Chapter 11
The Civic University and the City

John Goddard

In the context of the ongoing globalization of the economy and society—a process in which higher education is an active player—questions are being asked in many circles about the contribution that universities can make to the public good, not least in the places where they are located. More specifically, not only what is a particular university "good at" in terms of the quality of its research and teaching (as reflected in national and international ranking tables) but also what is it "good for" in terms of its active contribution to the wider society globally and locally.

The local dimension is particularly relevant when universities are directly or indirectly funded from the public purse and where governments are accountable to their electorates via territorially based governance systems. Politicians might be heard to ask: "I have a university *in* my constituency or local authority area but how does it actively contribute to the development *of* my area." A typical response is that although the university is not formally bound to a particular area it can be a key link for that area to the wider world, connecting the global and the local.

This response chimes with a growing recognition of the link between globalization and localization. As the leader of the UNESCO Global Universities Network for Innovation points out "Although communication is now global, location, proximity, and uniqueness still matters" (Grau, 2014, p. 2). He quotes the distinguished urbanist Manuel Castells, who notes that:

> The network society diffuses selectively, working on the pre-existing sites, organizations and institutions which still make most of the material environment of people's lives. The social structure is global but most of human experience is local, both in territorial and cultural terms. (Grau, 2014, p. 2)

J. Goddard (✉)
Centre for Urban and Regional Development Studies (CURDS), Claremont Bridge, Newcastle University, Newcastle upon Tyne, UK
e-mail: john.goddard@ncl.ac.uk

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As key institutions in society, all universities have a unique location and cannot avoid a relationship with the myriad of other institutions and communities also inhabiting that place, particularly others also involved in the production and distribution of knowledge and public bodies, such as local authorities, responsible for the place in the round and the wellbeing of its citizens.

This chapter explores the changing nature of links between the university and the city in both theory and practice, outlining a model of the civic university engaged with global challenges that have an urban dimension, and illustrates the arguments with reference to experience of universities working with cities in England.

Universities as Urban Anchor Institutions

In promoting dialogue between universities and city authorities the notion of the university as an *anchor* institution can be helpful. Anchor institutions might be characterized as not just in the place but of the place. The U.K. think tank The Work Foundation defines anchor institutions as:

> large locally embedded institutions, typically non-governmental public sector, cultural or other civic institutions that are of significant importance to the economy and the wider community life of the cities in which they are based. They generate positive externalities and relationships that can support or "anchor" wider economic activity in the locality. Anchor institutions do not have a democratic mandate and their primary missions do not involve regeneration or local economic development. Nonetheless their scale, local rootedness and community links are such that they can play a key role in local development and economic growth representing the "sticky capital" around which economic growth strategies can be built. (The Work Foundation, 2010, p. 3)

In the case of universities, their main location, in comparison with private firms, is fixed within the current home location. Notwithstanding possible expansion to other nearby or faraway campuses, it is where they have considerable sunk investment in buildings and research infrastructure and strong identification with place through the name of the institution. On past experience universities have generally been immune to institutional failure or sudden contractions in size. They can therefore act as a source of stability in local economies, buffering against the worst effects of periodic downturns. They are particularly important as anchor institutions in weaker economies (Goddard, Coombes, Kempton, & Vallance, 2014).

What does *anchoring* imply for universities? Being anchored in a particular location does raise normative questions for the university about the requirement for academic practice to be of relevance to the place in which academics live and work as citizens. The former director of the London School of Economics, Craig Calhoun, in a famous paper entitled "The University and the Public Good" made an important point when he wrote:

> We treat our opportunities to do research not as a public trust but as a reward for success in past studies. Rewards for research are deeply tied up with the production of academic hierarchy and the relative standing of institutions. (Calhoun, 2006, p. 19)

But, significantly, Calhoun goes on to say: "Public support for universities is based on the effort to educate citizens in general, to share knowledge, to distribute it as widely as possible in accord with publically articulated purposes" (Calhoun, 2006, p. 19).

