2 MWe derived from four reciprocating engines. Steam to drive the engines came from 11 Babcock & Wilcox boilers, fed by chain-grate stokers fed from the coal bunkers supplied direct from barges on the adjacent canal by two travelling electric cranes. In 1911 Bloom Street became the first power station in Britain to introduce Combined Heat and Power. It began to supply low pressure steam to heat textile buildings in Oxford Street including the giant Calico Printers Association offices, now St James's House.

In due course other businesses up to a mile away were hooked into the system via a network of underground pipes, among them the giant Refuge building (now the Palace Hotel), the Ritz Ballroom, and the Palace Theatre.

It worked well through two world wars, but in 1948 the new British Electricity Authority decided it wasn't in the business of supplying steam and proposed to discontinue the service. It changed its mind when UMIST opted for district steam to heat its expanding

buildings, though it stopped generating electricity in 1950. In the 1980s, however, as first Refuge and then UMIST switched to conventional boilers, the system became uneconomic and ceased operating in 1989.

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To match these achievements Local Authorities in the UK will need to provide active support to projects and use the planning system to create the right conditions for investment. At Smithfield there was no requirement to install CHP, or to make new buildings compatible with a future District Heating supply.

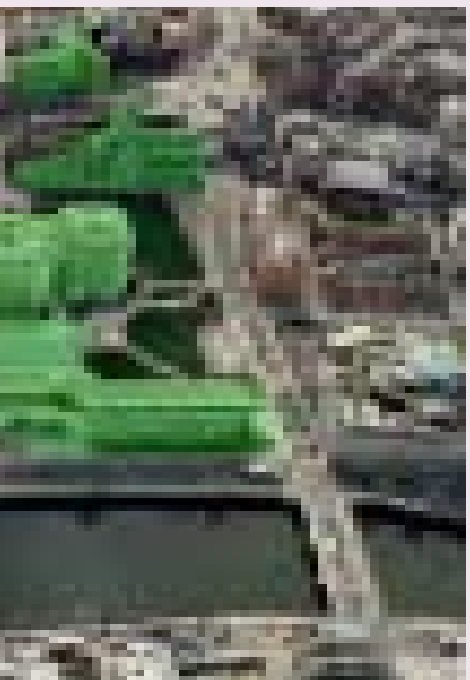
The irony is that for the UK, local energy systems would bring us full circle, returning to an approach which was common pre-war – as demonstrated by the story of Manchester's Bloom Street Power Station (see case study).

Nick Dodd is URBED's environmental consultant and is based in the Manchester office.

would meet the required investment criteria. Eight potential energy users were approached and subsequently committed to tariffs which were either the same or better than existing.

Funding was a combination of a THERMIE grant from the European Commission and private sector investment. The scheme commenced operation in January 1998 and now supplies heat and hot water to five hotels and 249 apartmens as well as electricity to the Civic Offices.

From an environmental perspective the CHP scheme has been a remarkable success. Primary energy consumption has been reduced by 35% and this has reduced carbon dioxide emissions by 48%. Cost savings to end users are in the region of 55%. The scheme recently won the prestigeous Bremen Award for collaboration between a municipality and the private sector.



Why are Continental Cities doing better?

The UK often looks to mainland European cities for inspiration. In the first of two articles **Dr. Nicholas Falk** reports on his findings from a recent study tour

Last years the Urban Design Group visit to a cities on the Swiss, German and French border, including Berne, Freiburg, and Strasbourg, highlighted the gap in the standards between Continental town centres and their British equivalents.

The lure of the Continental City, with its smart shops and cafes, and high quality public transport system, cannot be easily explained. For it is now just as evident in the cold and Northern cities of Sweden and Denmark, as it is in the warmer and more Southern countries.

Their higher quality of life is undoubtedly helping to boost their economic performance, with much higher levels of business formation, and lower levels of property vacancy. They are also successful in attracting young people to live near the centre, thus generating the revenue to sustain a much better public realm and public transport system.

