

2:5 - The Townscape Context

In order to assess the quality of the townscape around the University we have undertaken an audit of the quality of buildings in the area.



Inherent townscape quality: Blighting impact 1/5

We have conducted a detailed, block by block visual assessment of townscape quality across the study area. Each block, and in many cases individual buildings within them, has been rated on a scale between 1 and 5, to provide a consistent measure of their architecture's underlying effect on the overall townscape.

Blocks and buildings rated 5 and 4 make strong and positive contributions respectively. Those rated 3 are neutral, neither contributing to nor detracting from townscape quality. Ratings of 2 and 1 denote negative and 'blighting' impacts.



Inherent townscape quality: Negative impact 2/5

The survey is not so much designed as a judgement on each property, as a means of building up a well-grounded picture of patterns of townscape quality around the University Campus.

Differentiating the buildings and blocks that contribute to townscape (those rated 4 and 5) from those that make no contribution or detract (those rated 1, 2 and 3) highlights an interesting pattern around the study area.

A core of strong townscape exists between the cathedrals, reaching east to Abercromby and Falkner Square, and continuing to the south along Princes Avenue.



Inherent townscape quality: Neutral contribution 3/5

This core barely connects to the positive townscape of the Bold Street and Ropewalks area to the west, which includes Renshaw Street, Ranelagh Place and Lime Street.

A spur of good townscape reaches along London Road from Lime Street to Monument Place and Pembroke Place, connecting with the positive area around the Royal Infirmary and University Victoria Building. This area of institutional uses includes the Reilly Building and Harold Cohen Library on Ashton Street.



Inherent townscape quality: Positive contribution 4/5

Other fragments of quality townscape are located at St. Andrew's Gardens, and on the very edge of Kensington where the Bridewell and Sacred Heart Church are outposts of the intact Victorian neighbourhood around Kensington Fields.

A great deal of the area is therefore making no contribution to the city's townscape quality, including:

- ☐ Most of Brownlow Hill;
- ☐ The Royal Hospital precinct;
- ☐ Norton Street Coach Station;
- ☐ Byrom Street JMU campus and context;



Inherent townscape quality: Maximum contribution 5/5

- ☐ much of the area around Lime Street Station; and
- ☐ the majority of the University of Liverpool campus.

The townscape plan on the opposite page consolidates the areas of predominantly positive townscape (made up mostly of buildings rated 4 and 5), shown in light yellow. It also shows concentrations of buildings with no positive impact (rated 1, 2 and 3) in light red.

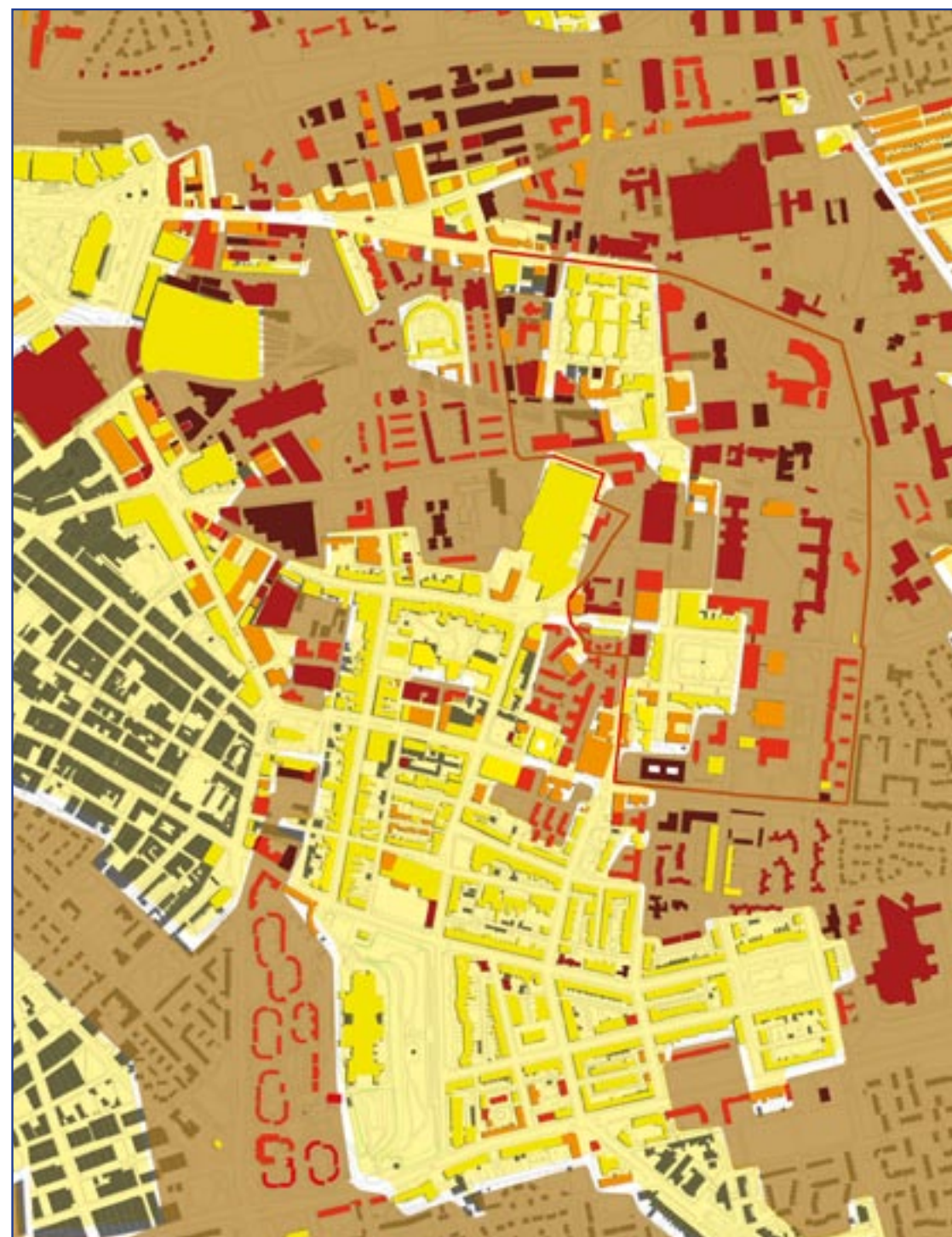


All levels 1 to 5

Two clusters of quality townscape are clear in the campus, around Abercromby Square and the first purpose built university and hospital buildings around Alfred Waterhouse's Victoria Building and Royal Infirmary.

