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Living in the City
Mixed Use and Quality of Life

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Introduction

More than 50% of the world's population now lives in cities and by 2050 this is forecast to reach two thirds of the global population: in the United Kingdom 90% of people already live in urban and suburban areas, or more if we include those who travel to the city or town for work. Over 40 years ago Henri Lefebvre (1968) maintained that society had become completely urbanized: this urbanization was virtual then but would become real in the future. This urban state is not just an administrative city or urban agglomeration, but essentially one of urban society and social relations and the effects of industrialization, which has absorbed agricultural production and the countryside, including its recreational and "greenbelt" role, for urban dwellers and urban development.

When Dickens wrote a *Tale of Two Cities* (1859), London had become the first industrial world city with over a million inhabitants; now this world city is outstripped by megacities of Asia, Africa, and South America: from Lagos to Sao Paolo and from Mumbai to Mexico City. Regional geographers and economists now talk of city regions as the real powerhouse of the weakening nation state, with long-distance daily commuting extending the city boundaries: over 1 million people travel to London each day. In Mexico City the average daily commute is 2.5 hr and by 2050 in the United Kingdom it is forecast that the average time an urban dweller will spend

in traffic jams will be 106 hr a year: three times more than today (IBM produce an annual Commuter Pain Index, which ranks the emotional and economic toll of commuting in international cities). Mayors of both cities are preoccupied with the same concerns: transport, pollution, crime, and the quality of life of residents, including growing obesity epidemics in children (Delpeuch, Maire, Monnier, & Holdsworth, 2009). Together these make up many of the key elements and indicators of urban wellbeing.

How wellbeing is defined and measured is beyond our scope here, but it is generally referred to through the proxy quality of life, combining physical, material conditions—and mental health and social perceptions of wellbeing—although there is no consensus over what defines "quality of life" (Bowling, 1998). Built-environment factors associated with mental wellbeing include density, floor level, noise, and environmental qualities (Cooper, Boyko, & Codinhoto, 2007), but even these are context-specific; for example, a 20th-floor penthouse compared with a council block, or dense communal versus atomized living. The experience of different built-environment configurations is both subjective and individualistic, depending on social conditions and relations, irrespective of the degree of density or mixed use. The combination of uses, occupants, and activity seldom feature, however, in studies of housing and wellbeing (Garcia-Mira, Uzzell, Eulogio Real, & Romay, 2005, p. 1), with the dwelling treated as an immutable form irrespective of the mix of residential/nonresidential uses within and in adjoining buildings. Crude measures of density only reflect dwelling or population per hectare, which do not take into account ambient factors such as open space, public realm, views, amenity, and so forth. (Bibby, 2006). This is despite the fact that "mix" has been a more common element of the urban living condition than studies of urban morphology and city life tend to reflect, in large part due to the spatial separation of land/building/economic uses from the industrial and particularly the modern town-planning eras.

Elements that feature in resident assessments of liveability also reflect social as much as physical conditions (Figure 6.1). Environment, amenities, and services feature highly and how these factor in mixed-use areas and living will be considered further here through our empirical investigation.

From classical times to industrial and postindustrial eras, the city has also been presented as a dichotomy and a source of dialectical discourse; that is, we either hate them or love them and we change our feelings and behavior towards them throughout our lives. Given the extent and longevity of urbanization, however, we have little choice but to try to improve the city rather than escape from it (although we try harder and

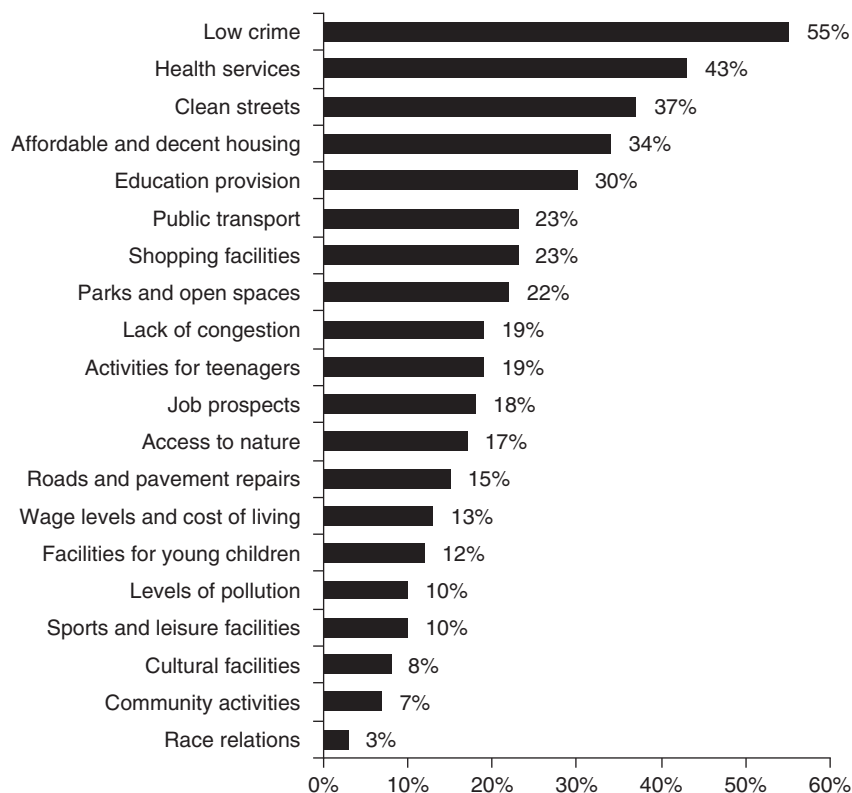| Attribute	Percentage
Low crime	55%
Health services	43%
Clean streets	37%
Affordable and decent housing	34%
Education provision	30%
Public transport	23%
Shopping facilities	23%
Parks and open spaces	22%
Lack of congestion	19%
Activities for teenagers	19%
Job prospects	18%
Access to nature	17%
Roads and pavement repairs	15%
Wage levels and cost of living	13%
Facilities for young children	12%
Levels of pollution	10%
Sports and leisure facilities	10%
Cultural facilities	8%
Community activities	7%
Race relations	3%

Figure 6.1. Attributes that Contribute to Making Space and the Physical Environment a Good Place to Live (BVPI, 2007).

harder to do so with diminishing success). This of course explains our desire and basic need to recreate the countryside in our cities through public and private parks and gardens, including hanging baskets, allotments, and city farms, and the rediscovery of the amenity value of waterside developments overlooking rivers, canals, and postindustrial docklands: common locations for commercial mixed-use developments and new apartment housing.

