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.

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.

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.

I 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 Swanscombe 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.

Outdated principles

The principles underlying these post war plans were drawn from the Continent. They were crystallised at the meeting of the Congress 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 eliminated where possible.

Form follows function: The functional modernist aesthetic despised the clutter and inefficiency of traditional towns. The modernists...
Dating and alienating, and many centres are also
by walkways, podiums and split levels.

Addressing the fundamentals
What can be done about these post-war centres? The answer can lie in town centre management, business promotion, environmental improvement 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 renovation of our towns and cities these problems need to be overcome – something that is likely to be a great 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.

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 narrow blocks close to the historic centre (the older courtyards were no bigger than rooms) to larger monolithic blocks. A range of public and semi-public spaces are hidden within and permeated through the block interiors.

The fabric and activities of the blocks periphery have remained stable with 19th Century fragments into the main axis. However within blocks is a more varied range of buildings and uses which change more rapidly – including specialist shops, workshops, a box depot, schools, gardens, housing and offices.

The perimeter remains active through the day and night. The public realm is open for 24 hours while the interior is more dependent upon opening and closing times with pressure of almost permanent transversal (residential gardens). Other areas the school for example are restricted for only short periods.

The degree to which the structure has survived over time is shocking. This 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, alleys, alleys, courts and garages maintains the dialogue across the whole depth. No one point is public, life is entirely excluded.

B

The origins of Urban Order

British cities are undergoing a transformation. The process of dispersal is being replaced by a policy of compaction. This demands a new approach to urban design yet professionals and developers continue to use out-dated 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 ability to assimilate change.

The Metabolism of Urban Order

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 adopt of existing buildings.

Cities are in a permanent state of metamorphosis. This change is not simple, there is an element of recolection, 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 techniques has yet been able to cope with the ‘messiness’ of its urban form. We don’t want to return to medival conditions or even to imitate medieval form. There may however be much to learn from this messiness in planning compact, dense flexible cities.

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 mapping of representative urban blocks. The activities 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.

Diversifying the economy: Post-war town centres tend to be monocolours without evening economy uses or housing and 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 outside world sees only service yards and windowless walls. Outdoor facing residential and office blocks can create a more welcoming face along with improvements to gateways.

Lively streets: While the street can be dead it is possible to route, to increase and to improve the public realm. Benches more than environmental planting.

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 medieval conditions or even to imitate medieval form. 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
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, consistent with PPG3. The Housing Association and owner-occupied property – with a population comprising working- and non-working households, young & old, singles and families – requires 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 circumstances, the financial requirement of home-ownership implies a community with contrasting income, social and cultural characteristics.

The economic rationale that these mixed communities must sustain more prosperous local economies and better public services. This derives from the location of working households, with their involvement in the local labour market and their 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 & 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 owner-occupation of half of its stock was transferred to Stockwell Associates, 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.

Holly Street Senior Project Manager suggested 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

In contrast, the perception of Holly Street as a social mix was not found to be true. Analysis of the England Housing Survey shows that there are more single person households in Holly Street than in Hackney. This may reflect how an increased female employment rate (from 31% of respondents do not regard the area as attractive to live in Holly Street, and the local authority respondents were largely decanted from the area to mixed tenure estates. In contrast, 80% of the local authority and Housing Association respondents do perceive potential advantages.

Hackney Council hopes that contact will form and continue to thrive without further major investment. However, when interviewed the Holly Street Senior Project Manager suggested that the way to create a strong community 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 residents and 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 all located to phases, and do not fully integrate on a door-to-door level.

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Resources


SUN DIAL 12

All Mixed Up?
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 kW 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 1.4 MW gas engine, a 1.4 MW absorption chiller and a 160 m³ thermal storage supply 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. Thameswey’s 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.

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 Northern Quarter. ICIAN Developments (an AMEC Developments and Crosby Homes Joint Venture) won with their mixed-use proposal containing 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 Smithfield’s energy could be supplied by a CHP system, potentially cutting CO₂ emissions by as much as 70%. We also proposed that it be delivered by a new local Energy Service Company (ESCo) called ‘Smithfield Energy’. The risks associated with the £2.5m 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, resulting in a wave of investment in mainland Europe. Recent UK schemes in London (Citigen), Woking (Thameswey) and Southampton (Utilicom) have demonstrated its viability, with 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 judge 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 electrical 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 has:

- 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 (17.6p/KWh) and NORWEB distribution charges (a direct power supply to CIS was not possible) meant 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 Baratt Homes’ 108 flat Park View development in Southampton and Countrywide 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 Vitera 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 sub-standard. There were less concerns with security of supply than expected, and most were happy to forfeit choice of supplier for more environment 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.
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, and Power. It began to supply low pressure steam to heat textile buildings in Oxford Street, 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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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. 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 is 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 between two barriers

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.

Nick Dodd is URBED’s environmental consultant and is based in the Manchester office.
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 technical 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.

Minarc 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 indisputable. 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 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 In-cumbersome’), are known as ‘Insert Apportions’. 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 comparability, 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 (Ofwat).

Taking this scenario one step further, MWC is in a position to combine water abstraction, 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 50m3 per day. This will provide sufficient water for toilet flushing and subsurface irrigation. The overflow will be high quality to be discharged to surface ditch. Nonetheless, an emergency back-up sewer connection to the Thames Water sewer has been commissioned 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 companies of such schemes being the reduced investment required to develop new water resources.

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The Future of the Urban Water Supply

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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 Alcroft Studios live/work scheme proposed for Kentish Town 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 set up 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.

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 different 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 lively, as opposed to the housing 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.

Tom Young describes Alcroft 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.

The first truly 21st Century workspace is taking shape in the unlikely environs of Angel 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 the 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 good as that of similar companies. The main feature will be broadband connections of up to 155Mbit/s. Artisan has shortlisted four or five telecom 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 futurist fashion, 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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Tom Burton describes the Container City 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.
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 55% 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 need for consultation, the planning application for new developments such as Vauban were 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 town which has been replanted in the abandoned 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 to cope with demands for more space. The two settlement extensions of Rieselfeld 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 populace take pride in the public spaces that they can be kept at 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.