7 Integrated approaches to retrofitting

Taking a holistic approach

7.1 A continuous theme in this report has been the need for an integrated and holistic approach to closely inter-related environmental factors. Despite the constraints of conservation area status, Soho and Chinatown offer considerable opportunities for retrofitting sustainability, without necessarily compromising the essential historic character of the area.

7.2 The following diagrams indicate, in general terms, some of the ways that refurbishment strategies could be implemented to improve the sustainability of typical buildings in the area. Figure 7.1 sets out the opportunities for and constraints upon a sample street block in Soho. This is not necessarily typical as each block is different. Other blocks may have more or less listed buildings or non-listed buildings of historic merit, and more or less areas of sloping or flat roofs. Nearly all blocks, however, are developed to a similar level of intensity.

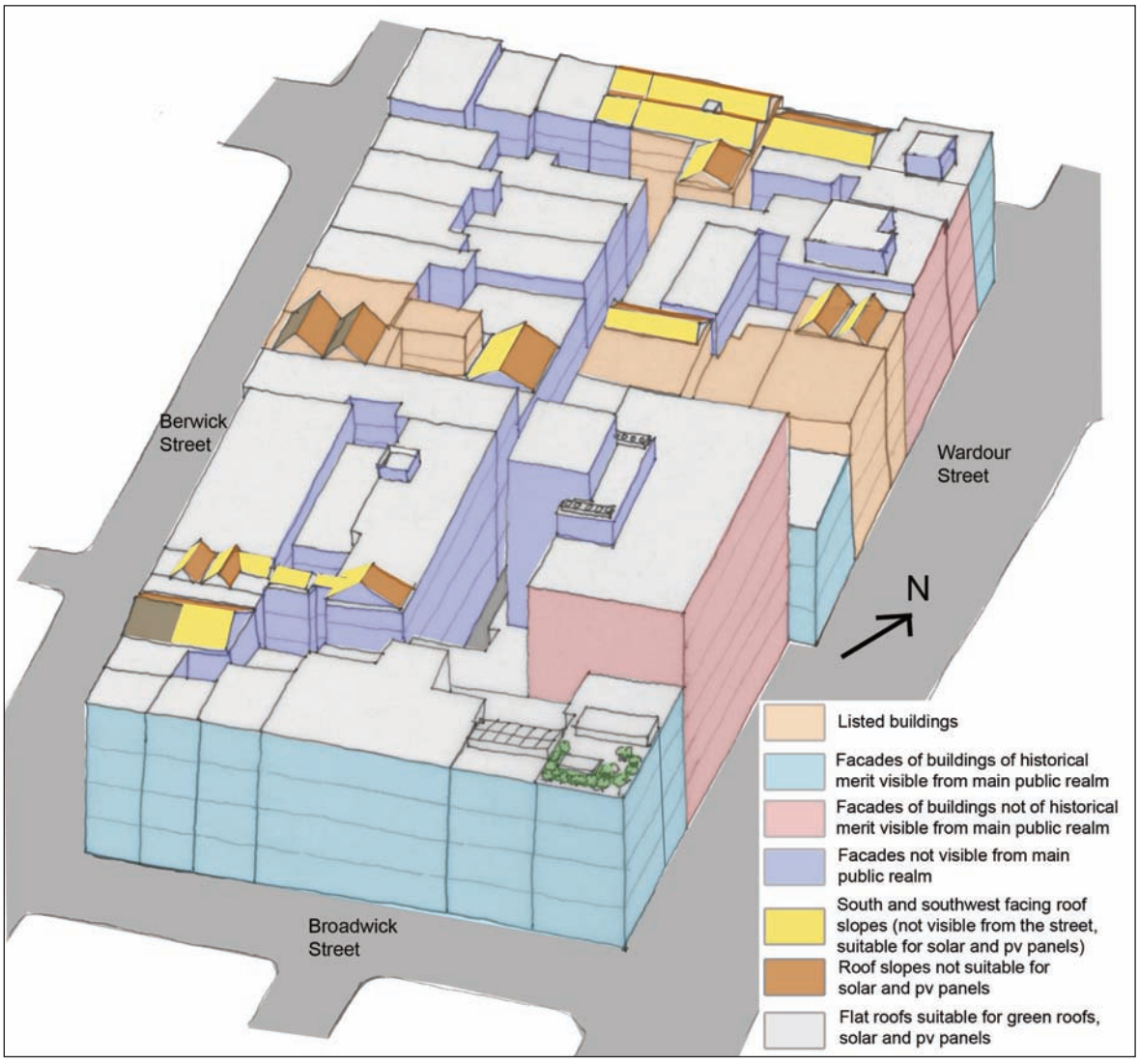


Figure 7.1: Opportunities and constraints in a sample street block
(Source: Max Lock Centre)

