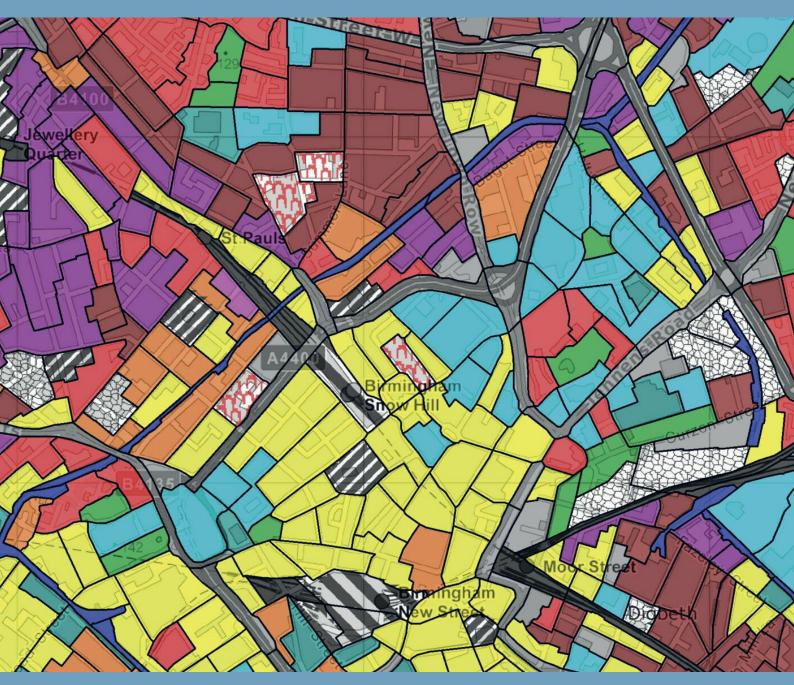
MAPPING BIRMINGHAM'S HISTORIC LANDSCAPE



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Contents

		Page
	Introduction	3
Chapter 1	Project Overview	5
Chapter 2	Method Used	7
Chapter 3	Uses and Dissemination – the HLC Webpages	9
Case Study1	Supplying Customised Birmingham HLC Data to a National Research Project	11
Chapter 4	Revealing Historic Landscape Evolutions	13
Case Study 2	Using GIS and HLC to Retrieve Lost Landscape Features	15
Case Study 3	Using Land Use Sub-Type Data to Visualise Historic Landscape Evolutions – Early 19th Century Allotments and Suburban Villas around Central Birmingham	17
Case Study 4	Using Land Use Sub-Type Data to Visualise Historic Landscape Evolutions – Early 19th Century Allotments and Suburban Villas around Central Birmingham	19
Case Study 5	Using Land Use Sub-Type Data to Visualise Historic Landscape Evolutions – Courtyard and Tunnel-Back Terraced Housing in East-Central Birmingham	21
Case Study 6	Using Land Use Sub-Type Data to Visualise Historic Landscape Evolutions – The Expansion and Decline of Vehicle Manufacturing in Eastern Birmingham	23
Chapter 5	Polygons and Records	25
Case Study 7	Using Small Size and/or Mixed Type HLC Polygons to Capture Dispersed Settlement Pattern	26
Case Study 8	Using 'Multi-Polygon' HLC Records in Large Areas with (near-) Identical Land Use Histories	27
Chapter 6 Case Study 9	Character Areas Using Character Area Data to Illustrate Broad Historical Landscape Character – Central Birmingham	28 29
Case Study 10	Using Character Area Data to Illustrate Broader Historical Landscape Character – Sutton Coldfield	30
Chapter 7 Case Study 11	Land Use Types, Sub-Types and Attributes HLC Terminology Choices – Back-to-Back, Tunnel-Back and Straight-Back Terraces	31 33
Case Study 12	Using Land Use Broad Type Data to visualise Historic Landscape Evolutions – Central Birmingham	36
Chapter 8 Case Study 13	Dating Land Use Changes – the 'Period of Origin' Using Maps, Aerial Photos and Documentary Sources to Establish and Date Land Use	41 42
Chapter 9 Case Study 14	Sources and Resources Extracting HLC Data from Various Historic Map Types	44 46
	Acknowledgements	52

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Front cover: HLC land use map of Birmingham city centre in 2014

Back cover: aerial photo of Birmingham city centre in 2012 (including HLC record boundaries)

Foreword

The buildings, streets and places of any city are a large part of its character. More than this, though, they also tell the city's story, and shape its identity. The early origins of a city, its commercial and industrial history, the way it has cared for its citizens, even the impacts of war – all of these things, and more, are reflected in what we see around us. Even when particular buildings or uses from the past have disappeared, their influence may still be seen in what has happened to the sites subsequently. The urban landscape is a rich record of a city's history.

People who have never been to Birmingham probably don't think of it as a historic city, and it is certainly not a York or a Chester. That, though, is to miss the point. Birmingham has its own distinctive history. It was a middle-ranking market town in the Middle Ages but, even by the 1500s, it had become an important centre for manufacturing and selling iron goods. This laid the foundation for Birmingham's phenomenal rise to prominence in the Industrial Revolution of the late 18th century and early 19th century. The city was a powerhouse of industrial and commercial innovation at this time. Its population grew massively, and factories, workshops, canals (and later, railways) and housing proliferated. This prosperity continued into the 20th century, but the Second World War brought much destruction. Industrial decline in the 1980s badly affected the city and its people too. In recent decades, though, the city has enjoyed a renaissance, with much regeneration of former industrial areas, and the construction of some stylish new buildings.

All of this can be traced through what can be seen today: the historic landscape of the city. Most importantly, historical interest is not confined to particularly old or grand buildings, or to limited parts of the city. Everywhere – every suburb, every street – has its own, distinctive history. This history has shaped what each part of Birmingham is today, and it shapes the lives of all its residents.

Birmingham's story is one of change. That will – and must – continue in the future. Today, though, planners, developers and local communities are very aware that making successful new places is often best done by drawing on the old and working it into the new – not by trying to obliterate everything and start again. This is why Historic England has worked with Birmingham City Council to produce a 'Historic Landscape Characterisation' (HLC) study for the city. This is a detailed map of the historic character of the entire city.

Using it, one can trace how the use of individual pieces of land has changed through time: from fields, to a factory, to derelict land, to new modern housing, for instance.

This publication describes the Birmingham HLC project in more detail. It uses examples to illustrate the kinds of things which the HLC can tell us about how the city has developed, and how its history is reflected in what we see around us today. We hope that the HLC will help planners, architects, urban designers and others who are involved in shaping the future of Birmingham. By providing information about how the past has given us the places of today, it can provide ideas and inspiration about how places might evolve in the future.

We also hope that the Birmingham HLC will be of interest to anyone who is interested in Birmingham's history. Many people are keenly interested in their local surroundings. Why does that road bend like that? Why is that building the shape it is? What used to be here before our road was built? The HLC may be able to answer some of these questions. It doesn't hold every last detail of the history of Birmingham, but it does hold a huge amount of information and – most importantly – it covers the whole city, not just selected areas which are thought to be of special historic interest. Any Birmingham resident who is interested in the history of their neighbourhood should be able to find something of interest in the HLC, and we hope that many will want to explore it.

This project has been a collaboration between Historic England and Birmingham City Council. Historic England has been delighted to provide financial support for the project, but it would not have been possible to do it without the support and commitment of the City Council, or without a huge amount of hard work by a number of City officers. Historic England would like to extend special thanks to Adrian Axinte, Mike Hodder, Nick Tringham and Martin Eade.

We very much hope that you will enjoy reading this publication, and that it will make you want to explore the HLC in depth via the website. To have mapped the history of one of England's leading cities in this way is a tremendous achievement and it will help the people of Birmingham explore, understand, enjoy and care for the city's rich heritage in the future.

Roger M Thomas

Historic England

Introduction

At some times in the past, the approach to new development tended to involve trying to sweep away all traces of the past. Planners and architects tried to start entirely afresh, with little or no regard for what had gone before. Now, attitudes are very different. The value of protecting the best of our heritage is widely recognised, and there is also a strong emphasis on retaining local character and distinctiveness. The National Planning Policy Framework, published in 2012, makes this point very clearly.

It is now seen as important to understand the existing character of places, and how they have developed through time, as a starting point for planning future change. To assist this process, Historic England (previously English Heritage) has been supporting local authorities all over England to carry out 'Historic Landscape Characterisation' (HLC) projects for their areas. These projects map and describe the existing historic character of the whole local authority area as it is today, and also look back to see how the landscape has changed through time.

This programme of HLC projects began in the mid-1990s. Initially, it was mainly concerned with rural areas but, from about 2000 onwards, the same approach was applied to England's major cities and conurbations: Merseyside, Greater Manchester and South Yorkshire, for example. In 2009 such a project was carried out for the Black Country. Finally, in 2011 an HLC project for Birmingham was started, with generous financial support from English Heritage and the full backing of the City Council, which also provided much managerial and technical assistance.

The project is a map-based one, and uses 'Geographical Information System' (GIS) technology. GIS is essentially a computerised mapping system, in which information held in a database can be linked to things shown on the digital map. As well as modern digital mapping, things like historic maps and aerial photographs

can also be held in the system, and viewed together or on top of each other.

Blocks of land which have a particular presentday character - such as a single housing estate, a park or a school – are mapped in the GIS as areas. The technical GIS term for such areas is 'polygon', which simply means an area which is enclosed by a line. Each polygon is classified according to a standard list of terms ('residential', 'commercial', etc). This allows the database to be searched for all the examples of a particular type (19th century terraced houses, for example). Information about each area (polygon) is added to the database and linked to that polygon. This information particularly concerns the previous character and land-use of each polygon. For example, it may record that an area was fields until the middle of the 19th century, then had a factory built up and remained in industrial use until 1978, after which the factory was demolished and the present housing estate built on the land. In this way, the historic landscape characterisation allows the history of each parcel of land to be traced in detail, and for us to see how that history is reflected in the character of that area today.

The Birmingham HLC has mapped the entire area of the city: every part of it is covered, involving nearly 7,000 individual polygons. This is a very detailed record. To make it easier to understand the overall character of the city, the next step in the project was to group polygons into a smaller number of 'character areas'. Character areas contain a mixture of types (for example, some housing estates, a school, a park, and some commercial land) but have a distinct overall character of their own, different from those of adjoining areas. There are 111 character areas, between them covering the whole of Birmingham.

The Birmingham HLC is a very powerful information tool. It can be searched in a wide

variety of ways. For example, one can trace the way in which fields were progressively built on as the city expanded, find the areas in which older buildings survive particularly well, or look at how many industrial sites have been given over to other uses since the 1980s.

How can all this information be used for the benefit of Birmingham and its citizens, though? There are many ways to do this – the historic landscape characterisation has many different applications.

If new development is being planned, the historic landscape characterisation provides a starting point for looking at the existing character of an area, how it has evolved, and how much of its historical interest is still evident today. This may provide ideas and inspiration for how the area should be changed in future, so as to keep some links to its past while also meeting the demands of modern life.

The historic landscape characterisation is also a very valuable source of information for anyone who is interested in finding out more about the history of their neighbourhood (or any other part of the city). Some people may wish to carry out more in-depth research of their own: the historic landscape characterisation, which draws on a wide range of sources, is a very good starting point for this.

Local history studies are a significant part of the school curriculum. Again, the historic landscape characterisation can be a good resource for teachers. It is map-based, so it is visually appealing and accessible, and it also covers the whole city, so teachers at every school in the city can find out more about the local surroundings.

These are just some of the potential uses of historic landscape characterisation. The information is freely available to all, and people can come up with their own ideas of how they would like to use it. This publication explains the Birmingham HLC in more detail, and it intended as a starting point for anyone who wishes to explore the historic landscape characterisation in more detail.

Project Overview

The main project phase of the historic landscape characterisation of Birmingham was carried out between November 2011 and December 2014, when the HLC database of records and character areas was completed and the final project report written. The HLC and GIS data are linked together and map, describe and date the past and present uses of every piece of land in Birmingham, as far back in time as the available, predominantly cartographic, sources allowed (back to at least 1540). In fact, a useful 'by-product' of this project was the creation of a database containing almost all the relevant historic maps and aerial photos of the Birmingham area; many of them are now viewable on the public HLC mapping webpages.

The Birmingham HLC was a collaborative project between Historic England (previously English Heritage) who provided financial support as part of its countrywide characterisation programme started in the early 1990s, and Birmingham City Council (BCC) who provided extensive technical, management and administrative support, and in particular its Planning and Regeneration Department where the project was based. This characterisation project was the last amongst its regional neighbours to be completed and as such it was able to benefit from their experience, advice and support.

The Birmingham HLC covers a total area of 26,798 ha (66,219 acres) and its database contains 6,974 HLC records, and also 111 character areas of significantly larger size and broader land use character. It uses 38 broad land use types and 432 'individual' types (subtypes) to describe its HLC records, and another 18 types and 124 sub-types for the character areas.

The completion of the HLC database was followed during 2015 by a number of additional activities:

- Customised HLC data was supplied to a Historic England national research project.
- HLC webpages were created both on the Council's main site and on its local mapping site.
- This brochure was written and published.
- An awareness raising launch event was held.

This publication aims to encourage the reader to look at and, hopefully, make good use of the recently developed **Birmingham HLC** webpages which bring all the rich data about the landscape history of our city collected during this project to within everyone's reach in a format that is both flexible and user friendly. They include:

A 'main' HLC webpage: www.birmingham.gov.uk/hlc

This contains a short introduction, links to the HLC mapping webpages and several downloadable attachments, including the complete Birmingham HLC record and character area datasets, the final project report and two presentations.

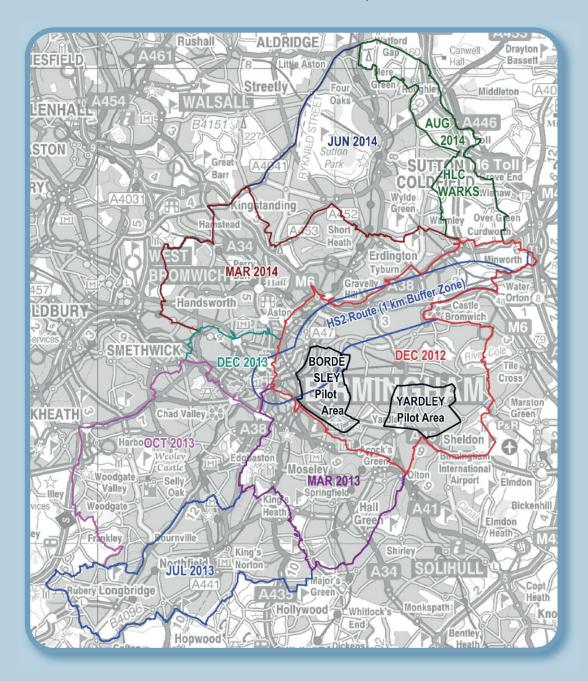
 Three HLC mapping webpages: maps.birmingham.gov.uk/webapps/ hlc_maps/, maps.birmingham.gov.uk/webapps/ hlc_records/ and maps.birmingham.gov.uk/webapps/ hlc_areas/

The first contains a large number of modern and historic maps, aerial photos and map layers of the area, while the second and third aim to 'tell the story' of Birmingham's landscape through a series of 'thematic timeslice' maps, created from broad land use type data for the HLC records and character areas.