Another observation is that cities seem to be bad for us, or at least our mental health. Studies carried out in Sweden, Germany, and the United Kingdom in the last decade (Sundquist, Frank, & Sundquist, 2004; Van Os, 2004; Van Os, Driessen, Gunther, & Delespaul, 2000) have made the causal link between the incidence of the onset of schizophrenia (perhaps as high as 30% of cases in Sweden), heightened stress, hospitalized depression and urban living—when compared to more rural living—even after discounting other explanatory factors, such as genetics or birth defects. In

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the case of residents of socially fragmented areas, being socially isolated or in a subordinate position seem to be important, along with population density, ethnic density, deprivation, and reduced social capital and cohesion; thus, *area* rather than individual characteristics were the main determinants. This is perhaps neither new nor surprising. Georg Simmel, over a hundred years ago in *The metropolis and mental life* (1903) viewed the city not just as a site of modernity but a disorienting space that produced agoraphobia and claustrophobia. His solution was to adopt a blasé attitude and detached nonchalance, and perhaps this explains our lack of conversation and conviviality in public today, and our growing atomization, both in and out of the home. Although familiarity and modern technological advances have eased postindustrial city living, these feelings can still be experienced from time to time in less familiar situations and particularly by the more excluded and vulnerable individuals and communities.

One finding from this "urbanicity" research (Van Os, 2004) is that a key environmental driver of stress is *noise*, and it is interesting to note that this is by far the most common complaint that environmental health officers now receive locally (see later in this chapter). This is also validated conversely by studies of amenity value in terms of our proximity to trees, green space, and even views, measured by quality of life, health, and property values; values that change significantly as proximity alters over very small distances (CABE Space, 2005; De Rosiers, Theriault, Kestens, & Villenneuve, 2002; Greater London Authority, 2003; Luttik, 2000). So the local, the neighborhood, and the everyday are most important, with over two thirds of our trips taken under 8 km in distance. Walking to the shops or school has, however, declined in favor of the car, so planners, urban designers, and government all look to the compact city model and greater public transport and walkability as a panacea for urban sustainability (Evans, Aiesha, & Foord, 2009). Mixed use has been one of the prime design and development vehicles to combine efficient use of land and space through lower space standards and the synergies from mixed-use commercial schemes (retail, office, leisure, residential) and apartment blocks.

Conceptualizing Mixed Use

The architectural and planning response to incremental urbanization and densification—manifested in a new hybrid practice of urban design and its scalar equivalent, "masterplanning"—has thus been a reconceptualizing

of the compact city requiring higher density and mixed land and building uses. As well as higher density and intensive use of existing space, the compact city as promoted by Richard Rogers and the Urban Task Force (1999) is predicated on living and working in close, ideally walkable/cycling proximity, thereby reducing car use and therefore pollution and accidents, as well as reducing street crime and revitalizing local economies. A particular design and built-environment solution has been the mixed use of buildings and blocks, both vertically and horizontally. This looks to the continental nineteenth century mixed-use plot and building, with greater apartment living and mixed use of premises. However, despite its ubiquitous adoption by government, planners, and developers alike, making it a commonplace development type, Rowley (1996) concluded that "the concept of mixed-use is ambiguous . . . subject to simplistic analysis and wishful thinking . . . nostalgia and propaganda overtaking research and analysis" (p. 85), a policy panacea without a sound evidence base or detailed design guidance (Evans et al., 2009, p. 198). "Mixed use" as a development and design form and its social and environmental consequences are therefore the subject of this chapter.

Mixed land use, linked to high residential density and extended temporal use of space, are one of the core elements of the compact city ideal, and this has been widely identified as a useful mechanism for delivering urban sustainability objectives including urban vitality, "liveability," efficient use of urban utilities and social cohesion. At the sharp end of planning practice the sustainability agenda is often reduced to specific identifiable interventions that can be enforced and measured. Breheny (1996) foresaw this response when he suggested that ". . . [t]he effectiveness of grand urban sustainability strategies may rest or fall on the degree [to which] modest sounding initiatives—densities, car parking standards, mixed uses—can be made to 'stick'" (p. 26).

The promotion of mixed use as a planning concept emerged alongside a dismissal of CIAM[1] functionalism. In the seminal *Green Paper on the Urban Environment*, the Commission of the European Communities insisted on the "mixing of urban uses—of living, moving, working," taking as its model "the old traditional life of the European City (e.g. Vienna, Barcelona, Berlin, Budapest) stressing density, multiple use, social and cultural diversity" (Commission of the European Communities, 1990, p. 43). A key objective of European urban policy ever since has been to raise the quality of urban life by (re)creating compact European townscapes with integrated mixes of residential, commercial, and public amenity uses

(European Commission, 2009). In the United Kingdom, the urban white paper *Delivering the urban renaissance* (HMSO, 2000) adopted a similar approach and in so doing addressed a reform of planning by advocating the promotion of "mixed development, so homes are closer to jobs and services" (para 4.24). Likewise in North America cities already concerned about the decentralizing effects of megamalls and edge cities (Garreau, 1991) have introduced mixed-use zoning (Grant, 2004). In many places mixed-use development is now the planning norm rather than the exception.

However, definitions and typologies of mixed use remain muddled. For Rowley (1996) mixed use needs to be understood in terms of its grain, density, and permeability; setting or scale (building, block, street, or neighborhood); location (central, inner, or suburban/edge); existing and future residential and commercial tenures; processes by which mixing takes place (conservation, incremental change, or wholesale redevelopment); and forms and management of temporal space sharing. It is, he argues, the combination of these factors that influences the character and quality of mixed use. Likewise Rodenburg and Nijkamp (2004) attempt to represent the complexity of space, activity, scale, and time of multifunctional (mixed) land use by prioritizing two processes: an increase in spatial heterogeneity over time and the "economies of synergy" emerging from relationships between copresent land uses. Neither approach has led to a workable definition or typology. Sieverts asks the pertinent question: "what type of mixture is meant: is it a mix in the building itself, in the interaction with the street or in the urban quarter?" (Sieverts, 2003, p. 33). From the urban environment and wellbeing perspective, all of these scales are of concern and combine to represent the mixed-use living experience.

The contemporary idea of mixed use has also been given its greatest impetus from the rediscovery of Jane Jacobs' nostalgic depictions of 1950s New York inner city neighborhoods (Aldous, 1992; Biddulph, Tait, & Franklin, 2003; Congress for New Urbanism, 2001). Jacobs' declaration that short blocks, assorted building types, and varied street morphology created (the conditions for) economic and social diversity (and therefore animation and security) have been widely reproduced by a new generation of urban policy makers. Although Jacobs' original description of mixed-use streets failed to recognize the wider context of postwar social and economic restructuring (Breheny, 1996, p. 20) it did coalesce with late twentieth century analysis of the new urban economy (Hutton, 2008; Scott, 2000) and the emergence of an "urban idyll" inhabited by consumption-orientated subcultures (Allen, 2007; Featherstone, 2007; Hoskins & Tallon, 2004).

An important incentive for promoting the idea of mixed use was therefore the remaking of the inner city in response to the new economic aspiration of small enterprises, services, and creative industries, and a new urbane, cosmopolitan population.

