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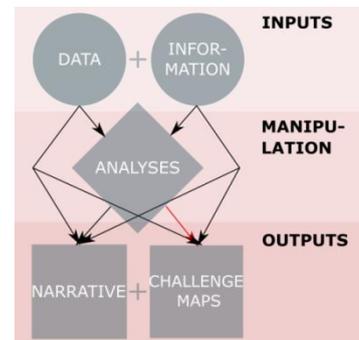


Urban Living Birmingham: From Citizen to Co-innovator, from City Council to Facilitator – Integrating Urban Systems to Provide Better Outcomes for People. Six-month Report

EXECUTIVE SUMMARY The Urban Living Birmingham pilot project commenced on 1st June 2016. The first six months of the project have focused on developing and executing a diagnostic approach to understanding the challenges facing Birmingham. This has included a Principal Component Analysis (PCA) that draws upon 248 numeric datasets and an analysis of the evidence base used by the city to inform policy. This analysis has identified a disconnect between academic studies and the evidence base used to support policy development. Policy makers are trying to address much broader and more complex challenges than are dealt with in more narrowly-focussed academic studies. The PCA analysis has identified that ‘health & wellbeing’ is related in Birmingham to ‘energy’, ‘connectivity’ and ‘economy’ in an apparent ‘Birmingham nexus’. Ongoing research will explore whether this nexus is really a more complex plexus or a collection of elements within a system. The second stage of the ULB project has commenced with a focus on exploring the interdependent nature of the challenges identified during the first six months and understanding end-user innovation and city systems. The focus is on identifying opportunities for innovation that will produce better outcomes for people living and working in Birmingham.

Introduction This report arises from the Urban Living Birmingham (ULB) pilot research project. ULB aims to catalyse and transform the provision of urban services and governance, producing better outcomes for people. It seeks to transform citizens into co-creators and co-innovators of urban services, and to transform the City Council from services provider to services facilitator.

ULB has two primary parts. First is a process of holistic diagnostics using existing local and national datasets and information sources, plus consultations, to identify the critical challenges facing Birmingham. This formed Work Package 1 (WP1; the first six months of the project – completed on time) and the summary outcomes of this are the main focus of this report. Second is in-depth, intensive analyses and co-creation (Innovation Stations) designed to develop an alternative understanding of Birmingham's challenges and the role end-user and open innovation can play in addressing them. This will be achieved through the employment of a variety of engagement mechanisms and research methodologies. This forms WPs 2&3 (months 6-15). Two Work Packages (4&5) run throughout the project; these focus upon identifying future research and innovation strategies (to be crystallised in the final months) and project management, respectively.



Work Undertaken So Far To obtain a complete and holistic understanding of a city requires that numerous data and information are brought together within a framework that allows for further analyses to be undertaken. The ULB WP1 team developed a mixed methods diagnostics framework (see figure) within three constraints. The first constraint is time-related. The purpose of the ULB research project is to identify challenges that currently face Birmingham. As such, data and information that predated 2010 were not considered unless they remained the most relevant for the city's current situation. This is not to ignore the importance of the past in determining the present; historical investigation will inevitably form part of developing a deeper understanding of Birmingham's challenges in WP3. The second constraint is relevance to urban systems and services. Urban services and systems include ‘soft infrastructure services and systems’ such as education, health, welfare, cultural heritage, governance and ecosystem services, as well as ‘hard infrastructure services and systems’ such as energy, water, sanitation, waste, and transport. ULB

is particularly interested in the ‘who, what, when, where, why and how’ of city service delivery with the aspiration of enabling greater end-user influence and involvement in what has traditionally, in the UK at least, been a top-down system. The third constraint is geographical. Out of necessity (time and resources), the primary geographical focus of ULB is the political boundary of the city of Birmingham, and not the West Midlands conurbation. Two types of diagnostic inputs have been considered by the ULB WP1 team: datasets and information. For the purpose of this report, data are quantitative, numerical and organised into sets that allow for statistical analysis; information can be quantitative or qualitative, can be in any form (e.g., numerical, categorical, ordinal, narrative) but are not necessarily organised into sets in such a way as to allow for statistical analysis. Information is that which has been used to inform policy and other documents that try to develop a policy response to overcoming city challenges. Comprehensive data mapping and information mapping exercises were undertaken for the purposes of identifying existing data and information sources. Where gaps in data or information were identified, and where resources allowed, primary data and information were gathered by the ULB team (primarily consisting of a series of consultations with the ULB Touchstone Group, which consists of over 30 project partners and interested parties drawn from the private, third and public sectors, all with Birmingham expertise).

