Why Urban Analysis?

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Abstract This chapter introduces some of the basic principles and practices of undertaking research in urban analysis or urban planning courses. It begins by asking the question: 'What is urban analysis' and discusses the reasons why we might undertake urban analysis or planning research. It then introduces the reader to several basic research concepts that form the basic knowledge set covering most forms of research undertaken in the field. This includes introducing the reader to the different purposes of research, different methodological approaches and data sources, as well as to the important question of ethics in research.

1 What is Urban Analysis?

Chances are, that if you are reading this book then you are interested in cities and urban settlements, or you are doing a course in planning, geography or a related field. As such, you may already have an idea of what urban analysis is. In this book, we treat urban analysis as being the empirical study of cities and urban life. Moreover, we consider urban analysis as being a collection of approaches, methods and procedures that aid in our understanding of cities and urban life. Understanding the methods associated in doing urban analysis is certainly useful if you are an academic or are thinking of a job as an academic or professional researcher. But understanding the methods of urban analysis is also important if you are going to be working in government as a planner, in a non-government organisation as an advisor or any number of other jobs. In fact, given that a lot of social life we witness happens in cities or urban settings, it is likely that even if you never work in a job with requirements for either conducting or understanding research and its outcomes, knowing the how-to and why of urban analysis will help you better understand the world we live in.

In a more formal way urban analysis can be considered from two interrelated positions: an academically oriented position that focuses on theory building or testing

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and is generally referred to as basic research and a policy-focused position that is applied in nature and generally focuses on solving a particular problem. The basic and applied ends of the research spectrum are not mutually exclusive as the foci and interests of both often converge, as implied above, on wanting to better understand the urban world we live in. Indeed, the methodological toolbox used by both basic researchers and applied researchers is the same although the actual approaches used in any single project may differ.

Many of the examples given in this book will be focused on applied research. Applied urban analysis focuses on the how, what and where of urban areas with the goal of developing a nuanced understanding of a given issue for use in the policy making area. If you are undertaking applied urban analysis, then you are going to focus on the identification and answers to problems as they occur within cities and urban areas. You might, for example, investigate the most preferred location for a stadium, seek to answer questions about public transport usage or you might be engaged to provide answers to questions around community satisfaction in the wake of a range of social issues. All of these might be of interest to an applied urban researcher. And they would all follow a formal and methodical approach to arrive at a well-considered answer.

This leads to another point regarding urban analysis. While it may not necessarily always be the case in practice, urban analysis should follow a well-thought-out methodological path or framework. Regardless if you are undertaking the basic research or applied research, good urban analysis needs to abide by a carefully considered and systematic recipe. Issues will include

- Defining the scope of the research
- Identifying variables
- Considering different levels of analysis and causal relations among variables
- Identifying potential sources of data
- Estimating data collection needs
- Taking an inventory of the resources needed to proceed
- Considering the ideal (most rigorous) research design
- Identifying potential findings
- Targeting your audience and determining how you will present your findings

Each of these issues has a long-established body of appropriate protocols and approaches, many of which will be elaborated on in this book.

2 Why Do Urban Analysis?

Let's delve a little more into the why of urban analysis. As I have noted above, even at the most basic level the simple reason we want to know about urban analysis is to have a better understanding of what is going on around us as we go about our daily life in the city. Still not convinced? Think about this. Often, after we've lived in a city for extended time, we think we have a good idea of the structure and processes that are

underway and shape the city's social, economic, demographic and environmental fabric. For example, residents of a city can usually point out the socio-economic divides that characterise a particular place, what neighbourhoods are most desirable to live in, and why and what is the major physical characteristics of their local area.

As an experiment, I often get my students to list the things they know about their city or neighbourhoods' broad social and economic fabric. I ask them to consider how their city is compared to the wider state or regional average in terms of incomes, family types, levels of crime etc. I ask them if they think they know their city well then get them to draw a diagram or infographic to illustrate their understanding.

I then present them with an infographic illustrating some of the key factors that determine the social and economic shape of the city. Once presented with this, the student often argues that my analysis benefits from the use of official census statistics or some other data that they didn't have access to.

