CREATING MORE PEOPLE-FRIENDLY URBAN STREETS THROUGH 'LINK AND PLACE' STREET PLANNING AND DESIGN

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For the last fifty years, urban street planning and design in the UK and several other European countries has been led by traffic engineers who have given priority to the needs of motor vehicles. This has resulted in street environments that are unattractive for people on foot, whether travelling along the street, or using the street as a destination for economic or social activities.

Attitudes to the street environment are now changing in the UK, with the publication of a 'Manual for Streets' by the government, focussing on new urban residential streets, and the development of a comprehensive 'Link and Place' Guide to planning and designing all types of urban streets by the authors. Both documents stress the need to consider each street in its wider urban context, as both a movement channel forming part of the road network (i.e. a Link) and as Place in its own right. Design solutions should be influenced by both Link and Place user needs, and solutions will vary according to the balance of significance of these two at any location.

The paper introduces the concept of Link and Place; it illustrates the range of street functions and user needs and shows how classifying streets on this basis leads to a greater consideration of the needs of people, rather than vehicles, in street planning and design. It discusses how this broadens the basis for assessing street performance and prioritising areas for improvement, and helps to determine the appropriate balance of street space and capacity to be allocated to different street user groups. This, in turn, affects the kinds of design solution appropriate in different contexts.

People-based planning is central to this approach, and the paper concludes by illustrating a hands-on public consultation exercise that used Link and Place principles to redesign an urban high street to meet the needs of local residents and businesses, using both physical and computer-based design tools.

Key Words: Street planning, Street design, Link and Place, Performance measurement, Public engagement

1. INTRODUCTION

1.1 Historical context

Since the start of the rapid growth in motorisation in many parts of Western Europe in the late 1950s/early 1960s, the planning and design of the layout of street networks in urban areas has given priority to meeting the requirements of the motor vehicle, with a corresponding tendency to encourage the relocation of other traditional street activities to sites off busier urban streets. In the UK, this was based on principles set out in the Buchanan Report[1] in 1963, which in turn derived in part from principles earlier established by Alker Tripp in the late 1930s[2]. At the heart of Buchanan's thinking was a belief that, in a traditionally designed town or city, there is an irreconcilable conflict between vehicle-based movement and a high quality local urban environment, which can only be resolved through physical separation. As a consequence the Buchanan Report made a fundamental distinction between two kinds of road: those for traffic distribution (movement) and those for local access to buildings and activities adjacent to the road, within protected 'environmental areas'. In explaining this distinction, an analogy was used of a hospital or other major public building, where the internal space is divided into rooms (where activities take place) and corridors for movement.

While this approach was intended to best serve the needs of urban areas with high levels of car ownership, the practical experience derived from attempting to apply it on the ground in the UK has revealed a number of problems. In particular:

- Attempts to retrofit roads in urban areas to conform to the Buchanan principles has resulted in the busier urban streets being redesigned as high capacity routes,

with restrictions on parking and loading, narrow footways and wide carriageways, pedestrian guard railing to restrict pedestrian movement and the installation of pedestrian underpasses or overbridges. In the process, such routes have become major impediments to pedestrian movement, and often unattractive and unsafe public spaces, which has led to the demise of many traditional street activities.

- Where new housing areas have been designed according to the Buchanan principles, it has often made access to/from these areas by bus, and on foot or by bicycle, very difficult or unattractive, thereby encouraging high levels of car use and discouraging the use of more sustainable transport modes.

- The idea of the 'environmental area' was often associated with the then current town planning preference for land use zoning, thereby replacing conventional patterns of mixed-use development with large single use areas that necessitate longer distance travel – again discouraging journeys on foot or by bicycle.

In the UK in particular, the planning and design of urban streets has largely been the responsibility of the traffic engineer, whose background and training has tended to result in an emphasis on meeting the requirements of motor vehicles over the needs of other types of street uses that tend to be more people-focussed. This, in turn, has resulted in the development of detailed design standards for road traffic (lane widths, sizes of parking and loading bays, etc.) and the derivation of economic values for the problems they suffer (e.g. time losses, road traffic accidents), while nothing comparable exists for many of the other street activities. This disparity, in turn, reinforces the traffic dominance in urban street design.

The implications of all this for urban street design are illustrated schematically in Figure 1. Here we see a presumption that street space should be reserved for moving traffic, with secondary priority for parking/loading activity, and the lowest priority for other (footway-based) street activities.

1.2   A more holistic approach to urban streets

There has been increasing concern in the UK about the dominance of road traffic in urban areas, and the role that conventional street planning and design has played in fostering this. Such concerns have converged from two different directions. First, from traffic planners attempting to encourage use of more sustainable transport modes; and second, from urban designers, developers and others worried about the poor condition of the public realm and
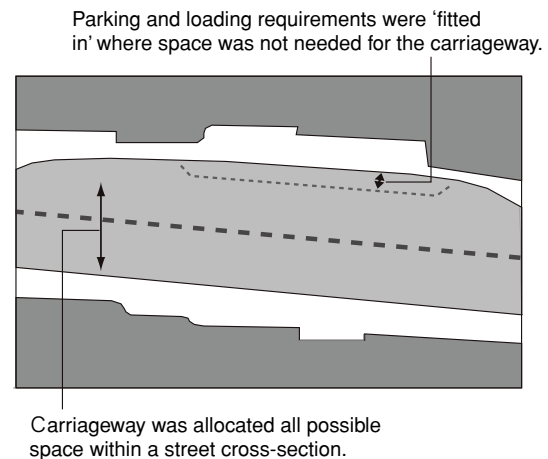
Parking and loading requirements were 'fitted in' where space was not needed for the carriageway.