The Polygonisation Progress of the Birmingham HLC

The actual 'polygonisation' work started in January 2012 with the Yardley and Bordesley pilot areas; by December 2012 it had extended northwards to include the future HS2 (High Speed 2) railway route corridor. The work then continued clockwise until the entire Birmingham area was characterised by

June 2014, including the north-eastern farmlands originally characterised by the Warwickshire HLC (the imported database was 'adapted' by August). The HLC records were then combined into much larger character areas by November and the final report written in December 2014.



Method Used

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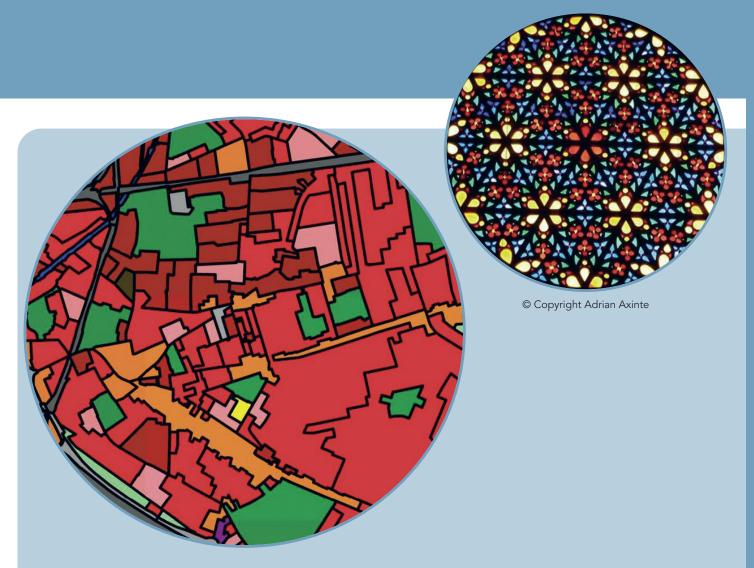
As the actual methodology employed by the Birmingham HLC is described in the chapters below – and in greater detail in the final project report (downloadable from the main HLC webpage) – only a brief overview of historic landscape characterisation as a method is included here.

The 'landscape' being characterised has been defined as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (in European Landscape Convention's European Pathways to the Cultural Landscape, 2000) and thus it includes everything that we can see around us, from the most uplifting natural scenery to urban or industrial environments, going well beyond what normally captures the eye of the artist or the interest of the historian. It is this present-day landscape that is being 'characterised' by capturing, describing and dating any historic 'layers' often still visible within it.

"The principles behind historic characterisation are simple. They concern mapping the historic dimension of today's rural and urban landscapes, and are about being comprehensive, not selective (leaving no 'grey areas'), and viewing areas rather than individual sites. HLC is concerned with the commonplace and the locally distinctive and, through identifying and analysing time-depth, it expresses the dynamic nature of towns and countryside." (Jo Clark, John Darlington & Graham Fairclough, Using Historic Landscape Characterisation, English Heritage, 2004, p. 6). Dr Mike Hodder, who managed the Birmingham HLC project, has described historic landscape characterisation as "a deskbased analysis of the historic development of the landscape, principally from cartographic sources. It results in the definition of polygons in GIS format identifying land use types at different dates. [...] Unlike conservation area appraisals, HLC covers the whole of a given local authority area, not just designated sites or areas. It is comprehensive and non-judgemental, but one outcome might be the identification of areas meriting conservation area status or buildings or structures meriting local or statutory listing." (In Adrian Axinte, Birmingham HLC Final Project Report, 2014, p. 5).

While all historic landscape characterisation projects have aimed to describe the historic landscapes being investigated, in a manner as 'scientifically' accurate as possible, any assessment of the methodology of historic landscape characterisation is best ended with a caveat: "It is important, however, to regard HLC as an interpretation of landscape, not as hard data." (Graham Fairclough, 'Boundless Horizons – Historic Landscape Characterisation', in Heritage Outlook: Landscape Highlights, 2004-2009, Dublin: The Heritage Council, 2009, p. 65).

For anyone interested in finding out more about the methodology and applications of historic landscape characterisation (including downloadable publications and also information about individual HLC projects), their first 'port of call' should be searching for '(historic landscape) characterisation' on Historic England's website www.historicengland.org.uk



HLC as the 'Broader Picture'

The data recorded by a historic landscape characterisation project is best 'appreciated' from a certain 'distance', especially when the output of an HLC database query is used in visual form to represent land use evolutions in a 'thematic' map, or to compare the relative proportions of land use types in a graph. Only then do any spatial patterns and historic evolutions within the area characterised become obvious, and comparisons between various periods and areas possible. While one can 'zoom in' on one or several neighbouring records covering for example a site, group of streets or neighbourhood, and examine its data, historic landscape characterisation is not meant to replace an extensive urban survey or any other similar detailed investigation of a smaller area, but rather complement it or often act as a catalyst for, or introduction to, a more detailed investigation.

Just like the decorative pattern of the stained glass 'rosette' window, the 'functional' land use

pattern of this broad HLC type-derived 'thematic' map of the Adderley Park -Bordesley/Bordesley Green - Small Heath area in east-central Birmingham, only starts to 'make sense' when viewed from a certain 'distance'. Predominantly industrial areas (brown) congregate along railways (mid-grey) and canals (blue), and also around the large site (top left corner) where railways and canals meet, site originally containing several brick works in the 19th century, then rubbish/rubble tips by the mid-20th century, and finally reclaimed as motorsport facilities since the 1980s (site marked in outdoor recreational green). Mainly commercial areas (orange) follow main roads (especially Coventry Road towards the bottom), while residential ones (red), represented here largely by pre-1915 'tunnel-back' terraces, predominate to the east and south of the industrial areas and are accompanied by parks and sports grounds (green) of the same period, schools (pink) and other less common land use types.

Uses and Dissemination – the HLC Webpages

The now complete Birmingham HLC dataset can be queried, visualised and used for a variety of purposes. A number are summarised below:

Planning, regeneration and development -

The eastern Birmingham area – which was characterised first – deliberately included the projected route of the HS2 (High Speed Two) railway through the city and HLC data was part of the documentation submitted in 2012-13 regarding the potential impact of HS2 on the heritage and character of the area affected. It also included the area covered by the Bordesley Park Area Action Plan (AAP) and the Preferred Options Report for this Plan (July 2013) explicitly describes the historic landscape character of Bordesley Park.

Any future neighbourhood plans produced within the Birmingham area need to be encouraged, and supported, to include historic character data extracted from the HLC database, as has already been done in some neighbouring areas. This data can prove equally useful and relevant when drawing up plans for allocating land for larger new development projects on the outskirts of the city, or for the redevelopment and regeneration of urban areas already built up. Historic landscape characterisation information is now routinely included in the data supplied in response to any external or external request for HER data received by Birmingham City Council.

Historic (landscape) research – Describing and mapping the land uses of an area in its entirety, not just conventionally designated 'historic landscapes', is a useful investigation tool in its own right, e.g. by illustrating landscape evolution patterns or even enabling comparisons between areas. Relevant Birmingham HLC data has been extracted and customised in 2015 for a Historic England project researching the history of the development of residential suburbs since 1850. Other examples include the case studies and illustrations in this brochure (and in the final

project report), as well as the content of the 'HLC data visualisations' presentation.

Education - Historic landscape characterisation data is, by its nature, eminently suitable for visualisation projects and thus it has great potential to become an engaging and accessible way to promote wider interest in, and understanding of, the area's past, and can serve as a valuable resource supporting the statutory curricular requirement to teach local history in schools. The HLC webpages, this brochure and the September 2015 launch event have begun the process of promoting greater awareness of the availability of the Birmingham HLC dataset. They aim to identify 'what it can do for you' amongst teachers and educationalists, and also more generally amongst anyone in the city and beyond likely to be interested in using it.

The Birmingham HLC dataset is now publicly available online through several webpages:

1. A 'main' HLC webpage:

www.birmingham.gov.uk/hlc

This page on the BCC main site contains a short introduction, links to the mapping webpages and several downloadable attachments (in PDF format): the complete Birmingham HLC record and character area datasets, the final project report and two presentations, one giving an overview of the project, and the other containing visualisations of historic landscape characterisation data, chosen to illustrate various aspects of the evolution of Birmingham's landscape throughout time.

2. Historic maps and layers of the Birmingham area:

maps.birmingham.gov.uk/webapps/hlc_maps/

The first HLC webpage on the BCC local mapping site, this allows the user to select a modern or historic map and then overlay onto it a number of map layers: HLC record and character area 'polygons', HER (Historic Environment Record) data,

outlines of current roads and buildings and historic custom layers created during this project. Clicking into any HER or HLC record or character area opens out a form displaying detailed information about it.

3. The evolution of Birmingham's landscape using HLC record data: maps.birmingham.gov.uk/webapps/hlc records/

This second HLC mapping webpage uses the broad land use types of the HLC records to create a 'thematic timeslice' map of Birmingham's landscape throughout time. Each one of ten preselected historic dates is represented by a map layer group containing all the broad land use types present at that date as colour-coded individual layers. Every map layer and group can be turned on or off in the legend, enabling the site user to view only the information desired.

4. The evolution of Birmingham's landscape using character area data:

maps.birmingham.gov.uk/webapps/hlc_areas/

This third HLC mapping webpage works similarly to the second one, but uses character area data. Its creation was only possible because of the pioneering way in which the Birmingham HLC captured character area data, using a system of land use types similar to, and derived from, those used for the HLC records.

We warmly encourage all readers to have a good look at the Birmingham HLC mapping webpages and make full use of the information they contain, hoping that they will find them informative and easy to navigate.

Incorporating HLC Data into the Bordesley Park Area Action Plan

The Local Character chapter (p. 12) of the Preferred Options Report (July 2013) for the Bordesley Park AAP in east-central Birmingham, uses data extracted from the Birmingham HLC for its text, alongside a 'thematic' GIS map of the Bordesley pilot HLC area. The map depicts the current broad land use types of the HLC records in this area according to their period of origin (the darker the shade, the older the current land use type).



Historic Landscape Characterisation

Historic lambscape characterisation uses historic maps, beginning with the detailed 18th century maps of liminipham by John Tomlinson, to identify types of land use at different dates, it shows how Bordesley has developed over time and the date at which the present land use type began.

In 1750 Bordesley Park was a rural landscape, predominantly fields with scattered farms and just a few clusters of houses joined by roads and lanes. By 1950, although roads and lanes, By 1950, although roads and railways crossed the area, and residential development and the growth of commercial centres created the basis of the suburban chapacter of study.

auth centrally development enhances and winforced the general pattern and winforced the general pattern assesses that industrial and related uses now occupied most of the north-west of the area, including some foremer residential land. All the fields surviving in 1900 had been replaced by the expansion of commercial centres and the properties of the commercial centres and can be commercial development and canal, commercial development and canal, commercial development and canal commercial development and canal commercial development and canal commercial development along Covertin froat and some residential development along Covertin froat and some residential development along Alum flock Road.

Historic Legacy

rich history and a wide variety of distinctive townscapes, buildings and parks. Within the AAP area

here are a number of listed and locally listed buildings and richaeological remains which are obtained as a significant asset for the regs. There are also a number of stratche tree linear residential streets which although not formally protected form part of a quality coverage which should be valued or decognised within the AAP.

The canals, railways and River Rearunning through the area are also an integral part of the city's industrial heritage and a key part of the area's local character.



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Supplying Customised Birmingham HLC Data to a National Research Project

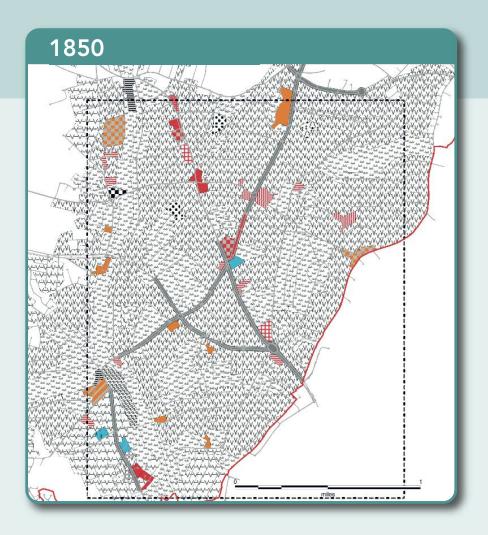
In 2015 specific Birmingham HLC and other related data has been extracted, customised and supplied to a Historic England national project charting the history of the development of residential suburbs since 1850. This work involved several phases. The first comprised finding, digitising and geo-rectifying several maps of the 1910-13 Quinton, Harborne and Edgbaston Town Planning Scheme (TPS) in western Birmingham. This scheme followed The Housing & Town Planning Act of 1909 but its implementation only started in earnest in the inter-war period. GIS layers of the modern streets and buildings, and HLC broad land use type data in 'thematic map' form, were then digitally super-imposed on the TPS and other later maps.

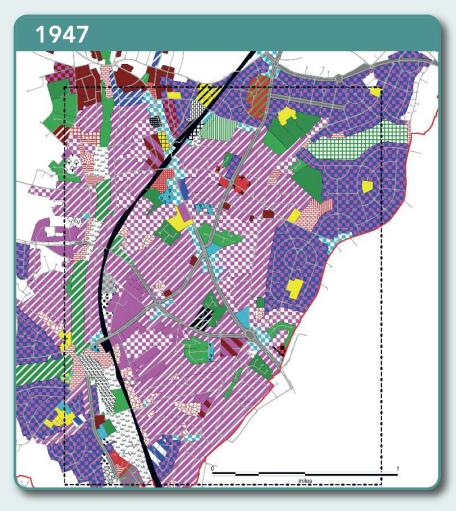
The second phase involved producing citywide GIS thematic maps derived from specific sets of HLC land use sub-types or broad types, selected to illustrate green spaces, peripheral, and residential (and related) land uses, across a range of dates from 1829 to the present. Finally, in the third phase (illustrated by the two images shown here) a similar set of GIS thematic maps were produced, showing all the HLC land use subtypes present in the Acocks Green - Hall Green area in eastern Birmingham, for an identical date range; this operation required HLC record data to be extracted for the requested area only (marked by a black dot-and-dash rectangle) from the Birmingham HLC database.