I point out that the difference between the two styles of analysis is that one is relying on their personal and individual experience of the city or neighbourhood they live in, while the other relies on data collected by methodical and systematic research approaches. My goal is to illustrate the importance of urban analysis (and all research for that matter) and to use established methodologies and approaches to develop sound evidence which enhances our understanding of cities and urban areas.

Let's take another example. If you were to select a suburb at random, could you provide information about the level of satisfaction that a person residing in that suburb might have and could you provide some reasons to account for that level of satisfaction? Issues around residential satisfaction are one area of urban social life that often comes up in the academic literature [1–3]. If you read some of this literature you will encounter some theories or hypotheses about urban life and residential satisfaction that might provide you with some broad ideas, but you still couldn't really answer the question. Certainly, you could have a look at the physical characteristics of the suburb and that might give you some idea. Beyond that you might simply have to rely on your own views or knowledge. If you did this, then you would probably be missing out on a whole lot of issues and would have only a very superficial (and possibly widely incorrect) view of the subject matter. Again, this is an illustration of the need to have a good grasp of the methods and approaches that are the backbone of urban analysis.

2.1 Systematic Versus Non-systematic Knowledge

The point I am alluding to above is that the way we understand things is usually made up of knowledge gained from several different sources. This applies to both our understanding of urban areas as much as our understanding of general everyday life. In understanding the social shape of the city for example, we might base our view on our personal experience of where we live and the surrounding suburbs or on what our friends told us about where they live. Within the realm of research our knowledge about things gained from personal experience is placed within the orbit

of non-systematic sources of knowledge. Babbie [4] refers to this as ordinary, non-scientific inquiry. These non-systematic sources of knowledge are 'those things we know as part of the culture we share with those around us' [4, p. 5] and include knowledge gained through common sense (everyone knows that it is so), intuition (I just know that it is so), beliefs (based on personal conviction), tradition (it has always been that way), personal experience or authority (the word of an 'expert'). Obviously, some sources of non-systematic knowledge are more credible than others. However, as I pointed out above, only relying on these types of knowledge to inform reality can result in a piece-meal view of the society in which we are investigating.

Systematic sources of knowledge involve methods and approaches for conducting empirical research that comply with rules that specify objectivity, logic, and communication and the link between research and theory. With systematic sources researchers follow a set of criteria to make informed judgements about a particular issue.

So why systematic sources of knowledge? Within the realm of urban analysis, we often want answers to important questions that impact on a whole city or a particular community. This often involves having considered input into policy. Within the world of policy, systematic sources of knowledge contribute towards the evidence base. For instance, in the residential satisfaction example used above, by following a systematic approach to answering the question (i.e. undertaking a sophisticated social survey with a large robust sample) we could provide much more considered input into policy than if we were simply to rely on personal experience.

3 Research Basics

The main goal of this book is to provide a guide to undertaking aspects of urban analysis. Its aim is not to provide answers to all methodological issues, but rather to highlight some of the most commonly encountered. However, prior to diving into the main material, it is useful to consider a number of fundamental research issues that establish the context for the material presented in subsequent chapters. Here I want to discuss the purpose of research, methodological approaches, sources of data and ethical issues.

3.1 The Purpose of the Research

We have already discussed the idea that urban analysis can be considered as being basic research (theory testing or building) or applied research. Beyond this distinction, a researcher must also decide on the purpose of the research they are undertaking. Understanding the purpose of the research is often an important founding step in developing a research idea (see chapter "Research Questions and Research Design").

At its most basic level, research can be viewed as a simple process of exploration. Researchers may undertake a program of exploratory analysis as part of an early pilot study or as a part of the background to a larger study. Researchers will use exploratory studies when they are new to a particular subject area and wish to survey the existing research field. As an example, let's suppose that you decide to undertake a research project on gentrification as part of your university degree. In doing so, you may want to know a bit more about the subject area before you begin. You could carry out a literature review (in essence an exploration of the research and policy literature) and you could perhaps ask or interview some 'experts' about some of the issues. You might be interested in exploring what is gentrification, what studies have already been done, is it an issue for concern in your city, and if so, what are some of the policy questions or implications. By exploring the issue, you are likely to come up with many unanswered questions and this exploration may provide important information for moving your research forward.

