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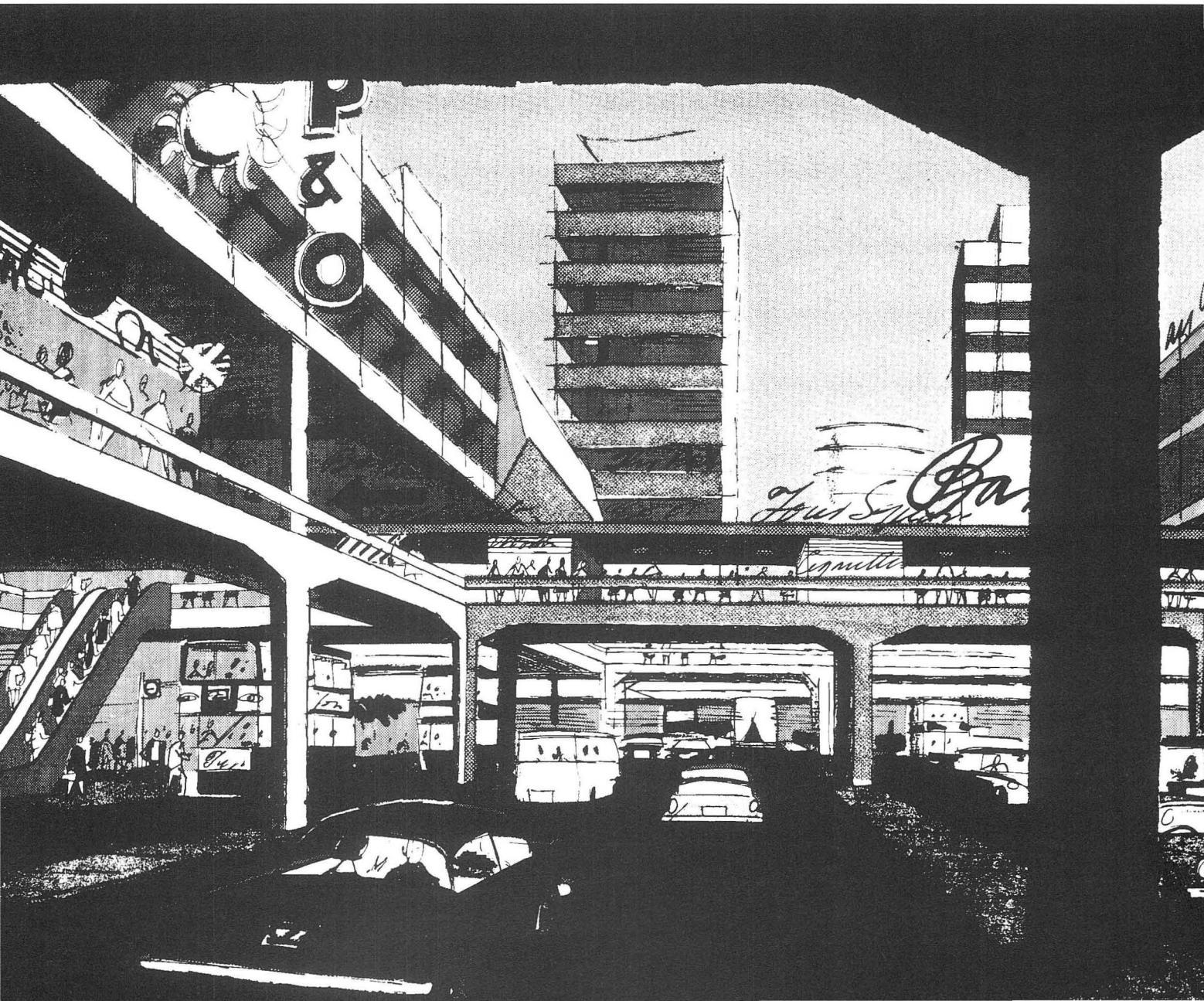
P&O

1 INTRODUCTION

The change from horse-drawn to motor traffic was a revolution, and nothing less than a corresponding revolution in roads and road user will suffice to put things right.

Alker Tripp, *Road Traffic and Its Control*[1]

In 1963, the UK Buchanan Report on *Traffic in Towns* laid out a vision of urban design for the motor age. This envisioned cities of multi-lane motorways and multi-storey car parks, with tower blocks and pedestrian decks set above labyrinthine systems of distributor roads and subterranean service bays. Central London was shown transformed into a vast megastructure complex sprawling across Fitzrovia and Bloomsbury, vividly demonstrating the 'radically new urban form' demanded by the motor vehicle.[2]

The image opposite was merely intended as an *illustration* of the Report's implications – demonstrating what *could* be required if society chose to take the accommodation of motor vehicles to its logical conclusion. Had this choice been taken up, the result would have been a dramatic transformation of towns and cities – and not least of the portion of inner London illustrated.

A bustling commercial street, Tottenham Court Road, would be transformed into a multi-lane motorway, terraced and flanked on either side by parallel collector–distributor roads, forming a traffic canyon some 100 m wide, accommodating a dozen lanes of traffic. Its four-level intersection with Euston Road would occupy an area that could accommodate a hospital or university (Figure 1.1).[3]

Such surgery would scarcely be contemplated today. Already, by the early 1960s, the wisdom of highways-driven city redevelopment was being


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questioned by radical urban writers such as Jane Jacobs, who saw streets as the lifeblood of cities rather than mere traffic channels; and subsequently by Christopher Alexander, who saw streets as multi-functional urban 'patterns'.[4]

But, in the vision presented in *Traffic in Towns*, the role of Tottenham Court Road as an urban 'seam' between Fitzrovia to the west and Bloomsbury to the east would disappear as those districts became separated, insular precincts. Shops would be marooned on the pedestrian deck, away from passing trade. Buses would be abandoned in the limbo of the district distributor level. The familiar urban 'patterns' of the grocery store by the bus stop, and the pub on the street corner, would be lost. There would be no pub on the corner, since no building would interfere with the requisite junction visibility requirements. There would be no crossroads, since these would be banned on traffic flow and safety principles. Indeed, there would be no 'streets': just a series of pedestrian decks and flyovers.

The vision was more than a fleeting urban hallucination from the 1960s. It expressed principles that were to become the prevailing norm for urban road layout, not only in Britain, but around the world. It was no less than a snapshot of an unfolding urban revolution.[5]

REVOLUTION

What was this urban revolution all about? At heart, the traditional pattern of urban structure constituted by streets was swept away by a brave new system of vehicular highways separate from buildings and public spaces. Richard Llewelyn-Davies called this the 'revolutionary, even cataclysmic, impact of modern transport planning on the form of towns'.[6] In the second half of the twentieth century, as the car and the modern highway took a grip on urban design, city form underwent perhaps its most dramatic transformation in thousands of years.[7]

The cataclysm of Modernism was not just about comprehensive redevelopment and the introduction of a new kind of infrastructure – that had happened before, when the railways entered the Victorian city. What modern road planning did was to alter the fundamental relationship between routes and buildings. It effectively turned cities inside out and back to front.