Due to differences in the GIS software used between Birmingham City Council and Historic England, most of the data supplied by the Birmingham HLC to the national suburbs history project was in the form of layered PDFs.

The two maps depict the landscape character of Hall Green in 1850 and then a century later in 1947, after the massive inter-war residential development that completely changed its character. The modern street network is shown in light grey, while the red boundary separates Birmingham from Solihull. Both maps use groups and combinations of colours to depict residential and related HLC sub-types: residential polygons include vernacular and other 'non-estate' housing (red), farms (orange), detached and semi-detached houses (pink), terraces and flats (blue) and 'tunnelback' terraces (brown), while 'related' land use types include commercial (aqua), social/institutional (yellow), allotments (light green) and outdoor entertainment (dark green). Other land uses (fields, industry, transport) have been deliberately left 'monochrome', in order to emphasize visually the evolution of the area from fields to housing.

The 1850 landscape is that of houses, cottages and farms scattered amongst enclosed regular and irregular-shaped fields, meadows and pastures, plus a few water mills along the river Cole to the west (the black-and-white striped and chequerboard polygons). A century later, all this rural landscape has gone, replaced by a 'townscape' dominated by detached and semi-detached houses, and short terraces, alongside schools, shops, allotments, sports grounds, parks, dual-carriageway roads (in mid-grey) and a railway (in black) and so on.





Revealing Historic Landscape Evolutions

Historic landscape characterisation is an indepth investigation method into past and present landscape changes and patterns, and the overall purpose is to record broader land use changes through mapping, recording and dating the dominant land use types of larger land units ('polygons'), thus uncovering patterns of historical character and evolution that can afterwards be visualised, quantified and compared with similar ones from elsewhere. This remains generally true even for a more detailed HLC database such as the Birmingham one which also includes a significant number of 'single building' records.

A historic landscape characterisation is unlikely to uncover landscape patterns and historic evolutions totally unknown previously, nor is this its primary aim. The output of an HLC project is most suitable for mapping, describing, quantifying and visualising land use patterns and evolutions already known, in an easily accessible way, ready for a wider dissemination beyond a circle of professionals and dedicated enthusiasts. This is certainly true in the case of the Birmingham HLC, where many post-medieval land use historical evolutions can be illustrated using HLC data. For some this has already been done and the resulting visual output has been included in presentations or made available through the dedicated webpage.

There is more than enough information contained in the Birmingham HLC database to write an entire book on the landscape history of our area. Examples of the landscape evolutions captured by this project and which can be interpreted and visualised using data extracted from it, include:

- The demise of medieval (and Tudor) deer parks and, at a later period, of the country house grounds and parkland which served a similar recreational function: in some cases these have survived as public parks (e.g. Aston Park). One unusual example is that of Park Hall's New Park, a former deer park located in Minworth and only shown on a map of 1583 - the earliest surviving detailed map of anywhere within the Birmingham area. Careful examination of this map, combined with analysis of field names and boundaries shown on later maps, has enabled the Birmingham HLC to define the boundaries of this deer park far more accurately than had previously been possible.
- The enclosure of open (strip) fields and commons, carried out gradually from the late medieval period onwards, a process whose final phase often involved a Parliamentary 'Inclosure Act' accompanied by a map. The Birmingham HLC has created several map layers showing some of these commons, based on enclosure maps or reconstruction attempts by local historians using documentary sources: the layers were used when recording HLC data and are now made available on the public HLC mapping webpages.
- The (semi-)dispersed character of the pre-modern settlement pattern in the Birmingham area. While this project never aimed to capture every cottage and smallholding shown on historic maps this would have been outside the scope of a historic landscape characterisation anyway it has nevertheless attempted to capture at least partially this settlement pattern, using to good effect the mixed residential-and-fields land use type created expressly for this purpose.

- The expansion of 'industrial' water mills predominantly metal working in this area between the 16th and the 18th centuries. While some of them later acquired steam engines and grew into larger industrial premises, surviving well into the 20th century, others disappeared by the mid-19th century, although their ponds did survive in some cases.
- The foundation and subsequent development of larger industrial sites from the early to mid-18th century onwards, as part of the industrial revolution (e.g. glass works, steel and brass 'houses', manufactories, steam flour mills), as well as their spatial and functional relationship with the growing network of canals and basins and, later on, also railways and their sidings.
- The development of working class terraced housing areas throughout the 19th century, at first predominantly in the form of courtyard terraces (the 'courts' of back-to-backs), and later almost exclusively as tunnel-back terraces, many of which survive to this day.
- The development, in the same era, of middle class housing estates of suburban villas and large detached houses and semis, followed in the post-war years by the piecemeal re-development of many of the large house sites into cul-de-sacs of much smaller housing units (for example, in the Edgbaston area).
- The growth of large utility sites (e.g. gasworks) and railway-related premises alongside the newly-built lines, most of which arrived in Birmingham around the mid-19th century, as well as the subsequent 'fate' of these sites as steam locomotives were replaced by diesel and electric ones in the 1960s and any remaining rolling stock works gradually declined and closed down.

- The rise, followed by the subsequent decline, of the entire vehicle manufacturing sector in Birmingham, affecting rail and road vehicles alike and sites producing parts and accessories for them. The project has created a visualisation of this evolution for the eastern areas of the city where most of this sector was actually concentrated (except for the large Longbridge site).
- The 'story' of the 'Jewellery Quarter' area, from its late 18th century origins as an attempt to create a middle class residential district, through its transformation by the mid-19th century into a predominantly industrial area dominated by the production of small metal objects (including jewellery and pens) and associated trades, carried out within small or medium size premises, followed in the 20th century by the postwar decline in manufacturing and its replacement by jewellery retailing, and concluded by the post-1980 regeneration of the area.
- The gradual historic character changes resulting in the emergence of an 'Entertainment District' centred around the Broad Street Mailbox Hurst Street area, and a 'Learning Quarter' forming in recent years around the pre-existing Aston University campus site. Another recent entertainment-related evolution is that of large (mainly inter-war) pub sites being replaced with housing or shopping precincts, or at least their pub greens being built over, a phenomenon also captured by the Birmingham HLC due to its level of detail.

(continued)

Using GIS and HLC to

- The large-scale development of municipal housing estates of mainly semis and short terraces during the inter-war years on 'green sites'. This continued after 1945 with a slightly changed emphasis, where 'slum clearance' of the 'Middle Ring' area was as significant as building on former fields, and flats, including high rises, became an important component of newly-built housing. Subsequent 'adjustments' in the housing profile, such as the demolition of many tower blocks or the increased provision of accommodation for the elderly, have also been accurately captured wherever feasible.
- The post-1970 changes in the economic profile of the city, particularly the gradual reduction of its manufacturing component and its replacement by a mixture of business/trading/industrial parks or estates, some built from scratch on the site of earlier (and larger) factories, some re-using existing industrial buildings partitioned into smaller units.
- Other relatively recent evolutions captured include the building of an increasing number of logistics warehouses taking advantage of the city's location and its good transport links as well as the opening of many self-storage premises which often reuse former industrial premises or transport depots.

This list is by no means comprehensive, but it should give the reader an idea of how this historic landscape characterisation has attempted to capture, reflect and reveal centuries of historic evolution of Birmingham's landscape – and also of the types of useful and interesting information that can be extracted and visualised using this data.

The 1583 map of Minworth and Curdworth is the earliest detailed map of anywhere within today's Birmingham area and was drawn on the occasion of the confiscation of the ancestral estates of the Arden family of Park Hall by the Crown following the execution of Edward Arden for treason in 1583 as a (presumed) participant in his son-in-law John Somerville's plot to murder Queen Elizabeth. The map shown here in the version reproduced in 1971 by Norman Granville Evans from the original – is not a measured survey and has not been drawn with sufficient accuracy to enable it to be georectified and overlaid on later maps of the same area. Its perspective is heavily distorted and compressed by the location (or locations) - most likely along the southern bank of the Tame – from which the map 'scenery' was viewed and drawn 'as seen' by the Elizabethan surveyor.

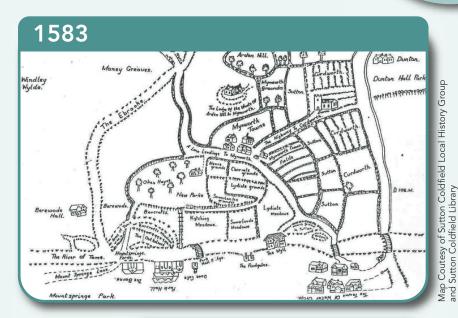
Nevertheless the Birmingham HLC project has managed to reconstruct the geography of some of the landscape features shown on this map – the New Park and the common (open) fields of Curdworth and Minworth - by comparing them with surviving features shown on later maps, and the resulting 'bespoke' GIS map layer created was then used when drawing HLC record boundaries in this area and capturing the accompanying information in the HLC database. New Park's southern half was redrawn using field boundaries and names shown on John Snape's 1765 map of the Barcroft Meadow (also illustrated here), while the outlines of the northern half of the park and of the two common fields have been worked out from later maps, surveyed before the establishment in the 1880s of sewage farms along the northern bank of the Tame led to the obliteration of many existing field boundaries.

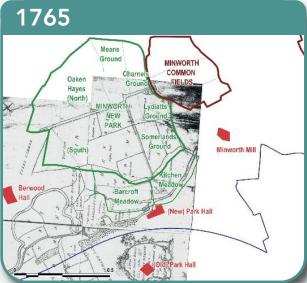
This GIS map layer includes the common (open) fields of Curdworth and Minworth (shown in brown), and the Minworth New Park (in green), a deer park only ever shown on the 1583 map, as it is presumed to have been

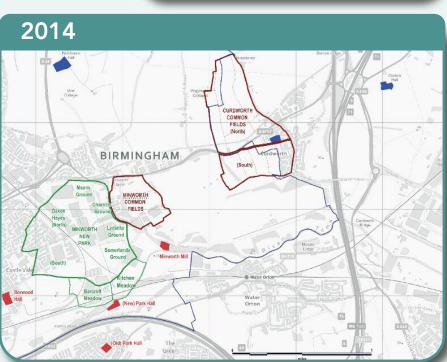
Retrieve Lost Landscape Features

disemparked soon after 1600. The park was created sometimes after 1530 to accompany the new Park Hall, rebuilt around the same time on a new location not far from its Medieval moated predecessor, which originated in the 13th century as the lodge of an earlier deer park located to the south of the Tame.

Several buildings shown on this Elizabethan period map have also been included on the new map layer, as markers to help users compare the two. Structures now disappeared have been marked in red: both of the Park Halls, old and new - the newer hall survived as a farm until c. 1970 - alongside the site of Berwood Hall lying beneath today's Castle Vale estate, and that of Minworth Mill on the Tame between Minworth and Water Orton (its mill house still stands). Towards the top of the picture, away from the urban sprawl and sewage works, structures still surviving have been marked in blue: Peddimore Hall (referred to in 1583 as 'the lodge in the waste of Arden Hill in Minworth'), Dunton Hall and the Curdworth parish church of St Nicholas and St Peter ad Vincula. Birmingham's administrative boundary is also marked in blue.







Using Land Use Sub-Type Data to Visualise Historic Landscape Evolutions – Open Commons and Strip Fields in South-Eastern Birmingham

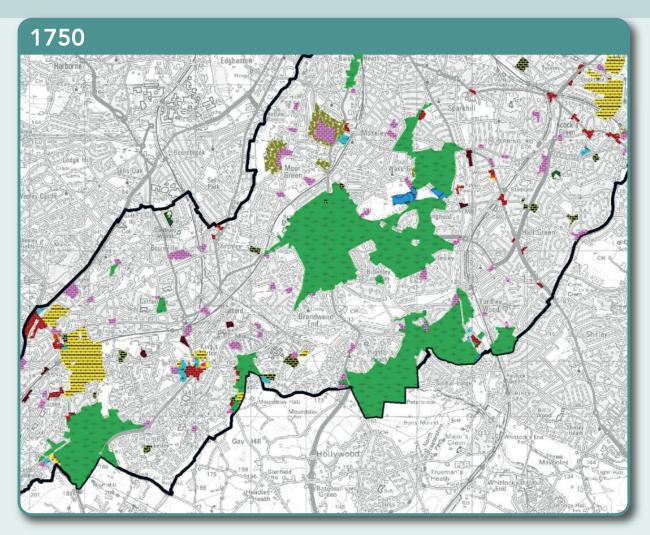
This pair of 'thematic' GIS maps uses HLC land use sub-type data to illustrate the Medieval unenclosed commons and strip fields surviving in 1750 and 1830 within an area of southeastern Birmingham (delineated by the thick black line) stretching across parts of three former parishes originally located in Worcestershire: Northfield, Kings Norton and Yardley (from west to east on the map). In addition to commons and strip fields, the maps also include a number of other representative elements of the rural landscape and economy such as settlements, woodland and water mills, alongside farms, halls and country houses sometimes located on Medieval moated sites and, in the case of the latter, surrounded by substantial grounds and parkland: from north to south the maps show the Moseley Hall (HBM2161) originally built c. 1630, Moor Green Hall (HBM2194) and also (on the 1830 map only) Kings Heath House (HBM2365) built after 1775 and whose grounds overlap the edge of the Kings Heath common enclosed in 1772.