A significant body of research in urban analysis is given over to providing descriptive analysis of an issue or problem. Descriptive research uses methods to systematically describe situations, events or behaviours. It asks the what, where, when and how questions. For instance, a descriptive analysis of an urban area's demographic makeup might involve providing basic tables, graphs or maps that show how the age structure differs between suburbs or how certain zones in a city have higher levels of renters than homeowners. Descriptive research studies often make use of official statistics such as population census as the work of demographer Bernard Salt [5] on population change or my own work on community typologies [6] illustrates. Research that involves policy evaluation, say of urban planning outcomes, is also likely to be descriptive, as is research tagged as social, economic or environmental impact assessment that aims to determine the likely impact of planned changes.

More complicated than the descriptive research is the research that aims to gain understanding of a particular issue and explain outcomes or processes. Explanatory research aims to answer the why questions. For instance, while a descriptive analysis of residential mobility might show who moved and where they moved to within a city, an exploratory analysis would also look at the reasons why particular groups of households move and the reasons and processes behind their mobility choices [7, 8]. Here a researcher would enlist theories or conceptual frameworks to guide their research and search for statistically significant correlations or associations between variables.

3.2 Methodological Approaches

Within the urban analysis literature as well as more broadly within the social research literature, there are two broad methodological approaches used—quantitative and qualitative. Quantitative approaches utilise numerical representations of observations in order to answer a research question. For example, the residential mobility example described above might use data from a survey to show numerically how many people

move and the stated reasons for moving. This data may be displayed in a tabular form, as a graph or might form part of a complex mathematical equation.

In contrast to quantitative approaches, qualitative approaches utilise non-numerical representations to answer research questions. Here information might come in the form of text, speech or some visual format such as photographs. We might, for example, find out about residential mobility by undertaking in-depth interviews with household who have recently moved and use their stories to answer the question why people move.

While it is often the case that textbooks represent these two approaches as opposite ways of approaching research, and academics often favour one approach over the other, it is the case that the two approaches are not mutually exclusive. Each have advantages and disadvantages and follow some different rules. While a quantitative approach can offer a broad overview of a topic using, for example, a complex statistical process, a qualitative approach can offer a more nuanced understanding of an issue. In this way, quantitative approaches can provide the broad skeletal view of an issue, while the qualitative approach adds some skin to the bones. Hence large research projects may enlist both approaches to provide a well-rounded analysis of the issue. In this case the research will be engaged in a mixed-methods approach. In formal terms a mixed-method approach represents research that involves collecting and analysing, both quantitative and qualitative data in a single study.

3.3 The Source of Data

As we will see, a large component of this book deals with different ways of approaching urban analysis and in particular different ways of collecting and gathering data. The data one might use in undertaking urban analysis can be classified as primary or secondary. In any single project the researcher might use secondary data, primary data or a mixture of both. Primary data are the data that has been newly collected by the researcher, most often for a specific research purpose. Secondary data is the data that has been already collected and can include survey data that another researcher has collected for another purpose or official data from government organisations. As we will see, official government statistics in the form of population census or other administrative datasets are widely used in the area of urban analysis and have become more easily accessible due to high-speed internet and high-powered computing solutions. Both approaches have their advantages and disadvantages and the sources used in any single project will depend on many factors, including cost, time and personal preference.

4 Ethics in Research

If undertaking research involves following a well-planned research path or framework in order to form systematic sources of knowledge, it is equally about following a range of rules that govern the ethical conduct of research. We often hear about the need to undertake ethical research on animals, but many of the same rules, plus some additional ones, pertain to the conduct of social research. In essence, ethics brings us into the realm of values in the research process. Here we ask questions such as how should we treat the subjects of our research? or Are there types of research or types of research questions in which we should or should not engage in? Large chapters of social science research textbooks are filled with discussions around these issues (see, for example, Babbie [4] for an extensive discussion) and all research institutions, universities and many funding bodies have detailed research ethics handbooks and guides that set out in detail the main ethics principles that researchers are expected to abide by.

Ethical principles are simply the set of values and standards used to determine appropriate and acceptable conduct at all stages of the research process. They are a set of moral and social standards that includes both prohibitions against and prescriptions for specific kinds of behaviour in the research setting. Depending on the types of research being undertaken, an individual or a team of researchers are faced with four broad ethical principles:

- Harm to participants
- Informed consent
- Invasion of privacy
- Deception.