Carriageway was allocated all possible space within a street cross-section.

Fig. 1 Conventional approach to allocating urban street space

the low quality of facilities for social and economic activities – partly in contrast to the high quality environments offered in many out-of-town retail and commercial developments.

This has resulted in many reports and guidelines being produced by a range of UK organisations in recent years, all encouraging a recognition of streets as being places for people rather than just vehicles. One of the most significant publications has been the *Manual for Streets*[3], published by the Department for Transport and the Department for Communities and Local Government, which has signalled a fundamental change in national policy in the UK. This stresses the role of streets as Places as well as channels for movement (drawing on principles set out in the European Union funded 'ARTISTS'[4] project), and shows how a more balanced approach to street planning and design can be applied in the case of lightly-trafficked residential roads in new housing developments.

While establishing the principle of adopting a more holistic, people-centred approach to urban street planning and design, the *Manual for Streets* does not address in any detail the planning of the whole urban street network nor how to design appropriately for competing street uses on the busier sections of street, where space is limited.

These latter issues have been addressed in a recent Guide by the authors of this paper[5], based around concepts of 'Link' and 'Place'. This builds on the work of the EU ARTISTS project, and involved a number of case study applications of the principles and techniques in various parts of London.

1.3 Aims of this paper

The paper explains the concepts of Link and Place, briefly illustrates the range of street functions and user needs and shows how classifying streets on this basis leads to a greater consideration of the needs of people, rather than vehicles, in street planning and design. It discusses how this broadens the basis for assessing street performance and prioritising areas for improvement, and helps to determine the appropriate balance of street space and capacity to be allocated to different street user groups. This, in turn, affects the kinds of design solution appropriate in different contexts.

People-based planning is central to this approach, and the paper concludes by illustrating a hands-on public consultation exercise that used Link and Place principles to successfully redesign an urban high street to meet the needs of local residents and businesses.

2. 'LINK' AND 'PLACE'

2.1 Basic concepts

Urban streets provide the setting for a wide range of urban street activities, which can be grouped under two broad types of street functions: 'Link' and 'Place'.

As a **Link**, a street provides a conduit for through movement, and forms an integral part of the wider urban street network and other, more specialised, urban transport networks (e.g. on-street light rail network). A Link user may travel by a variety of modes, from private car or truck to bus, bicycle or on foot. Their essential need is to follow a continuous, linear path through the street network, with minimum disruption and a seamless connection from the beginning to the end of their journey. In general they are seeking to minimise travel time along each section of street.

As a **Place**, a street is a destination in its own right: a location where activities occur on or adjacent to the street. A Place user is someone wishing to make use of some of the features that are on that particular street, and will usually do so on foot. While such people are classified as 'pedestrians', they are not passing through the area – they are spending time **in** the area, and may be carrying out a wide variety of activities (e.g. shopping, talking, waiting, resting, working[6]). They are particularly affected by the noise and air pollution produced by vehicular traffic, and the general severance effect of heavy traffic volumes in inhibiting their movement between places on opposite sides of the street.

However, not all of the traffic and transport-related activity observed on urban streets is part of that street's Link function. There are also some types of Place-related activities that are directly connected with traffic and transport, and occur within and adjacent to the carriageway. For example: loading/ unloading; parking by employees, customers, residents, etc.; and buses and trams stopping to drop off/pick up passengers.
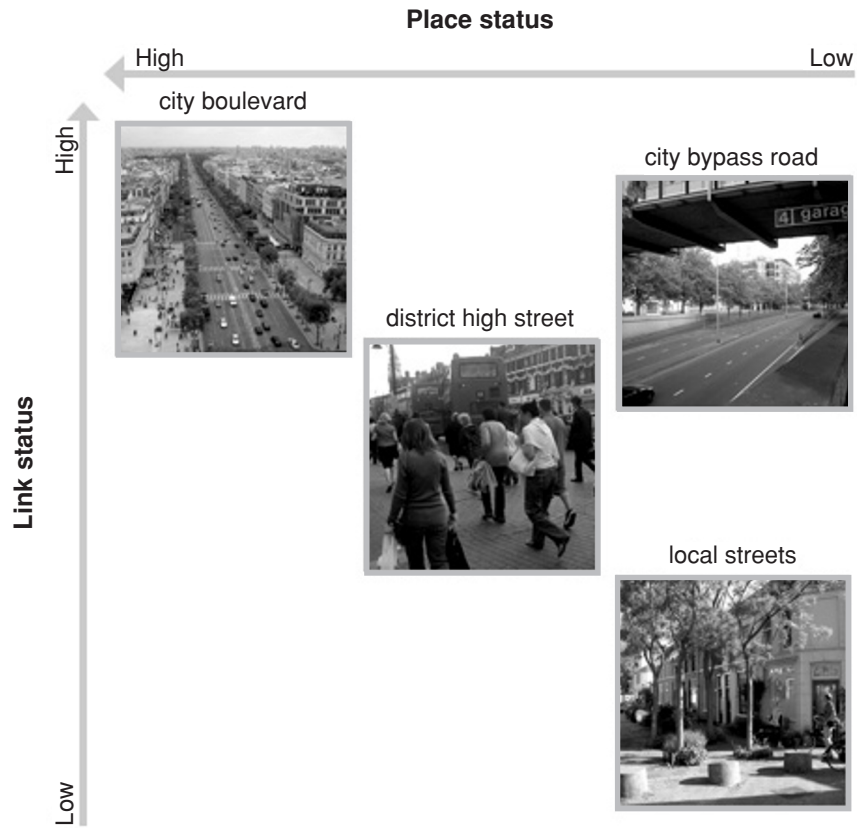
2.2 Urban street classification

The concepts of 'Link' and 'Place' provide the basis for developing a two-dimensional street classification, into which every kind of urban street can be located. This is shown schematically in Figure 2, where a major city boulevard has both a high Link and high Place status and a local residential street a low Link and low Place status.