The cataclysm of Modernism

Over the course of history, all sorts of urban activities have taken place on the main streets: they were not just for through passage, but for meeting, trading, hawking, busking, bear-baiting, public speaking and pillorying. If anything, there seemed to be a natural relationship between the busiest, most vital streets and the most significant urban places (Figure 1.2).

1.1 • Inner London transformed. In this illustration from *Traffic in Towns*, the north–south commercial street Tottenham Court Road is replaced by a multi-lane motorway, severing the Fitzrovia district (west) from Bloomsbury (east).

1.2 • Dunbar in 1830. The high street is the widest street and the most significant urban space in the village. The main street has wells and a weigh-house – this hints at the variety of urban activities present.

Modernism not only broke this relationship between movement and urban place: it reversed it. It proposed an *inverse* relationship between movement and urban place. The movement would now be the movement of fast motor traffic; the urban places would become tranquil precincts.

In the UK, Alker Tripp had already promoted the idea of turning existing arterial streets into segregated highways for motor vehicles, like railways, barred to public access. The main streets would have their buildings turned back to front, and side roads disconnected. As Tripp calmly put it: 'Roads-ends need not be closed up with bricks and mortar; a row of posts will suffice for the present.'[8] Colin Buchanan later commented:

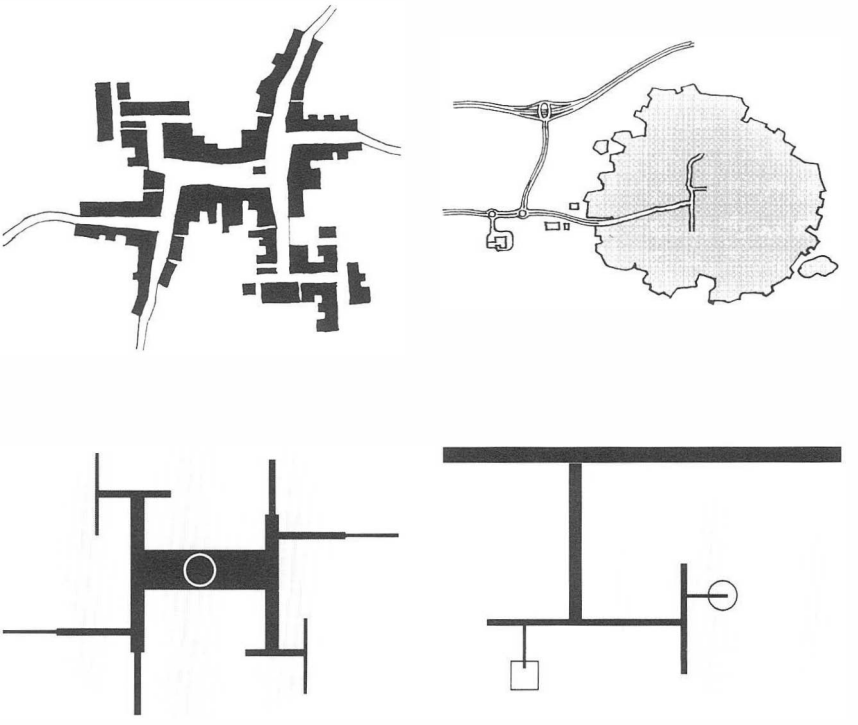
> It is when one considers carefully the full implications of Alker Tripp's theory – the searing of the town with a railway-like grid of roads and

> the literal turning of the place inside out – that the first qualms arise and one asks whether, if this is the price to be paid for the motor car, it is really worth having.[9]

Despite these qualms, Buchanan made the founding principle of *Traffic in Towns* the distinction between roads for traffic and those providing access to buildings. This directly echoed the approach of Tripp two decades earlier, who asserted that these two functions were 'mutually antagonistic', and must be separated in two kinds of urban road.[10]

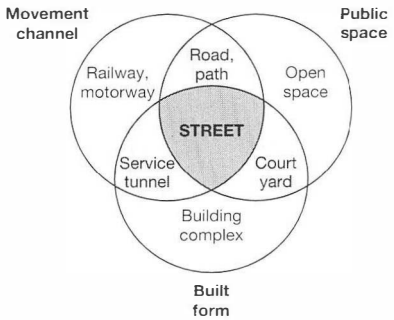
This, in a sense, turned the road system itself upside down. Formerly major streets became backwater access roads or pedestrian precincts. The most important traffic routes were no longer streets. The relationship between main routes and central places was reversed (Figure 1.3).

The historic pattern of accessibility focused on the centres of settlements became replaced by accessibility distributed around the urban periphery. Whole settlements became, in the words of the writer Alex Marshall,



(a) Historic structure **(b) Modern structure**

1.3 • Caricature of historic and modern settlement structures. (a) The market square is centre stage, and the intensity of circulation dissipates outward from this core. The routes out of town are of a relatively low standard. (b) The main flows and highest standard routes are on the national network outside the town. The relationship between notional centre and main routes is reversed.



1.4 • Elements of the street.

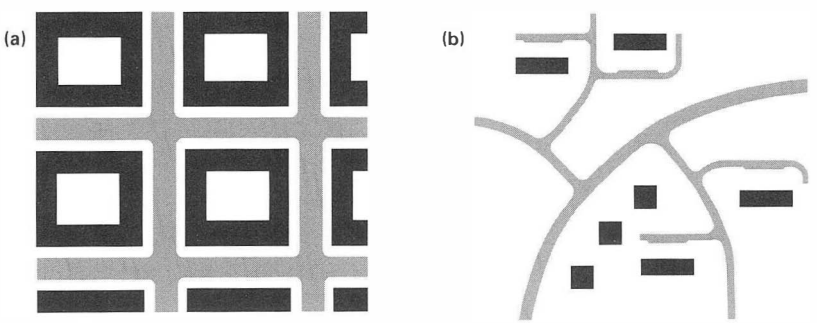
'appendages off a freeway ramp'.[11] At the scale of urban streets and blocks, modern road systems also turned pockets of the urban fabric 'inside out', inverting streetspace as the focus of public space.