These two separate clusters link somewhat precariously with other areas of positive townscape around Hope Street/Canning and London Road.

Otherwise, the majority of the campus and its context is not rated as positive in townscape character.



Townscape Quality The plans consolidated to show areas of strong and weak townscape



PART 3:

The University Campus



3.1 - Before Holford

Before its comprehensive redevelopment of the University and Hospital after the war, the district was a dense and complex inner-city quarter.



Above: Artist Doug Kewley's painting of the Majestic Cinema that stood at the junction of Crown Street and Boundary Place, 1939
Below: An aerial view of the area in 1938



As we have described, the University stands on a shelf of land above the city centre. This was developed in the early 19th century as an extension to the city and the southern part of the campus was part of an elegant Georgian neighbourhood made up of wide streets, squares, such as Abercromby Square, and large houses. This neighbourhood is still clearly visible on the figure ground plan from the mid 19th century above right.

The latter half of the 19th century saw a major transformation in the area as illustrated by the lower figure ground plan from the 1920s. The

northern part of the area in particular became a dense, mixed use neighbourhood. The heart of this area was an extraordinary 6 point junction where Crown Street met West Derby Street. Crown Street shows up on all of the plans to the right as a major north south route taking traffic around Liverpool City centre. By the early 20th century it had grown into a major commercial route in its own right, although only fragments of the street remain today.

The plan on the opposite page is one of the analysis plans done as part of the Holford masterplan and shows the situation just prior to the University redevelopment. The area remains densely packed and was still home to some 4,000 people. However, the cleared sites shown in blue show the effects of war-time bombing and perhaps also the clearance of sites for the hospital redevelopment. The plan also shows the plan of the Metropolitan Cathedral designed by Lutyens and started after the war and planned to have a 520ft high dome. The crypt was all that was built of the original cathedral and the modern structure designed by Sir Frederick Gibberd was built on top of this in the 1960s.

The plan opposite shows the extending influence of the University (shown in yellow). By 1947 this had extended from the Victoria Building along Brownlow Hill and started to colonise the properties around Abercromby Square. This includes the recently completed Architecture Building, which in many respects is a precursor of the University redevelopment to come.



The 1851 figure ground of the study area and its immediate context



The 1927 figure ground of the study area and its immediate context

Land-uses in 1947

One of the analysis plans from the Holford Masterplan





3:2 - The Holford Plan

The University was replanned after the second World War as a bold attempt to create a model for a 'Civic University'.

After the war there was a major debate about the future of the University and hospital. The University Development Committee appointed the architect and professor Lord Holford to masterplan the university. He was professor of planning at University College London but had just stood down as the Chair of planning at the School of Civic Design in Liverpool.

His first task was to recommend on whether the university and hospital should be developed on its existing site or should be relocated. He estimated that the university had a space requirement of up to 2.5 million square feet and would need a redevelopment site of 200 acres. A number of sites were explored in the suburbs and beyond to develop both the hospital and university. However, he concluded that the funds available would mean that the development would take more than 20 years and to move all departments and operating on a split site for this time was unacceptable.

The decision was taken to redevelop on the existing site and Holford set himself the task of designing a 'Civic University'. As he says; *'Unlike ancient universities, Liverpool has grown out of and become part of the fabric of a great commercial city.... as an offset to all the disadvantages of its closely-built-up urban surroundings, it derives a large measure of its support, a considerable field of research and much of the interest of daily life from the city and the port of Liverpool'.*

This was very much against the prevailing policy climate of the time, which sought to relocate activities away from the centres of large cities. Nevertheless the Holford Plan is very much of its time. It embraces the modernism that emerged before the war and was to become so influential in the 1960s. It is, however, a much more subtle plan than it would have been had it been done ten years later. The southern part of the plan is based on a series of quadrangle blocks that

broadly respecting the Georgian Street pattern of the area and preserve Abercromby Square. The northern part of the plan is less sympathetic building over both Crown Street and West Derby Street creating a new square to link the hospital with the University. The plan is also set within landscape (as illustrated on the axonometric plan above), belying its urban location. However, it is a bold attempt to create a model for a civic University that we can build on as part of the current masterplanning exercise.