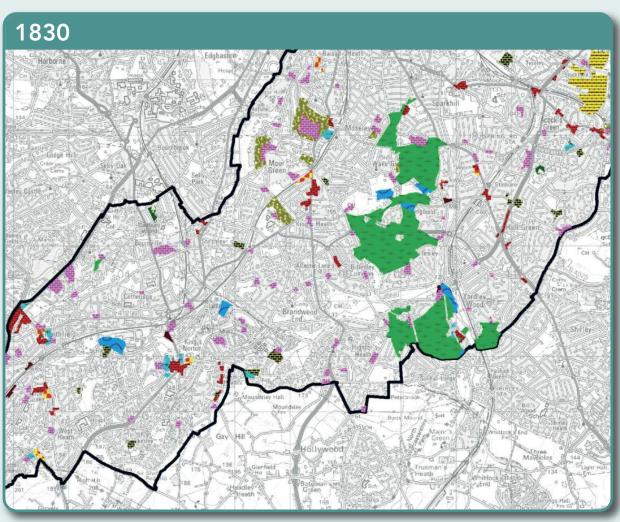
The enclosure 'histories' of these three former parishes are significantly different. Northfield never required a formal parliamentary 'inclosure act' for its commons and open fields. While its first surviving detailed map (the 1840 tithe map) depicts all the farmland in the parish as fully enclosed, 'residual' traces of Northfield's open fields are still very visible, including some strips which appear to be still open (as their boundaries are marked by dashed lines). As all this suggests a relatively recent date for final enclosure of Northfield's open fields, they have been depicted as still open on the 1750 'thematic' map, also in order to enhance the contrast with the situation shown for 1830. On the other hand, any former open commons within Northfield remain by and large 'invisible' on the 1840 tithe map. In contrast, Kings Norton's surviving commons were formally enclosed in 1772 by an Act of Parliament and while no map accompanying it was ever produced (or none survives), the boundaries of these commons have been recreated by local historians from documentary

evidence (and later maps) and then converted into a GIS map layer by the Birmingham HLC. On the other hand, the location and extent of any Medieval open fields once present within Kings Norton remains extremely elusive. Unlike Northfield and Kings Norton though, both the open commons and strip fields of Yardley were still surviving in 1830 but were enclosed by an Act of Parliament soon after in 1832-33.

Given that the location of Kings Norton's ancient open fields is almost as impossible to detect as that of Northfield's open commons, it may well be that a certain degree of complementarity existed at some point in the past between the Medieval farming economies of these two neighbouring parishes, both of which contain the element 'north' in their place names, as northern outliers of Bromsgrove originally: crop growing in 'North-field' and sheep farming in 'Nor-ton'. This impression is further reinforced by the more 'balanced' situation within Yardley to the east of both, where the location of both the open strip fields and ancient commons in the parish is well documented, helped by the late date of their enclosure - the last in the Birmingham area while the map accompanying the enclosure award was produced even later in 1847, unusually post-dating Yardley's tithe map of 1843.

+ +	Commons (Green, Moor, Heath, Meadow)
++++++	Open Strip Field (Ridge and Furrow)
	Paddock, Close
	Tower, Village, Hamlet
	Farm, Manor, Country House
	(Originally) Moated Farm, House
	Cottages, Houses amongst Fields
FT OF	Deer Park, Private Parkland
* * *	Woodland
N	Mill Pool, Canal Reservoir
	Water Mill





Using Land Use Sub-Type Data to Visualise Historic Landscape Evolutions – Early 19th Century Allotments and Suburban Villas around Central Birmingham

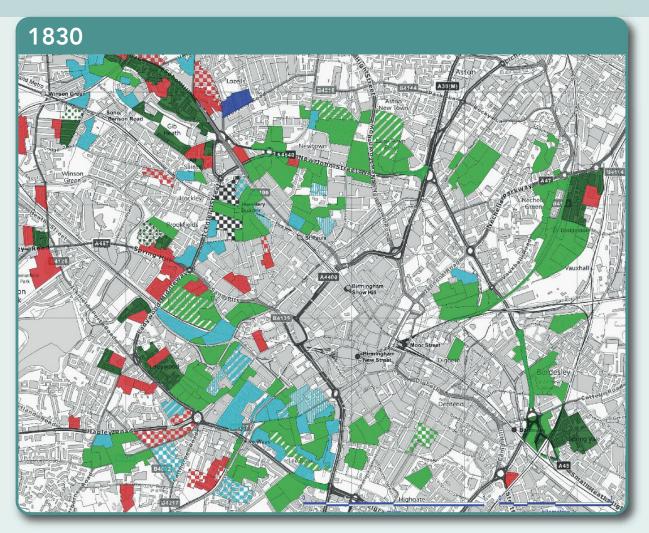
These two 'thematic' maps, created from a customised selection of HLC land use sub-type data, clearly illustrate how the outward expansion of the built-up areas containing both housing and industry during the Victorian era, swallowed up the 'halo' of productive/allotment gardens and villas/country houses that surrounded the town centre in the Regency period. The choice of colours used (and combinations of them) aims to enhance the visual 'legibility' of the map sequence.

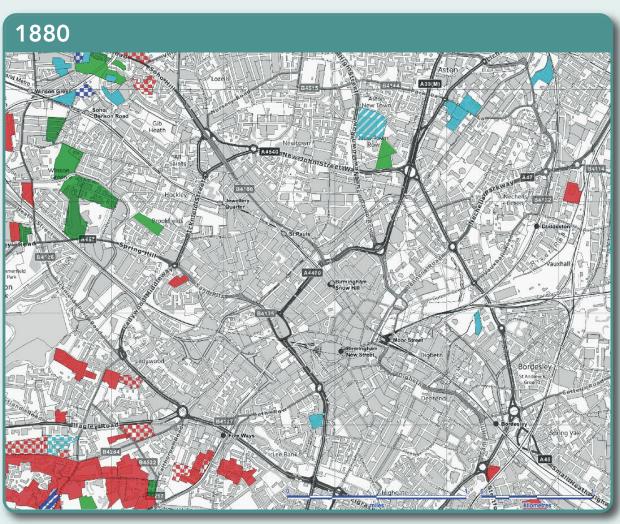
The ring of working gardens feeding the town in 1830 and depicted in great detail on Pigott Smith's plan of Birmingham surveyed in 1824-25 and published by Beilby in 1828, as well as the country houses (Soho House HBM5176, Ladywood House HBM4320, Duddeston House HBM254 and Hockley 'Abbey' HBM4497) with their extensive grounds, and the more 'modest' suburban villas – upmarket housing generally located on higher ground to the west of (and upwind from) the smells and fumes of

Birmingham's industries – all had disappeared by 1880 from the areas close to central Birmingham, within and around today's Middle Ring Road.

In their place, a new area of suburban villas and large detached houses developed throughout the 19th century in northern Edgbaston (bottom left corner of the picture), located to the south-west of Birmingham's main industrial areas. In Winson Green to the north (top left corner) the 1880 map shows the grounds of the All Saints Mental Asylum (HBM4411-13, later called the Birmingham Mental Hospital) which opened in 1850, expanded in 1866 and finally closed in 2001. The extensive grounds shown around the New Birmingham Workhouse nearby (opened in 1852) will soon house the Borough Smallpox Hospital (opened in 1883, HBM4424) and the Birmingham Union Infirmary (1889, HBM4423). The site of all three is today the City (Dudley Road) Hospital.







Using Land Use Sub-Type Data to Visualise Historic Landscape Evolutions – Courtyard and Tunnel-Back Terraced Housing in East-Central Birmingham

This 'thematic' GIS map sequence also uses land use sub-type data extracted from the Birmingham HLC database, to illustrate the evolution of terraced housing built before the First World War in an area (delineated by the thick black line) of Birmingham to the east of the city centre. The choice of colours used (and combinations of them) again aims to enhance the visual 'legibility' of the map sequence, and so does combining some of the original HLC sub-types into fewer 'broader' sub-types (procedure not used by other similar case studies illustrated here).

Around 1880 courtyard terraces (including 'back-to-backs') predominate in this area, especially along its western, earlier-developed edge, either on their own or mixed with tunnel-back terraces or with industrial premises. As the building of 'back-to-backs' had been banned by the Corporation of Birmingham in 1876, the massive eastwards expansion of terraced housing shown by 1920 is entirely made up of tunnel-back terraces, a housing type which had itself fallen out of favour by the end of the First World War.

The 'slum clearance' of the courtyard terraces starts after 1920 and increases after 1950, so that virtually none are left by the 1970s; any tunnel-back terraces mixed amongst them, also disappear as a result of this clearance phase. Additionally, post-Second World War redevelopment also eliminates the mixture of terraces and industry characteristic of so many Victorian and Edwardian working class neighbourhoods.

Courtyard terraces

Tunnel-back terraces

Courtyard & tunnel-back terraces

Tunnel-back semi-detached houses

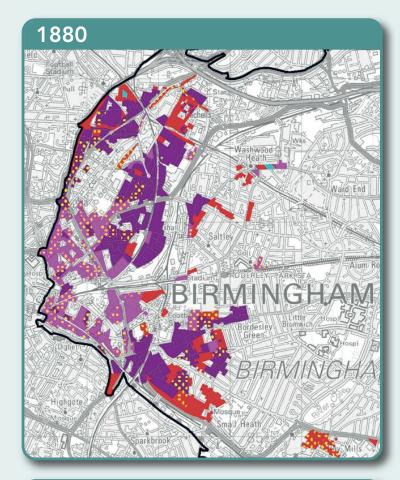
Tunnel-backs - semis & terraces

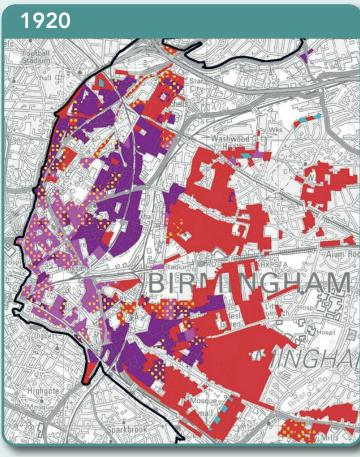
Tunnel-back terraces & later semis

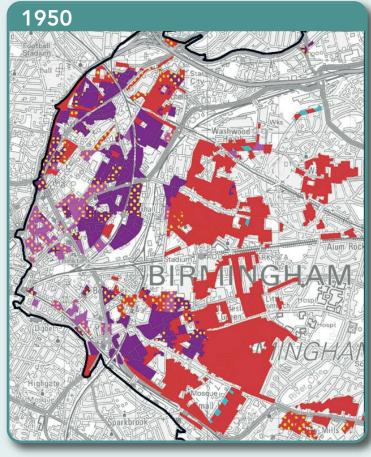
Courtyard terraces & industry

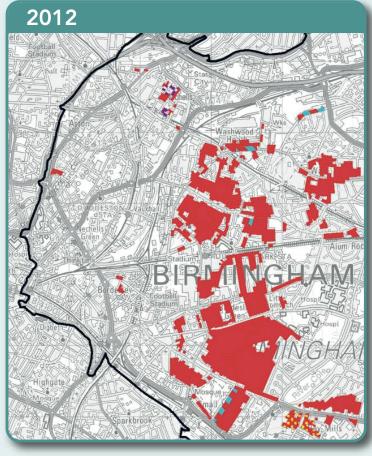
Tunnel-back terraces & industry

Courtyard/tunnel-back terraces & industry









Using Land Use Sub-Type Data to Visualise Historic Landscape Evolutions – The Expansion and Decline of Vehicle Manufacturing in Eastern Birmingham

This map sequence uses HLC land use sub-type data to illustrate the evolution of vehicle manufacturing in an area of Birmingham to the east of the city centre (delineated by the thick black line) where a lot of this sector was (and is still) based, with the notable exception of the current remnant (HBM2993 and HBM2996-97) of the once sprawling Austin/Rover Longbridge car plant site in south-west Birmingham. Unlike other similar case studies illustrated, the choice of colours used does not aim for any particular visual 'legibility' enhancement of the map sequence, not deemed necessary here given the 'sparseness' of the coloured polygons on the base map.

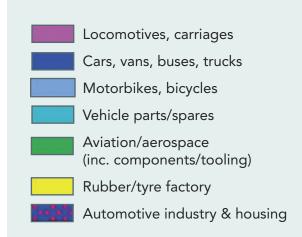
The vehicle manufacturing sector included the manufacture and repair of railway carriages and wagons, bicycles and motorbikes, cars and vans, as well as of various automotive components and spares (e.g. tyres, engines and lights), and even, during the Second World War, of aircraft and related parts. Most of these manufacturing facilities are located in close proximity to the railway network, for obvious logistical reasons.

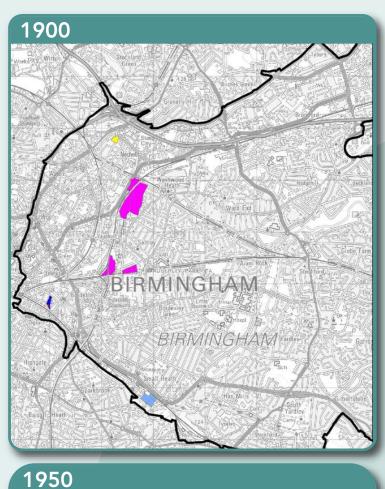
In 1900, vehicle manufacturing in this area consisted largely of three railway carriage and wagon works: Saltley (HBM355, HBM377, HBM412 and HBM419), Midland (HBM224, at Landor Street) and Britannia (HBM297-98, at Adderley Park).

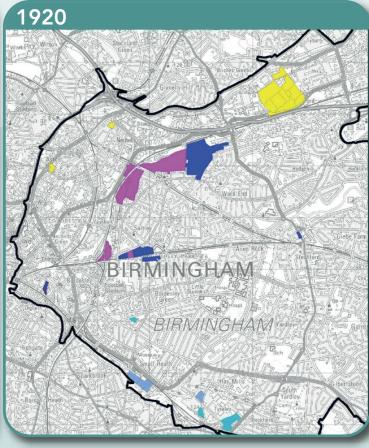
By 1915, the nascent road vehicle manufacturing industry was expanding fast, producing bicycles and motorbikes at BSA's Small Heath Works (HBM1415, HBM1417-22 and HBM4654), cycle components at Perry's Tyseley Works (HBM1496, motor accessories after the 1960s as Tenneco-Walker UK), cars and commercial vehicles at Wolseley's Adderley Park Works (HBM163, HBM286-87 and HBM296-98), which took over the Britannia premises mentioned above. In addition the Washwood Heath Works (HBM359, later Metro-Cammell and then Alstom until 2005 when it closed) replaced the Midland Works on Landor Street in the rail vehicle manufacturing sector.

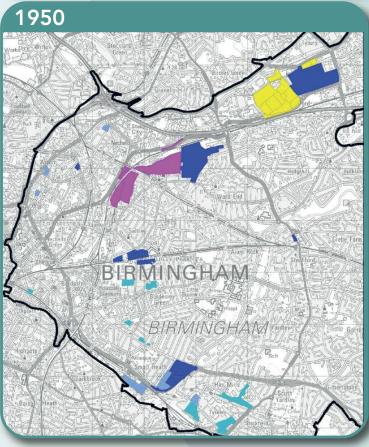
The automotive sector increased massively during the First World War and the inter-war years, with bicycles and motorbikes being manufactured at CWS (Co-operative)'s Federal Works (HBM1482) and BSA's Waverley Works (HBM105-08 and HBM113, an extension of the original BSA site), and cars and commercial vehicles at Wolseley's Ward End (Washwood Heath) Works (HBM361 and HBM5946, until 2009 when it closed as LDV) and Singer Motors' Small Heath Works (HBM105-08, who acquired in 1926 part of BSA Waverley Works). Tyres were made at the huge Fort Dunlop plant (HBM1166, HBM1170, HBM1174-83, HBM1206 and HBM5941-42), bicycle tubes at Reynolds' Hay Hall Works (HBM1481) and motor accessories at Wilmot Breeden's Tyseley plant (HBM1443-47).