Creating a Civil Society

Whereas we encouraged the flight to the suburbs through tax incentives for home ownership, while concentrating the poor in the inner cities, they have created a more classless society which shares the same streets, trams, and schools. Perhaps as a result there is less of the 'yob culture' that characterises most British towns. This 'civil society' may also explain higher levels of educational attainment.

The Germans say 'town air makes man free'. Continental towns have nurtured their centres, controlling the amount of out of town development (with the exception of the French). Instead of the same multiples everywhere, or faceless covered shopping centres, there are a succession of interesting clothing and food shops, with independent businesses playing a more important role.

Rather than wasting resources on too many redevelopment schemes, they have put investment into beautifying their streets, gradually extending the pedestrianised area and restricting private parking. The streets are not cluttered with yellow lines, guard railings, and poles, but instead are designed to make walking and cycling easy and safe.

While in smaller towns, like Rottweil or Breisach, for example, the focus has been on excluding traffic from the centre, and upgrading the quality of the suburban train service, the larger towns have created an integrated public transport system that ties the suburbs and centre together. The work needed to install or extend the trams has been combined with measures to give reserved pavements over to cycles, and cycle hire schemes near the station and ample parking facilities have led to a doubling in cycle use in university towns like Freiburg.

Though the post war French suburbs are often depressing places, the Germans are now building high density settlements at around 70 to the hectare that create ideal conditions for families, with large balconies and shared common garden in courtyards with play facilities. Just as traffic has been tamed, so nature has been encouraged to soften built up areas, to create a sense of harmony and beauty

The success of all these measures can be attributed to the proactive role that planners have played, including drawing up master plans, assembling sites, and putting the infrastructure in. Though German authorities are now much more pressed for funds, as a result of reunification, and now are looking for contributions from property owners towards schemes, the municipality still plays a key role, with the Federal government being very much in the background.

Urban transit

A key element of the successful Continental City is a high quality urban transit system. Based on the tram, with connecting buses, the system also includes a much upgraded suburban train system, as well as an emphasis on cycling and walking.

Unlike British towns, which cleared away their trams in the 1950s to make way for the car, Continental cities modernised and extended their systems. One of the most impressive is in Strasbourg where a completely new system has formed the backbone of their transport policy.

Four lines cross the city, and the latest was only open in late 2000, The lines extend out of the city into the suburbs, connecting up with out of town attractions like universities and office parks. The terminuses often seem to be located in areas ripe for development.

The streamlined Strasbourg trams were designed and built in England (though unfortunately the manufacturer closed down for lack of further orders). The trams offer a number of benefits over the preferred option in Britain of better buses:

- a smooth and quiet ride, offering an attractive alternative to the private car
- reliable services with weekday frequencies of every three minutes during the week
- high capacity, so that six cars would occupy the space taken by 350 passengers
- plenty of space left for pedestrians and cyclists, as trams occupy a narrow reservation
- low floors with easy access

The trams add to the urban environment with their stylish good looks and are excellent for sight seeing. Sophisticated ticketing systems allow the use of credit cards, and the machine also displays the times of the next four services.

At key points an easy interchange can be made with car parks, and also buses. There are plenty of spaces to park cycles, and these can also be carried on the tram at off peak times. At the main station, the line goes underground, creating a vast new public square. A shop hiring cycles is located close by in one of the many pedestrianised streets.

The tram has become a symbol of the Continental City's concern to apply environmental policies and sustainable development principles. Financed by the municipality, or groups of authorities and the government, it demonstrates the role that urban communities play in creating a civilised and progressive European community.

Dr Nicholas Falk is a founding director of URBED and is based in our London office.

The Future of the Urban Water Supply

Chris Shirley-Smith from the Metropolitan Water Company discusses future directions for our towns and cities' water supply, and the potential to develop 'green loops' in the water cycle.

Since privatisation in 1989, much water has passed under bridges and along pipelines. However, the basic cycle has changed little for over a century. The opportunity now exists for appropriate interventions into urban water provision. Flexible water companies are in a position to grasp these opportunities and in this, the Metropolitan Water Company (MWC), one of the Enviro-Logic Group of Companies, is leading the way .