Practicing Mixed Use

Research into current forms and outcomes of mixed-use practice is also limited. One review of 12 new-build mixed-use schemes and one mixed-use neighborhood found that the most common combination is a dual mix of market housing and office development. There is reluctance on the part of planning authorities to approve schemes including industrial or leisure activities (commonly perceived as incompatible with residential use) (Office of the Deputy Prime Minister, 2003). Regardless of spatial scale, the desired vitality outcomes of these schemes are only delivered when "uses visibly activate[d] the ground floor level of buildings and the street environment in a positive and integrated way" (Office of the Deputy Prime Minister, 2003, p. 10). Most schemes struggle to generate the desired integration while poor synergy with the surrounding urban landscape is cited as detrimental to the overall success of a scheme or neighborhood. Where the existing urban fabric provides a well-founded structure within which a new mixed-use scheme is developed, there appears to be a greater chance of mixed use adding value to the urban experience. This is confirmed by research into mixed-use streets where the compatibility of activities and traders was found to be critical in fostering appropriate levels of vitality (as opposed to intense forms of overuse/abuse) throughout the day and evening (Jones, Roberts, & Morris, 2007).

Delivering street-level occupancy has generally proved problematic. Mixed-use development schemes in London completed between 2001 and 2005 had vacancy rates of 34% for office space and 27% for retail space (Giddings & Craine, 2006) and still today many of these developments display empty ground floor premises, reducing street life, surveillance and the amenity of upstairs occupants. In a comparative study of Sheffield, Manchester, and London, Evans et al. (2009) also found high levels of ground-floor commercial vacancy, particularly in areas targeted for mixed-use regeneration. The quality of architectural and urban design can influence the vitality potential of nonresidential uses and the degree to which integration with the surrounding urban landscape is achieved (Coupland, 1997).

Mixed use has also been associated with urban intensification policy. However, a national survey of residents living in intensifying neighborhoods found no evidence of the oft-cited benefits: increased neighborliness and social cohesion. Increases in the disbenefits of intensification—overcrowding, increased environmental wear and tear, and conflicts over parking, traffic, and noise—were more likely (Williams, 1999, p. 172). Noise generated by groups of late-night drinkers has also been found in intensifying areas with a mix of nighttime economy and residences (Roberts & Gornostaeva, 2007), as discussed below. Likewise, reductions in daily car use linked to intensifying mixed-use urban forms have been counteracted by increases in weekend trips to suburban and edge-city retail destinations and short- and long-haul air travel (Frank & Pivo, 1994; Holden & Norland, 2005; Saelens, Sallis, & Frank, 2003).

Most studies of mixed-use (city-center) residents focus on the lifestyles that appear to fuel particular forms of culture-led gentrification (Allen, 2007; Howley, 2009; Smith, 2008). However, it is important to stress that many mixed-use schemes and areas accommodate a wider range of ages and income levels than this work implies. For most ordinary residents of mixed-use schemes and areas it is the everyday services and facilities that are valued most (local shopping, services, and amenities including open space, local leisure, and entertainment including bars, cafes, and cinemas) (Office of the Deputy Prime Minister, 2003). Nongentrifying mixed-use city-center residents cite "mundane, banal and routine aspects of city life such as the convenience of being close to points of employment and consumption" as the main reasons for living in a mixed environment (Tallon & Bromley, 2004, p. 784). However, families with children are underrepresented in mixed-use environments, particularly in city centers. The absence of family accommodation and the paucity of educational provision (priced out by higher rents from school buildings and from private housing and advanced producer services, e.g. architects) in many inner and central urban locations raise doubts about the way in which current mixed-use practice delivers on social sustainability (Silverman, Lupton, & Fenton, 2005; Unsworth, 2007) and, more generally, social inclusion (Bramley & Power, 2008; Camina & Wood, 2009; Graham, Manley, Hiscock, Boyle, & Doherty, 2009).

This growing body of research questions both the assumptions of planning policy and its ability to deliver sustainable mixed use, at least in the short term. Despite the widespread policy agenda supporting mixed use there is insufficient evidence to firmly establish the positive impact of mixed use on urban vitality, utility use, or wellbeing.

Clerkenwell: Mixed-Use "Urban Village"

The relationship between urban diversity and quality of life is a recurring assumption in mixed-use policy. However, how land-use diversity enhances the quality of urban life is poorly understood. Our first case study aim was to investigate the spatial dimensions of mixed use, diversity and vitality. Clerkenwell (see Figure 6.2), to the north of the City of London, was chosen primarily for its long history of dense (compact) mixed residential and industrial activity and as a site of current processes of economic restructuring and gentrification (Hamnett & Whitelegg, 2007; Hutton, 2008). It was also one of the first "urban villages" identified by proponents of New Urbanism in the 1980s (Aldous, 1992).

There are approximately 20,000 people in over 10,000 households living in the Clerkenwell case study area at densities of 116 people per hectare/55 households per hectare, more than double those for London. Although most of the population is relatively young and of working age (38% aged between 20 and 34 years old and 28% aged between 35 and 54) there are still approximately 3,500 children under the age of 15, and 2,000 people over the age of 65 living in this mixed-use neighborhood. Most live in rented flats and fewer than 3,000 households have access to a car. The Mosaic consumer lifestyle classification identifies most households as falling within one of four "lifestyle types," highlighting the polarized pattern of gentrifying affluence and relative poverty (Figure 6.3).

To assess the experience of living in Clerkenwell, a household questionnaire was administered, face to face, with a sample of 80 residents. Shorter "vox pop" surveys were also administered at successive exhibitions at the London Architecture Biennales in 2004, 2006, and 2008, held in the area. Access to residents was managed initially through contact with local gatekeeping organizations (residents' associations; social clubs; play, children's and youth groups; tenants' groups; local representatives) and subsequently through snowballing. Particular effort was made to find "hard-to-reach" residents.