Top Left: An illustration of the Victoria Building from the Holford Plan

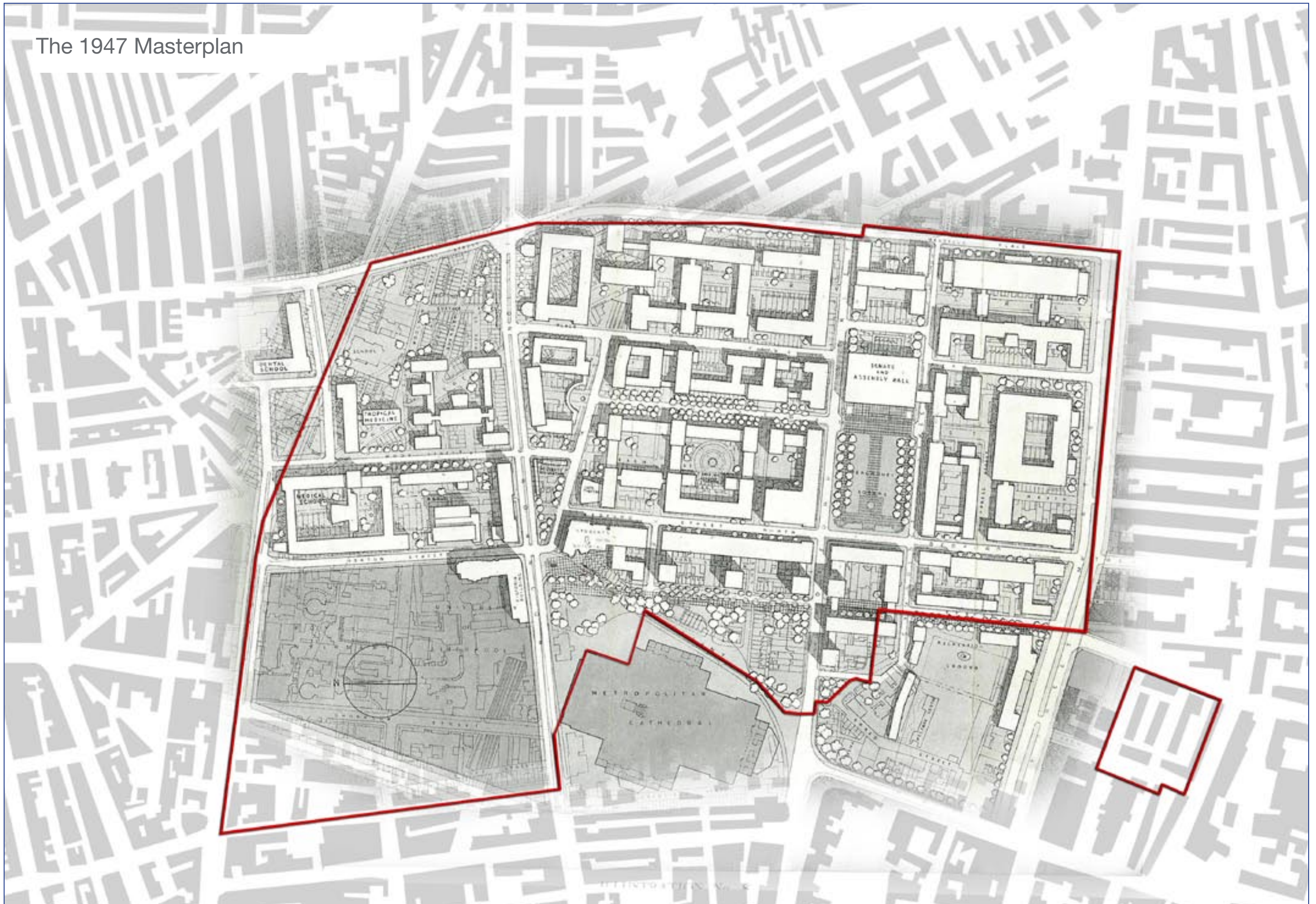
Main illustration: An axonometric view of the 1947 masterplan

Right: View from the tower of the Physics Laboratories towards the Victoria Building with the cleared site for the Mathematics Building in the centre

Facing Page: The masterplan overlaid on the original street network.



The 1947 Masterplan



The Holford Plan, here shown on the 1927 figure ground

3:3 - Urban Form

The urban form of the University today is very poorly defined; the area is built to a low density with poor enclosure of space and a coarse urban grain. This compares very poorly with the historic plans of the area.



1851



1927



Today's figure ground
overlaid with the 1927
figure ground

The starting point for analysing the urban form of the University today is the figure ground. This is a map showing just the buildings and removing all other detail. It is a useful device to understand the structure of the area and in particular three aspects of good urban form:

- the density of development;
- the extent to which streets and spaces are enclosed by buildings; and
- the grain and variety of development.

The figure ground of the University Campus is shown on the opposite page and the historic plans are shown to the left together with a comparison of these with today's plan. These show the extent to which the urban fabric of the University has deteriorated. The density of development is very low and it is difficult to identify streets, suggesting that they are poorly enclosed by buildings. This is particularly true for Crown Street, Grove Street and its adjacent development north of the campus and for much of Myrtle Street.

Density of development

While it does not show the height of buildings the plan indicates the extent of building footprints and the density of ground coverage. This illustrates that the traditional neighbourhoods of Kensington and Canning Street are relatively densely built. However, whereas once the density of development covered the whole area, the Holford Plan, where implemented, led to its dramatic decrease as can be seen on the third plan bottom left. Traditional terraces and townhouses were replaced with larger footprints, such as the Royal Hospital, the Life Science Building, the Chadwick Tower & Laboratory and the Donnan Laboratories. This is wasteful of land but also means that the campus lacks urban character and vitality.

Enclosure of space

Successful urban spaces and streets are normally defined by buildings. The result is that the roads stand out clearly on the figure ground plan as can be seen on the historic plans. For example, Brownlow Hill is relatively well-defined as are Bedford Street South, and Mulberry Street (east) and the streets of the Georgian Canning Street neighbourhood. However, most of the campus itself is poorly defined. Abercromby Square has

survived and remains enclosed by buildings. However, such is the scale of open spaces on the plan that even this is difficult to identify.