The Legacy of Privatisation

The privatised Water Companies inherited water distribution and waste water systems in which infrastructure and management practices dated back to Victorian Britain. As a matter of necessity the new companies set about reinstating, reforming and reinvesting in the hardware and personnel.

With the emphasis placed on technological solutions, many practical skills, common sense and experience were jettisoned in the process, shareholders reigned supreme, and service to customers appeared to deteriorate, poorly managed drought events apparently proliferated and accountability still seemed remote.

Unfortunately this situation has not been fully redressed even today. The water industry claims it is now over-regulated and that price determination, environmental directives and the rules for new competition are too prescriptive and stifle commercial initiative.

The industry appears far from willing to regulate itself in a fair and unbiased manner, hence the essential role of the Regulator, Ofwat (The Office for Water Services). However, there are signs of change within the industry. Companies are recognising the value of the Victorian legacy and are flexibly adapting and blending the best of ancient and modern technology to new purposes which will most benefit today's urban resident as well as challenging the costs and manner of water provision.

'Mini' Water Systems and 'Green Loops'

It is accepted that the major urban water and waste water systems are, by and large, the most effective way to manage the regional scale transport of water. That they require new investment is undisputable. That new investment has taken place on an unprecedented scale needs to be recognised for its major achievements – for example the Thames Water London Ring Main, the new water main linking Birmingham and Coventry, and excellent sewage treatment schemes around the country.

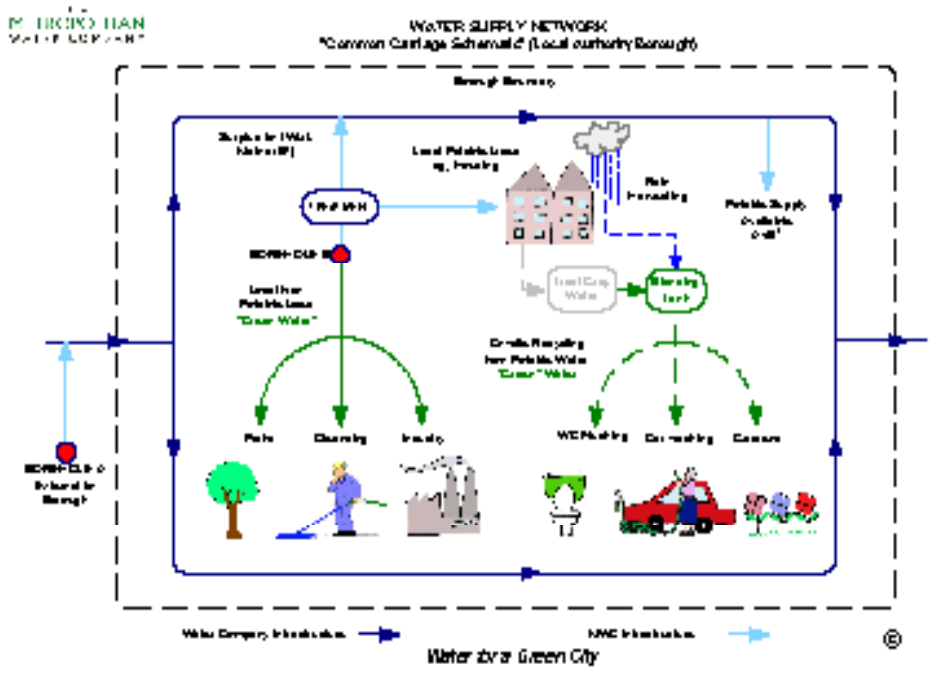
Against this background, there is now the opportunity to develop 'green loops' in the urban water cycle which are technically relatively simple to achieve and environmentally friendly in operation. Principally, these 'green loops' save energy in water transmission, are more economical, supply a quality of water more appropriate to end-uses, reduce leakage, and recycle a significant proportion of water on-site. In so doing, they can reconnect people with the processes involved in the provision of water.

Stemming from MWC's work as part of the GARDIT project to reduce the impact of London's Rising Groundwater through the sinking of abstraction boreholes, we have begun implementing such water systems which fit within the existing infrastructure framework.