This expansion reached its peak by the 1950s, with the arrival of the large Castle Bromwich car plant (HBM1184-85, since 1945, today Jaquar) and the nearby Hardy Spicer & Co.'s Chester Road automotive accessories works (HBM1368, HBM1389 and HBM1393-94, since 1957-59, today GKN Driveline). After 1960 the vehicle manufacturing sector entered into a historic decline which saw existing factories closing one after another, so that today (2014) the Jaguar and GKN Driveline plants are the only significant automotive facilities left in this area. In addition Dunlop Aircraft Tyres (HBM1180) is a small remnant of the once huge Fort Dunlop site (closed in the late 1980s), while Reynolds Tube moved to a smaller site (HBM1718) in 2007 and Tenneco-Walker is today only a parts wholesale warehouse (since 2004).











Polygons and Records

Birmingham HLC aimed to describe as accurately as possible the wide variety of past and present land use 'realities' encountered 'on the ground', that is depicted in (or inferred from) the mainly cartographic sources used during the characterisation process. Achieving this aim influenced our choices regarding, for example:

- the shape and size of the polygons, records and character areas;
- the number and nature of land use types and sub-types;
- the use of 'multi-polygon' records and character areas.

Using smaller records and/or mixed HLC types was necessary, for example, in order to characterise accurately the combination of Victorian terraces and small works common in many parts of Birmingham before the extensive post-war re-developments, or the mixture of cottages, houses and smallholdings surrounded by closes and gardens, typical of the (semi-) dispersed settlement pattern of much of the pre-modern Birmingham area's countryside.

The Birmingham HLC covers a total area of 26,798 ha (66,219 acres) which includes 1,550 ha (3,830 acres) of farmland lying in northern and eastern Sutton Coldfield and originally characterised as part of the Warwickshire HLC. It contains c. 8,975 polygons (areas of land defined on the GIS) belonging to 6,974 HLC records.

The average Birmingham HLC record size is 3.8 ha (9.5 acres), but 18% of them are smaller than 1 ha (2.47 acres), while at the opposite end of the spectrum, the largest record can be found as expected in Sutton Park (662 ha or 1,636 acres). Of the only 32 HLC records larger than 50 ha (123 acres), nearly half are made up of inter-war housing estates, a figure which

illustrates well the ambitions of the inter-war municipal planners and developers, and the scale of the resources at their disposal.

The record creation process followed the 'established' route of drawing polygons – using MapInfo GIS software – around any piece of land sharing a common set of predominant current and past land use types and dates. If this resulted in a very convoluted shape, a larger polygon of a more 'sensible' shape and covering two or more land use types of similar dates, would be drawn instead and then described using mixed HLC types. Deciding what to include in a polygon/record and what to leave out was seldom a straightforward process and some of the issues encountered are documented in the final project report.

In order to avoid excessive record fragmentation while preserving accuracy of characterisation, 'multi-polygon' records were also used, where each record contains two or more polygons with (near-)identical land use 'histories' and located nearby (but not sharing a common boundary). As a result the Birmingham HLC database now contains some 2,000 more polygons than actual records, which represents an average of 1.3 polygons per record.

All the historic landscape characterisation information captured was recorded in an HBSMR (Historic Buildings, Sites and Monuments Record) database alongside HER (Historic Environment Record) data, and the polygons became actual records or character areas.

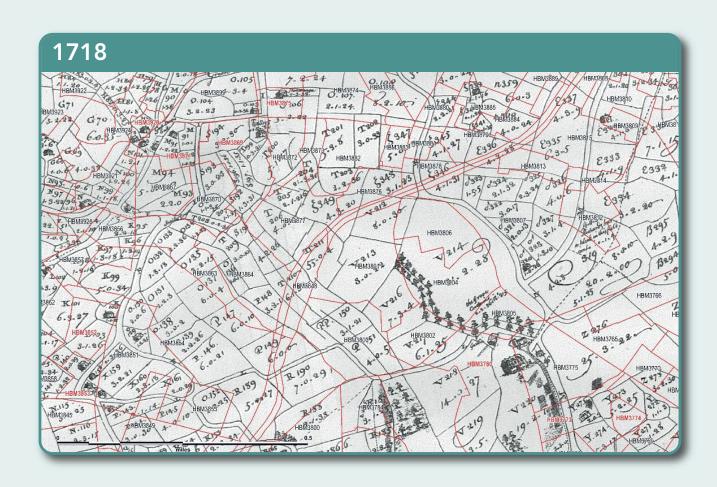
Using Small Size and/or Mixed Type HLC Polygons to Capture Dispersed Settlement Pattern

As this extract from Sparry's 1718 map of Edgbaston shows, the Edgbaston parish and manor lacked a 'true' village centre (the HBM identifiers of all HLC records mentioned below are highlighted in red). Instead the settlement pattern was a dispersed one with houses, farms and cottages scattered in groups of two and three at best, including those in the vicinity of Edgbaston Hall and Church (HBM3780, bottom right corner).

In order to have any chance of 'capturing' at least part of this dispersed pattern, the corresponding HLC records have had to either stay equally small: e.g. HBM3853 (bottom left, 1.8 ha) or HBM3875 (top left, 1.44 ha), or use the 'farm and enclosed fields' mixed HLC type:

e.g. HBM3852 (bottom left, originally Hills Farm), HBM3869 (top left, originally Holly Farm) or HBM3773 (bottom right), originally also Hill Farm and located next to its Medieval moated predecessor (HBM3774).

The closest thing to an Edgbaston 'village centre' in pre-modern times, was the small hamlet at Good Knaves End (top left), located at the junction of today's Harborne Road and Westbourne Road, and covered by the very small HBM3920 (only 0.95 ha) and the larger HBM3871 (2.71 ha) – larger because it includes St. Phillip's (Chad Valley) House and its grounds, as well as The White Swan Inn. These two buildings are today the only survivors of the Good Knaves End hamlet.



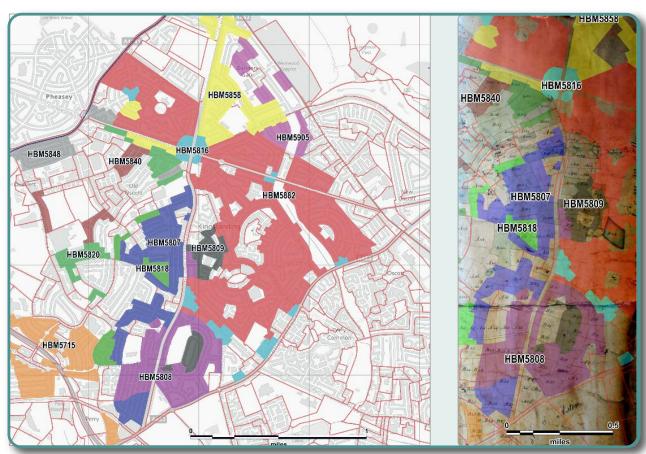
Using 'Multi-Polygon' HLC Records in Large Areas with (Near-) Identical Land Use Histories

The size and nature of the (mainly) 1930s Kingstanding Estate in north-west Birmingham – one of the largest inter-war housing estates in the country – made it eminently suitable for the 'multi-polygon' HLC record approach, as illustrated by the 12 HLC records highlighted in this map. This 'suitability' is further 'enhanced' by the two dual-carriageway roads (King's Road and Kingstanding Road) bisecting the estate and meeting in its centre, while the M6 motorway also cuts across its south-western corner (e.g. through HBM5715).

All the 12 HLC records highlighted here belong to the residential current land use type, apart from HBM5816 which includes (almost) all of the commercial facilities present on the estate and is made up of no fewer than 13 polygons (!) – four of which are purely the 'consequence' of the two dual-carriageway roads. As expected, the current land use type 'period of origin' of most of these 12 HLC records is the 1930s, apart from HBM5818, HBM5840 and HBM5905 which are dated to the late 1940s and the 1950s.

Characterising such a large housing estate, built predominantly within the space of a single decade (the 1930s), was likely to result in some very large HLC records, and at 175 ha (432 acres), HBM5882 is the second largest record in the entire Birmingham HLC after HBM6691 to the north of it, which comprises most of Sutton Park and is nearly four times its size. HBM5882 and some other HLC records in this area could have been even larger, were it not for the need of the characterisation process to take into account the boundaries of the ancient Perry Barr Common, enclosed around 1815.

Overlaying these highlighted records onto a Perry Barr Manor Estates map of c. 1795 and which excludes the then still open commons, reveals how the boundary between HLC records deliberately attempts to follow as closely as possible that between land already enclosed by 1795 and the still open commons, which resulted in some records (including HBM5882 and also HBM5816, HBM5858 and HBM5905) lying entirely within the area of the former commons.



Character Areas

CHAPTER 6

The nearly 7,000 Birmingham HLC records (or more specifically their constituent polygons) were also 'aggregated' into 111 historic landscape character areas of significantly larger size and broader historical character, created as part of a two-tier characterisation process. Each character area contains on average 63 HLC records and covers 241 ha (595 acres). At the opposite ends of the size spectrum, six character areas are larger than 500 ha (1,236 acres) each - the largest is again Sutton Park (BCA1) at 933 ha (2,305 acres) - while thirteen are smaller than 100 ha (247 acres), six of them located in the Birmingham city centre. Surviving farmland areas and large housing estates (especially of inter-war date) make up most of the largest character areas, while the smallest ones tend to be located within historic settlement centres.

'Aggregating' records into a character area was generally carried out by first combining the largest and most numerous HLC records within a wider area, based on their similar predominant past and present land use types and dates. Other records nearby whose previous and present land uses and dates were related to the larger ones, were then added, and finally the newly-created character area 'swallowed up' any records left as 'islands' in its midst or located along its boundary. The thought process behind the creation of character areas mirrored to some extent that of creating HLC records; both involved inevitably a subjective element and any issues encountered are documented in the final project report.

The Birmingham character areas are entirely derived from the current and previous land use types (and their dates) predominant amongst the HLC records making up each area. As such, they are only historic landscape character areas and they do not include other features (e.g. human, cultural, architectural, 'streetscape') that are often also perceived as part of the overall 'character' - in its broadest sense - of a given area. Equally, the character areas do not follow 'by design' any past or present boundaries within today's Birmingham (e.g. constituencies, wards, parishes, large country estates). Where this happened, it was driven by historic land use character alone, which sometimes differed significantly across, for example, ancient parish boundaries.

Created and stored within the same database as the HLC records, the Birmingham character areas have also been innovatively described using the same two-tier system of broad and individual land use types, 'complete' with periods of origin, attributes and sources. This allows queries to be run against the character area dataset and 'thematic' visualisations to be created from the resulting query output – and then displayed on a dedicated Birmingham HLC mapping webpage.

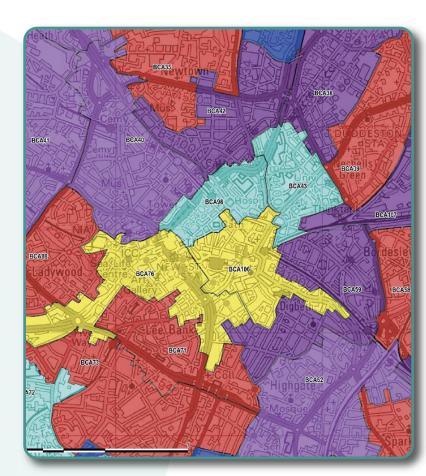
Using Character Area Data to Illustrate Broad Historical Landscape Character – Central Birmingham

The very centre of Birmingham is covered by two broad types of character areas: those where a mixture of commercial and entertainment character predominates (BCA76 'Entertainment District' and BCA106 'Commercial and Historical Core', in yellow), alongside those where the institutional/civic and educational character is dominant (BCA43 'Learning Quarter' and BCA98 'Civic and Business Quarter', in aqua). This 'core' is surrounded by character areas that are either predominantly residential (BCA88 Ladywood and BCA71 Lee Bank, in red), or a combination of industrial and commercial (BCA42 'Gun Quarter' and BCA59 Digbeth-Deritend, in purple), or where all three land use types (residential, commercial and industrial) co-exist (BCA40 'Jewellery Quarter', in pink).

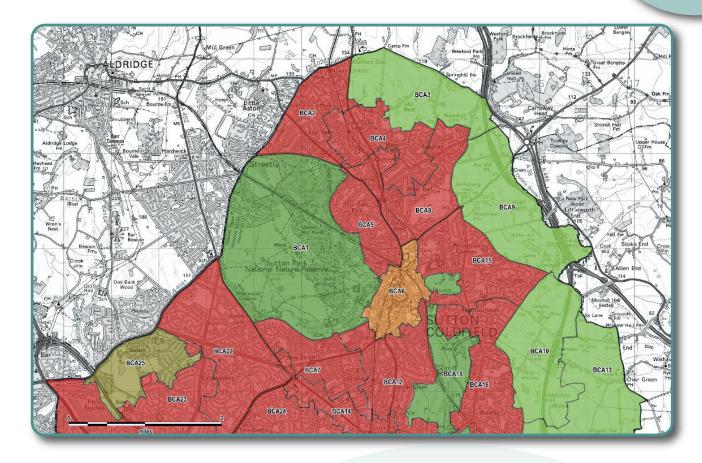
The current dominant land use character of all these areas is of post-war date, testimony to the massive re-development undergone by central Birmingham since the 1950s, and to the gradual decline of the city's manufacturing sector. The central location of these character areas has resulted in a longer and more complex 'post-farmland' land use history, one consequence of which – in HLC terms – is a smaller than average size, in comparison with character areas further afield.

Defining their boundaries has not been an easy task: for example the boundary between BCA76 and BCA106 is broadly speaking also the demarcation between the pre-1775-1800 Birmingham (including its medieval core) and its later expansion along Bristol Street, Suffolk Street, Broad Street and Hagley Road. Immediately to the north of this core, BCA98, which was the site of the Priory of St. Thomas until the Reformation, and then from the early 1600s comprised the New Hall country house and its grounds, was only fully built up during the 1700s.