Grain and variety

The figure ground plan also illustrates the grain and variety of buildings. The term 'urban grain' refers to the variety and size of buildings. Fine-grained urban areas are made up of a large number of small buildings and have an inherent variety and interest. Coarse-grained areas by contrast are 'lumpy' with a small number of large buildings of similar design. They generally feel less lively and interesting. Much of the University falls into the latter category. However, elements of finer grained development survive along Bedford Street South, Abercromby Square, Mount Pleasant and Brownlow Hill.

The figure ground plan of the University today contrasts sharply with the first two plans to the left. The first plan from 1851 shows the Georgian area before it is fully built out. The streets are wide and the houses have generous gardens but the streets of the area are still clearly visible. By 1927 the area is much more densely developed around a tightly-enclosed grid of streets and a fine grain of development.

The Figure Ground Plan today



3:4 - Activity and Uses



The campus is an area of almost exclusively academic and associated support activity. Most of it is very lively during the day, but activity dies away out of teaching hours. Certain areas around the edge feel isolated even when the campus is busy.

The plan on the facing pages shows the land uses on the campus as well as showing the location of building entrances and the extent of active building frontages. Active frontage is a term that relates to the extent that buildings animate and make feel safe the surrounding streets with windows, lighting etc...

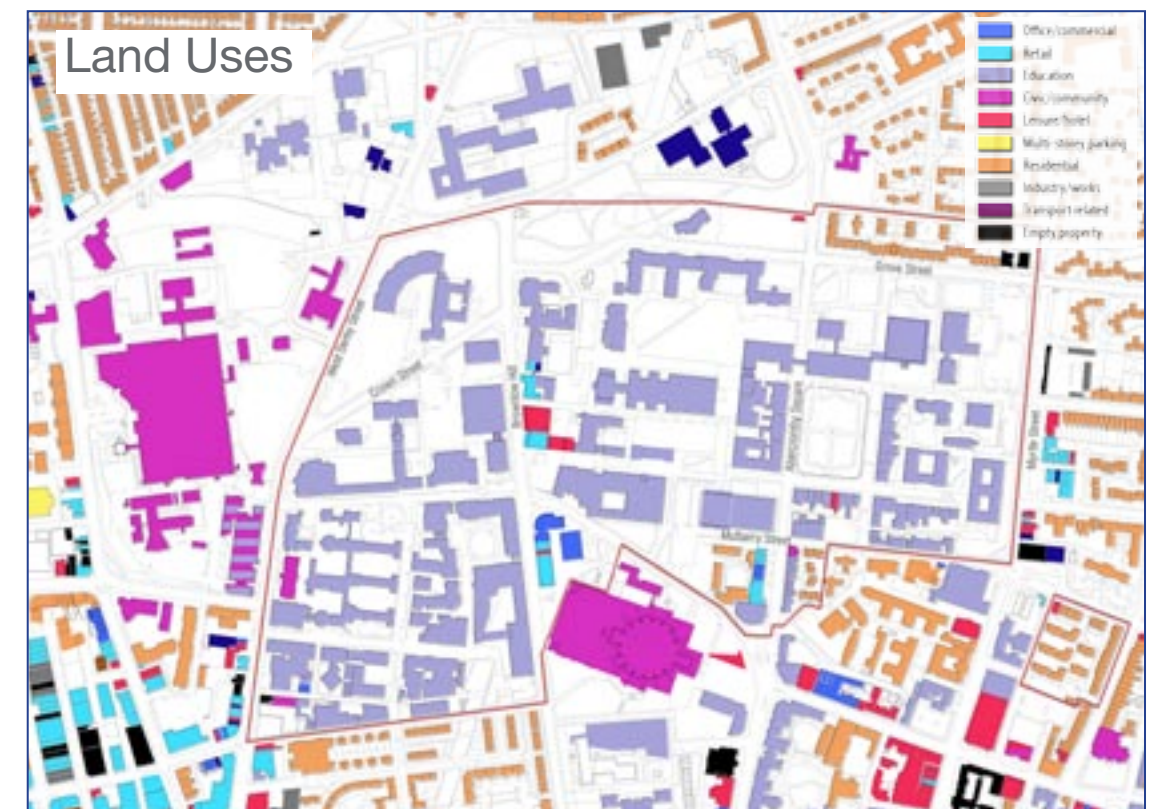
As is to be expected the main building uses are academic and support uses. The University is fortunate in having its departments clustered within a short walking distance of each other. It also means that within the best parts of campus, the identity and purpose of the institution is unmistakable. The northern part of the University is the focus for science departments, with the health, dental and tropical medicine schools relating to the hospital. The southern part of the campus around Abercromby Square is the focus for arts departments.

The plan shows the very limited extent of active frontage on the campus. Most of the buildings of the University turn their back on the streets and public spaces of the campus and the surrounding neighbourhoods. This makes the campus feel unsafe and the spaces deserted and unwelcoming. It is possible to drive or walk around the edge of the campus and barely have a sense of the life of the University, which looks inwards rather than out.