This can be formalised by defining a number of Link and Place status levels, based on specific criteria (e.g. level in the road hierarchy for Link, and size of catchment area for Place), and then developing a two-dimensional street classification matrix. Figure 3 provides an example of a 'five-by-five' matrix, with categories I to V for Link and A to E for Place, resulting in 25 cells, or street types.

Classifying streets in this way has a number of benefits. In particular:

- Link status and Place status are measured using the *same units,* which helps to ensure that both dimensions are given equal consideration. Using conventional approaches, Link measures of importance tend to be grounded in quantitative data, while Place considerations may derive from more qualitative data, thereby giving greater implicit emphasis to the Link function of the street. Within this two-dimensional classification, both status levels are decided by professional judgement.

- The Link function and the Place function of a street are *independent* of each other, which contrasts with the conventional assumption that the Link role and Place role are inversely related. By making these two independent, it means that we can cater for street types – such as radial high streets – that have both significant Link and Place functions. It also removes the danger that a street's primary function is dominated by its Link role, with the Place role assumed to be secondary – and assigned space not needed for Link purposes.

- Thirdly, the independence of Link and Place encourages these functions to be judged and addressed by *different professionals*. Thus, while transport planners or traffic engineers would lead on the Link aspects of a street (as conventionally happens), the Place aspects would be handled by urban planners and urban designers – all working in a multi-disciplinary team.

Place status

High ← Low

city boulevard

district high street

city bypass road

local streets

High

Low

Link status

Source: Ref (5), page 45.

Fig. 2 Mapping diverse urban street types into a Link/Place framework

Place status levels

	National	City	District	Neighbour hood	Local
National	I-A	I-B	I-C	I-D	I-E
City	II-A	II-B	II-C	II-D	II-E
District	III-A	III-B	III-C	III-D	III-E
Neighbour hood	IV-A	IV-B	IV-C	IV-D	IV-E
Local	V-A	V-B	V-C	V-D	V-E

Link status levels

Source: Extracted from Ref (5), Example 6.

Fig. 3 A five-by-five Link/Place street classification matrix

2.3   Developing a 'Street Plan'

When deciding on the Link and Place status of a particular street, it is important (i) that this specifies the *intended* functions of that street, rather than how it performs at present and (ii) that this is done in the context of what is happening in the whole urban area. So it is recommended that a city authority prepares a Street Plan, which defines the strategic functions and Link and Place status of each segment in the urban street network, also taking into account differences in predominant land use patterns and any transport mode priorities (e.g. strategic bicycle routes). In some situations, status levels may vary by time of day, day of week, or by season.

As shown in Figure 4, a Street Plan is broader in conception than a traditional road network or land use plan, as it takes into consideration everything that occurs in the vicinity of the street.
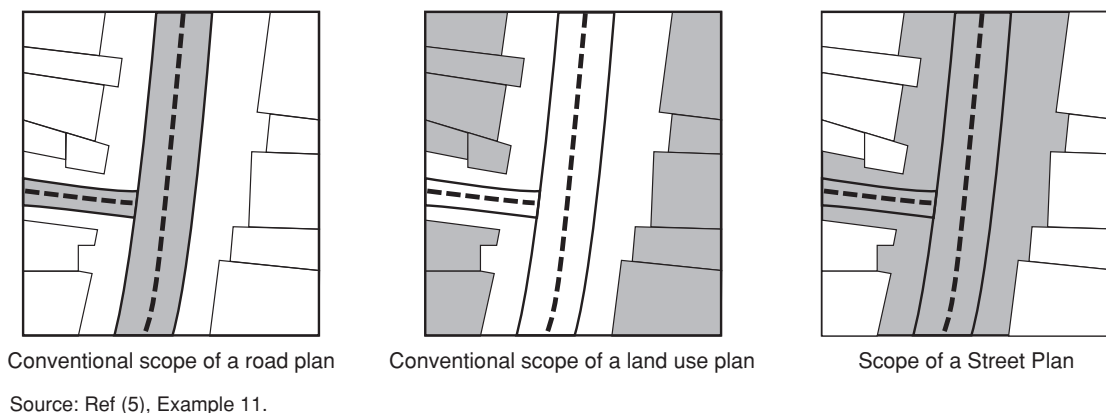
Conventional scope of a road plan   Conventional scope of a land use plan   Scope of a Street Plan

Source: Ref (5), Example 11.

Fig. 4 Coverage of a Street Plan in comparison to a road or land use plan

3. STREET PERFORMANCE AND PRIORITISATION

3.1 Street performance indicators

One of the key underpinnings for developing a more comprehensive and people-centred approach to street planning and design is the way in which street performance is assessed: is the current design meeting the requirements of the various street user groups, given the Link and Place functions of that street segment as defined in the Street Plan? To achieve this requires the development of a suitable range of street performance indicators, which reflect the full range of street activities and conditions. Table 1 illustrates the kinds of topics for which precise indicators might be developed. Note that some of these affect both Link and Place street user groups, and so have been placed in a joint column.