Of those respondents in work, the majority (63%) worked outside Clerkenwell with most either walking or using public transport (mostly buses) to reach work. Respondents were rarely able to find work and housing in the same neighborhood. Many newly arrived residents (less than 1 year) reported changing their main mode of transport for their journey to work, using a car less, walking more, and increasingly catching the bus (i.e., compact city "gain"). But this positive sustainable behavior did not derive from
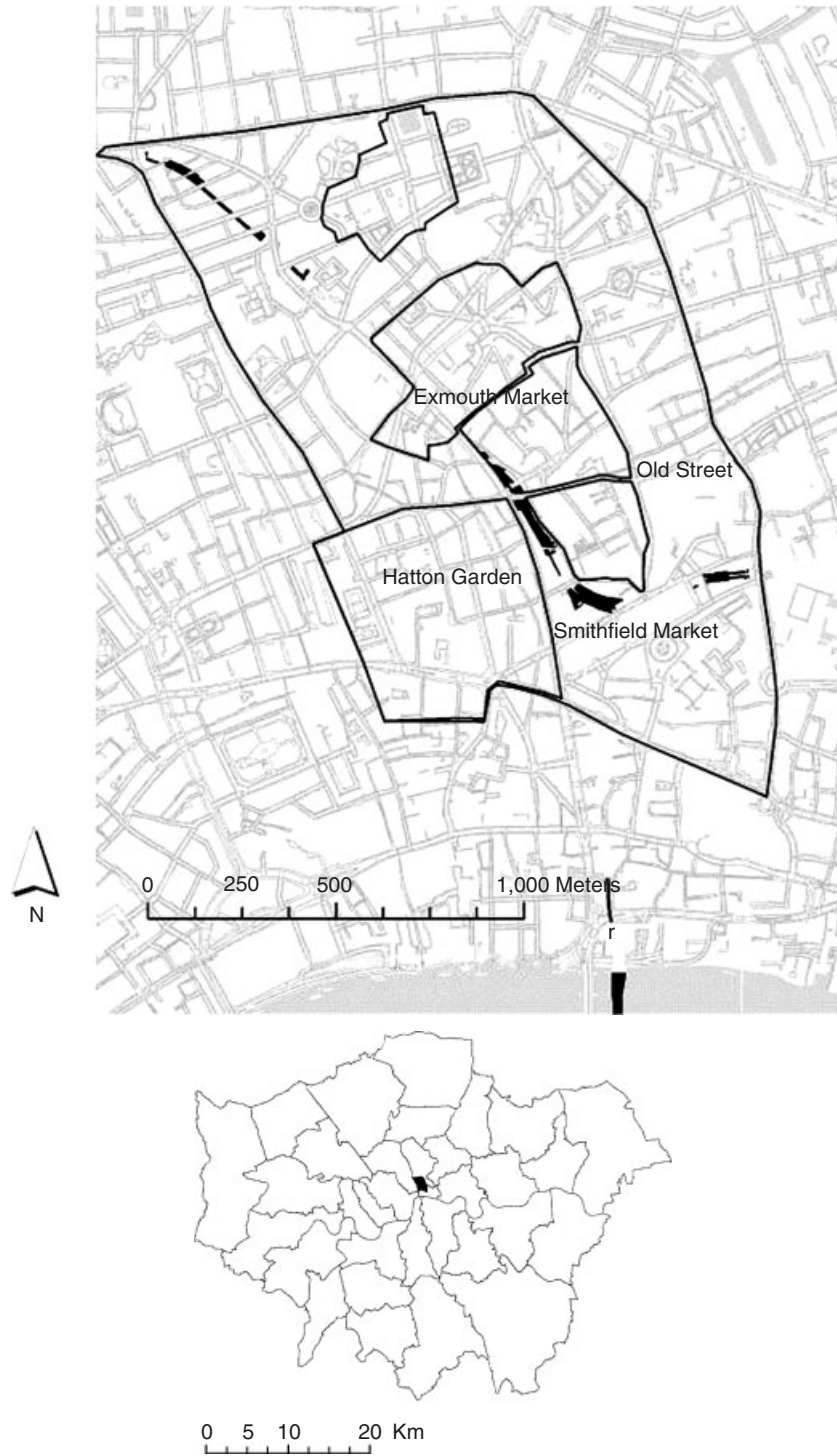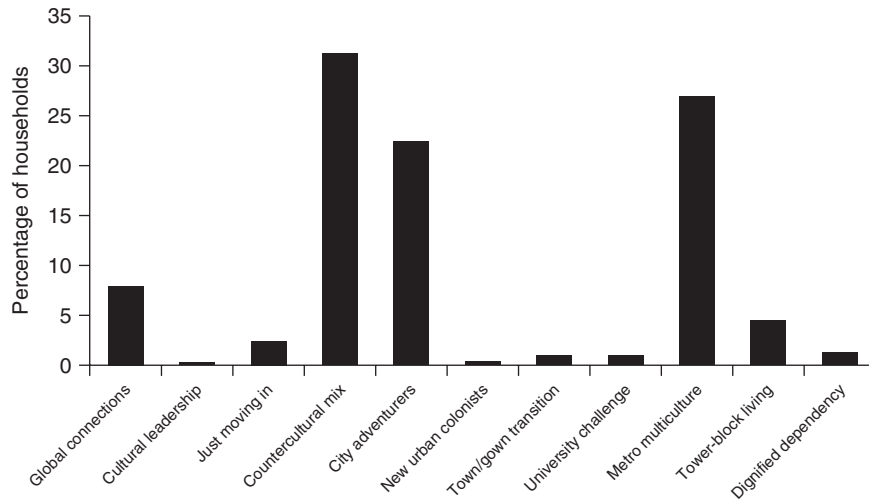
Figure 6.2. Clerkenwell Study Area. Top: District Boundaries, UK Borders ESRC/JISC Agreeement. Bottom: OSMatermap Ordnance Survey Crown Copyright.

Global connections	Extremely expensive housing, mostly in central London occupied by rich from abroad and by childless older people on extremely high incomes.
Countercultural mix	A mixture of young professionals in rented flats, ethnic minorities sharing large older houses, and poor tenants in council flats: characteristic of less-well-off areas surrounding central London.
City adventurers	Twentysomething singles who command extremely high salaries working in high-pressure jobs in central London. Most spend very small amounts of time in their smart studio flats.
Metro multiculture	People who rent public housing in the inner areas of London where a particularly high proportion of the population belongs to minority ethnic communities.
Tower-block living	Areas where the majority of the population live in high-rise flats and experience high levels of social and economic deprivation.

Figure 6.3. Mosaic Lifestyle Types. Source: Experían Limited Demographic Data, ESRC/JISC Agreement.

Clerkenwell's compact mixed-use form but from its geographical location on the edge of central London.