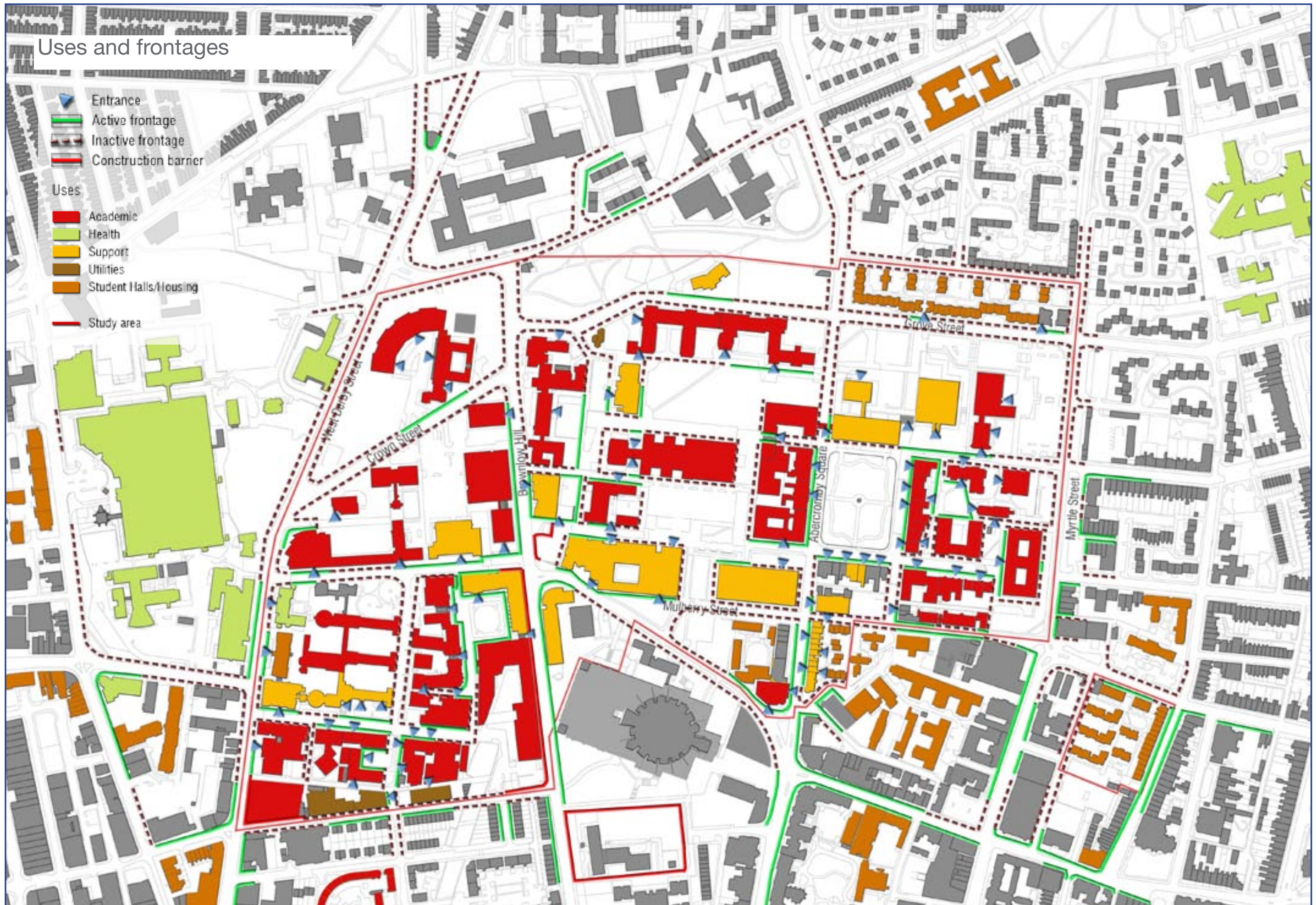
Furthermore, even the most vibrant parts of the campus are quiet outside of teaching hours. This means that a large area of the city centre is effectively a ghost town every evening, weekend, and for the vacation months. Such a lack of vitality compromises perceptions of personal security and can deter those on foot, reinforcing security problems. Crown Street and Grove Street are a focus for these issues. Indeed the former has become a base for prostitution, which is a sure sign that it is not overlooked or animated.

There are some exceptions to these conclusions. The Guild generates evening activity on band and club nights, and is sometimes used for exhibitions at weekends. The Cambridge public house is also a lively hub in pleasant weather when people enjoy sitting at the picnic tables outside.

There is, however, a need to make the University more lively by introducing more residential, commercial and leisure uses within the campus as well as opening up academic buildings with more glass, light and active frontage. There is scope to increase student accommodation in and around campus although students are in vacation for large parts of the year. This could therefore be mixed with market housing together with hotel and conference accommodation that creates year round activity.



Uses and frontages





3:5 - The Quality of the Buildings

The campus includes a wide range of historic and contemporary buildings, the best of which are found in two clusters around the Abercromby Square and the Victoria Building.

The Campus of the University was described by Pevsner as an 'architectural zoo'. It is indeed an eclectic mix of fine Georgian houses around Abercromby Square, the Victorian splendor of the main University and infirmary buildings, some fine modern buildings by celebrated architects and some buildings by celebrated architects that may not have been their best work.