Six analysis techniques were deployed by the ULB WP1 team for the purposes of creating a holistic understanding of Birmingham and identifying Birmingham’s critical challenges. These are listed below. Non-thematic and thematic approaches were selected (i.e., the data and information included in the analyses were not selected (non-thematic) or were selected (thematic) based upon given themes). All approaches were exploratory (as opposed to hypothesis-led).

1. A principal components analysis (PCA) was conducted for the purpose of identifying and understanding variance in Birmingham datasets based on lower super output area (Isa) components. This was a data-driven, non-thematic analysis.
2. A liveability (carbon/resources/wellbeing) performance analysis was conducted to understand Birmingham’s overall liveability performance. This was a data-driven, thematic analysis.
3. A liveability (carbon/resources/wellbeing) coupling analysis was conducted for the purpose of exploring the relationships between Birmingham’s carbon emissions, resource efficiency, resource security and wellbeing. This was a data-driven, thematic analysis.
4. A network analysis of academic and policy documents was conducted for the purpose of understanding how information sources are linked together and how the detailed themes arising from the information sources are linked together. This was an information-driven, non-thematic analysis.
5. A ‘hot and cold spot analysis’ of academic and policy documents was conducted for the purpose of understanding to what degree aggregated themes arising from the information sources (e.g., housing, wellbeing, growth, air pollution, health) are represented. This was an information-driven, non-thematic analysis.
6. A geographical analysis of data and information sources was conducted for the purpose of understanding the scales that the sources covered (e.g., sub-city, city, region+). This was a data- and information-driven, non-thematic analysis.

Initial Analysis of the Existing Evidence Base Four challenges for Birmingham were identified through analysis methods 2 to 6.

1. *Promoting healthy living and healthy long lives.* Birmingham performs poorly with regard to health despite 80% of its population rating their health as good or very good. At the ward scale health outcomes are variable and clearly health and healthcare do not follow ward boundaries (or ward-level policies). The network analysis shows a clear disconnect between an extensive, but narrow, academic medical literature and other academic and policy literatures.
2. *Minimizing high-carbon mobilities whilst maximizing connectivity.* Some wards suffer from disproportionately high levels of traffic congestion whilst other wards (notably those further away from the city centre) have poorer access to public transport. Some wards are less connected in non-physical ways. In direct contrast to the health challenge, mobilities and transport policy is based upon targeted studies (e.g., of a particular intersection) and there is less evidence that mobility and transport are being radically and strategically considered at the city scale (e.g., making Birmingham car free).

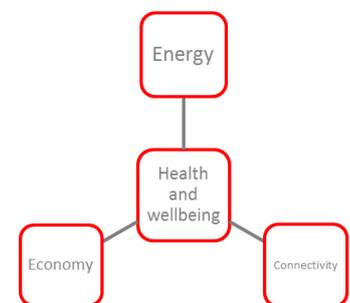
3. *Reducing environmental risks through the sustainable use of low-carbon, local energy and securely-supplied non-local energy.* Energy forms part of city-scale and ward-scale policy documents. Primarily the impacts of energy upon the environment (as a contribution to climate change and contributing to pollution) feature in general terms, and it is clear that in recent years (and in particular following the Financial Crisis) reducing carbon emissions and being environmentally friendly has fallen down the Council's list of priorities, while growth has come up this priority list, setting the scene for obvious tensions between growing and reducing high-carbon energy demands.
4. *Developing appropriate governance models to ensure economic vitality and establish the city's brand.* There is an apparent lack of confidence in Birmingham's policymakers to be able to create an economically vibrant city and there are clear knock-on effects upon attracting inward investment, new businesses and new residents, and establishing the Birmingham brand. It is unclear whether the Council has a holistic understanding of how the City's economy is currently performing (and why) and how it would like for it to perform in the future (strategic vision). It is also unclear if the City has the means to facilitate movement to a future vision.