For each topic it is necessary to develop a precise indicator, or indicators (either objective or subjective) and to map each one onto a common rating scale – again, to ensure that each is given equal consideration, regardless of the natural units of measurement. Next, an 'acceptability threshold' has to be determined for each indicator, to help in deciding whether current performance is satisfac-

Table 1 Examples of topics for developing performance indicators

Link Indicator Topics	Place Indicator Topics	Link/Place Indicator Topics
Average traffic speeds	Retail vitality	Traffic accidents
Variability in traffic speeds	Loading provision	Personal security
Delays to non-vehicle users	Quality of public realm	Air/noise pollution

tory or not; this may either simply be a binary point (acceptable/unacceptable) or have more gradations, such as in a 'traffic signal' representation, showing red, amber and green states. In some cases, threshold value(s) may vary according to street status level (e.g. slower speeds accepted on lower Link status streets), or land use type (e.g. higher street noise levels acceptable in an industrial area).

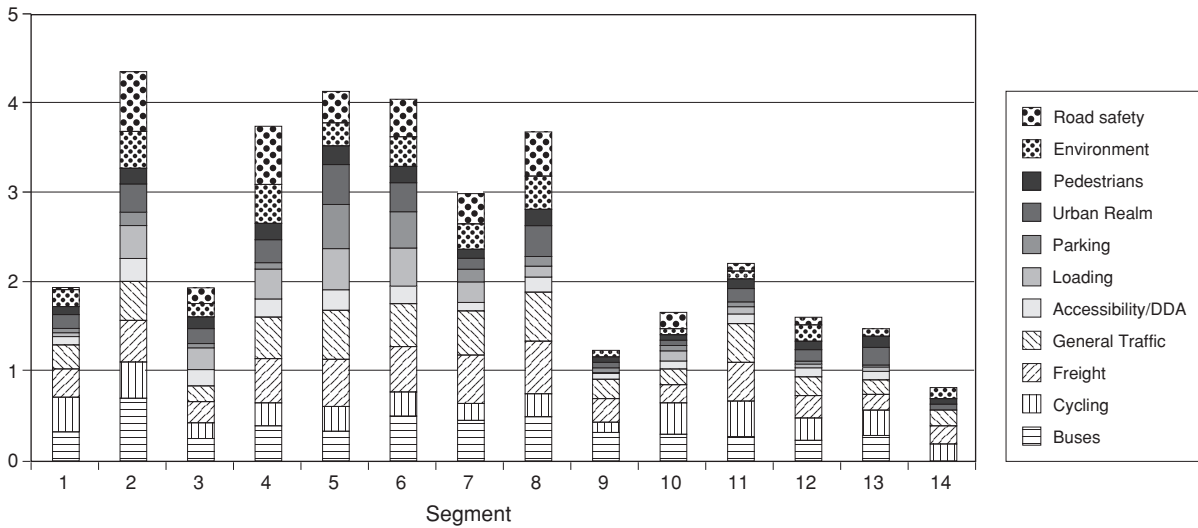## 3.2 Prioritising streets for treatment

Given the dominance of traffic considerations in urban street planning and design over the past fifty years, it is likely that an urban authority will identify a large number of street segments that require improvement. But how are priorities decided? Here it is recommended that three factors are taken into account:
- The degree of problem identified for each indicator (i.e. how far away is its performance from an acceptable level?);
- The relative Link and Place status of that street segment – which function has the higher priority?
- Any weighting to be given to one indicator over another (e.g. high political priority given to addressing shortfalls in conditions for pedestrians with disabilities).

Figure 5 illustrates the outcome of such an exercise that was carried out along one main route corridor in London. Here indicators were developed for eleven Link and Place topics, and performance assessed for fourteen segments along the corridor. The figure shows weighted 'degree of problem' scores for each topic, which are then summed (in the columns) to give an overall score; here we can see that segment 2 has the greatest cumulative degree of problems, with the largest shortfalls being recorded for the topics of buses, road safety and environment.

Source: Transport for London

Fig. 5 Cumulative shortfall scores as a basis for prioritising attention

4. SPACE ALLOCATION AND STREET DESIGN

4.1 Design principles

The various street user groups competing for design attention on the busier urban streets require a combination of space and specialist 'street design elements' in order to successfully carry out their activities. Examples of the kinds of activities and corresponding infrastructure requirements for street Place users are shown in Table 2.

By identifying the needs of the different categories of Link and Place street users, it is possible to assess the total space requirements for all relevant Link and Place activities – particularly in cross section – on a street segment. In most cases there will be a 'minimum' and 'desirable' level of Link and Place street space provision. This flexibility reflects both the ability to reduce space requirements for individual street design elements (e.g. more or fewer bicycle parking spaces, or larger or smaller benches), and the possibility of using the same space - either simultaneously (e.g. same traffic lane for cars, buses and cyclists), or at different points in time (e.g. kerbside loading off-peak and bus lane during peak periods) - to accommodate more than one requirement.