Technically, and with due regard to the Competition Act (1998), areas within prescribed boundaries supplied by companies other than regional water suppliers ('The Incumbent'), are known as 'Inset Appointments'. Licences are issued by Ofwat to companies able to deliver a service fulfilling the requirements of the Drinking Water Inspectorate (DWI).

Under the Act, Water Companies are obliged, subject to water quality assessment and compatibility, to make their infrastructure available to other licensed companies for the transmission of water. Whilst this has not been entirely resolved in practical terms, it opens up the possibility to develop a scheme, for example, whereby an urban borough council with many diverse outlets for water might be supplied from its own boreholes via network access (or 'common carriage') by arrangement with a licensed water company (see diagram).

Taking this scenario one step further, MWC is in a position to combine water abstraction, water treatment to a quality appropriate to end use, and water distribution of both potable (drinking) and non-potable recycled and/or low grade ('green') supplies. Given that some 30 – 40% of domestic water consumption does not need to be treated to fully potable standards, for example water used for toilet flushing, gardening and car washing, it makes good economic sense to treat grey water (ie that which is collected from baths, hand basins and showers) or waste water on site to produce 'green water' for recirculation.



Project Developments

Whereas there are a number of patented systems on the market to treat grey water within individual properties, MWC has chosen to concentrate on systems which process larger volumes of waste water on a community scale basis without compromising quality.

MWC is currently working on two practical projects. The more ambitious of the two is 'BedZED' (The Beddington Zero Emission Development in Sutton, Client: Peabody Housing Trust, Architects: Bill Dunster Architects). In this scheme of some 90 housing and live/work units we (as our Licensed sister company Albion Water) are the statutory undertakers for water and sewerage services.

We are working with Living Technologies to provide an on-site sewage treatment plant which will produce a high quality effluent ('green water'). The green water is blended in storage tanks with rainwater harvested from the roofs and supplied back to the buildings for non-potable re-use. We have also specified 'green water' pipework with unique dimensions to ensure that connections cannot be made to the potable supply by mistake.

The total volume of green water supplied will be around 50m^3 per day. This will provide sufficient water for toilet flushing and subsurface irrigation. The overflow is of sufficiently high quality to be discharged to surface ditch. Nonetheless, an emergency back-up sewer connection to the Thames Water sewer has been constructed in case of any problems.

The second project in which MWC is involved is the 'Green Roof Water Recycling Scheme' in which we are collaborating with partners to create a simple roof-based 'grey to green' water cleansing system for multi-storey – multi occupancy, urban new build residential housing blocks (see diagram). The pilot scheme has been constructed at Middlesex University and is currently undergoing trials.

In conclusion - we hope that by demonstrating these projects in practical settings the value of this approach will become clear to architects, engineers, housing providers and those whose interests lie in the future.

The future of such 'green loops' looks distinctly encouraging. It is recognised that such loops are important refinements of existing systems which can bring significant benefits, particularly financial to people on lower incomes. The benefit to major suppliers of such schemes being the reduced investment required to develop new water resources.

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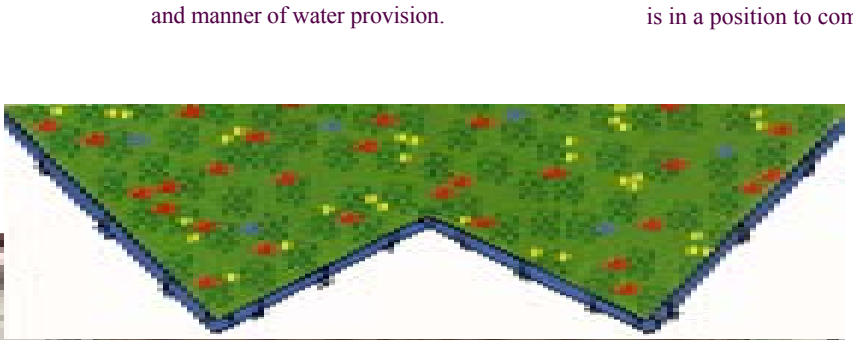

Container City

John Burton describes 'Container City' affordible creative workspace in East London developed using shipping containers.