Respondents were asked which nonwork activities they were able to undertake within the neighborhood and which ones took them further afield. Most everyday activities could be accomplished within Clerkenwell, including grocery and household shopping, appointments with health and social services, and visits to a park (Figure 6.4). Many residents made good use of the local pubs and restaurants with only shopping for clothes/shoes and larger household items predominantly taking them elsewhere. However, most of the activities undertaken in Clerkenwell were also undertaken elsewhere in London, including trips for everyday necessities such as shopping for food and groceries and using professional services such as lawyers, accountants, or advice services. Despite a wide variety of local entertainment and eating venues, a significant proportion of respondents reported going
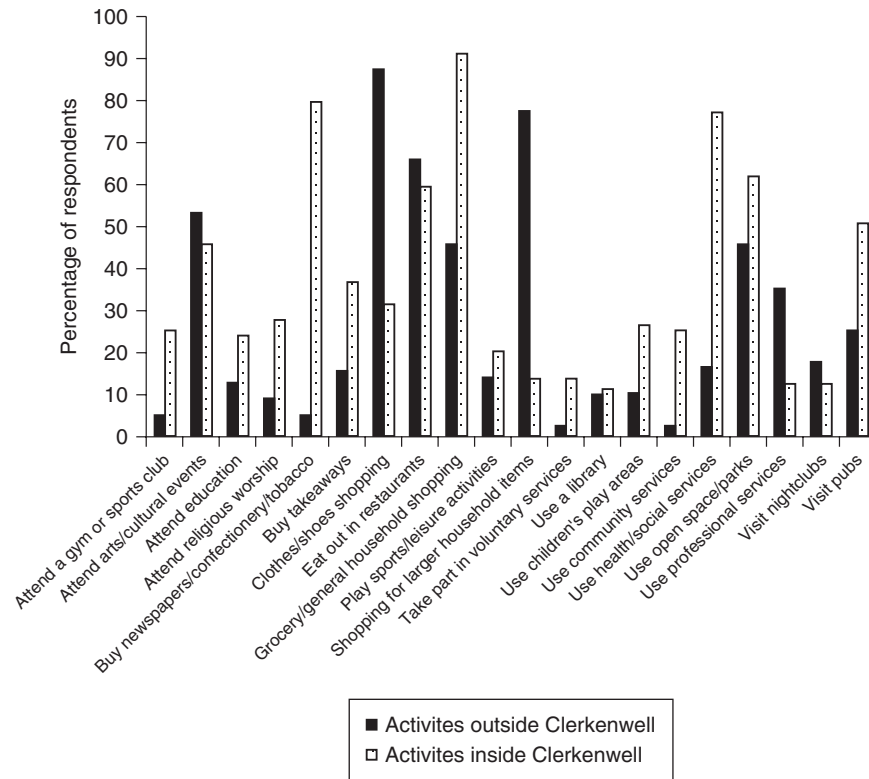
Figure 6.4. Activities Inside and Outside Clerkenwell.

elsewhere when choosing a place to socialize with family, friends, or work colleagues. This suggests that, while the study area is characterized as a compact mixed-use area, it is also extremely permeable. Not all needs were adequately met within the neighborhood. For some residents this permeability enabled them to take full advantage of Clerkenwell *and* the wide choice of jobs, services, entertainment, and goods available in north and central London (and beyond):

> Everything is within walking distance. We have six tube stations, Kings Cross, Farringdon, Barbican, Moorgate, The Angel, Old Street: six within walking distance. It takes 15 minutes to walk to Liverpool Street, you have all the buses you need, buses that take you anywhere in London, you have Liverpool Street, Farringdon takes you to Luton, Brighton, Gatwick Airport, Kings Cross takes you to Heathrow . . . .''
>
> Resident

For others, permeability was forged out of necessity. Inadequate product ranges and poor choices or value for money in local food and other household retail outlets meant they had to leave the neighborhood to obtain daily necessities. Respondents reported recent changes in the local area, forcing them to go farther afield for basic supplies:

> There's Exmouth Market, 25 years ago it was a market, you had food stores and utility stores, somewhere to get your boots sorted or your clothes and there was a Woolworth's at the end of the road. . . . Now you have wine bars and flash restaurants . . . ."
>
> <div align="right">Resident</div>

However, when identifying possible benefits of living in a mixed-use neighborhood, residents were most likely to say "convenience of shops and services," "more people around," followed by "lively and vibrant atmosphere." When asked at what time they benefited most from living in a mixed-use area, the highest percentage of respondents selected a benign category, "throughout 24 hours," although significant percentages of respondents identified the categories "during the day," "early evening," and "late evening" (Figure 6.5). This suggests that mixed use provided an animated backdrop to everyday life and convenience when needed.

A quarter of the respondents lived in mixed-use buildings: flats in converted nineteenth-century industrial buildings with offices, shops, or restaurants at lower levels or post-2000 new-build schemes. For these residents the primary benefits of mixed use were slightly different: for this group having more people around, good nonresidential neighbors, and added security scored highly suggesting particular benefits relating to their specific building. They were also more likely to experience these benefits during the day, signalling a positive support for everyday activities rather than a "lifestyle."

Local disadvantages of living with non-residential activities were more numerous, including several that created a noise nuisance either directly or indirectly (litter/rubbish, noise/vibration, noise/disturbance from customers/clients, antisocial behavior, deliveries/loading/unloading) (Figure 6.6). Respondents were more able to select a specific time of day or night when they were disturbed. Resident comments included:

> I hear the dustmen clanking around quite late at night. Sometimes there are drunk students shouting to each other down the road. It's quite a nice street but it's a thoroughfare.
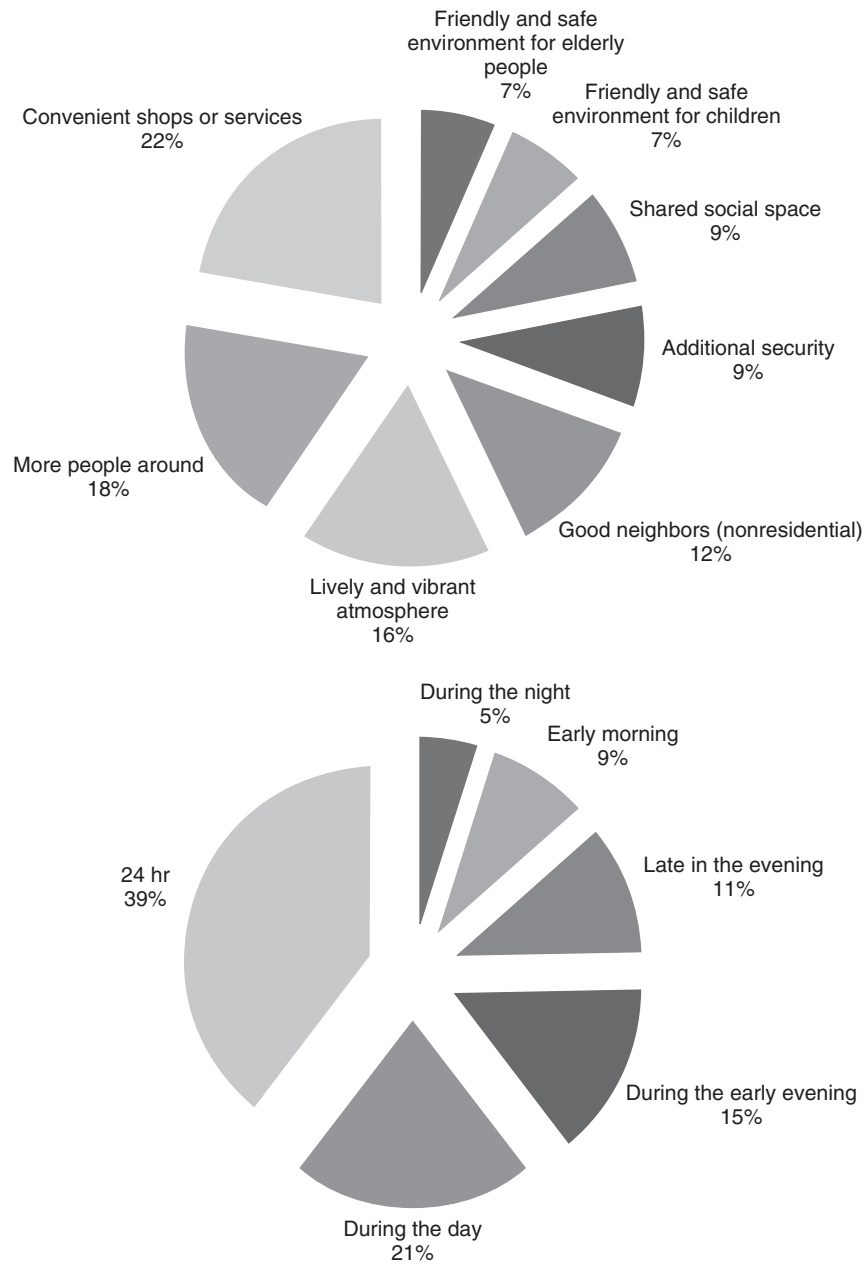
<div align="center">13</div>