This is shown schematically in Figure 6, which depicts, in cross section, both the Minimum (min) and Desirable (des) levels of total provision for Link and Place street functions. As can be seen in this hypothetical example, there is insufficient width to accommodate Desirable levels of provision, or either combination of Minimum and Desirable, but there is more than sufficient space to accommodate the Minimum levels of Link and Place

Table 2 Infrastructure requirements for various kinds of Place-related activities

Place street user group	Street activities	Infrastructure requirements
Car users Motorcyclists Cyclists	Parking vehicle	Parking space Adequate lighting
Van/lorry user	Loading/unloading	Loading provision Adequate lighting
Bus operators	Boarding/alighting	Protected kerbside at bus stops Easy access for mobility restricted passengers Adequate lighting
Bus passengers	Waiting	Shelter and seating Lighting and security Service information
Pedestrian ('strollers')	Window shopping Queuing for services Chatting to friends Waiting for friends Resting Comfort break	Adequate lighting Space to carry out their activities Weather protection Seating Public toilets Litter bins

Source: Ref (5), Example 58.

functional infrastructure requirements, with some space to spare.

Where such a cross sectional space/capacity check is carried out, this can lead to one of four potential outcomes:

(i) There is sufficient – or more than enough - space/ca-

pacity to accommodate all the aggregate requirements of the set of Link and Place street design elements, at their Desirable levels of provision;

(ii) There is just sufficient space/capacity to meet aggregate Link and Place design requirements, at their Minimum levels of provision;

(iii) The available space/capacity will enable a design outcome that lies between meeting the Minimum and Desirable levels of provision (as in Figure 6); or

(iv) There is insufficient space/capacity to meet the aggregate Link and Place street design element requirements, even at their Minimum levels of provision.

In case (iv), it is recommended that the street requirements be reassessed; this will probably involve reducing either the Link or the Place status of that street segment (and possibly adjoining ones too). In doing so, levels of demand may reduce and performance requirements may drop, thereby making it easier to find a feasible design solution.

4.2   Developing design options

There are three dimensions involved in shaping the development of design options for a street segment:

- The **width** of the street between buildings, especially at the narrowest points;

- The **length** of the street segment, providing opportunities to locate street design elements at different points along the street (particularly for Place-related elements); and

- The **timing** of provision, by time of day, day of week or the season of the year.
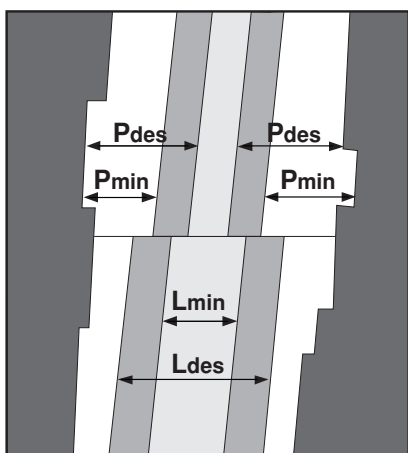
The main design constraints usually result from the limited available width of the street, and so the focus here is on the street cross-section. To investigate this we introduce the concept of the **trade-off triangle**, shown in Figure 7. If all the space was allocated to Link users (e.g. on an urban motorway), then the total width available would be B; conversely, if all the space was reserved for Place users, then the available width would be the same, but allocated to A instead. Most streets require space for both Link and Place-related infrastructure, and so all the options of space allocation must lie on the line connecting A and B, or within the triangle.
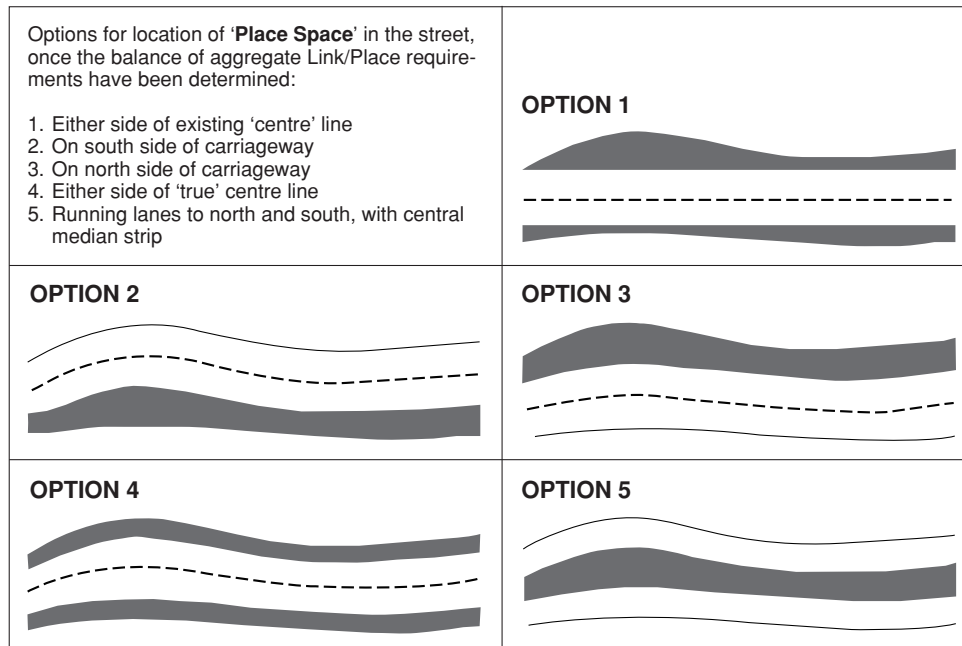
Within the available space there is often scope for varying the location of the Link and Place provision. In particular in relation to the positioning of traffic lanes (a normal requirement associated with the Link function of a street) within the street cross-section. In turn, this affects the location of space that can be allocated to Place-related activities. This is illustrated in Figure 8. Here the Link requirement is for one traffic lane in each direction, within a street cross section that is variable in width, but considerably wider than this. But the location of the traffic lanes can be varied, so that the Place space responds to the local characteristics of the area. For example, wider footways may be provided on the sunnier (or more shaded) side of the street, or there might be a preference for a median strip along a busy shopping street to slow down traffic speeds and make it easier for people to cross the street.