At Trinity Buoy Wharf, Urban Space Management (USM) have a 124 year lease and Development Agreement to turn the site into a centre for arts and creative industries. This means that we cannot charge large rents as we are not allowed to have straightforward commercial activity here. Thus the capital value of any new building is around £35/sq.ft. New build costs around £110/sq.ft and this is in a part of London that was not eligible for any capital grants at the time i.e. a huge gap with no filling.

The Opportunity

There is a huge demand for small workshops for creative industries in East London with a rapidly dwindling supply. Most of the old warehouses are being turned into residential lofts (often needed to hold the artwork created in them in the first place).

The Solution

USM had been using shipping containers as storage for some time and wanted to use them in new ways. Inspired by examples from Holland and various parts of the USA, USM came up with the idea of workshops using second hand containers and adapting them to create small workspaces. After research showing that this would be cheaper than purchasing porta-cabins USM took the risk on the first phase and build 4,800 sq.ft of space.

Making it Work

A rich variety of different forms of workspace is important in developing a diverse urban economy. Here we bring together three articles describing innovative workspace schemes.

Tom Young describes the Allcroft Studios live/work scheme proposed for Kentish Town in North London.
John Burton describes the 'Container City' creative workspace in East London.
Michael Taylor describes the ExpressNetworks 'new economy' workspace in Manchester.

The Process

Container City 1 consists of 15 containers on 3 levels (5 x 40 foot containers stacked side by side) with one container on its end to act as the stair tower. Internal walls were largely ripped out and columns put in to support the ceilings. New circular window openings were made and all external walls were insulated. Internal spaces were divided up with new partition walls. The upper floors all have central lobbies and all the units have balconies with sliding doors. Access to the ground floor units is via the original doors. The whole thing was painted with uniform red lead oxide colour.

All units have plaster finish with their own water and power supply. Tenants include artists, sculptors, arts administration firms, and craftspeople. We believe that this is the only example in the country of this type of development (though there are rumours that there is something similar in Birmingham). It is around 80% recycled - all the containers are second hand. USM hope to produce more of these in other situations. They can be dressed according to the location - keeping the metal exterior was important at TBW as this is a Thames-side location. Overall the cost to build was £29/sq.ft.

Container City is an initiative of Eric Reynolds – Managing Director of Urban Space Management. Design by Eric Reynolds and Nick Lacey of Nick Lacey Architects.

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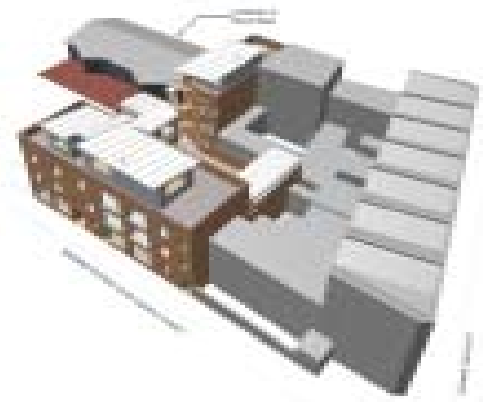
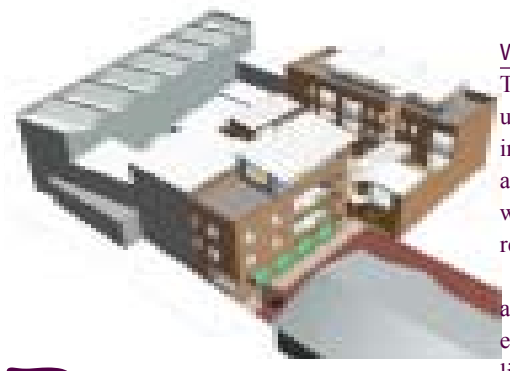
Allcroft Studios

Tom Young describes Allcroft Studios, a proposed live-work scheme in North London. The Studios form part of a focus on economic development rather than purely housing based regeneration.





Proposed for a brownfield site next to a neighbourhood centre in West Kentish Town the Studios whilst small for a live / work scheme, reflects the conviction that the area is a good place to setup a small business.