Figure 6.5. Advantages for Residents. Top: Advantages of Colocation of Non-residential Activity; Bottom: Time of Advantages of Colocation of Nonresidential Activity.
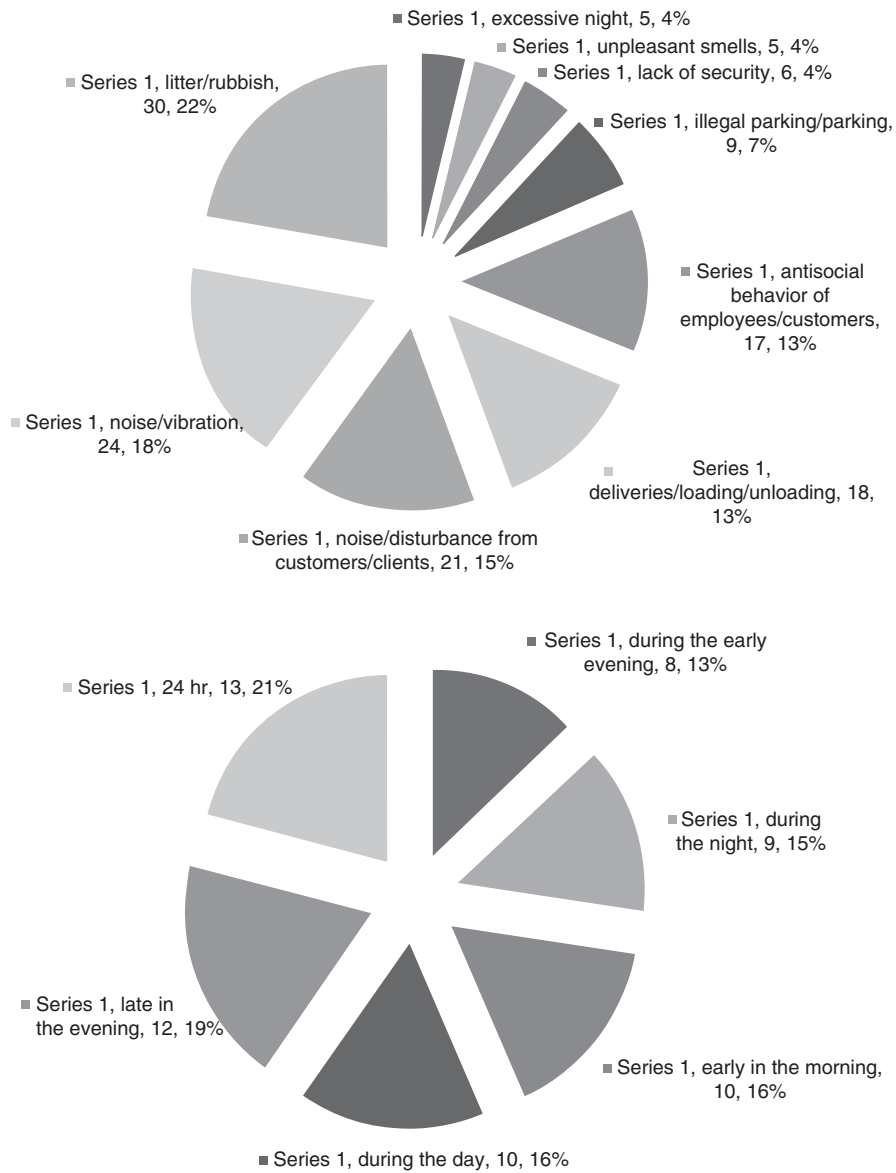
Series 1, excessive night, 5, 4%

Series 1, unpleasant smells, 5, 4%

Series 1, lack of security, 6, 4%

Series 1, litter/rubbish, 30, 22%

Series 1, illegal parking/parking, 9, 7%

Series 1, antisocial behavior of employees/customers, 17, 13%

Series 1, noise/vibration, 24, 18%

Series 1, deliveries/loading/unloading, 18, 13%

Series 1, noise/disturbance from customers/clients, 21, 15%

Series 1, 24 hr, 13, 21%

Series 1, during the early evening, 8, 13%

Series 1, during the night, 9, 15%

Series 1, late in the evening, 12, 19%

Series 1, early in the morning, 10, 16%

Series 1, during the day, 10, 16%

Figure 6.6. Disadvantages for Residents. Top: Disadvantages of Colocation of Nonresidential Activity; Bottom: Time of Disadvantages of Colocation of Nonresidential Activity.

> For me the problem is the litter . . . . It stinks. There are two problems with rubbish, there are no bins in most places so they drop things along the street. The other is the problem on the street. A lot of people put their rubbish out when they feel like it: maybe 3 days before the collection. It's not pleasant in the summer, especially when the cats get to it.

> In Exmouth Market they put the rubbish by the trees—you get one rubbish bag—two hours later you've got ten. Every tree has a mountain of rubbish bags.

For those residents living in mixed-use buildings litter/rubbish bothered them most but there was no particular time in the day when problems arose. Management of mixed-use buildings was identified as a particular problem, followed by the interior design, traffic noise, and poor quality of their outside space. If noise is the main downside of a living in a mixed-use area (see later in this chapter), poor management and design detract from living in a mixed-use building.

A number of attitudinal questions were used to address the overall quality of life experienced by residents. The majority (72%) felt that their environmental quality of life was fair or good with less than 10% ranking it poor or very poor. About a quarter said their quality of life was excellent. Those claiming poor or very poor qualities of life were clustered in one particular area of social housing to the southwest of the study area, squeezed between a densely mixed commercial subarea and a major thoroughfare and at a distance from community amenities and open space which are predominantly located to the north and east of the study area (Figures 6.2 and 6.7). Respondents here were also more likely to say that they did not feel safe and secure in their homes, particularly after dark. Most of these households included children under 12 or someone over 65 and some of the area's most vulnerable social groups. These respondents did not feel much benefit from living in a mixed-use environment: on the contrary they felt isolated from amenities, shops, and employment.