The balance and layout of provision of the preferred street design for any street segment will depend on the relative Link and Place status of that street segment, the

Source: Ref (5), page 177.

Fig. 6 Assessing scope for accommodating Link/Place user needs in cross section

Source: Ref (5), page 208.

Fig. 7 The trade-off triangle

Options for location of '**Place Space**' in the street, once the balance of aggregate Link/Place requirements have been determined:

1. Either side of existing 'centre' line
2. On south side of carriageway
3. On north side of carriageway
4. Either side of 'true' centre line
5. Running lanes to north and south, with central median strip

OPTION 1

OPTION 2

OPTION 3

OPTION 4

OPTION 5

Source: Ref (5), Example 50.

Fig. 8 Alternative locations for Place space once the minimum Link requirements have been met

nature of the land use characteristics and any transport modal priorities, and the physical space available. As a consequence, the amount of space allocated to Link street functions may vary from one segment to next one, even though the Link status and the transport modal priorities remain the same. This contrasts with conventional practice, where in such situations the aim has been to ensure continuity of Link design treatment from one street segment to the next.

This is illustrated in Figure 9, using a corridor in Freiberg, Germany, as a case study example. This shows two street segments which form part of the same traffic corridor into the centre of the urban area and along which there is a priority tram route. They differ, however, both in terms of the available street width and in their Place status and characteristics. Segment One is quite wide (26.6 metres), and mainly residential in character, while Segment 2 is narrower (at 21.6 metres) and contains a major district shopping centre.

In Segment One, these considerations have enabled separate traffic lanes to be provided for cyclists, cars/general traffic and for trams, with limited parking (on one side of the street). In contrast in Segment Two, the additional Place requirements coupled with the more limited space has led to a solution where there are still separate cycle lanes, but trams and general traffic share the same

physical carriageway space but are separated in time (using tram priority signals up-steam and down-stream of the street segment), and parking/loading spaces are provided on both sides of the street.
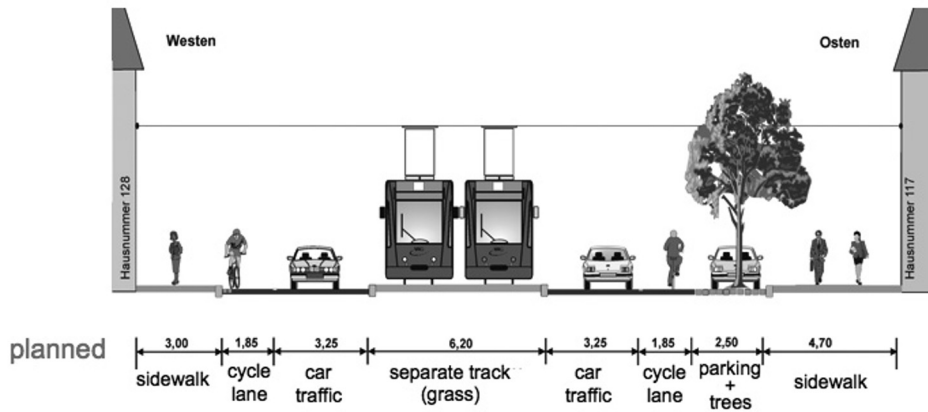
5. INVOLVING PEOPLE IN STREET REDESIGN
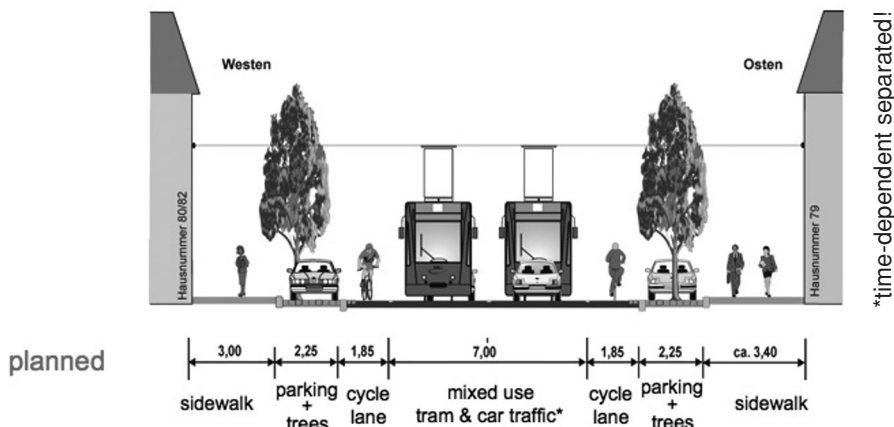
5.1 Background

Experience gained during the ARTISTS project, and subsequent work in London and the West Midlands, has demonstrated that the general public and professional stakeholder groups find it easy to relate to the Link and Place concepts outlined in this paper, and find them a useful basis for identifying problems and priorities on urban streets, and as a basis for developing urban street designs.