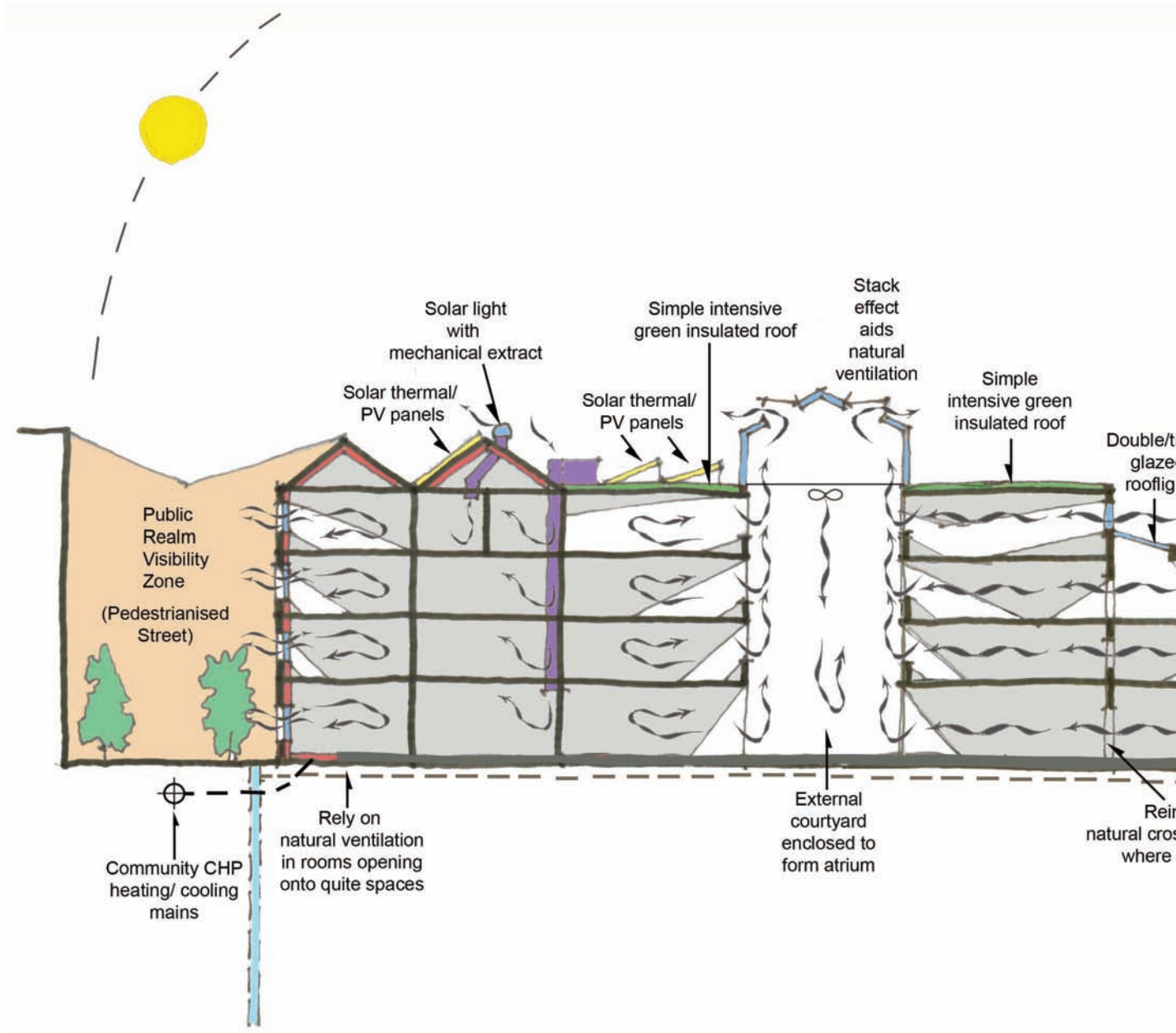