Tripp prefaced his comments on how streets should be redesigned with the telling phrase 'from the traffic point of view'. With hindsight, this point of view seems to have been built into much of urban planning policy in the second half of the twentieth century, often appearing to have priority above all others. And as a central plank of Modernist policy it was adopted enthusiastically by engineers, architects and planners alike. The circulation system has always formed the 'backbone' of settlements; but traditionally it was streets that performed this spinal role. In contrast, Modernism filleted the city – stripped the spine and ribs out from the urban flesh, and set up the road network as a separate system.

The dissembly of the street

The urban street had traditionally united three physical roles: that of circulation route, that of public space, and that of built frontage. These three elements may be loosely equated with the linear concern of the transport engineer (the street as a one-dimensional 'link' in the traffic network), the planar concern of the planner (streetspace as land use) and the three-dimensional concern of the architect or urban designer (Figure 1.4).

However, the revolutionary rhetoric of Modernism passed a death sentence on the street. Modernism set up a new urban model that liberated the forms of roads and buildings from each other. Rather than being locked together in street grids, the Modernist model allowed roads to follow their own fluid linear geometry, while buildings could be expressed as sculpted three-dimensional forms set in flowing space (Figure 1.5).[12] Each



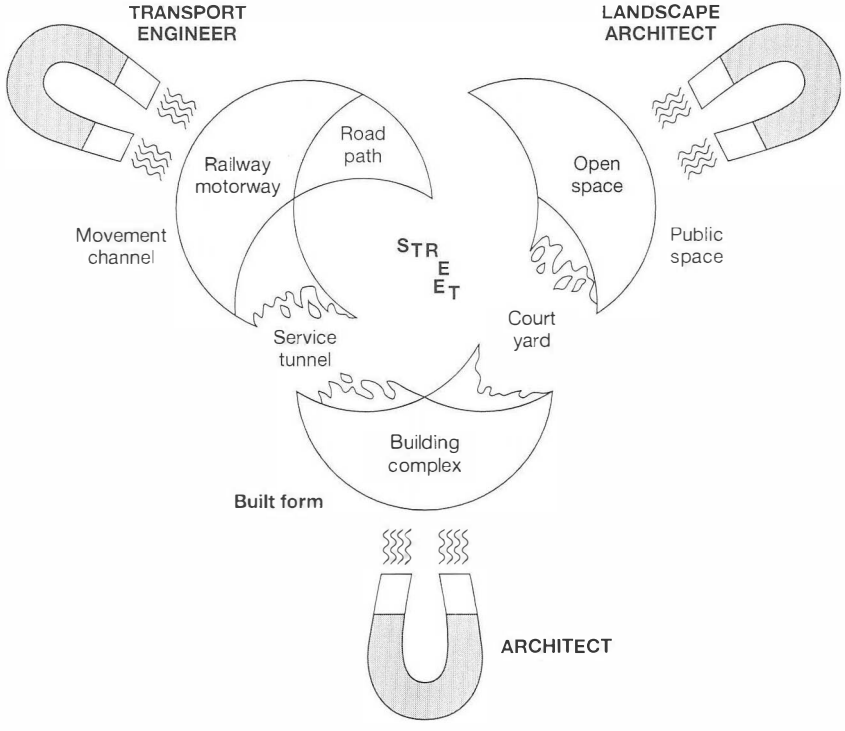
1.5 • Traditional versus modern layouts. (a) Fit of roads and buildings. (b) Roads and buildings follow their own dedicated forms.

form could follow its own dedicated function, resulting in a divergence of forms and quite separate geometries for buildings and roads. The street, in official vocabulary, ceased to exist.[13]

The schism of Modernism

This effectively amounted to a schism in urban design between the treatment of roads as movement channels, and the treatment of buildings and public space. It led to a deconstruction and separation of the elements of the street (Figure 1.6). What applied to the product also applied to the process, resulting in a division of labour between the design professions. Road layout became the preserve of highway engineers and traffic engineers, specialising in the sciences of traffic flow and the engineering design of infrastructure. Meanwhile, the architects concentrated on the buildings, creating new works of 'urban sculpture'.[14]

The result was that street design became subsumed within the rather specialised discipline of road design – based on the scientific considerations of traffic flow and the kinetics of vehicular motion, practised by engineers trained in hydraulics and mechanics, rather than architects trained



1.6 • The schism of Modernism. Modernism saw the deconstruction of the elements of the street (Figure 1.4) and the separation of professional roles in the design of its different facets.

in spatial form and aesthetics, or planners versed in the arts of the public realm.

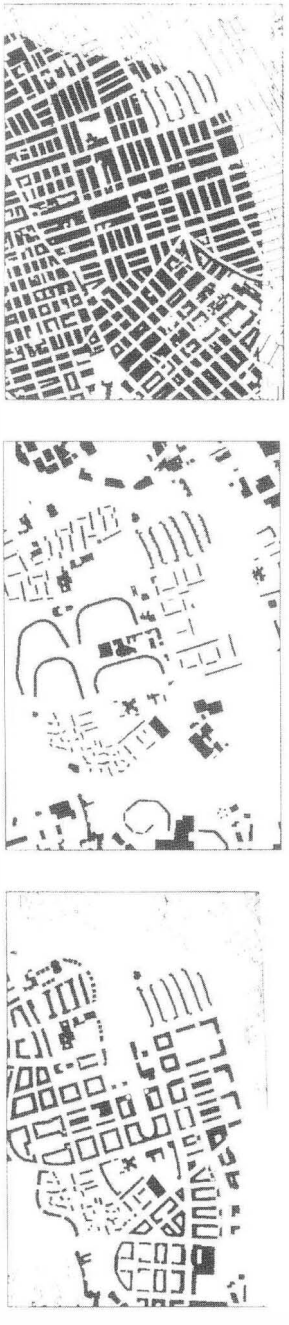
The single-minded pursuit of traffic-driven approaches almost reduced the whole 'town planning' process to an elaborate and obscure mathematical calculation to optimise a very limited number of variables – such as the 'peak hour passenger car unit flow rate' – to which everything else was subordinated.

Following the modernist paradigm, each road would have a function and would be designed accordingly. The fastest, highest capacity roads would be segregated from pedestrians and non-motor traffic, with a minimum of intersections and no direct frontage access. Existing streets would be shorn of buildings, and converted into distributors or expressways. The body of the street was dismembered, evacuating its soul.

The disurban legacy

This roads-and-traffic-driven approach proved 'disastrous'.[15] This is because the impact of highway engineering in urban areas is not limited to the physical intrusion, severance, demolition and blight that can collectively be referred to as *urban destruction*. It also includes the negative effects of

1.7 • Disurban creation.