The boundaries of BCA43 have largely been dictated by its current educational character, acquired 'in full' only very recently (after 2000), since the campuses of Birmingham City University and Birmingham Metropolitan College joined that of Aston University's (built in the 1950s-60s). Finally, the southern boundary of BCA71 follows pretty close the medieval one between the manors (and parishes) of Birmingham to the north, and Edgbaston to the south, illustrating how local land use 'histories' can sometimes differ significantly between one locality and its neighbour, even when both of them have been part of the same conurbation for more than a century and a half.



Using Character Area Data to Illustrate Broader Historical Landscape Character – Sutton Coldfield



Today's Sutton Coldfield as depicted in this character area 'thematic' GIS map presents a predominantly residential (red) character, with a significant recreational (mid-green) component, mainly in the west (BCA1 Sutton Park), and a belt of enclosed farmland (pale green) in the east. It lacks any major commercial and/or industrial areas, with the exception of its historic centre (BCA6, in orange), of mixed residential and commercial character, and of an area of an even more mixed character (BCA25 Old Oscott-Queslett, in khaki), combining housing, trading/industry, outdoor recreation and (semi-)derelict (contaminated) land.

The boundary between BCA22 and BCA23 follows the south-western edge of the Perry Barr Common (enclosed around 1815), cutting through the huge inter-war Kingstanding estate, while that between BCA3 and BCA9 roughly divides fields re-organised (amalgamated) in the post-war era – some of them only enclosed for the first time in 1824 – and former commons enclosed in 1824 and broadly still preserving their post-enclosure

field layout. The rather convoluted boundary between BCA4 and BCA8 attempts to separate the former open field systems of Hill and Little Sutton (BCA4), gradually enclosed in a piecemeal fashion since the late Middle Ages, from an area of mixed older enclosures (mainly of waste or commons) and private parkland.

BCA1 follows the obvious boundaries of Sutton Park country park, while BCA5 covers an area of 16th century and later encroachments of farmland and private parkland into the original Medieval deer park, followed by pre-1915 mainly detached housing. BCA7 broadly covers the area of the Coldfield commons, enclosed in 1824 and gradually filled up with detached and semi-detached housing over the course of a century since the arrival of the railway in 1862. Finally, BCA11 is an outdoor recreation character area running along the Plantsbrook (Ebrook) valley but, as it is bisected by narrow strips of housing, it has been split into three 'sub-areas' (the top two are visible on the map), thus making it one of the only three 'split character areas' in the Birmingham HLC.

Land Use Types, Sub-Types and Attributes

The main descriptive category used by any historic landscape characterisation project is a set of land use types and sub-types, commonly referred to as 'broad' and 'individual' (or 'narrow') HLC types. 38 broad types and 432 sub-types are used by the Birmingham HLC to characterise its records. Each record (and in Birmingham HLC's case, also each character area) has a current and (with rare exceptions) at least one or more previous land use types and sub-types (2.3 on average per HLC record and 2.1 per character area).

Aiming to achieve a characterisation as accurate as possible, meant in practice that the set of broad (and 'individual') land use types originally 'inherited' from the Black Country HLC, was significantly enlarged by dividing and/or (re-)combining them. Half of the Birmingham HLC broad types – such as the five

residential or the three industrial types listed below – have resulted from 'splitting' the original types, while more than a quarter of them are a 'mixture' of two (or more) types, such as the three mixed residential and industrial ones.

The Birmingham HLC also used an additional 18 broad types and 124 'individual' sub-types to describe its 111 historic landscape character areas, all of them derived from those used for the HLC records. Finally, a total of 29 different attributes have been recorded against the current broad type of each HLC record or character area (up to 8 attributes per type). Attribute value data can also be queried for analytical and/or visualisation purposes, in the same way as broad or 'individual' land use type data can.

Broad Land Use Types Used for the Birmingham HLC Records

- Residential Other/Non-Estate/ Mixed Housing
- 2. Residential Detached, Semi-Detached Houses
- 3. Residential Flats, Terraced Houses
- 4. Residential Mixed Detached, Semis, Terraces, Flats
- 5. Farms
- 6. Commercial (incl. Offices, Retail, Wholesale)
- 7. Industrial Metal Working (incl. Related Manufacturing)
- 8. Industrial Engineering (incl. Vehicle Manufacturing)
- 9. Industrial Other/Mixed/Unknown Type
- 10. Enclosed Fields
- 11. Horticultural
- 12. Open Commons, Waste, Strip Fields
- 13. Outdoor Recreation/Leisure/Sport
- Indoor Entertainment/Leisure/ Culture/Sport
- 15. Educational
- 16. Medical/Social Care/Internment
- 17. Public/Social Institutions/Services/Utilities
- 18. Vacant/(Semi-)Derelict/Disused Land/Buildings
- 19. Roads (incl. Road Transport)
- 20. Railways (incl. Rail Transport)

- 21. Canals, Artificial Pools/Ponds (incl. Canal Transport)
- 22. Natural Inland Waters
- 23. Religious
- 24. Woodland
- 25. Military
- 26. Extractive
- 27. Residential and Other/Mixed/Unknown Type Industry
- 28. Residential and Metal Working (incl. Related Manufacturing)
- 29. Residential and Engineering (incl. Vehicle Manufacturing)
- 30. Residential and Commercial
- 31. Residential and Social/Public/Services/ Religious
- 32. Residential and Enclosed/Open Land (incl. Allotments)
- 33. Commercial/Industrial/Social and Enclosed Fields
- 34. Residential/Other and Outdoor Recreation
- 35. Industrial and Commercial
- 36. Residential/Other and Vacant/ (Semi-)Derelict/Disused Land
- 37. Transport and Industrial/Commercial/Other
- 38. Enclosed/Open Fields and Outdoor Recreation

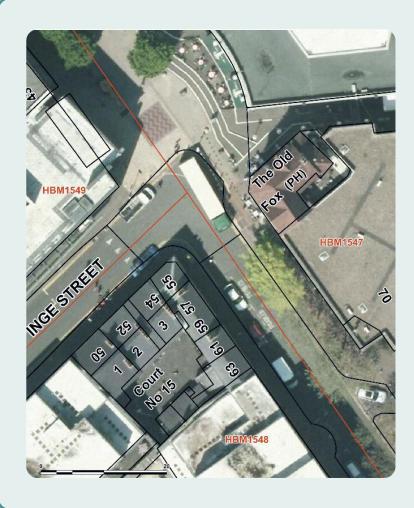
HLC Terminology Choices – Back-to-Back, Tunnel-Back and Straight-Back Terraces

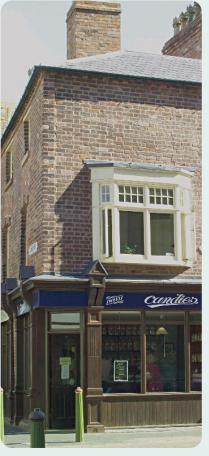
'Courtyard' terraces describes all 19th century working-class terraces lacking (or appearing to lack) private front and/or back gardens; this includes 'back-to-back' or 'blind-back' terraces grouped in courtyards, as well as similar housing located nearby along the street fronts. 'Back-to-back' courtyards shared up to three walls and as back doors and windows could not therefore be provided, were notoriously poorly ventilated and ill-lit. Nevertheless tens of thousands of them were built throughout this area during the 19th century until banned in 1876 by the Corporation of Birmingham and for a while even after that, in those areas that were still not part of Birmingham (e.g. Aston before 1911).

The 'Birmingham Back-to Backs' (Court No. 15) on the corner of Hurst Street and Inge Street (in HBM1548) are the last surviving court of 'back-to-back' terraces in Birmingham.

Completed in 1830-31, the lower floors of the terrace along Hurst Street were converted into shops by 1900. In residential use up until 1966 when declared unfit for living in – while the shops continued in use until 2002 – The 'Birmingham Back-to Backs' and were finally restored and re-opened as a National Trust museum in 2004

nationaltrust.org.uk/birmingham-back-to-backs. The combined map and aerial photo illustrates well the overall layout of this once very common terraced housing type, while the other image shows the street corner of Court 15.





'Tunnel-back' terraces, whereby access to the rear of properties was provided by shared 'tunnels' (passageways) at regular intervals along the terrace, were popular from the late 19th century onwards because they allowed more sanitary conditions but maintained a narrow frontage which enabled a maximum number of houses to be built on a site (usually in long continuous rows) and required a minimum amount of roadmaking. The individual housing units composing these terraces were usually L-shaped with an offset rear wing housing a wash-house or scullery on the ground floor and an additional bedroom above it. This L-shaped plan was also used for semi-detached pairs of houses and occasionally even for detached houses, which is why the term 'tunnel-back' was used throughout the Birmingham HLC to describe

this housing type even when the actual 'tunnel' is missing.

This combined map and aerial photo shows late 19th century L-shaped 'tunnel-back' housing in Small Heath, both in its commonest terraced form along Malmesbury Road (HBM111) and in its rarer semi-detached form along Tennyson Road (HBM114), where larger houses stand in wider plots facing Small Heath (Victoria) Park (HBM112, opened in 1878). Amongst the latter can also be seen some very rare (in Birmingham anyway) L-shaped detached houses of the same period (e.g. at nos. 34 and 38 Tennyson Road). The visual effect of a streetscape dominated by long rows of 'tunnel-back' terraces is well illustrated by this image from neighbouring Washwood Heath.







These terminology choices left the project with something of a dilemma about how to describe the 'other' semis and terraces, predominantly built after 1920 and in a 'geometric' street pattern, and now representing the majority of these two housing types found in Birmingham; in the end the 'made-up' designation 'straight-back' was used for the sake of clarity and consistency. The

'typical' inter-war mixture of 'straight-back' short terraces and semis illustrated in the combined map and aerial photo was built in the 1930s along Crayford Road (HBM5882) in the huge Kingstanding estate, while the frontage view example of these extremely common housing types comes from another inter-war estate, Hall Green.

Using Land Use Broad Type Data to Visualise Historic Landscape Evolutions – Central Birmingham

This map sequence aims to illustrate the evolution of the historic core of Birmingham and its immediate surroundings since 1535. The maps were created from broad land use type data for the HLC records, using GIS software. Sequences of 'thematic timeslice' maps are best displayed in a format where they can be viewed like a slide show, rather than side by side. They are part of a larger sequence included in the 'Birmingham HLC Data Visualisations' presentation, downloadable from the 'main' BCC HLC webpage. Similar maps can now be viewed (and customised) for any part of the city on the 'Lanscape Evolution using HLC' mapping webpage.

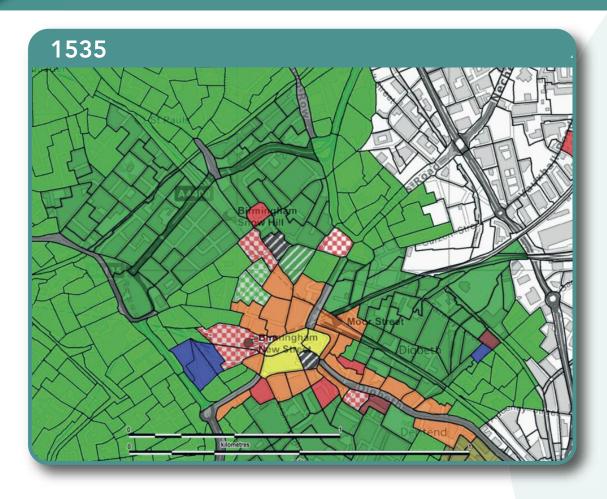
The 1535 map is based on a conjectural plan of Birmingham in 1553 published by Joseph Hill in 1890 – and thus some land in the neighbouring Aston parish to the east appears blank – while the later maps rely on actual plans and maps produced from 1731 onwards. Despite any inherent inaccuracies and differences of interpretation, this map sequence illustrates well the main historic evolutions of the landscape of central Birmingham, such as:

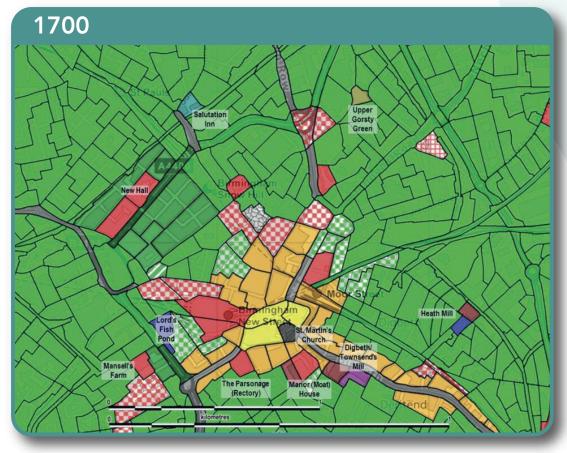
- The late medieval landscape dominated by a mixture of enclosed fields and private parkland surrounding the urban core.
- The fast urban growth from the 1700s onwards, and the constantly evolving ratio between industrial, commercial and residential land uses.
- The development and evolution of Digbeth, Deritend and the Jewellery and Gun Quarters, as reflected by changes in predominant land use types.
- The impact of the arrival of canals, railways and later on dual-carriageway roads upon the location and nature of industry, trade and housing located along, around and inbetween them.
- The impact of the post-war changes, such as the creation of Ring Roads and the Bull Ring, the decline of manufacturing and the disappearance of mixed industrial and residential areas (the 'slums clearance').