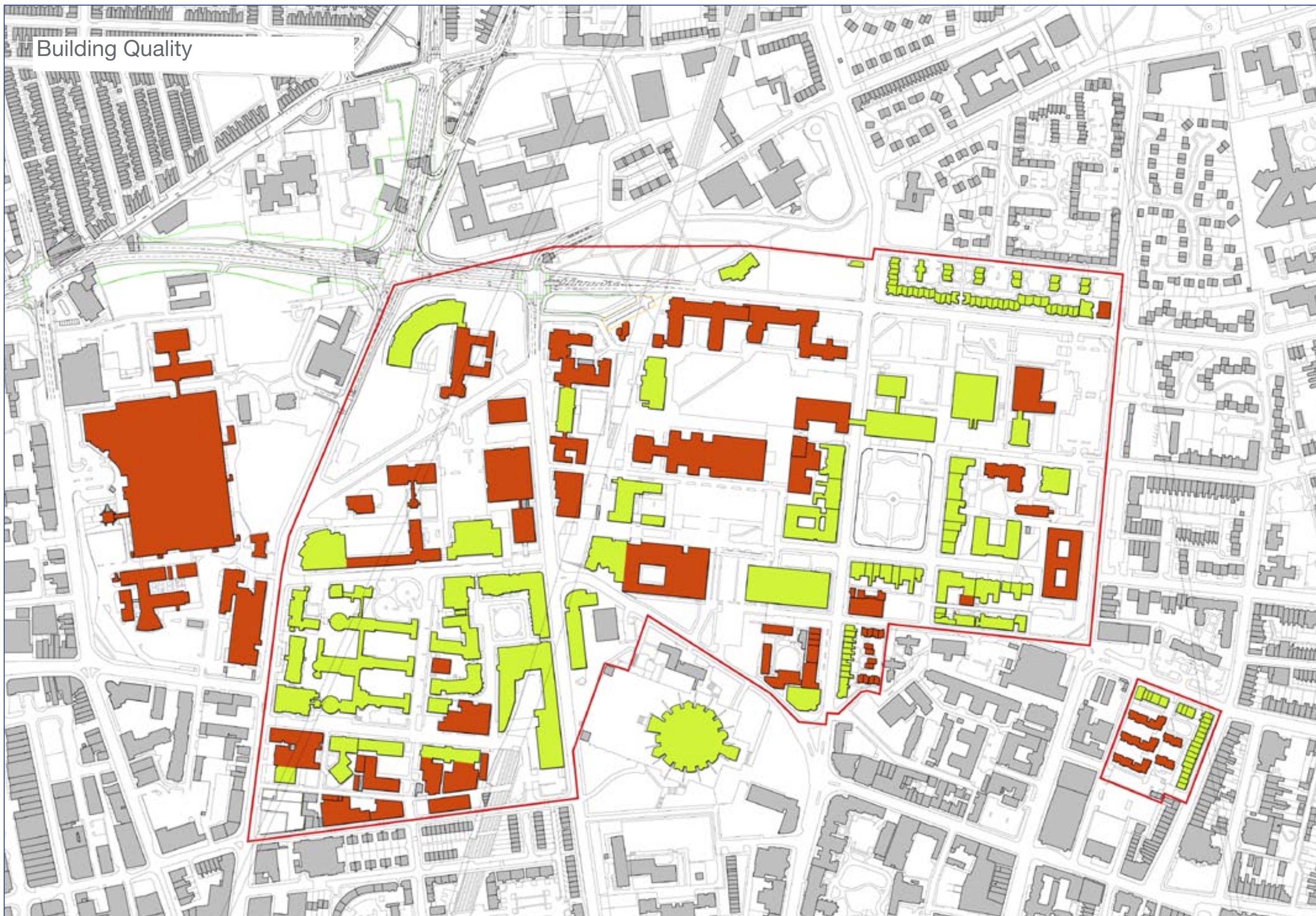
The plan to the right shows these buildings on the Campus. There are two groups of historic buildings that have been listed, a number around Abercromby Square and Oxford Street and the Victoria and Infirmary buildings. Abercromby Square is a conservation area and the University also bounds the Canning Street and Mount Pleasant conservation areas. The yellow buildings on the plan are modern structures of generally agreed architectural quality. They include the Law

School, the Senate Building, the Guild Extension and the Law Library. The buildings in orange on the plan to the right are by renowned architects but are less universally applauded. They include the sports centre by Denys Lasdun, the Veterinary School by Maxwell Fry and the Chadwick Laboratories by Basil Spence.

The plan on the opposite page indicates the townscape impact of these buildings. The buildings shown in green make a positive contribution to the image and environment of the University while the buildings shown in red generally detract from the University's image. It shows clearly that there are two clusters of positive buildings, around the Victoria Building and the former infirmary and around Abercromby Square. The other parts of the Campus are generally weak in comparison.



Building Quality



3:6 - Topography and Massing



Topography is important in shaping the campus and its role within the city. The campus lies on a relatively flat plateau on a ridge overlooking the Mersey.

The University's estate corresponds approximately with 'Mosslake Fields' the flat and boggy area at the foot of Edge Hill that was drained and laid out by the city corporation in the early 19th century. The topography of the campus is a relatively flat shelf of land, below which the land slopes steeply down to the river, and above which rises Edge Hill, as the topography plan to the right shows.

Because of this the streets west of the University slope steeply down the hill causing a degree of separation between the campus and the city centre. The same is true of the rise to the east of the campus. This topography has tended to isolate the University from the surrounding city.

However, its elevated position has the advantage of affording views over the city centre and the waterfront, as shown on plan to the right. There are particularly good views down Oxford Street and Myrtle Street as well as along Hope Street to the Anglican Cathedral. Some of the taller buildings on the campus enjoy spectacular views across the city and out to sea, extending on a clear day across the Wirral peninsula and North Wales as far as the mountains of Snowdonia.

To the east the tower of St. Mary's Church on the top of Edge Hill is an important landmark in views along Brownlow Hill. The church marks the centre of the Georgian conservation area surrounding historic Holland Place. This is an architecturally important townscape currently degraded by heavy traffic and planning blight along the Edge Lane approach.

The massing of buildings on the campus is shown on the plan on the facing page. This shows that the predominant building height across much of the campus is less than five storeys and is broadly consistent with the domestic scale of Abercromby Square. There are, however, a significant number of single storey buildings across campus. These tend to weaken the sense of spatial continuity and enclosure of the routes and spaces around them.

There are a handful of taller buildings located without any particular rationale. The highest of these are the Chadwick Building and Roxby Tower both of which are 11 storeys. These, however, have a broadly neutral visual impact, being well away from sensitive views. The most dominant building is, however, the hospital, which is also 11 storeys and dominates the northern part of the campus.

Vistas and skyline features



Topography and hills



City centre topography with steep streets

Building Heights



3:7 - Public Realm

The University has a large amount of poorly defined public space, much of it surface parking.