It offers the possibility of creating a vibrant live-work community within one building and with convenient access to various workspaces, a shared garden, roof terraces and meeting rooms.

Work

The restricted scope of thinking about the urban scene in West Kentish Town is reflected in the terrible quality of workspace currently available in the area. Most is cold, dark, hostile workshop accommodation that presents a very reduced idea of the world of work.

The Studios are an attempt to enrich the area by presenting a new vision of work that is encouraging, secure, comfortable, varied and linked positively to the existing local centre.

The building is designed to ensure a high-degree of security. Burglaries are disastrous for small businesses so potential occupiers need to know their investment in equipment is safe in the building. Equally important are low overheads. Green construction technology can offer reduced running costs. We plan to develop the green construction approaches when funding for the project is realised.

Tradition

Live-work is not new. The ordinary London shop-house, with a ground floor retail unit onto the street and a home upstairs is an obvious traditional example. Near to the Studios are many examples of purposed built artist housing dating from the end of the 19th Century. Much of this artist housing is of the highest quality and is very inspiring.

Urban Fit

The urban background around the Studios is mixed and it will be situated next to a parade of three-storey 19th Century brick shop-houses. Immediately to the rear of this parade are free-standing modern housing blocks and a small workshop complex all built in the early 1970s.

The discontinuity between the 19th and 20th Century fabric is handled poorly with raw terrace-ends showing demolition during comprehensive redevelopment. The Studios respond to this problem by building off the exposed terrace ends and creating a centred, courtyard building that provides a proper back to the rear of the shopping parade, thus sealing the boundary between the 19th stock and 1970s buildings.

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Resources

Renew Kentish Town http://www.renewkentishtown.net/

ExpressNetworks

Michael Taylor describes ExpressNetworks in Manchester which is designed to cater for the needs of 'new economy' companies

The first truly 21st Century workspace is taking shape in the unlikely environs of Ancoats in Manchester, under the guidance of property pioneer Carol Ainscow. Located in the Express building, United News' former art deco printworks, ExpressNetworks will be the North's first fully wired managed workspace for new media companies.

It will consist of 30,000 sq ft of flexible office space, including shared facilities such as meeting rooms and video conferencing suites, as well as 22 live-work apartments, all linked to state-of-the-art telecom and IT infrastructure.

ExpressNetworks is pitched firmly at the new media industries which have become a major economic force. Young companies at the cutting edge of the technology and creative industries share a culture which demands flexible space, with leases as short as three months; "The key is the flexibility because the office market is so restricted because most offices offer five year leases and up."

The target tenants have been showing a keen interest, with inquiries from PR companies, graphic designers, recording studios, software companies and an internet bank, even before any marketing effort. They have typically been asking for around 1,000 sq ft. The building may take in one anchor tenant, but nobody so big that they swamp the rest of the development.

"We have had quite a lot of enquiries," Ainscow adds. "mostly in the £3 million turnover class. We don't want to discourage anyone - if you want a two person office, we can take that." The intention is that the tenants will build up a community, beginning with contacts made in the shared spaces and ending with referrals of work to each other. Ainscow also plans to make incubator funds and a range of professional services available - including a legal practice, accountancy firm and marketing consultancy.

The telecoms infrastructure will be at least as great an attraction. The main feature will be broadband connections of up to 155Mb/s. Artisan has shortlisted four or five telecoms companies for this core service. "It might be we have more than one supplier...because that keeps competition," Ainscow cannily notes.

Artisan is also looking at providing 'plug and play' capability for IT services to save tenants the capital cost of computers, and, in an extra futuristic touch, is considering offering voice recognition. As with the layouts and terms, flexibility is key. "We've tried to design, particularly with the wiring, that as new technology appears we can build it in," Ainscow says. "We're thinking long term. If you wanted fibre direct from a hub to your desk, we could do that within half a day."

Residents of the live-work apartments on the top two floors of the building will also be able to tap into the communications muscle of the office suites below, even though physical access will be separate.

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Lessons from Freiburg

Freiburg in Germany is admired for its public transport systems and radical new developments such as Vauban. In his second article Dr Nicholas Falk reports from his recent study tour.