1.8 • Hulme, Manchester. Patterns of revolution and counter-revolution.

highway engineering as a formative influence on urban layout, in effect, *disurban creation*.[16]

Disurban creation refers to the tendency of highway-led approaches to result in dull or dysfunctional layouts, where new development is lacking identity, vitality or urbanity (Figure 1.7). While the cost of urban destruction is tangible, disurban creation is more of an opportunity cost; the opportunity lost for creating good urban places. While less immediately pathological than urban destruction, the problem of disurban creation would have to be faced up to, sooner or later.

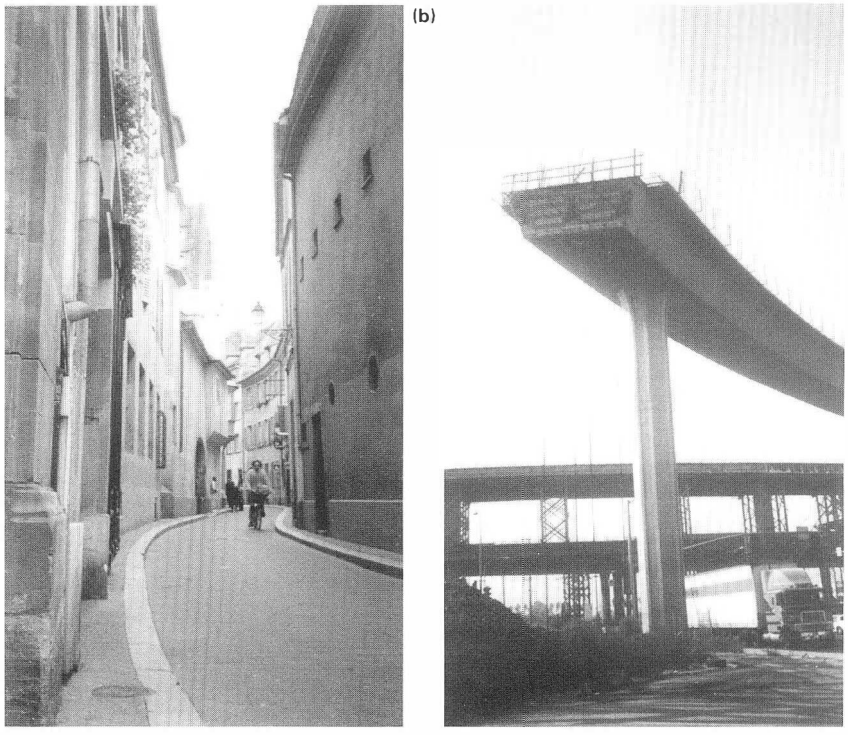
COUNTER-REVOLUTION

The historical transformation from traditional streets assembled in street grids to modernist point blocks set in open space and then back to street grids again must be one of the most significant reversals in urban design history. An observer from space could read the morphological volte-face in the classic image of the redevelopment and re-redevelopment of Hulme in Manchester between the 1960s and 1990s (Figure 1.8).[17]

Since the early 1990s, movements such as New Urbanism have drawn attention to the problem of roads-driven disurban creation, and have taken the initiative towards solving it. The rhetoric of the 'motor age' has been replaced by the rhetoric of sustainability and neo-traditional urbanism. Compact, dense, mixed-use neighbourhoods are back in fashion, with a new breed of traditional-style buildings and street patterns to choose from. The street itself, once seemingly in terminal decline, has undergone something of a renaissance. Street grids are back in vogue.

Hand in hand with this neo-traditional urbanism are what we could call neo-traditional transport policies. That original form of transport – walking – is now lauded as the most favoured mode of movement, followed closely by cycling, with both complemented by public transport for longer journeys. Traffic engineers trained to squeeze the maximum traffic flow out of city streets are now urged to 'calm' those streets, slowing down traffic and giving space back to the pedestrians. The 'monolithic modernism' of highway engineering and car-oriented urban 'solutions' are on the back foot.[18]

However, it has taken some time for the curbing of the worst of roads-driven urban destruction to be followed through by tackling roads-driven disurban creation. Efforts do not seem to have got far beyond recognition of the symptoms of the problem.[19] And, despite increasing recognition of streets as 'people places', on closer scrutiny, we find some familiar Modernist principles still exerting a powerful influence on the layout of our towns and cities.



1.9 • Transport and urban character. (a) Rue des Pucelles, Strasbourg. (b) Century Freeway, Los Angeles.

Transport infrastructure has had a particular influence on the fabric of cities, as a physical presence and as a land use (Figure 1.9). The amount of urban land occupied by transport-related land uses, including streets, lanes, car parks, highway intersections, railway yards, and so on, can easily account for a third of the total land areas of cities.[24] Hence, the influence of transport on urban design, for better or worse.

Problems with transport

Since the 'schism of Modernism', increasingly the finger of blame for bad urbanism has been pointed in the direction of the transport professions. Highway promoters and transport departments have been described as being 'fanatical' and 'sinister', responsible for 'tearing the environment to bits and encouraging its most cancerous aberrations'.[25]

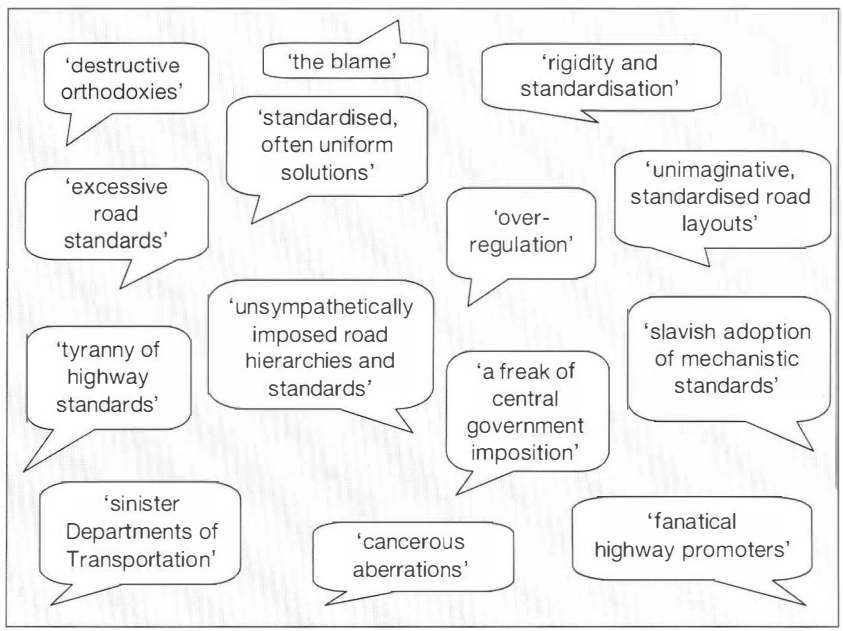
However, the negative influence of transport is not just one of urban destruction, but also disurban creation. What is at stake is not simply the scale and impact of insensitive transport engineering. After all, this may be no worse than the impact of destructive if well-intentioned planning –

described by the Prince of Wales as 'war by other means'. Rather, critics may envy or resent the way that transport-related concerns – bound up and defended by seemingly unchallengeable principles relating to traffic flow and safety criteria – seem to have ultimate supremacy over all other influences on the form and structure of urban layout.[26]