Community Safety

Safety and security are prime quality-of-life elements expressed by fear of crime (Figure 6.1) and other official measures of wellbeing such as Indices of Multiple Deprivation (e.g., crime and disorder). Recorded crime also provides the official data that can be matched and mapped to location (building;

(a)

(b)

Figure 6.7. Land Use in Clerkenwell: Ground Floor (a) and Second Floor and Above (b). Adapted from R. Cooper, G. Evans, and C. Boyko (Eds.) (2009). *Designing sustainable cities*. Wiley Blackwell, 2009.

e.g., burglary) and area type (e.g., street). One tenet of the compact city model is that natural surveillance, greater vibrancy, and animation at street level provide a more secure environment for residents and other users, while social cohesion is also engendered by higher-density, mixed-use living. From

our residential surveys this is not necessarily the case because sociospatial divides persist, despite close proximity and "shared space." Mixed-use development also offers particular security features such as living above ground level and reduced access for burglars and other uninvited visitors. From our case study, commercial burglary was higher where shared entrances were not controlled by a single company, unlike say a ground-floor shop, and natural surveillance did not outweigh easy access. However, for residents, street robbery (e.g., "mugging") and burglary of domestic dwellings are the two crime-based determinants of safety and security, and, therefore, wellbeing.

The vertical distribution of accommodation usage types is visualized in Figure 6.7, illustrating the distribution of land use at ground and then second floor and above levels (Penn, Perdikogianni, & Mottram, 2009). This shows the extent of residential accommodation in the darker areas between these two levels (lighter areas indicate commercial, retail, and leisure building use). This is represented by mid- and high-rise blocks, and loft-living-style apartments above ground-floor retail, cafes/restaurants, and offices.

The maps in Figure 6.8 show crime densities ("hotspots") for residential burglary and street crime ("robbery"), indicated by clouded areas. Street robbery is concentrated on the edge of the activity area, particularly large housing estates set back from wide, busy roads. It is only high in the central areas where nighttime activity (marked by dots) is located, such as in bars/clubs, cafes, and restaurants frequented by visitors, not locals (see later in this chapter).

A general conclusion is that mixed-use areas (as opposed to single mixed-use developments) suffer less crime of the type that are attributed to the wellbeing of residents; however, the mix of economic and land uses does support opportunistic crime, particularly vehicle (including bicycle) theft and vandalism. This is in contrast to areas within and on the fringes of this mixed-use area, with more mono-use residential areas which lack natural surveillance and diversity of street life, where street crime is much higher and "mixing" is less apparent.

Nighttime Economy

Whereas recorded crime provides one view, the residential quality-of-life factor most associated with mixed temporal use relates to nighttime activity, particularly pubs/bars, dance and music clubs, and related antisocial behavior on the streets as well as from neighbors. The liberalization of licensing hours and Sunday trading from the 1990s in the United Kingdom fuelled an

(a)

(b)

Figure 6.8. (a) Street Robbery (Snatch Theft) Density; (b) Domestic Dwelling
Burglary Density. Criminal activity is indicated by the clouded areas. Adapted from
R. Cooper, G. Evans, and C. Boyko (Eds.) (2009). *Designing sustainable cities*.
Wiley Blackwell, 2009.

explosion of alcohol-based activity in city-center sites. For example, in Manchester city center the number of licensed premises increased from 225 in 1995 to 430 in 1998 and over 540 by 2002, with 166 venues holding public entertainment licences with a total capacity of over 110,000 people (Hobbs, Lister, Hadfield, Winlow, & Hall, 2002): these are predominantly nonrestaurant and nonnightclub "bars." On Friday and Saturday nights young visitors trebled from an estimated 30,000 in 1992 to 100,000 a decade later. A survey of local authorities conducted in London during 2004 highlights the factors and issues arising from this trend in late-night activity, with 100% of outer London and 91% of inner London authorities reporting a significant growth in evening/late-night activities (Roberts & Gornostaeva, 2007). Applications for liquor licences increased by 45% between 1983 and 2003, the majority of these located in pubs and bars (71%) and restaurants (19%), concentrated in central London, but also in outer London. In Westminster City Council, for example, the total capacity of premises with late licenses in their "stress areas" of the West End, Edgware, and Bayswater was 64,000 with a closing time of 1 A.M., 20,000 at 4 A.M., and 12,000 closing at 6 A.M.

Particular problems cited by local authorities include insufficient public transport at night, rubbish/litter on streets, fouling of streets/lack of public toilets, and areas becoming unsafe and noisy. The domination of one user group creating a monocultural nighttime scene has not only raised the level of street violence, antisocial behavior, and a flourishing control and security class (Hobbs et al., 2002), but has also crowded out a wider range of activities and users, particularly older people and families. This scenario is now played out in British city and town centers, from Leeds to Swansea (Thomas & Bromley, 2000). In our Clerkenwell case study area, however, while licensed clubs and drinking venues serve a late-night consumer, a wider range of eating establishments also serve a weekday office and residential market, so that one use/user group does not dominate, and the groups occupy the area at different, complementary times of the day and night. This city fringe location suffers less from the city-center nighttime crush and conflicts experienced elsewhere (including London's West End and Soho), maintaining both production and consumption activity in smaller-scale (and more upmarket) venues. Most residential accommodation is sufficiently far removed from this activity and flow of people. Where they combine, conflicts can arise, but these are often very isolated cases of street disturbances.
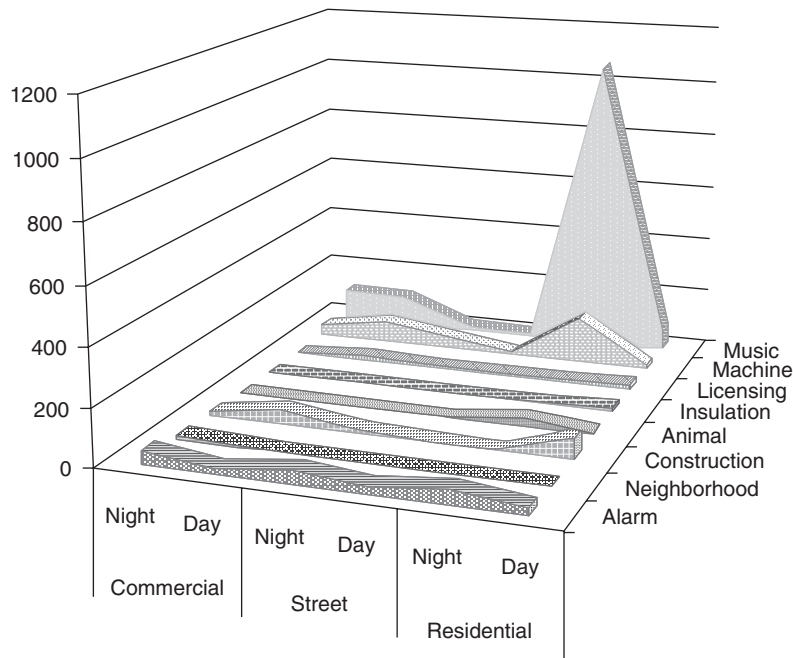
Figure 6.9. Noise Complaints by Number, Source, and Time of Day.