Located in the South Western corner of Germany close to the Swiss and French borders, Freiburg is a university town in an area that has benefited from high tech industry. The town's population is 135,000, with a further 60,000 living in the suburbs and outlying hamlets and 53% of the Urban population are single and only 17% of households have children under 18.

The centre was heavily bombed, and so after the war, the city had to start by restoring its ancient fabric. It early on realised the impossibility of accommodating the car, and so invested heavily in a high quality public transport system, with six different tramlines. At the heart is an interchange with a new bridge carrying the trams and people on foot and bike over the railway lines, and as well as a major car park and bus station, there is also a solar powered garage for some 300 bikes.

The figures for modal shift since 1976 show that is bikes and pedestrians where the greatest growth has occurred, and car trips have been kept from rising without the centre losing either trade or investment. Indeed the network of pedestrianised streets have turned run-down areas into highly desirable places to live.

However one side effect has been that the population in the centre is now largely made up of singles, and those with families can no longer afford to live in the centre. Also spaces standards are rising by half a metre per year. To cope with the pressures the municipality has planned and developed two new settlements on land it has acquired. Vauban is a former barracks, and includes a high proportion of self build conversions of the old buildings. Rieselfield is a greenfield site opened up by an extension of the tram system.

Freiburg Trip Patterns 1976-99

	1976	1989	1999
Cycles	18	27	29
Public Transport	22	25	28
Cars	60	48	43

Freiburg has gone for planned extensions to cope with demands for more space. The two settlement extensions of Riesefeldt and Vauban are so different from anything yet attempted in Britain, it is easy to dismiss them as interesting but irrelevant. Yet they tackle some basic issues that apply equally to British cities, including how to attract families to live at higher densities, and close enough to city centres to avoid depending on the private car, and this they do extremely well.

In Germany there has been a tradition of apartment living and social democracy. There has also been a strong sense of idealism, reflected in the success of the Green Party in elections. As a consequence in university towns at least there is significant demand for places that reinforce a sense of neighbourhood and sustainable living.

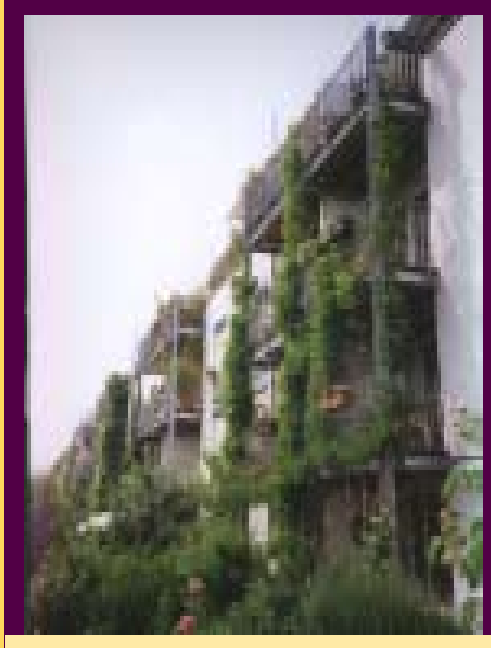
While Freiburg is exceptional, it is by no means unusual in either Germany of the rest of Northern Europe. A far more egalitarian society has been created where an educated population take pride in their towns and yob culture is kept at bay by the number of ordinary citizens who enjoy street life.

Dr Nicholas Falk is a founding director of URBED and is based in our London office.

Case Study: Reiselfeld and Vauban

Planned to accommodate some 5,000 new homes, Rieselfield is now two thirds built, and is expected to be finished in another seven or so years. The city has put in the infrastructure, and then let sites to either private builders, housing associations, and self-build groups who put in sweat equity. There are a number of innovative principles, including minimising energy consumption, and water run-off, and with a mix of uses the whole development is intended to be environmentally friendly. There are a number of shops around the tram stops. Car parking outside the blocks is kept to a minimum. Some have parking under them, and there are large multi storey car parks at the edges.