In particular, the blame is pointed at the rigid application of highway engineering standards that seem to control much of urban layout (Figure 1.10).[27] These rigid highway conventions and standards have often led to 'a sense of sprawl and formlessness and development which contradicts some of the key principles of urban design'. Highway engineers have been caricatured as the pariahs of the urban design professions. Indeed, it has been suggested that 'Almost all the blame for the amount of disappointing bland housing estates can be laid at the door of highway engineers.'[28]

Of course, it is not all one-way traffic; and Robert Cowan points out that the architecture and planning professions have to take their own share of the blame.[29] The issue of street design and street pattern is not necessarily one of inevitable inter-professional conflict. After all, disciplinary boundaries are somewhat fuzzy – even arbitrarily drawn in the first place – and different professions could be in charge of the different aspects of design.[30]

In effect, then, urban designers and planners do not wish to claim the territory of the design of streets and patterns simply as a matter of



1.10 • Criticisms of the highway engineering influence on urban layout. For full citations, see Appendix 1.

professional 'poaching' – to break the engineers' monopoly on transport issues, to claim a share of highways-dominated infrastructure budgets, or to strengthen their role as project managers. It is not as if urban designers and planners particularly desire to perform traffic flow computations or design roundabouts.

In effect, the desire to control streets and street pattern is because of the way that transport provision significantly influences the structure of urban layout.

Transport and urban structure

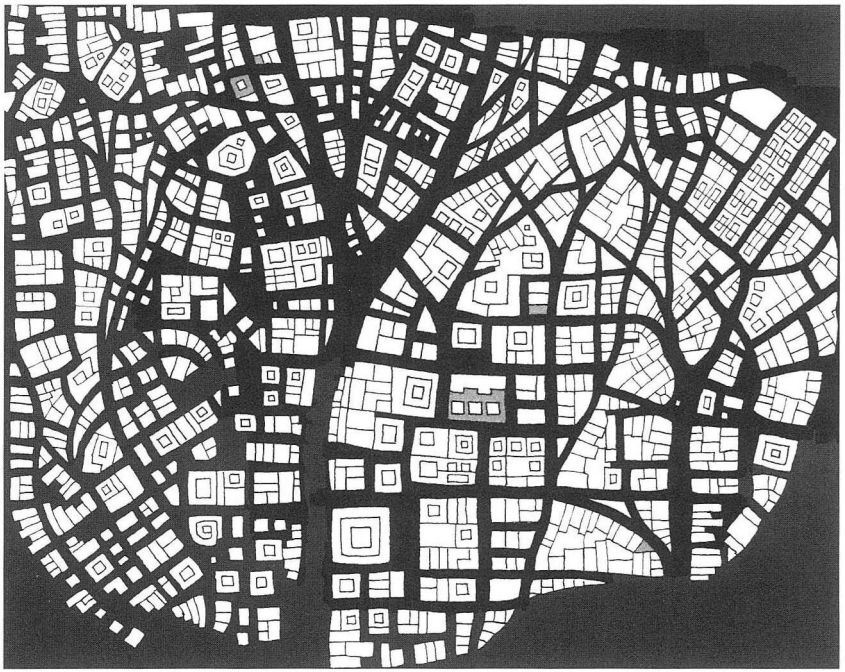
Transport is not just another land use. In other words, transport infrastructure and streetspace are not just any arbitrary part of a two-dimensional tessellation of land use parcels. The design of street pattern is not just a matter of distributing the land use labelled 'transport' here and there to fit within a patchwork of other urban spaces and places. To a significant extent street pattern is – and must be – influenced by the geometry of movement and the topology of route connectivity.

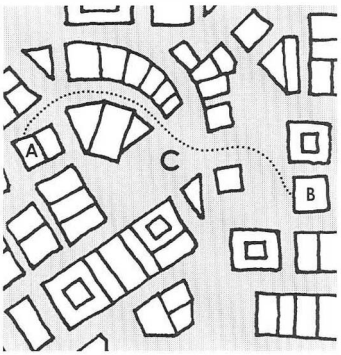
The 'movement space' constituted by streets forms the essential connective tissue of urban public space – from the micro scale of circulation within buildings to the macro scale of whole cities. Buildings are commonly discrete objects, but even when conjoined to form terraces – or megastructures – sooner or later they tend to be separated from other buildings by public thoroughfares. Similarly, plans showing plot boundaries reveal that agglomerations of plots tend to form insular blocks separated by blank spaces which represent access routes (Figure 1.11).[31]

So streetspace forms the basic core of all urban public space – and by extension, all public space – forming a contiguous network or continuum by which everything is linked to everything else. This continuum is punctured by plots of private land. The plots of private land surrounded by public streets are like an archipelago of islands set in a sea of public space.[32] Just as every sea port, no matter how large or small, is directly connected to every other sea port, every access point to a plot of land or urban block leads to every other access point essentially through the medium of the public street system (Figure 1.12).

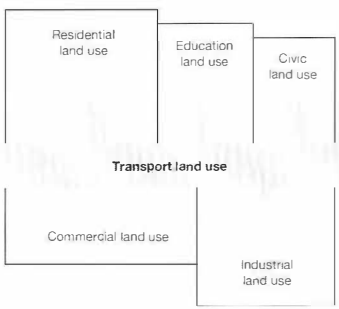
The ancient Romans called their urban blocks *insulae*, or islands, reflecting the topological containment of buildings and land parcels – howsoever nested or subdivided – within an all-embracing common continuum of public space. This public space is primarily constituted by the system of public streets.

1.11 • The 'access archipelago'.





1.12 • Navigating the 'archipelago' from A to B. All ports of call are connected by the continuum of public space, C.



1.13 • The topological significance of the transport land use. The 'transport land use' of public streetspace is contiguous and connects all other land uses.

This contiguity is a basic topological property which sets apart the access network – the 'transport land use' – from other land uses. This makes transport a fundamental organising feature, and gives it an importance that transcends the direct travel or traffic function of routes. In effect, transport *topology* has an importance and influence that goes beyond the concerns of transport *policy* (Figure 1.13).