Traditionally, traffic engineers develop a preferred street design and then 'consult' local residents and businesses, by seeking approval for their proposals (formally this is done in the UK by inviting 'objections'). Here local people have very little input into the design process, so their concerns and ideas are not incorporated, they have little understanding of the limitations faced by traffic engineers and they have little sense of ownership of the final scheme. As a consequence, there is often strong local opposition to the resulting road scheme, which is seen as having been 'imposed' on local people, and in some cases

Street segment One

planned

3,00	1,85	3,25	6,20	3,25	1,85	2,50	4,70
sidewalk	cycle lane	car traffic	separate track (grass)	car traffic	cycle lane	parking + trees	sidewalk

Street segment Two

*time-dependent separated!

planned

3,00	2,25	1,85	7,00	1,85	2,25	ca. 3,40
sidewalk	parking + trees	cycle lane	mixed use tram & car traffic*	cycle lane	parking + trees	sidewalk

Source: Ref (5), Example 52.

Fig. 9 Effect of Link/Place status and street width on design solutions

the proposals have had to be abandoned.

This section describes a public involvement exercise that has been developed to deal with these more contentious types of situation, based around Link and Place principles, and which directly involves public stakeholders (local residents, business groups, etc.) in developing street design options, with support from the traffic engineers and transport planners, in advance of going out to formal public consultation.

5.2 Case study

The design exercise was carried out in Bloxwich, a town to the north of Birmingham, in the English West Midlands, with a population of roughly 40,000[7]. Bloxwich has a shopping high street that is approximately 700 metres in length, and is a Place of quite high status. It contains around 100 shops and other businesses, and is also a major Link with approximately 20,000 vehicles passing along it in both directions in a 12 hour period on a weekday; 20 bus routes also pass through the area.

The local council had previously consulted on a possible scheme for the high street that had been developed by an external consultant, with no direct public involvement. This had not been well received at a public meeting and had been rejected by local politicians. The council wanted to develop a new scheme which recognised the range of interest groups and objectives, including those of retail/commercial businesses, local residents, through traffic and road safety, public transport, pedestrians and the need to support the local economy and enhance the

local environment. They decided to adopt a more innovative approach, based on Link and Place principles, using a combination of physical ('blocks') and computer-based ('bytes') design tools.

The exercise involved two sequential workshops, the first starting with a project briefing, and a hands-on design exercise, and the second using the computer tool to refine the options from the first workshop and select a preferred option(s).

5.2.1 The initial design exercise

Participants included local businesses, local residents, general interest groups and local politicians. They were divided into two design groups. Each group was provided with a street plan of the high street at a scale of 1:250, showing the road layout, building line and individual premises. The plan labelled every building, and to help participants in orienting themselves some photographs were provided and linked to the plan.

The plan marked out a minimum set of Link and Place requirements that placed some overall constraints on the design exercise, namely:

- The fixed building line, and a minimum clear footway width in front of the buildings on either side of the carriageway of 2.0 metres (2.5 metres in all, to allow for street lighting, etc);
- One continuous traffic lane in each direction along the full length of the high street. However, the lanes could be varied in their position within the highway, as illustrated in Figure 8;
- Minimum amounts of kerbside 'no stopping' (double red) markings were shown on the plan around side road corners and at major junctions, that were required for traffic safety or congestion reasons;
- A minimum number of parking/loading bays, bus stops and pedestrian crossings to be provided along the high street (or adjacent to it), for particular user groups.

In addition, areas were highlighted that could be allocated for additional parking and loading spaces on the side roads adjoining the high street, and the plan showed the private loading/parking spaces behind the buildings.

In order to carry out the design task, each group was provided with a tool kit box containing a series of design aids. This is illustrated in Figure 10, and consisted of:

- A set of plastic blocks of different sizes representing the most common street design elements, including: parking bays, disabled parking bays, loading bays, bus stop bays, bus shelters, pedestrian refuges, bike stands and benches. They were constructed to a 1:250 scale and colour coded (e.g. blue for the 'blue badge' disabled parking bays);
- A set of acetates at 1:250 scale showing running lanes for general road traffic, bus lanes, cycle lanes, and different kinds of pedestrian crossings. Again, these were colour coded (e.g. red for a bus lane, green for a cycle lane);
- A set of stickers depicting all the above features, in the appropriate sizes and colours. These were stuck onto the plan in place of the blocks and acetates, once a design had been agreed upon by the group, so that there was a permanent record of their proposals; and
- A set of coloured pens, to record any comments and mark on any additional street design elements that were not in the tool kit, as well as new kerb lines, etc.

An example of one of the groups in action, developing their street design is shown in Figure 11.

Source: Ref (7), Figure 2.

Fig. 10 Components of the tool kit for the street design exercise

Source: Ref (7), Figure 3.

Fig. 11 One of the groups developing a street design option

5.2.2 The second workshop: comparing options

The two design options developed by the groups of participants in the first workshop were presented side by side to the whole group on a large screen, using 'Line-Map' software developed by Buchanan Computing, and small scale paper copies were also supplied. This reproduced the colour block format, and was also able to convert this into the appropriate road markings. An example showing both options for one section of the high street is presented in Figure 12.

The whole group then discussed the advantages and disadvantages of each design, and they were able to agree on one solution, to go forward for formal public consultation which was edited on screen.

5.2.3 Outcomes of the exercise

Using a Link and Place approach to urban street design, as part of an interactive public engagement exercise, resulted in a set of very successful outcomes. Participants found it easy to understand the principles, and the use of the colour-coded scale blocks and acetates helped people both to think more creatively about design options, and ensured that their solutions were generally practical. The interactive approach also led to an environment in which business people and local residents worked cooperatively with local council engineers, rather than being in opposition as is usually the case.