Crown Street lacks enclosure and animation



Crude materials and poor design make this passage off Ashton Street uninviting to pedestrians.



Georgian buildings providing an active frontage onto the street, in contrast to later additions.

Public Realm



After having looked at the buildings and their uses we now deal with the public spaces of the campus as illustrated on the public realm plan (above right). This plan shows all the areas to which the public has access: the streets, squares and public spaces in and around the University. In traditional urban areas, such as the Canning Street conservation area on the right hand side of the plan, the public realm covers a relatively small part of the plan. It creates a network of connected streets so that the area is easy to walk around, but there is a clear distinction between the areas that the public can access and private areas. This is important for security as well as making an area feel lively.

The public realm of modern urban areas is normally one of two extremes. Either the public realm is very limited and the streets don't link together, as in the suburban housing areas around the Women's Hospital in the top right of the plan. This makes it difficult to move through the area so that it feels deserted and unsafe. At the other extreme the public realm of modern urban areas extends to every patch of land that is not built upon. Much of the University

falls into this latter category which undermines the traditional relationship between the public fronts and private backs of buildings. This is fundamental to the security and safety of urban areas yet on much of the campus the public can access the fronts and backs of buildings creating security and safety problems. One of the reasons for this has been a campus mentality whereby all of the campus is seen as private space. This can be seen in the vehicle barriers that have recently been erected around the campus. However, the reality is that a campus is too large an area of city to keep private and it is not possible nor desirable to have for example identity card access points at all entry points. As a result the campus becomes public realm and yet it is not designed with this in mind. There is a need to reconfigure the campus to create a much clearer definition between public and private areas.

Definition of space

Public spaces are defined by the building lines. Successful streets and places are characterised by a clear distinction between private and public areas. The character of a space also depends on

the height of the buildings compared to the width of the space.

Whilst the few Georgian remnants of the campus provide a clear distinction between public and private spaces much of the campus is poorly defined. The entire east and south side of the campus offer almost no animation or enclosure to the public realm. Crown Street is surrounded by University properties that bear no relation at all to this important street. The Life Science Building, the Chadwick Tower and laboratory, the Donnan Laboratories and the School of Management are surrounded by open space, surface car parks, roads and footpaths. These areas are ill-defined spaces, neither private nor fully public.

Ease of movement

The second aspect of good public space is movement, which in urban design terms means the 'permeability' of streets. The extensive areas of public realm provide good levels of permeability. However, a number of key pedestrian desire lines have been severed such as Bedford Street and Cambridge Street, both of

which have been built over. The campus therefore has an excess of ill defined public spaces but has cut a number of public streets.

Vehicle permeability is severely limited through the campus so that most of the public areas are not trafficked. This is beneficial with regard to safety and disturbance. However, it does mean that the streets do not have passing traffic which is an important element of street safety. Traffic is confined to a series of east west routes through the area including West Derby Street, Brownlow Hill, Oxford Street and Myrtle Street. Because traffic is channelled onto these four streets they create conflict with the north-south pedestrian routes. This is being addressed in University Square with a shared surface and there would be value in this approach being used elsewhere.

Public realm quality

The plan on the facing page shows the quality of public spaces within the campus. The really good quality spaces are very limited. They include Abercromby Square and the quad within the Victoria Building. Much of the University is

however characterised by relatively formless open areas (shown in orange). These look pleasant enough with trees and grass but have little discernable function. Other areas shown with dotted lines on the plan are ill-defined spaces that detract from the quality of the environment on campus. However, more important still is surface parking which is the most common form of open space within the University. The former infirmary buildings in particular are completely surrounded by parking which completely undermines the quality of the space.

In terms of public realm materials, the areas around Abercromby Square retain elements of the original York stone paving and setts laid when the area was originally developed. However, much of the campus is characterised by poor quality, and inconsistent surfaces and street furniture. The poorest quality areas include Peach Street, Chatham Street, Myrtle Street, Crown Street and Grove Street. The University has started to address these failings with a series of public realm works along the main spine through the campus.

Public Realm Quality

- Quality open space
- Neutral open space
- Poorly defined open space
- Surface car parking





1927; highly permeable shared pedestrian/vehicle structure



2007; disconnected pedestrian/vehicle structure



2007 street structure overlaid on historic grid, showing the loss of 'desire line' routes



3:8 - Highways and Parking

The University has been transformed from a connected part of the city to a gated enclave dominated by surface parking.

The plan opposite show the dramatic change that has taken place in the street network of the area. This contrasts the dense network of streets that existed in the 1920s with the much more limited network of streets today. Some of these routes have been pedestrianised while others have been closed, particularly those that lie beneath the hospital.

This represents a huge reduction in the permeability of the area to traffic. However, pedestrian permeability has decreased far less because many of the routes through the campus remain open to pedestrians. We start therefore by looking at the quality of the pedestrian environment.

Vehicle access

Car access through the University is limited to four east/west routes; West Derby Street/ Pembroke Place, Brownlow Hill, Oxford Street and Myrtle Street. These are major traffic routes that cause significant severance within campus. There are no north/south traffic routes through the campus. The only routes run along the boundary of the University including Mount Pleasant and Grove Street. Advice from WSP as part of this study suggests that Oxford Street and to a lesser extent Brownlow Hill are operating within their capacity at present (in other words the roads are designed for more traffic that they are currently taking).

A major new road is planned along the eastern edge of the University. Hall Lane will provide a new link between Edge Lane and Islington to improve the gateway route into the city centre from the M62. This will include a large new traffic signal controlled junction with West Derby Street. This will change traffic circulation through the University diverting traffic off the east west routes through the University. However, Hall Lane will also have a major severance effect cutting off the neighbourhoods to the east from the University.