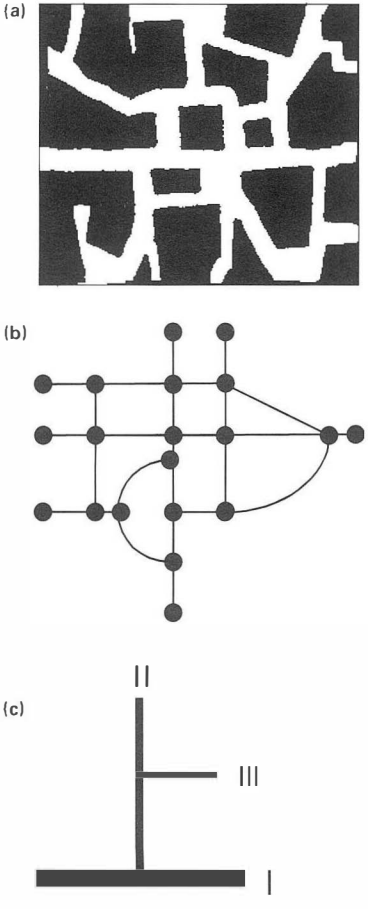
To say that transport is key to urban structuring does not imply that 'transport' as an urban function or land use is more important than 'housing' or 'open space'. Nor does it mean that transport is the only influence on the pattern of streets and land parcels: clearly, these patterns will be influenced by topography, land ownership, land value and other social, economic and physical factors. However, it does mean that close attention to the structural logic of the access network is important for understanding how existing cities are structured and how new ones may be designed.

So, although a street is much more than an urban road, the movement function is in a sense central to the street function from the point of view of spatial organisation. Consequently, those responsible for catering for the movement of people and vehicles – of whatever profession – will necessarily have a strong influence on the design of streets and street patterns.

This is why the street may be regarded as a fundamental building-block of urban structure. The public street system forms the principal part of the urban transport system, and is therefore pivotal to our story. This explains why a change in transport mode (from horse power to the internal combustion engine) was more than just a technological regime change, but more like an urban revolution – and why it might seem to need a 'counter-revolution' to put it right.

THIS BOOK

The challenge is now to devise or adapt for today's needs a system of urban design that can retain the benefits of safety and efficiency of transport flows, while also accommodating the diversity of modes, urban uses and frontage functions that were traditionally reconciled in the form of the urban street. The challenge is to address the street as an urban place as well as a movement channel, and how to make this conception of the street work – not just as an isolated architectural set piece, but as a contribution to wider urban structure.

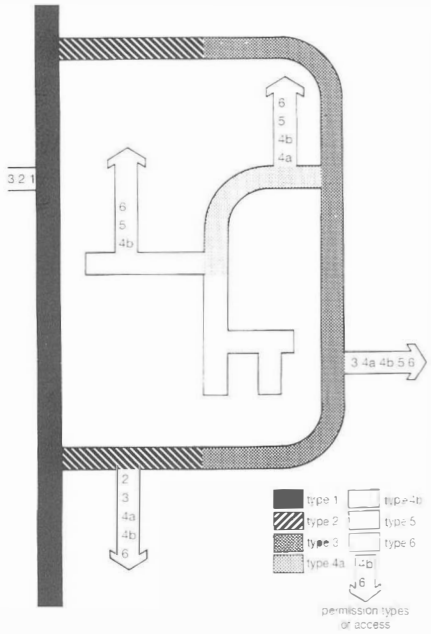


1.14 • Patterns of streets. (a) Geometric patterns. (b) Topological patterns. (c) Hierarchical patterns.

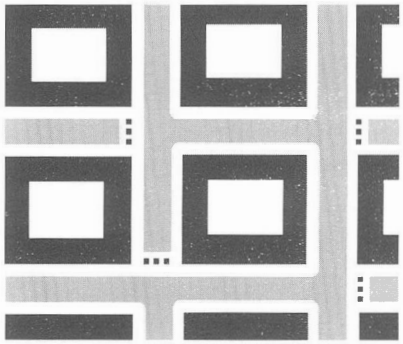
While there is nowadays a strong aspiration to integrate the urban design and engineering aspects of laying out buildings, streets and urban development, the realisation of this aspiration must go beyond the rhetoric of good intentions. We must go beyond the recognition that 'streets are for people' – the recognition that streets are the subject of a variety of urban design professions' concerns – and the consensus that 'something needs to be done'. Basically, we have to be clear about where the outstanding ambiguities and conflicts lie, and tackle the kinds of 'unchallenged truths' referred to by Kelvin Campbell and Robert Cowan in their urban manifesto *Re: Urbanism*.[33]

This book aims to tackle these unchallenged truths. This implies something more than a facelift for design guidance, but some deeper surgery. It implies that we have to go back to first principles; it means getting to grips with issues such as circulation, spatial organisation and underlying structures, and not just superficial form. This necessarily means tackling a series of rather abstract and technical issues, from basic geometrics and mathematical abstractions such as graph theory to practical traffic engineering concerns (Figure 1.14).

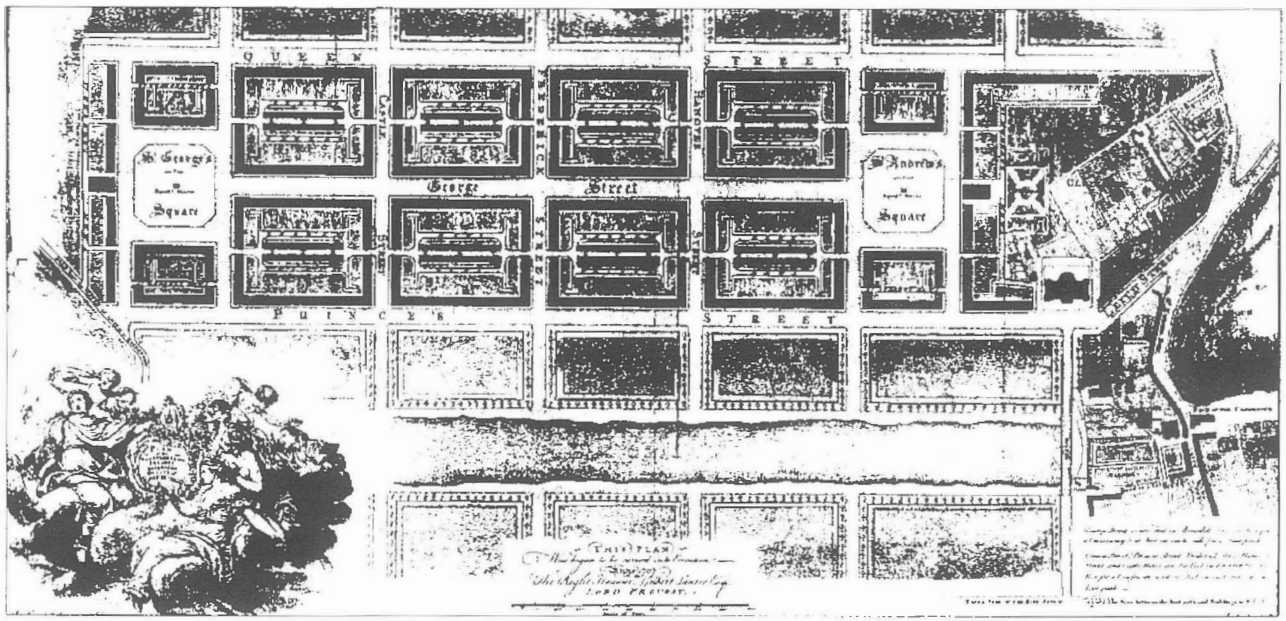
For example, in the course of the book we shall revisit the issue of hierarchy as set out by Colin Buchanan in *Traffic in Towns* in 1963, the structure of transport networks as studied by K. J. Kansky in the same year, and another kind of network property – 'arteriality' – that links hierarchy and