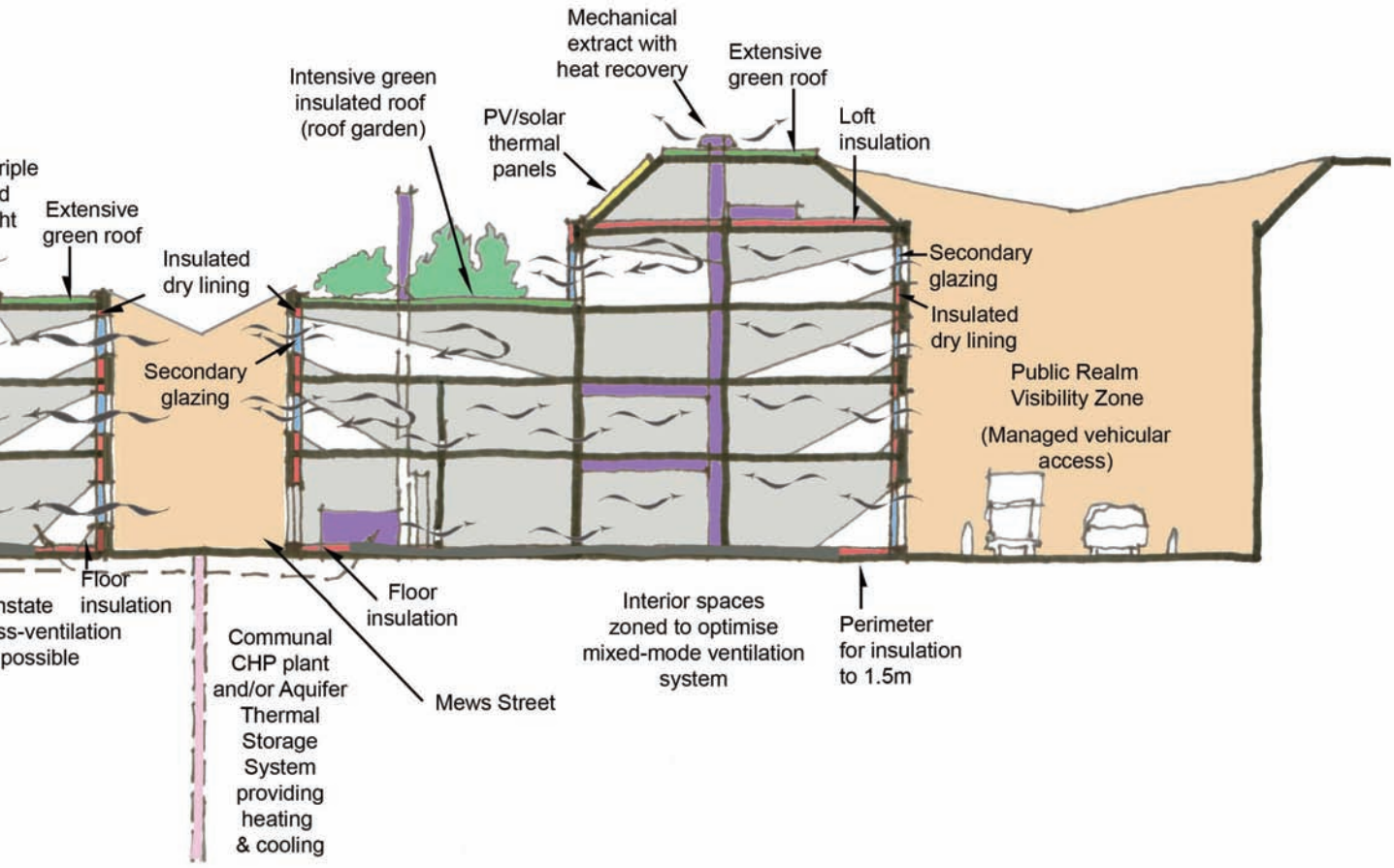