Many of the routes within the University are open to cars in order to access the surface parking and to service buildings. This, however, is now controlled by barriers and there is no through traffic allowed on these streets.

Parking

Parking is an important issue within the University and currently is one of the most important land uses as illustrated by the plan to the right. The presence of parked cars dominates the appearance of the University and yet the availability of parking and the parking charges remains a contentious issue with staff.

A study was undertaken in 2006 that looked at the business case for parking charges. This showed that in September 2006 there were 1,646 parking places on campus, a reduction of just over 200 place from the previous year

as a result of development work and concluded that, at peak times, there was a shortfall of 925 spaces. The study found that the permit system was being widely abused and recommended that staff be charged for parking (which was contentious) and that access by cars should be controlled by barriers (that have since been installed).

Following this a study was commissioned in 2007 to look at the feasibility of a multi-storey car park. The report by Mott MacDonald and CDA Architects recommended a car park of 350-400 spaces on either Mount Pleasant between the Sports Centre and the Student Services Centre or on the surface car park on Peach Street. We have opted to pursue the former site because of the potential for joint use with the Cathedral and the cultural uses on Hope Street such as the philharmonic.

As part of the masterplan we have extended this idea by providing for two further car parks on Grove Street and on Great Newton Street to allow the release of surface parking across the University. The economic of these car parks is based partly on the value of the land released from surface parking. However, it will also require a charge to be made for staff parking comparable with other city centre workers and sufficient to create an incentive to use other modes of transport.

Parking



3:9 - Alternative Forms of Access

The pedestrian and cycle environment on campus is reasonably good but the links to the surrounding areas are very poor. However, the campus is well served by public transport.

streets that are unblocked have recently had car barriers installed, which sends the wrong message about connectivity.

Convenient: Successful pedestrian routes create convenient routes for people. This is the case for most of the University, the main problems being the convenience of connections with the neighbourhoods to the east, particularly after the completion of Hall Lane.

Comfortable: Many of the routes within the University do not provide comfortable walking environments due to poor lighting, uneven surfaces, unsafe crossings and lack of continuity. This is being improved by the current public realm works and there is a need to extend these across the campus.

Convivial: Successful walking routes are active and overlooked, safe and pleasant to use. Within the campus, there are great contrasts in these respects with many routes passing the back of buildings and unlit open spaces.

Conspicuous: The final aspect relates to how easy it is to find your way around. Given that it is built on a grid the University is surprisingly difficult to navigate and, although a strategy is in hand to address 'way-finding' the quality of signage is relatively poor.

Just as important as the pedestrian environment within the University are the links to the surrounding area. These are particularly poor both to the residential neighbourhoods to the east and up the hill from the city centre. The University has recently opened up Dover Street to create a more direct route to the station. This, however, needs more extensive public realm improvements, which are covered by the current Knowledge Quarter Strategy as well as this framework.

Cycling

Cycling is usually an important mode of transport for students. The University is accessible by three strategic cycle routes currently being promoted by the council;

- ☐ The Woolton Cycle Route to the east and southeast
- ☐ The University Cycle route to the University halls to the southeast.
- ☐ The National Cycle Network route 56 which comes into the city centre on Duke Street.

However, the provision for cyclists within and to the campus is generally poor. Cycle routes are not signed on the campus and bike parking facilities are scarce and poorly-related to where people want to go. There are also limited shower and change facilities for cyclists within buildings.

Disappointingly, the new barrier system does not make any provision for cyclists, forcing them to mount the kerb or dismount altogether. This basic oversight should be addressed as a priority.

Public Transport

Public transport usage on the campus is generally above average. The main routes are along Mount Pleasant/Hope Street, Oxford Street, Grove Street and Myrtle Street. These are served by a large number of bus routes which link students and commuters to the Queen Square bus station, Paradise Street Interchange and the main train stations in the city centre.

All bus routes with a frequency of greater than one per hour are shown on the plan to the right. Further services operate close to the campus on Pembroke Place, Anson Street, London Road and Daulby Street. Most of these services go to destinations to the south or south west of the University.

Public transport connections to the north of the city are much poorer and involve changing in the city centre.

The University does not feature significantly in the timetables or branding of these bus services and there is scope to significantly improve the public transport connectivity of the campus.



Movement Generators & Patterns

- Primary nodes
- Secondary nodes
- Student concentration
- High movement pattern
- Medium movement pattern
- Low movement pattern
- Barrier to movement
- Study area

The travel to work data shows that the University has a higher than average level of commuting by bus but a lower level of walking and cycling.

Walking

Much of the campus is designed to exclude traffic in order to create a pleasant pedestrian environment. Yet as we described in the transport context section, the proportion of people walking and cycling to work in the campus is low. This is partly due to the quality of the pedestrian environment that can be assessed on the basis of the '5 C's' developed by the London Planning Advisory Committee:

Connected: The University retains the original Georgian Street pattern in large part and so is potentially well connected to the surrounding area for pedestrians. However, a number of these routes such as Bedford Street and Cambridge Street have been blocked by buildings or in the case of Dover Street by a wall that has been opened up as part of this study. Even those



Bus Routes

Public Transport & Catchments

- Bus stop
- 5 min walking radius (150m)
- Bus route 699
- Bus route 4, 4A, 48
- Bus route 86, 86A, 86B, 86D, 86N, 186
- Bus route 74, 74E, 75, 75E
- Bus route 6, 68, 7
- Bus route 14, 14B, 14C, 14D
- Bus route 61, 161
- Bus route 78, 178
- Bus route 201, 801
- Bus route 107, 207