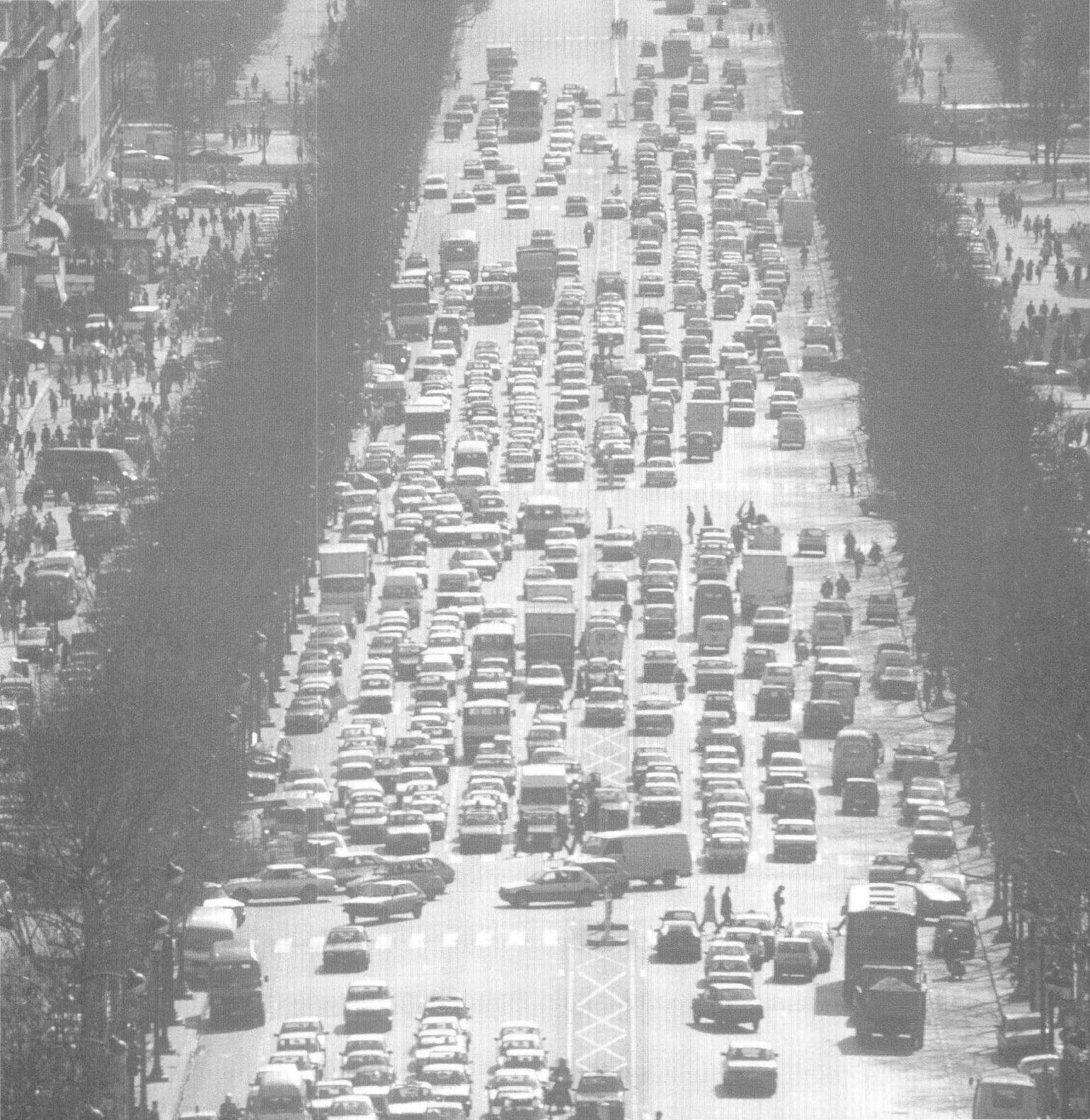
2.12 • Hierarchical layout prescription. A descending hierarchy of route types (1, 2, 3 etc.) is here depicted in a tributary pattern of loops and culs-de-sac. But the 'permissible types of access' do not themselves preclude more grid-like configurations.



2.14 • Superimposed patterns. The pedestrian network is a grid but the vehicular network is discontinuous.



2.13 • Craig Plan, Edinburgh. This traditional street grid could meet the caricature of 'good hierarchy' admired by urban designers. It is a planned layout with a clear hierarchy of streets and lanes that connect together in a systematic manner. It is therefore 'hierarchical', but in a way unlike Figure 2.12.



3 STREET TYPE AND HIERARCHY

We must kill off the street . . . We shall truly enter into modern town-planning only after we have accepted this preliminary determination.

Le Corbusier, 1929[1]

Le Corbusier was one of the most creative and influential architects of the twentieth century, and perhaps Modernism's foremost architect–planner. Among other things, he was a painter, sculptor, furniture designer, architect and planner, famous for his boldly sculpted buildings, minimalist furniture, and megalomaniac master plans. A visionary who understood the potential of contemporary technology, Le Corbusier was in awe of the speed and power of motor vehicles, and envisioned the consequences for the city of the future. It was a city without streets (Figure 3.1).