Figure 7.2: Section through a typical street block indicating possible retrofitting measures
(Source: Max Lock Centre)


Mechanical extract with heat recovery
Extensive green roof
Intensive green insulated roof (roof garden)
PV/solar thermal panels
Loft insulation
riple
d
ht
Extensive green roof
Insulated dry lining
Secondary glazing
Secondary glazing
Insulated dry lining
Public Realm Visibility Zone
(Managed vehicular access)
nstate
ss-ventilation
possible
Floor insulation
Floor insulation
Communal CHP plant and/or Aquifer Thermal Storage System providing heating & cooling
Mews Street
Interior spaces zoned to optimise mixed-mode ventilation system
Perimeter for insulation to 1.5m

Urban design, conservation and planning

Refurbishment and new development

7.3 Retrofitting for sustainability in this study is focused on sustainable refurbishment, including 'add-on' building elements (such as solar panels) and upgrading of fittings and appliances. However, there are always opportunities (and pressures) for site and building redevelopment in a dynamic area like Soho. Retrofitting should be taken in the larger sense to include such infill developments within the larger existing urban fabric. Some of these opportunities are already recognised in Westminster City's planning policies for Soho, or are being realised. Others will arise in the future and part of our task has been to suggest ways in which new developments can be used to improve the sustainability of the area as a whole.

7.4 This report does not address the sustainability of new buildings, as this is fully dealt with elsewhere. However, major new and regeneration developments should provide some of the badly needed community facility space to improve the sustainability of the district. Additionally, without necessarily implying any significant extension of plant space, energy production facilities sited in these developments could be networked together to improve their efficiency in use and provide a community-wide CCHP facility. Such, provisions could be explored, for example, as part of Section 106 agreements.

7.5 In urban design terms, it is important to view site and infill site redevelopment as opportunities, not only to improve the overall sustainability of the area's urban fabric, but also to improve and restore its morphological character. In a number of cases, developments in the recent past have been carried out on consolidated sites and/or at a scale in overall massing or architectural detail that is not in keeping with the character or spirit of the area.

7.6 However, there is no single, predominant architectural style to an area that has undergone continuous redevelopment over two and a half centuries. Any attempt to impose one would result in pastiche. It is important, therefore, to discover the predominant historical building types and distribution in particular streets and sub areas, and to define a range of simple parameters, within which a high quality, contemporary and sustainable building design could make a positive contribution to the morphology, townscape and essential character of the area.

7.7 Around 25% of the built area of Soho in the Conservation Area is defined as not of historic merit and 38% of the built area as a whole. This includes a number of opportunity sites that will be redeveloped or substantially upgraded. It is important that these are used as opportunities for improvement to achieve greater sustainability of the Conservation Area.

7.8 With unlisted buildings of historic merit (and even with listed buildings, although obviously less so), there is certainly a range of different buildings and conditions, and there may also be opportunities for targeted upgrading of the building fabric in a manner that could contribute positively to the urban character whilst improving building performance in sustainability terms.

7.9 Successful and intelligent regeneration in Soho requires respecting the urban grain of the area resulting from its subdivision into narrow plots and making new sustainable infill interventions while recycling existing buildings of historic quality and merit and upgrading them wherever possible. Shaftesbury's Longmartin development in Covent Garden is a case in point (Box 7.1)

Box. 7.1: Longmartin

Longmartin project by Shaftesbury PLC and Mercers aims to regenerate a heavily run-down and derelict Covent Garden street block. Located between Long Acre, St Martin's Lane and Mercer Street, it is estimated to cost £40 million.

Construction will be completed in 2009. The project has adopted an sustainability/ environmental strategy which covers practical energy efficient building installations, green roofs and biodiversity, energy efficient design of the building envelopes and service installations, renewable energy sources with a combination of photovoltaic cells and water heating panels, a vehicle recharging facility and cycle parking space.

The project highlights the creation of a public courtyard in the middle of the estate and creates a managed, mixed-use location with new shop, business, residential and leisure uses. The regeneration will provide 6% additional floor space of mainly shopping and residential. New housing on upper floors will revitalise the area.

The Courtyard provides opportunity for a 'shared-surface' environment for service vehicle accessibility to support business activities in the area. A servicing management plan is set up to cover easy access estate-wide refuse management, recycling and collection.