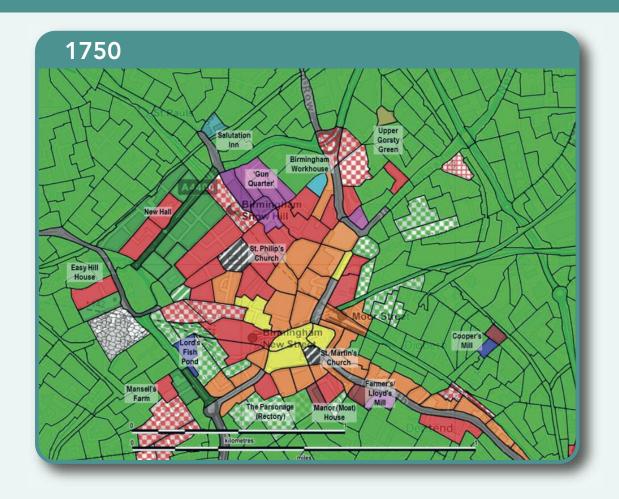


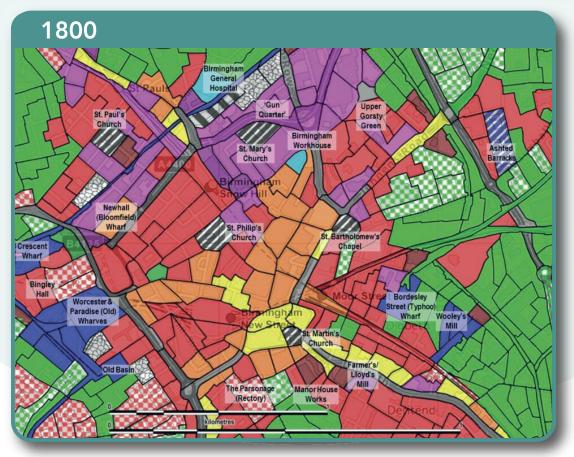


Using Land Use Broad Type Data to Visualise Historic Landscape Evolutions – Central Birmingham (Continued)

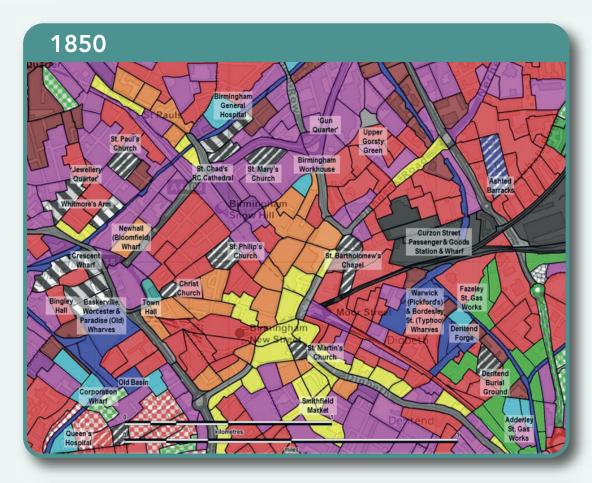


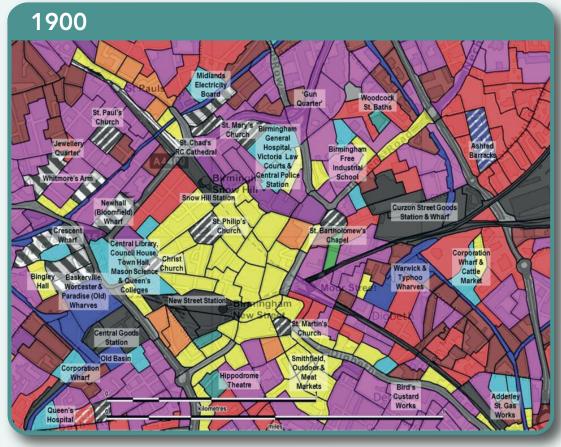


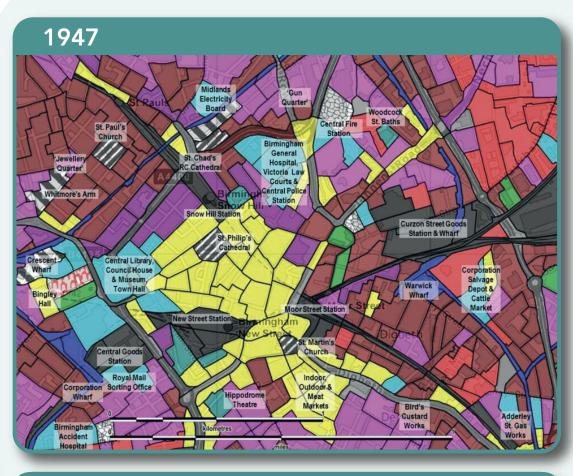


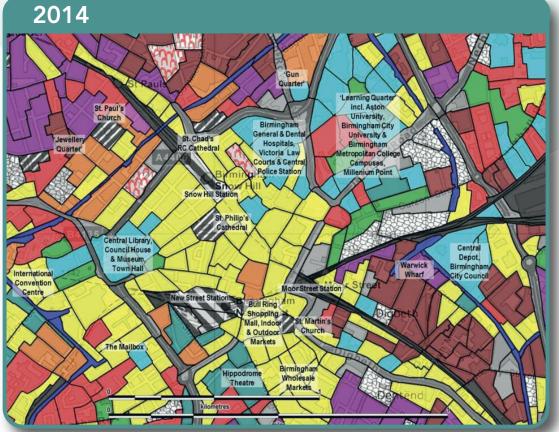


Using Land Use Broad Type Data to Visualise Historic Landscape Evolutions – Central Birmingham (Continued)









Dating Land Use Changes - the 'Period of Origin'

All Birmingham HLC records and character areas have been dated using the 'period of origin' system, where a 'from...to' start date range is assigned to each HLC type recorded. This can vary from one and the same year, up to several decades or even centuries, depending on the accuracy of the sources available. No 'end' date or period is recorded for a previous land use type, this is effectively represented by the start of the period of origin of the newer type replacing it.

An (almost) exact 'foundation year' can often be found after a – sometimes very thorough – online search, for some categories of HLC records, mainly prominent buildings, facilities and premises of a commercial, industrial, transport, public, social, sporting, recreational, educational, medical, religious and cultural nature (but rarely for residential ones). Also, in the case of common land subject to a parliamentary enclosure act, the year the act was passed serves (for historic landscape characterisation purposes) as a convenient 'fixed date' for the landscape change from open to enclosed land.

While an exact 'start date' for a land use change greatly enhances the dating accuracy of an HLC record, finding an 'end date' as well, can sometimes cause unexpected characterisation problems. It is often rather difficult to work out what happened with the (generally non-residential) site or premises concerned after their original occupants left, at least until the next available map or aerial photo shows evidence of changes, such as dereliction, demolition, renovation or replacement.

For the majority of the land use changes recorded in the Birmingham HLC, establishing an accurate 'period of origin' proved impossible due to the limitations of the available sources. In these cases, the period of origin became a much broader (and less precise) range of years, often derived – since the mid-1700s in some cases – from the timespan between the last map showing an earlier land use type, and the first one showing the newer type, for any given record. For character areas, their much larger size and the number of component HLC records, also precluded exact periods of origin from being used.

Additional information on the various issues encountered and approaches adopted in relation to dating land use changes, can again be found in the final project report.

Using Maps, Aerial Photos and Documentary Sources to Establish and Date Land Use

Located along Bordesley Green Road in the 'heartland' of Birmingham's brickmaking industry – in an area where some eleven brick works were in operation during the late 19th century – the Adderley Park Brick Co. Ltd. was founded sometime after 1864 and was listed regularly in Kelly's Directory between 1878 and its last edition in 1940. Initially based to the north of the Adderley Park Station (HBM285-87), the company leased a much larger farmland site south of the station in 1882 (HBM161, HBM177 and part of HBM168).

Soon afterwards it closed down its northern site which, after a period of abandonment, was then acquired by the expanding Wolseley (later Morris Commercials) Adderley Park Motor Works shortly before 1914. While the motor works closed in 1971, its buildings were still in place in 1978, but by 1995 semi-detached houses and the Bordesley Green Trading Estate had been built on the site. On its larger southern site, the Adderley Park Brick Co. Ltd. carried on until its liquidation in 1946. The 1947 Birmingham Land Use Map depicts the former brick works as a 'site under construction', while the 1950 map shows that the buildings on the site have largely been cleared out and the area is marked as 'refuse heap'.

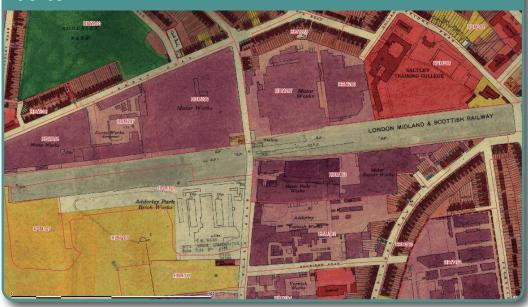
Given the open nature of this site, scarred by huge claypits and largely devoid of buildings, its subsequent 'peripheral' uses are difficult to work out from the couple or so of post-war maps available; the situation only improves with the arrival of digitised and digital aerial photos taken every couple of years since the mid-1990s. Nevertheless, the most likely predominant use of this site during the post-war years was the tipping of refuse and rubble;

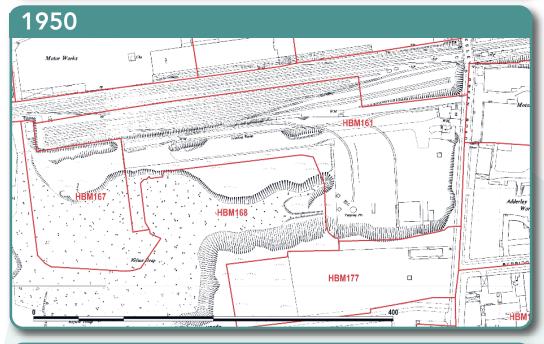
the recycling of demolition rubble has definitely been taking place since Armoury Demolition & Recycling Ltd. took over the site around 1990 and this is illustrated by the 1996 aerial photos. After Armoury went into administration in 2011, the 'core' of the site has been occupied by a similar type of business, alongside a scrap metal merchants, while the northern area – where the railway sidings used to stand at least until 1980 – now houses the Bordesley Green Depot and a concrete plant.

The post-1970 Cherrywood Industrial Estate to the south (HBM177) consists of scrapyards and other automotive-related businesses, though the western half of the site which housed a vehicle(?) depot since the 1950s or early 1960s, became vacant around 2010. The west-central area of the site (in HBM168) houses an oval car racing track since the mid-1980s, while HBM167 to the west of it has been used for driving and motorbike riding lessons since at least the mid-1990s; both facilities are part of the 47-acre Birmingham Wheels Park started in the late 1970s.

Continued

1947







CHAPTER 9

Almost all the sources of the Birmingham HLC are either digital – or were digitised through scanning or photographing – or online, and they consist mainly from modern and historic maps and aerial photos, alongside a number of informative websites used regularly throughout the project, and data retrieved through Internet searches.

A useful 'by-product' of the Birmingham HLC was the creation of a database containing nearly all the relevant maps and aerial photos of the Birmingham area, all digitised and georectified, i.e. aligned to the modern Ordnance Survey grid using GIS software, so that historic maps can then be overlaid onto modern ones. While the precision of this process depends on the accuracy of the original map survey, which in some cases took place two to three centuries ago, geo-rectifying all the maps used, has enabled the project to pinpoint the location of features long vanished from the current townscape. Most of these maps and aerial photos are now available on the HLC webpages, and any missing are only so because of copyright reasons and related additional costs.

The **cartographic** sources of the Birmingham HLC include:

- Estate, parish or manorial maps from the 18th and early 19th centuries, varying in cartographic accuracy, detail rendition and coverage across the Birmingham area.
- Town plans of Birmingham and Sutton Coldfield from the 18th and 19th centuries, including some conjectural ones for earlier dates, reconstructed by historians from documentary sources.
- Enclosure maps of the late 18th and early 19th centuries, accompanying parliamentary 'inclosure acts' of any remaining commons and open fields left in that manor.

- Tithe maps (accompanied by apportionments) of the 1830s-40s, produced for (almost) every parish in the Birmingham area and which in some cases represent the earliest detailed map of that parish.
- County and other 'sub-regional' maps, including the Ordnance Surveyors'
 Drawings of 1814-17 and Blood's Map of Birmingham and Its Environs (1857), both of which offer a significantly larger amount of usable information compared to the earlier county maps.
- Historic Ordnance Survey (OS) maps: four editions were published between the 1880s and the 1930s at two scales: 1:2500 (c. 25 inches to a mile) and 1:10560 (6 inches to a mile). In many ways they were 'mainstays' of the Birmingham HLC's historical mapping sources, due to their accuracy, level of detail and complete area coverage.
- Post-war maps, starting with the very informative 1947 Birmingham Land Use Map which depicts in great detail the city at the end of the Second World War, followed by a series of detailed OS maps ranging between 1949 to 1991, whose chronological and spatial coverage is largely piecemeal due to how they were originally produced and later on digitised as well.
- The 1996 OS LandLine map offers complete coverage of the city area, as does the current OS MasterMap and its smallerscale counterparts.
- The black-and-white aerial photos from the 1940s and the colour ones produced every couple of years since the 1990s, also proved useful e.g. for assessing the 'state' of some sites or pieces of land either (semi-)derelict or 'marginal' (tips).
- Online global cartographic sources such as Google Maps, Earth and Street View – the latter proved extremely useful by allowing a 'closer look' from the ground at anything that did not seem clear enough from the maps or aerial photos.

Sources and Resources (Continued)

Other sources of the Birmingham HLC are primarily represented by a number of very useful websites and also by internet searches, carried out for any piece of information desired and which could not be obtained otherwise. The fact that this 'game' of online landscape history 'detective' proved rewarding more often than not, testifies to the huge amount of potentially useful data available online and which can be retrieved by a well-aimed search. Finally, a small number of printed publications have also been consulted for this project (e.g. parish/town monographs).

The websites most frequently used by the Birmingham HLC include (in alphabetical order):

- William Dargue's A History of Birmingham Places & Placenames...from A to Y: billdargue.jimdo.com
- Acocks Green History Society: aghs.jimdo.com
- Aston Brook through Aston Manor: astonbrook-through-astonmanor.co.uk/ index.html
- Birmingham...B14 Kings Heath & District History:
 bhamb14.co.uk/index.htm
- Birmingham Canal Navigation Society (Archive section):
 bcnsociety.co.uk/?archive
- Birmingham Grid for Learning (BGFL)
 History Learning Resources The John
 Morris Jones Collection:
 bgfl.org/bgfl/custom/resources_ftp/
 client_ftp/teacher/history/jm_jones/
 index.htm
- British History Online Victoria County History: mainly
 britishhistory.ac.uk/vch/warks/vol7 (for Birmingham), and .../vol4 (for Sutton Coldfield);
- Connecting Histories Birmingham Children's Homes Project: connectinghistories.org.uk/ childrenshomes.asp
- Digital Handsworth: digitalhandsworth.org.uk/learning.stm

- Grace's Guide to British Industrial History: gracesguide.co.uk/Main_Page
- History of Sutton Coldfield A to Z: atod.suttoncoldfieldatoz.com
- Ladywood Past and Present: oldladywood.co.uk
- Pubs and Breweries of the Midlands, Past and Present: midlandspubs.co.uk
- Rail Around Birmingham & the West Midlands: railaroundbirmingham.co.uk/index.php

Information about other historic landscape characterisations (and HERs) countrywide can be found on the Archaeology Data Service (ADS) website

archaeologydataservice.ac.uk/archives/view/HLC

and the Heritage Gateway

heritagegateway.org.uk/gateway/chr/default.aspx

As already mentioned, a wealth of further information on historic landscape characterisation in general can be found on Historic England's website

historicengland.org.uk

by searching on '(historic landscape) characterisation'.