Le Corbusier's vision had no need for traditional main streets such as avenues or boulevards – so no pavement cafés, and no Champs-Elysées. This was not an oversight: the demise of the traditional street was Le Corbusier's express intention. He intuitively knew the logistical power the street had in binding up cities in their old ways. So when he attacked the traditional city, he went for the jugular.

To expedite traffic flow in his brave new world, Le Corbusier later proposed a route hierarchy – la règle des 7V – in which traffic was channelled from inter-urban highways (V1) down to local roads, until finally the last route type V7 was for pedestrian circulation in and around buildings (Figure 3.2).[2]

The issue of road hierarchy goes to the heart of the 'revolution' introduced at the beginning of this book. Although hierarchy is a rather abstract concept, it can have very concrete consequences: it has been implicated

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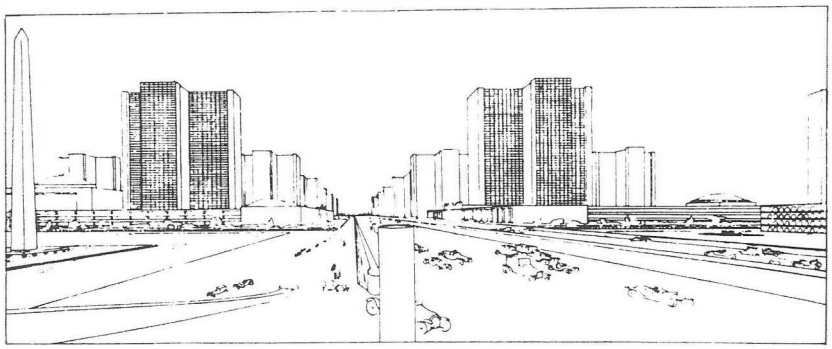
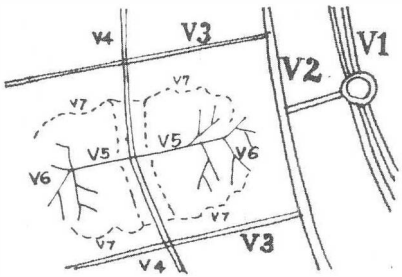


3.1 • Le Corbusier's futuristic vision (1922). This city of crystalline skyscrapers and superhighways was dreamed up when the streets of the day were choked with horses and carriages.



3.2 • An interpretation of Le Corbusier's *Règle des 7V* (law of seven routes) – the architect's greatest contribution to road hierarchy.

both in urban destruction (aiding and abetting demolition and severance by urban motorways) and in disurban creation (giving rise to the car-oriented townscape of bleak distributor roads).

Yet, as we have also found, architects and planners in the modernist mould have embraced the use of highways and their hierarchies for urban-structural purposes (Chapter 1). Moreover, *some* sort of hierarchy may be proposed by contemporary urban designers and planners as a positive formative device, as in their advocacy for a 'clear hierarchy of spaces' (Chapter 2). It seems that it is not inevitable that hierarchy should be synonymous with disurban creation. After all, ancient Roman cities effectively had 'hierarchies' of streets; in the Middle Ages, Leonardo da Vinci proposed a system of traffic segregation involving different street types. The reconstruction of London after the Great Fire of 1666, and the laying out of Edinburgh's Georgian New Town, were both based on the adoption of a 'hierarchy' of discrete street types.[3] Despite these traditional exemplars, nowadays we often associate hierarchy with something apparently engineering-dominated, traffic-oriented and anti-urban. We need to pin down why.

This chapter sets out to examine the workings of hierarchy, to unravel the fundamental relationships between street type and hierarchy: where do street types come from, how are street types related to each other in hierarchies, and how do these relate to network patterns?

PRINCIPLES OF HIERARCHY

Road classification has become established as a dominant consideration in the design of any road network, urban or inter-urban. For many years the classification of roads has formed the starting point for the American Association of State Highways and Transportation Officials' *Policy on*

Geometric Design of Highways and Streets.[4] In this thousand-page 'bible', the concepts of functional classification and 'hierarchies of movement' are introduced on page 1.

Road *hierarchy* is a particular form of classification of roads in which each type has a ranked position with respect to the whole set of types. Understanding the meaning of this ranking will be a key concern of this chapter. To do this, we start in this section by exploring conventional road hierarchy from first principles.

Conventional road hierarchy

Conventional road hierarchy is not only to do with the functional efficiency of traffic flow, but is also concerned with the safety, amenity and the environmental quality of urban areas.[5] It therefore does take account of non-traffic considerations in the urban context, although it often appears to do so by putting the traffic first, and fitting the other concerns around that.

The kind of road hierarchy in the UK is typical of many kinds of road classification and hierarchy in use around the world. Table 3.1 shows a range of formal classification systems used in institutional standards, such as national guidelines or local authority codes of practice.

While the terminology differs in each case, the basic principles follow the same general pattern, with a spectrum from major roads to minor roads. Major roads tend to be associated with strategic routes, heavier traffic flows, higher design speeds, with limited access to minor roads with frontage access. Minor roads tend to be associated with more lightly trafficked, local routes, with lower design speeds and more frequent access points and with access to building frontages.

The consequences of these associations are as follows.

1. Roads designated as 'streets' – implying built frontages and public space – are normally found at the lower end of the spectrum.
2. There tends to be greatest segregation of transport modes implied at either extreme of these hierarchies: segregated vehicular traffic at one end and segregated pedestrians at the other, with all-purpose roads in between.
3. Most route types appear to be designated according to transport or traffic function, although some at the lower end (e.g. street, mews, etc.) also imply relationships with buildings.

Table 3.1 represents a diversity of different terminologies, but the types often seem to be relating to the same kinds of street, and arranged in similar kinds of hierarchical sets. To gain an appreciation of how these kinds of classification came to be the way they are, and a general understanding of road hierarchy, it will be useful to examine the background to the concept.

Table 3.1 Examples of institutional hierarchies

***Traffic in Towns*, UK**	**ITE, USA**
Primary distributor	Freeway
District distributor	Expressway
Local distributor	Major arterial
Access road	Collector street
	Local street
	Cul-de-sac
***Essex Design Guide*, Essex, UK**	**VicCode, Victoria, Australia**
Local distributor	Major arterial
Link road	Arterial
Feeder road	Sub-arterial
Minor access road	Trunk collector
Minor access way (2 types)	Collector street
	Access street
Mews (2 types)	Access place
Parking square	Access lane
Belgium, functional classification	**India**
1. Motorway	National highways (NH)
2. Metropolitan road	State highways (SH)
3. Trunk road	District roads (DR)
4. Inter-district road	Major district roads (MDR)
5. Through street	
6. Local street	Other district roads (ODR)
	Village roads (VR)

Note: for sources and more examples, see Appendix 3.