(Shaftesbury PLC, 2007)

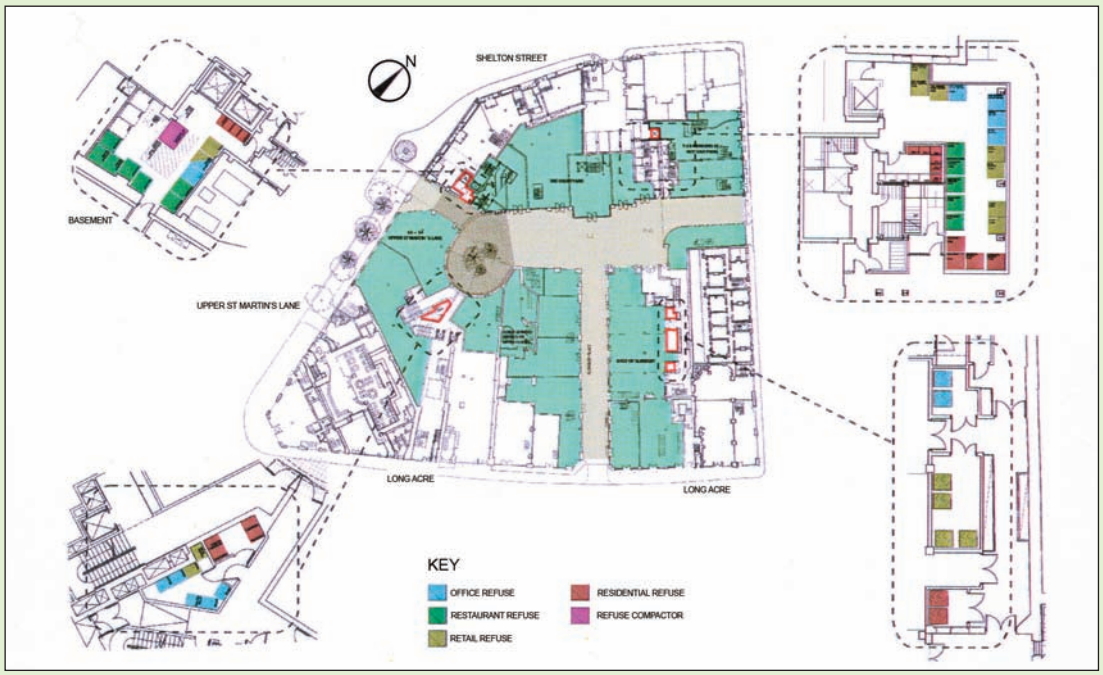


Figure 7.3: Longmartin development plan, Covent Garden
(Source: Shaftesbury PLC publicity brochure)

Planning and managing the public realm

7.10 While the primary measures to improve the sustainability of Soho and Chinatown relate to buildings, there are considerable challenges to overcome, and opportunities to realise, in improvement of the sustainability of the spaces between buildings, whether these are private courtyards, or public streets and squares. We have seen how buildings in Soho cannot be treated separately from the spaces that they are adjacent to.

Mike Theis

Figure 7.4: Kingly Court: managing the micro-climate of the public realm.

7.11 Streets provide the public realm from which the historic built fabric is viewed and the conservation areas status of Soho and Chinatown limits the sustainable refurbishment measures that can be undertaken in these areas. Noise and pollution from the streets constrains the use of windows for natural ventilation and cooling. Servicing of the area's various commercial and residential properties is made more difficult by the narrowness of the thoroughfares and the limited open space within street blocks. Opportunities for limiting the proportion of waste going not being recycled to land fill are constrained by limited accessibility and lack of space for storage of different types of waste.

Neigbourhood co-operation and planning

7.12 These closely inter-related factors mean that retrofitting solutions for Soho should always be treated holistically. In an intensively developed area like Soho it is, in any case, inadvisable to carry out retrofitting measures on a particular property in isolation and collaboration with neighbours, community bodies and local authorities and service providers should be sought.

7.13 The planning constraints on carrying out external works to buildings in a conservation area mean that the local planning authority is almost certain to be involved. It is good practice (and good manners) to consult with neighbours before going ahead with measures that could affect them, whether planning permission is required or not. It is also certainly the case that neighbours are often responsible for the complaints that give rise to planning enforcement notices or draw attention of the authorities to environmental nuisance or health risks.

7.14 Living, operating and working in the area, by its very nature, calls for sensitivity to neighbours and the larger community and a willingness to collaborate to overcome potential conflicts of interest and flashpoints. A degree of tolerance and open-ness to co-operation are essential elements of community cohesiveness in an area such as Soho with its high density of occupancy both day and night, its mix of uses and its complex tenure arrangements.