When conducting research, one of the first issues to consider is, will the planned research approach or the findings from the research cause harm to the participants of that research. This principle has arisen due to a number of infamous research projects that, at the time, resulted in significant harm to those involved. These included the experiments by Nazi scientists on prisoners of war and the famous Milgram obedience studies [9]. Harm can be interpreted as physical harm, but often in the types of research conducted under the umbrella of urban analysis harm may be interpreted as including psychological, emotional, legal, social or financial harm. In cases where there is the potential for harm, the researcher must take steps to ensure that appropriate harm minimisation strategies are put in place. Strategies may include changing the way the research is conducted (i.e. using a different data collection method or approach) or providing participants with the opportunity to debrief following the research.

In research where the involvement of human subjects is necessary, the researcher or research team needs to obtain informed consent and ensure that the participant is not coerced to participate. The notion of informed consent requires that a participant be given full information regarding the research. This information includes details about the research itself, what participation in the research requires, any risks or harms associated with the research, what will happen to the information that is collected and

information regarding how to contact the research team and/or the appropriate ethics committee or group. The participants also need to be reassured that they can withdraw from the research process at any time without penalty. While it is usual in face-to-face or paper-based surveys to obtain written consent (see chapter "Conducting Survey Research"), consent may also be oral or even implied, depending on the nature of the research approach.

Any participant in a research project must be guaranteed that their privacy will be respected. Depending on the type of research being conducted, it may be necessary for participants to disclose private or sensitive information to the researcher. The researcher should not use names or identifying information on questionnaires, and where responses can be linked to names, the researcher must ensure names and data are kept separately and only accessible to research team. One area where confidentiality and anonymity sometimes become a problem is when the researcher undertakes in-depth interviews with stakeholders and then provides reports on these interviews. In such cases, it is necessary to use pseudonyms for participants (i.e. informant A said….).

A final ethics principle relates to deception. Deception in research can take many forms from not giving a participant full information about the project or not informing a participant they are being studied to falsifying research findings. Within the research world there is generally a negative reaction to deception usually due to moral distaste (i.e. it's bad to lie) or that deception may bring the discipline or institution into disrepute. Depending on the research topic and the approach taken, it may not be possible to completely remove all forms of deception (i.e. in the case of research involving covert observation), but the researcher must ensure that all steps are taken to reduce or limit deception.

Depending on the type of research undertaken and the associated ethics issues, a researcher, prior to commencing their data collection, must apply for clearance from an appropriate body. This is usually a research ethics committee or an institutional review board (in the United States). The ethics committee (usually a university-based committee, but could also be attached to a funding body) is tasked with reviewing the proposed research, identifying any issues that are attached to the conduct of the research and providing guidance to the researcher regarding the most ethical way to conduct their research. They are also the first point of contact in the case where ethics principles have been ignored or broken.

5 Conclusions

This chapter has set the scene for the remainder of the book by presenting a number of key points to consider when undertaking an urban analysis project. The task of the remaining chapters is to assist the researcher in undertaking an urban analysis or planning research project. It is not meant to provide an in-depth treatment of the whole of the research methods field. The aims here are more modest and limited to

providing a guiding framework or context for asking research questions and implementing a research plan in urban analysis or planning research. Each chapter deals with a particular aspect of research, whether that be research design, conducting a literature review or collecting and using data. To help readers expand their knowledge beyond the book, each chapter also provides a list of resources that provide further information.

Key points

- Urban analysis and planning research is a broad field that focuses on helping to understand the way cities and urban areas function, how they develop and how the networks of people, places and organisations all work together.
- Like all social science type research, research that is undertaken in the urban analysis and planning areas should be guided by a range of research basics.
- There are several possible broad approaches that may inform your research including decisions about the purpose of your research and the type of approaches you might take.
- Like all research, the research that you might undertake in the field of urban analysis or urban planning must comply with clearly set out ethics principles.

Further information

For those wanting to get further information about research basics and social science research more generally, see:

- Martyn Denscombe (2009). Ground rules for social research: Guidelines for good practice. McGraw-Hill Education (UK).
- Elisabete Silva, Patsy Healey, Neil Harris and Pieter Van den Broeck (Eds.). (2014). The Routledge handbook of planning research methods. Routledge.
- Alan Bryman, (2016) Social research methods. 2016: Oxford university press.

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