Most of the housing is in five to six storey blocks made up of two storey maisonettes. There is a high stress on balconies and communal courtyards. However the most impressive feature is probably the ecological landscaping around the ditches, which has been replicated in the abundant planting around many of the blocks. Cycling is encouraged, and the whole environment is extremely child friendly, making it popular among those with young families. Unlike the centre, there are no signs of graffiti, and the development seems



extremely popular, the high densities helping to generate street life and a sense of community at a neighbourhood level.

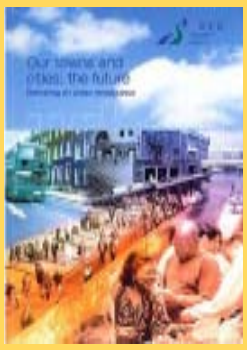
The apartments have been made attractive through a number of features:

- First they are set in a wild landscape, which creates the sense of living in the country. Access to allotments is easy, and the small huts create a kind of 'place in the country'.
- Each block is different and this is encouraged by the high proportion developed by co-ops, in which the occupiers invest 'sweat equity'. In Vauban, inspired perhaps by the conversions of the old barracks, the residents have very much made their mark, and take great pride in the semi-communal gardens.
- The pattern of splitting blocks into maisonettes with separate entrances and large balconies overcomes many of the disadvantages of flat living. But it is probably the appeal of children growing up with ideal play conditions that attracts so many young parents to these new developments (possibly storing up problems for later),
- While the blocks tend to be similar in height and footprint, each block looks individual because of the rich variety of materials and colours that are used. In Vauban, the policy of keeping cars in peripheral car parks also helps to make the development quieter and safer (while the use of crossroads without priority helps to keep traffic speeds down without any need of humps).

IN BRIEF www.urbed.com

Bristol Temple Quay North
CABE has welcomed URBED's proposed masterplan for this mixed use scheme on a 7 hectare site near Bristol's city centre. The scheme is a joint development by Castlemore Securities Ltd and the South West RDA, providing around 500 new homes and 50,000m2 of commercial space. The masterplan has been developed in conjuction with Jon Rowland Urban Design, following successful consultation with community and amenity groups such as Bristol Civic Society.

Towns and Cities: Partners in Urban Renaissance



The DTLR has appointed URBED to work in partnership with the Urban Policy Unit (UPU) and 24 towns and cities to look at progress in delivering on the key principles of the Urban White Paper. The outcomes will feature at the planned Urban Summit in Autumn 2002.

Brighton New England Quarter
Following a period of intense design and consultation, the planning application for the proposed New England Quarter was finally submitted last summer. URBED has played a key role from the outset as masterplanners for the New England Consortium. URBED, together with Chetwood Associates and David Huskisson Associates have produced a Design Statement to support the planning application. URBED and Chetwoods have also scoped environmental sustainability measures for the scheme.

Sustainable Suburbs
In Autumn last year URBED was commissioned by the Greater London Authority (GLA) to look at the future of London's suburbs. With all the attention on grand projects and inner city decline it is easy to forget that most Londoner's live in the suburbs. Changing retail, transport and social trends are creating problems, and in response we have developed a policy toolkit to form part of the new Spatial Development Strategy (SDS).

London Sustainability Exchange
Following URBED's feasibility study the Sustainability Exchange was launched in November last year, aiming to make London 'the most sustainable city in the world'. This follows our recommendation to establish a clearinghouse for knowledge, expertise and best practice in order to accelerate progress towards Sustainable Development. LSX is funded by the Corporation of Londons' Bridge House Estate Trust Fund.

Merthyr Tydfil
URBED have been commissioned by Merthyr Tydfil County Borough Council and the Welsh Development Agency to produce a strategy for improving the town centre. This includes street design, active uses for key historic buildings, and Town Centre Management. Work is being carried out in conjunction with King Sturge and landscape architects Moore Piet+Brookes.

Building the 21st century home: The sustainable urban neighbourhood
David Rudlin & Nicholas Falk
Published by: The Architectural Press 1999
Price: £19.99

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The SUN Initiative is managed from URBED's Manchester office by David Rudlin, Nick Dodd and Hélène Rudlin.

The views expressed in this newsletter are those of the authors and do not necessarily represent those of the project's sponsors

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