7.15 Building co-operation between neighbouring occupiers and owners offers the potential for great synergies and economies of scale in undertaking retrofitting measures in the neighbourhood. Discovering appropriate organisational and legal frameworks for channelling this type of co-operation into effective forms of urban management at the larger scale – by building cluster, street, street block, sub-area of area as a whole – may be key to maximising the potential of retrofitting in Soho.

Urban typologies and design guidelines

7.16 For this reason, we believe that a finer-grained classification of the key aspects of Soho's urban form and activity is necessary to provide targeted advice and information to owners and occupiers to manage their retrofitting efforts.[1] Soho and Chinatown consist of around 2,000 buildings, 119 streets and 93 street blocks. The streets form a hierarchy of types (Figure 7.5) and no doubt a typology of street blocks could also be devised. This could form a matrix within which different retrofitting measures could be rated according to their suitability and potential cost effectiveness.

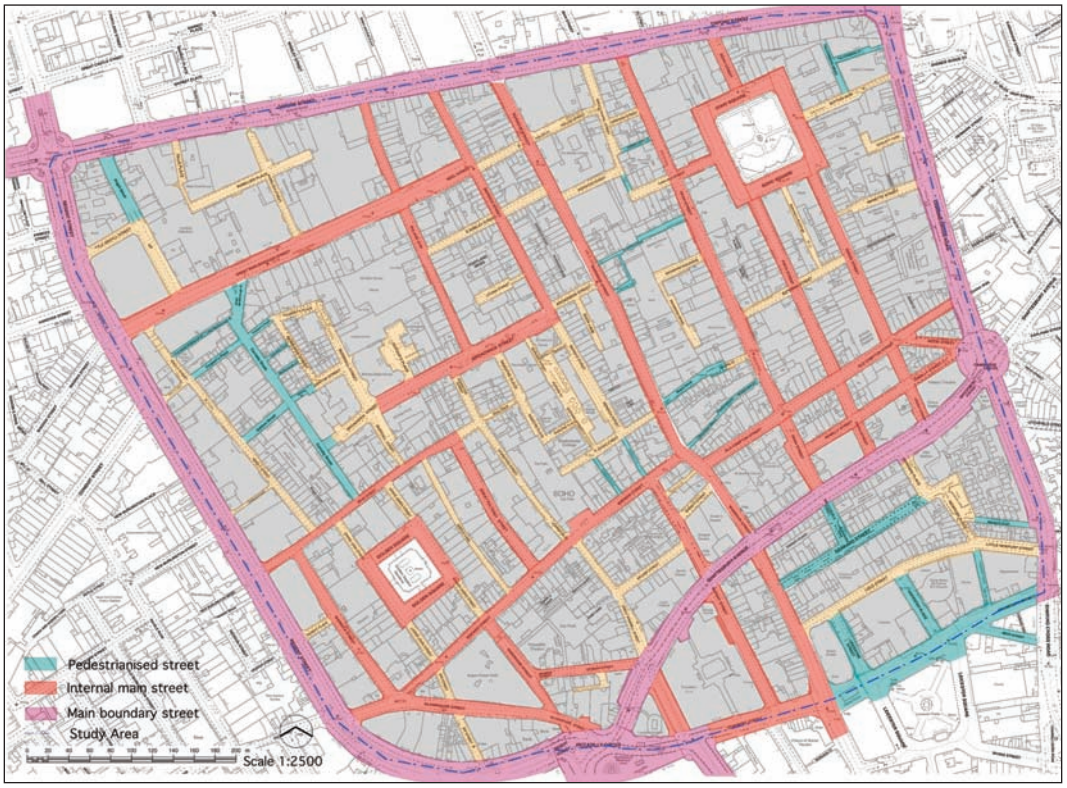


Figure 7.5: Soho Street typology *(Source: Max Lock Centre based on Ordnance Survey map)*

7.17 Currently, buildings in Soho are classified by their conservation status (listed building or building of historic merit, buildings not of historic merit within the conservation area, and buildings not in conservation areas) and their use or combination of uses. However, there is a wide range of buildings within these categories with varying spatial characteristics, uses and forms of construction. Each of these combinations of factors creates different challenges for both measuring environmental performance before improvement and suggesting optimum retrofitting measures to be undertaken.

1. For example, using the approach adopted by the English Heritage on their *Climate Change and Your Home* webpage (English Heritage).