When the final set of proposals was put out to wider public consultation, a large majority of people who took part supported the proposals, and when the scheme went through the legal processes where people are invited to submit objections, only one was received. It is very unusual to receive so few objections to this type of scheme, and shows the success of the approach. The council is now using the method on other streets, to engage the public in the design process where there are difficult choices to be made about the most appropriate design solution.

6. SUMMARY AND CONCLUSIONS

In a policy environment where there is a growing concern with issues of social inclusion, economic vitality, high quality urban realm and urban sustainability, professionals and the public are recognising the crucial role that streets play as Places, in contributing to the quality of life in urban areas. It is no longer sufficient to give automatic priority to the traffic movement (Link) function of streets: this needs to be balanced against the other social and economic functions that streets perform.

Conventional planning and design guidance, as ex-
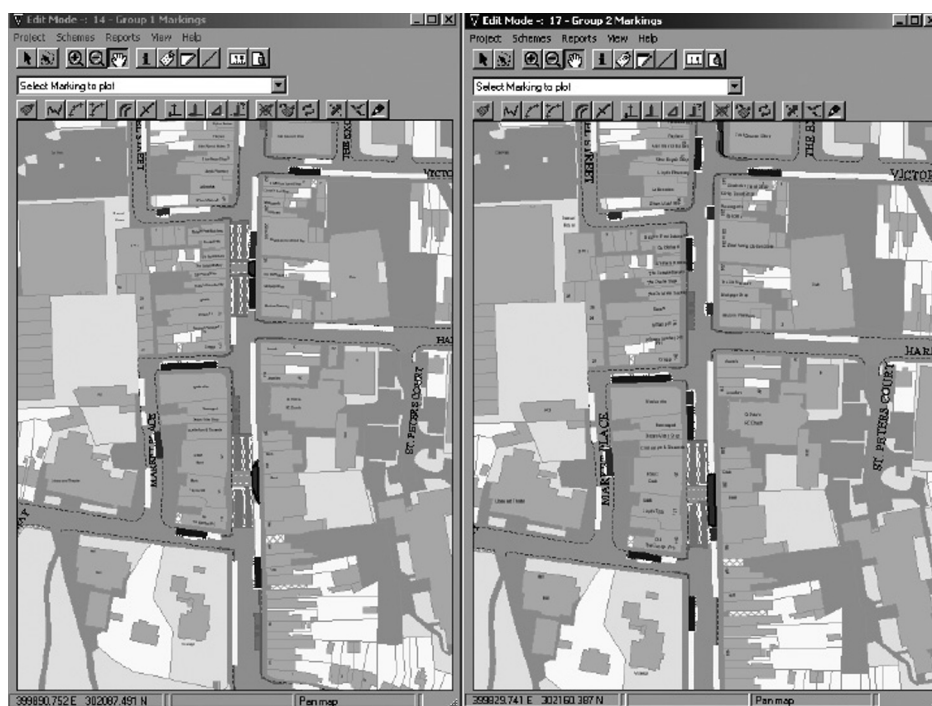
Source: Ref (7), Figure 5.

Fig. 12   Two designs for one section of Bloxwich high street

emplified by the Buchanan Report in the UK from 1963, sought to separate the Link and Place activities that had traditionally been carried out together on urban streets, by defining roads as being for either movement or for local access, using the 'rooms and corridors' analogy from architectural designs of that period.

This paper has set out a new framework for urban street planning and design that explicitly takes account of the dual role of streets as Links and Places, recognising that most urban streets combine both functions – and that some of the most attractive ones have both a high Link and high Place status. Using a modern architectural design analogy, they are the 'open plan' equivalents in public space.

The paper has shown how Link and Place principles can be used at the planning level to define the functionality of the urban street network, to measure street performance in a comprehensive manner, and to guide decisions concerning where to prioritise investment and which problems to address. At the design level, the approach helps to ensure that all user needs are recognised and appropriately taken into account, and provides a basis for deciding how much relative priority to give to some competing user needs over others, in different circumstances. The philosophy and methods have been successfully trialled at several sites in London and the West Midlands. Experience shows that the approach is understood and supported by the public and professional stakeholders, and provides the basis for meaningful engagement between the different groups in developing street design options.

The philosophy underpinning the Link and Place approach should help to encourage a new and closer relationship between the different professions with an interest in aspects of street planning and design. The main domains of responsibility are illustrated schematically in Figure 13.

In particular, the opportunities for closer relationships can be seen as being between:
- Transport professionals and 'urban' professionals. The former conventionally have often dominated, in a system geared to prioritising the Link function of urban streets. But the approach outlined in this paper gives equal importance to the urban professionals, by giving the Place function an explicit and equal status.
- 'Planners' and 'designers' – i.e. those looking strategically at the system as a whole, and those dealing with detailed design issues affecting particular street segments, on the ground. In effect, the 'planners' set the brief for the 'designers' to follow. But awareness of what is working and what is possible on the ground should feed back to influence the next version of the urban Street Plan.

Over time, this suggests the value of training a new type of urban professional, equipped to look broadly at the full range of street functions and requirements, who is involved in developing the urban Street Plan and who takes the lead in preparing comprehensive design briefs for local studies.

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	Link	Place
Planning	Transport planners	Urban planners
Design	Traffic engineers	Urban designers

Source: Ref (5), page 242.

Fig. 13 The complementary roles of the main urban professional groups