The principal components analysis (PCA, analysis method 1) identified broad integrated challenge areas that, in combination with the other analyses, provide further insight into the interdependency of Birmingham's city services. The results are based upon examination of several data sources, including a data reduction technique to identify groups of indicators for urban living in Birmingham, and consultations with the ULB academic team and Touchstone Group. Three common themes were identified across the challenge areas:

- A significant socio-spatial divide across the city. The central band, including the city core and to the eastern boundary, illustrates higher levels of deprivation and ethnic diversity than the areas to the north and south of the city.
- An apparent disconnect between the users of the city, both working populations and different resident groups, which raises questions about how well the city serves the needs and desires of users.
- Health and wellbeing is a common theme across the challenges. There is an inter-relationship between deprivation and economic wellbeing, urban form, connectivity and health. This theme connects the individual or household with the physical structure of the city.

Five inter-related challenges for Birmingham were identified through the PCA analysis.

1. *Economic Advantage, Equity and Healthy Households.* There is a thematic link between economic advantage, housing, energy and health, which presents a wider framework for understanding and supporting more equitable growth across the city.
2. *Healthy Living Environments and Community Prosperity.* There is a distinct spatial band around the city core that reflects a transition zone into the core, but is also a residential community with disadvantaged living conditions. The urban form and transport network need to be integrated in this zone to enhance the residential space.
3. *A Connected and Liveable City.* There is an indicative pattern between physical connectivity (internal and external) and the wellbeing of citizens. Access to local services and non-car based networks shape the relative 'distance' experienced by users of the city and could support community-based approaches to wellbeing.
4. *A Prosperous Core.* The zone around the immediate city core appears to be disconnected from the regeneration of various parts of the centre. Increased levels of negative liveability suggest the area is not integrated with the prosperity and brand of the city centre.
5. *Integrating Urban Form and Natural Capital.* This challenge area highlights disconnect between the natural and urban form of the city and the resident population characteristics.



Gaps or needs for further work. The diagnostic process developed by ULB has identified a number of major gaps that require further research. There is considerable interdependency between the challenges described above that reveals opportunities to integrate policy silos and city-users. The ULB diagnostics process identifies five critical challenge areas that are specific to Birmingham, as follows: (1) health & wellbeing, (2) energy, (3) connectivity, (4) economy, and (5)

governance. The PCA analysis links 'health & wellbeing' separately to 'energy', 'connectivity' and 'economy' in an apparent 'Birmingham nexus' (see figure). A nexus indicates a series of elements and WP3 research may reveal that this is not a nexus but a plexus or a collection of elements within a system. Ongoing research is needed to understand the complex interdependencies between processes that impact on people living in Birmingham and other cities. This ULB nexus/plexus identifies that there needs to be closer alignment of the research priorities across the research councils. The Urban Living Partnership is an excellent example of a new approach for exploring and identifying solutions to the complex challenges that are facing UK cities.

A continual issue that has arisen during the Urban Living Birmingham pilot is the presence of policy, organizational and evidence silos. These silos distort policy formulation and implementation leading to less effective policy interventions. There is a clear misalignment between the needs of policy-makers and academic research. Much of the existing academic research is not closely aligned with the broader integrated challenges facing cities and their policy-makers. A far more assertive focus on integrated challenges, recognising the enormous potential value and efficacy of addressing issues that span the system of systems and the complex interrelationships that they encompass, is warranted. This has the potential for system changes to yield multiple benefits

Summary. ULB was designed in two stages, which are proceeding on time and as planned. WP1 (diagnostics) has revealed an exciting nexus/plexus of challenges that have prompted WP3 (deeper exploration of the challenges) to be designed to reflect this higher degree of connectivity between challenges. This is reflected in the skills of the recruited WP3 researchers, who have disciplinary and methodological breadth. Project risks continue to be identified and addressed on a regular basis and currently no risks threaten the successful completion of the project.

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