Data from noise complaints in Clerkenwell confirm the prime source of nuisance. Of over 2,200 complaints over a 1-year period 50% were from "music," of which 88% occurred during the nighttime (Figure 6.9).

The highest daytime noise complaints were from construction and machinery, as well as loud music. Six nightclubs with late-night music licences are located in the central area, including the first 24-hr licensed club in London. Late nights tend to run from Thursday through to Sunday, with 20,000 clubbers attending over this period. The local police maintain a close relationship with club management, mainly over drug use and parking. They "sweep" local streets to deter parking in or near residential areas to prevent noise after closing, and in fact few of the residents' complaints related to late-night club activity: several owners and staff live locally, and have a detailed knowledge of the area and the community. More problematic noise pollution emanates from smaller bars and restaurants, which are located on the ground floors of residential blocks (Figure 6.6). As already noted, environmental issues, including litter, antisocial behavior, and street crime (e.g., bicycle theft) represent the prime challenge for mixed use involving visitor

activity, while gentrification effects impact on the character and amenity for residents, and ultimately threaten the mix itself.

Loss of sleep (from external noise) was used as an indicator of the quality of urban life. Surprisingly, the majority of respondents did not report disrupted sleep patterns. In most instances the microspatial arrangement buildings minimized extreme instances of noise nuisance. Residents appear to have become accustomed to, though aware of and irritated by, the background noise during the day. However, clusters of sleep-deprivation scores were observed in subareas with intense or growing nighttime vitality and concentrated pockets of social housing where, as elsewhere, antisocial behavior is a problem.

Finally, when asked about the quality of their local community life, a third of respondents declared it poor or very poor and only 6% said it was excellent. Respondents did not tend to know many other local residents yet there were high levels of tolerance of others. There was also recognition that the area is changing and that this has social consequences:

> There's a lot of building work going on and refurbishment of old buildings that have been derelict for a long time . . . . More residential: the more expensive end. Quite different from the communities that have lived in this area and still do in some parts.
>
> Resident

Living in this mixed-use, mixed-tenure, neighborhood requires not only a certain urban sensibility but also resources (a job or income) to make it work. Most residents simply tolerated mixed use rather than actively engaged with it. Residents traded off the noise, disturbance, rubbish and litter, limited open space, inconvenient parking restrictions, and low levels of local community cohesion against the overriding benefit of Clerkenwell's location on the edge of central London, its "buzz," and its permeability. But there are groups of residents—families with children, households of elderly residents, and vulnerable new migrants—for whom the trade-off was not working and this compact mixed-use neighborhood, as currently manifest, is unsustainable. For them, proximity to and accessibility of central London is of little benefit and local services are not meeting all their needs. This group is being increasingly excluded from the public spaces of Clerkenwell and the mixed-use environment offers them no protection from social exclusion; indeed, it could be suggested that it exacerbates their isolation:

22

The council wanted to have a mixed area. I don't think I'd like to live in an area where it was all one type of person. They're just over the road in council flats and houses. [But] it's like miles and miles: they never speak to each other across that void.

<div align="right">Resident</div>

Conclusion

Mixed-use policy emerged from a complex agenda to reclaim underused or underdeveloped urban spaces and to meet population and housing growth through higher density and compactness. Although mostly justified in terms of environmental sustainability, mixed-use policy rolls together aspirations for new forms of market investment in inner cities with ambitions for social change. Mixed use is not a modest planning initiative, as suggested by Breheny. Its muddled and idealistic objectives have deflected attention away from the everyday outcomes of its practice.

Research on existing forms of mixed use, including this case study, suggests that the range and mix of nonresidential activities required to fully support communities, including families with children and older people, is rarely established. Current developments tend to encourage a new transient population for whom compact mixed-use urban living is a temporary lifestyle choice. For existing communities, or socially excluded communities, as found in Clerkenwell, the benefits of living in mixed-use locations orientated towards high-consumption lifestyles are negligible. The nature and spatial form of this form of mixed use is rapidly eroding necessary everyday services and utilities. Moreover, whereas some urban areas have organically adapted to mixed-use from crafts to industrial, postindustrial and creative city eras, most developments, town centers, and local shopping neighborhoods have struggled to emulate them, with swathes of vacant ground-floor premises: critically the most important for street life and safety and for local economies. This has arisen due to inflexible planning guidance that has limited ground-floor use despite the fact that most of us still live in properties with front doors opening to the street. Our comparative mixed-use studies in Sheffield and Manchester also confirm the advantages and disadvantages found in London's city fringe, and similar population dynamics and divides (Evans et al., 2009).

Many living in mixed-use, mixed-tenure neighborhoods require a certain urban disposition in which the advantages are traded off against disadvantages and in which a high levels of forbearance with the behavior of others

and the uncertainty of street life are necessary prerequisites. Most residents tolerate rather than enjoy the mixed-use environment, trading off the noise, disturbance, rubbish and litter, limited open space, inconvenient parking restrictions, and low levels of local community cohesion against the overriding benefit of location and permeability. Yet this is a fine balance. When change in the spatial dominance of a land use within an area alters the level of vitality, as in areas of nighttime activity or daytime office activity, this trade-off becomes unsustainable and the "cost" is borne by the residents. Likewise, while the ability to travel out of the area makes it possible for most residents to live in this dense mixed-use environment, many who are unable to travel find themselves trapped in an area with limited resources and potentially a declining quality of life. Furthermore, high tolerance of others is only possible where households have significant economic and social resources. When wellbeing is diminished or threatened the more mobile are able to sell on and move out. In the absence of such resources Clerkenwell in this sense is not mixed enough. It is less able to support the everyday needs of those at risk of social exclusion and the less mobile. Shared understandings of daily practices such as when and where to put out the rubbish are harder to establish when social cohesion is low. A conclusion would be that mixed use also presents a mixture of wellbeing among residents, with factors such as urban management, amenities (and their "mix" and accessibility), as well as design quality all required to maintain a balanced and cohesive community, which in turn can help to maintain good levels of wellbeing in a neighborhood.

It is evident that the dynamic processes that generate diversity and mixed-use neighborhoods, including their openness, can also destabilize them. In these circumstances the trade-offs made by residents become untenable. Understanding this process and the point at which a mixed-use community changes from a state of wellbeing to one of stress, and a neighborhood changes from offering the potential for sustainability to undermining it, requires further fine-grained research. This research should have a degree of urgency, given the continued advocacy of mixed use and the compact city with an evidence base that has to date produced mixed results (Evans, 2005; Foord, 2010).

Note

1. Congres Internationaux d'Architecture Moderne. Sieverts (2003, p. 37) asserted that it was the consequence of the differentiation of land values, which led to an assortment of uses on the basis of their economic performance and of the

mutual disturbance tolerances of similar uses, that permit the establishment of areas of like commercial and industrial uses with higher tolerance levels.

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