Possibly the best current (2015) example of public websites integrating HLC, HER and other data sets (e.g. environmental) together into an informative and user-friendly site is – apart from its limited provision of historic maps – Lincoln Heritage Connect

heritageconnectlincoln.com

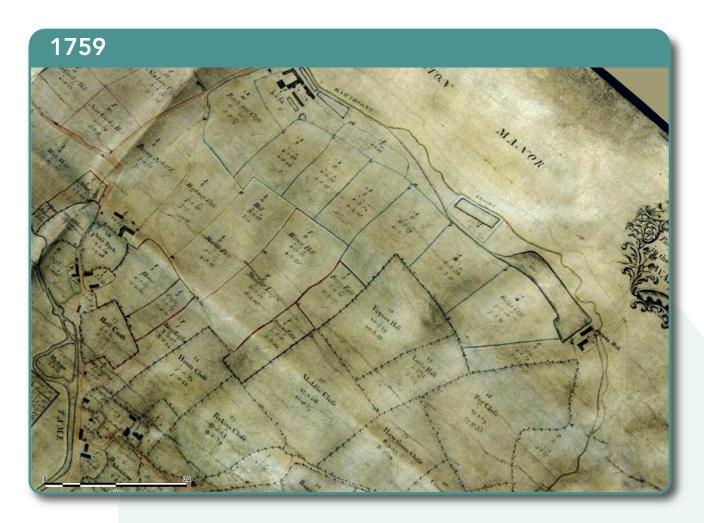
More closely resembling the Birmingham HLC mapping webpages is Bristol City Council's 'Know Your Place'

maps.bristol.gov.uk/knowyourplace which contains a significant number of heritage/history-related layers (including historic maps), and represents an excellent example of how to present such data cartographically on a public website; HLC data is missing, though.

Extracting HLC Data from Various Historic Map Types

The maps illustrated below cover nearly two centuries of mapmaking in the Birmingham area and have all been georectified, which results in true north being always shown at the top of the map, regardless of how the map was laid out originally. Even though the HLC record

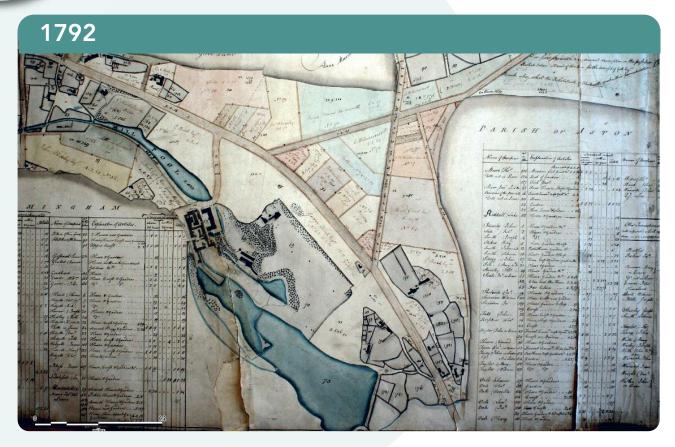
layer has not been overlaid onto the maps illustrated here, HBM record identifiers are still included in the captions, in order to allow the reader to access further information contained in the HLC webpages.



1. Estate Maps – This section of the 1759 map of Witton Manor by John Tomlinson shows the hamlet of Witton with its cottages, crofts, closes and meadows, stretching along the Tame and (today's) Brookvale Road between Witton Farm to the south (HBM4811) and Short's (Oldford) Farm to the north (HBM4821), both farms located slightly off to the east of the main road. Further north along Brookvale Road can be seen Witton Hall (top right, HBM4856) with its ponds, built in the early 1700s and still surviving at the centre of a care

housing complex. While Brookvale Road still follows the gentle southwest to northeast curve depicted on the map, this area has later been bisected by two major transport routes running across it the opposite way (from southeast to northwest), the Tame Valley Canal (1844) and the M6 Motorway (c. 1972). This has visually 'severed' the pre-modern hamlet from its hall. This map was re-photographed by us directly from the (rather fragile) original at the Library of Birmingham.

Extracting HLC Data from Various Historic Map Types (Continued)



2. Enclosure Maps – The centre of this section of the 1792 plan of the enclosure of Handsworth Heath by Samuel Botham, shows Matthew Boulton's Soho House (HBM5176) completed only some 25 years earlier (1766), surrounded by the original extent of Soho Park (HBM1272 and HBM1313), parkland which more than doubled in size after this enclosure, extending between Soho Road and Hockley Brook into areas of the former heath and of some earlier encroachments into it (HBM1243, HBM1247, HBM1263, HBM1308, HBM5239-42, HBM5928).

To the west of Soho House and Park, along Hockley Brook, lay the Soho Manufactory (Mill) and Mint (HBM5244 and HBM5245), the Little Pool (HBM5931), the mid-18th century pool of Soho Mill, and the much earlier (16th century?) and larger Great Hockley Pool (HBM4482-83, HBM4487 and HBM4970), later called Soho Pool (and drained in 1869), a 'storage pool' feeding the mill pools of Aston Furnace and Paper Mill (HBM4728) and Aston Brook Flour Mill (HBM4721), located further downstream on the Hockley Brook.

Existing piecemeal, irregularly shaped encroachments into Handsworth Heath – including the eastern end of the future Handsworth commercial centre growing along Soho Road – are shown in grey, while the regularly shaped 'allotments' resulting from the final enclosure of the remaining commons are depicted in colour. Land nearby within the Handsworth township and regarded as 'old enclosure' land in private or institutional ownership (e.g. glebe land), was deemed to be outside the scope of this map and therefore was not included.

To the south of Handsworth Heath lay Birmingham Heath, which was enclosed a few years later in 1798, while to the west all the farmland in the Aston manor was already fully enclosed by the 18th century. Soho Hill and Road cuts diagonally across the map, Hamstead Road branches off it straight to the north – both roads were turnpiked in 1727 – while Villa Road heading west to Aston completes the triangle of roads visible on the map. This plan was also photographed by us directly from the original.

3. Tithe Maps – This section of the Moseley Yield sheet of the 1840 tithe map of Kings Norton by John Walker, shows the growing village of Kings Heath, in the year when the Birmingham to Gloucester railway line arrived and Kings Heath Station opened. Settlement growth started with the turnpiking in 1767 of the Alcester Road now cutting straight across Kings Heath, enclosed shortly afterwards in 1772. Previously, the main north-south road followed most likely the edge of the open commons, passing by Green Hill House and through the Green Hill hamlet, and then heading south along today's Springfield Road, then separating the commons of Kings Heath in Kings Norton parish and Billesley Common in Yardley (the latter only enclosed in 1833). The northern boundary of Kings Heath common broadly followed the lane (today's Grange Road) running from the bottom left corner of the picture up to the main road, across it and along the northern side of another lane (today's Poplar Road) until the edge of the Green Hill hamlet, where it turned southwards (towards the bottom right corner) following a line parallel to the eastern side of Springfield Road.

also gone by the 1930s). The third one was The Grange (HBM2372 and plot 3233), also located on the edge of the open heath, but immediately to the west of the High Street; its access lane is today's Grange Road.

The 1840 map also depicts signs of Kings Heath's early 19th century development. For example, the Kings Heath Brewery (HBM2358, by plot 3217) opened in 1831 (and closed in 1902) at the corner of Grange Road and the High Street, while several map plots to the south the Hare and Hounds Inn (HBM2359 and plot 3209) opened in the early 1820s on what the map depicts as an originally moated site re-built twice since, the inn stands to this day. Immediately to the south of it, the map shows the first side street to be laid out in Kings Heath (plot 3201, today's Silver Street) with cottages along it (HBM2302, HBM2309 and HBM2354) a relatively recent settlement extension (1820s or 1830s) at the southern edge of the village. The four Kings Norton tithe maps have been scanned during the Birmingham HLC project.

Despite the arrival of the railway, the rural Kings Heath depicted on the 1840 map remained so until the 1870s, when rows of tunnel-back terraces started being built behind both sides of the High Street, while three of the houses and farms shown in this picture were demolished in the late 1880s or early 1890s. The first was The Henburys (HBM2208 and map plot 3247), located within today's Highbury Park and surrounded by visible traces of ridge-and-furrow fields. The second was the main house (HBM2215 and plot 3352) of the Green Hill 'hamlet', located on an originally moated site right on the edge of the heath and therefore most likely predating Green Hill House to the north (HBM2214 and plot 3369,



Extracting HLC Data from Various Historic Map Types (Continued)

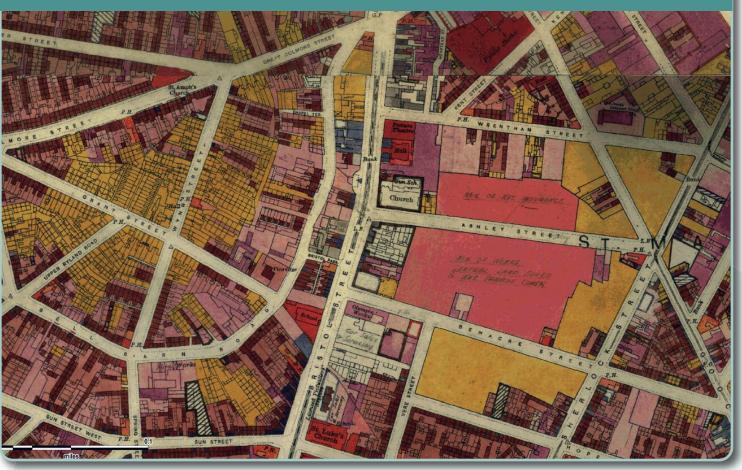


4. Town Plans – The 1855 Plan of the Borough of Birmingham by John Pigott Smith, official town surveyor of Birmingham (between 1835-57) and its greatest cartographer, represents a 'second edition' of his 1828 plan and is without any doubt the most detailed plan of Birmingham in the 'pre-Ordnance Survey' era. Of the original 200-plus map tiles which cover the entire Birmingham borough area (as it was in 1855) at a scale of 10 feet to a mile, only 40 had already been scanned and georectified and could therefore be used by the Birmingham HLC. Given the accuracy and detail level of this plan which preceded by 30 years the first edition of the historic OS maps, it would be greatly beneficial if this plan could be professionally digitised in its entirety one day.

Centred around St. Philip's Cathedral (a parish church until 1905) and its churchyard (HBM4575), the illustrated section captures the tightly packed nature of the houses, shops and workshops in this area of central Birmingham – including their fully built up back yards – at their 'height', before the start in the mid-1870s of civic improvements and slum clearance programme initiated by the Corporation of Birmingham and its energetic Mayor, Joseph Chamberlain (e.g. the Grand Hotel on Colmore

Row opposite St. Philip's only opened in 1879). Surveyed shortly after the arrival of the Great Western Railway in 1852, the plan shows the final northern stretch of the newly-built Snow Hill Tunnel still open as a deep cutting running between Temple Row and Monmouth Street (the eastern end of Colmore Row in front of Snow Hill Station) – the Great Western Arcade was only built above the cutting in 1872 (HBM4583). Next to the cutting and facing into St. Philip's Churchyard a well, is the Blue Coat School, located here between 1722 and 1930.

Further to the east, the top right corner of the image shows the Friends' Meeting House originally built around 1703 – and still standing (in HBM4585), minus its burial ground – on the site of the 13th century Priory of St. Thomas of Canterbury's (dissolved in 1536). Behind it stands the Old Square, Birmingham's first upmarket 'formal' square completed in 1713. Its original layout is captured by the 1855 plan, before it was destroyed by the cutting of Corporation Street and the construction of Lewis's and Newbury's department stores in the 1880s, immediately to the south of the meeting house and west of the square.



5. The 1947 Birmingham Land Use Map

This section of the map is effectively a 'colourised' and updated version of the 4th edition (1930s) of the historic 1:2,500 scale OS maps and reveals the extent of the wartime bombing damage around Bristol St. up to Sherlock Street and Great Colmore Street. The red area centred on the (now completely disappeared) Ashley Street (HBM1588-89) is marked as "...Central Land Board & War Damage Comsn." and housed army barracks during the war that were still standing at least until 1960.

The yellow area around the barracks (HBM1591 and HBM1594) is shown on the 1947 map (and the contemporary aerial photos) as almost completely cleared out of the tightly packed mid-19th century courtyard terraces shown on earlier maps, undoubtedly

as a result of extensive bombing damage. On the other side of Bristol Street, the area marked in yellow around Grant Street and Wynn Street (incl. HBM773 and HBM4266) did not fare any better, as while its terraces of the same era are still shown on the map, the aerial photos reveal this area to be as clear of any buildings as its counterpart along Sherlock Street.

The rows and courts of terraces houses around Bristol Street were so heavily damaged by bombing that the Home Guard recruits encamped on Ashley Street used them for training in house-to-house urban combat as part of the wartime GHQ Town Fighting Wing. The Wing was based in the bomb-damaged Old Meeting Church (Unitarian) on the corner of Bristol Street and Ashley Street (in HBM1587) – marked only as 'Church' on the

Extracting HLC Data from Various Historic Map Types (Continued)

1947 map – built in 1885 and demolished around 1955. The 'Hall' immediately to the north of it was originally the Methodist Bristol Hall built in 1899 and then the Central Synagogue between 1928 and 1961, after which it was demolished as well. The empty plot shown on the corner of Bristol Street and Benacre Street housed a Wesleyan chapel, originally built in 1834 and bombed out in 1940. Its site is today part of Bristol Street Motors (HBM1586), a Ford dealership based here since the early 1900s – marked as 'Car Sales & Servicing' on the map - and preceded by the 'Cab Depot' shown on the 1880s map, which makes for an unusual example of business longevity and continuity on the same site from the horse-drawn onto the motor era. Between Bristol Street Motors and St. Luke's Church stood the Licensed Victuallers Asylum (an 'almshouse' for ex-publicans) since 1849 until sometimes in the 1940s.

Almost everything else left standing after the war was later swept away by the complete re-

development of this area in the 1960s and 1970s, followed by additional significant redevelopment after 2000. Of the buildings depicted on the 1947 map, only a handful still stand today, such as St. Luke's Church (in HBM1592, built 1842 and re-built 1903) on Bristol Street, plus some along the northern side of Wrentham Street (top right corner of the picture) including two pubs: The British Oak and The Fountain Inn (in HBM1551).

The widening of Bristol Street onto a dual carriageway also swept aside the top end of Bell Barn Road shown on the map; the stretch of Bristol Street itself shown here, was actually not laid out until sometimes after 1750 (despite the Bromsgrove Turnpike having been set up in 1727) and the existing route through this area between Edgbaston and Birmingham followed Bell Barn Road instead. The 1947 Birmingham Land Use Map had already been scanned and georectified by the time the Birmingham HLC project had started.

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