More recently in his treatise on *The Public Value of the Social Sciences,* John Brewer (2013) has unpacked the word *public*:

> Use of the adjective "public" not only implies fundamental questions about accountability but also poses additional queries about to whom should we as social scientists feel accountable . . . Public social science has both a research and teaching agenda and involves a commitment to promote the public good through civic engagement. (Brewer, 2013, p. 6)

Although neither of these authors is specifically writing about territorial issues or indeed all disciplines within the university, they are relevant to a narrative about the civic university and its relation to the wider society locally as well as globally. In relation to the local, much academic writing on territorial development recognizes that the city cannot only be viewed as an economic engine or physical place—which it is—but also as a node in a network of local and global, social, cultural, and political interactions. Put more simply the development of the city is about businesses that generate jobs, the people who live there, and the institutions of urban governance connecting these domains. The civic university is therefore engaged with the city in the round.

The University and the Development of the City in the Round

How are universities actively contributing to place-making, to innovation, economic and social development? Thomas Bender (1988) in his seminal book on the university and the city referred to campuses as "semi-cloistered spaces in the midst of the city to meet the work and leisure needs of students and academic communities" (p. 290). In terms of place-making the expansion of universities has led to demand for more space. In some cases, university sites have been dispersed all over a city, reducing their impact. Science parks developed to accommodate businesses linked to universities have often been established on the urban periphery. However, there has been recent and growing pressure to open out university campuses to the city. Even science parks have been experiencing an urban turn toward sites that are more mixed in function and integrated into the fabric of the city. In this trend universities have become involved in local regeneration projects and the development of initiatives such as cultural quarters, science zones, and media hubs.

In terms of the contribution of universities to business innovation, the way innovation takes place is changing from a linear model to a coproduction model highlighting the important role of users, service, and open and social innovation. According to the European Commission open innovation can be defined as:

> a new paradigm based on a Quadruple Helix Model where government, industry, academia and civil participants work together to co-create the future and drive structural changes far

> beyond the scope of what any one organization or person could do alone. This model encompasses also user-oriented innovation models to take full advantage of ideas' cross-fertilisation leading to experimentation and prototyping in real world settings. (European Commission, 2015)

This model refers to a wider range of knowledge inputs, additional entrepreneurs, and different selection mechanisms and ways of allocating capital and people to projects. A range of partners, including local authorities, public service organizations (health providers, schools, etc.), charities and social enterprises, and universities can be involved. This new reality for innovation gives even greater salience to the role of personal contacts between a wide range of actors and agents, underscoring the advantages of urban agglomeration. Students can be a key part of this mix. They can act as knowledge transfer agents through work placements linked to their courses. If these students are subsequently employed in the organization, this will establish the social relations with their teachers on which subsequent links can be built.

Turning to social development, universities cannot avoid the inequalities present in most large cities, where they are located, not least because of its likely impact on attracting students and staff from elsewhere. They are also expected to recruit more students from disadvantaged backgrounds and this can be done by work with schools within the city. Cities are also under fiscal stress and expected to deliver more services in a joined-up way to the local population. Social innovation can be seen as one focus for university collaboration with the city.

The influential European Commission's Board of European Policy Advisors (BEPA) has defined social innovation as:

> innovations that are social in both their ends and their means. Specifically, we define social innovations as new ideas (products, services and models) that simultaneously meet social needs (more effectively than alternatives) and create new social relationships or collaborations. They are innovations that are not only good for society but also enhance society's capacity to act. The process of social interactions between individuals undertaken to reach certain outcomes is participative, involves a number of actors and stakeholders who have a vested interest in solving a social problem. (BEPA, 2010, pp. 9–10)

This can be boiled down into three perspectives: first, a social demand perspective in terms of the needs of vulnerable groups traditionally not met by the market and where there is a strong role for social entrepreneurs; second, a societal challenge perspective through which societal problems are addressed through new coalitions and where the boundaries between the economic and social blur; and third, a systematic change perspective where social innovation is reshaping society itself.

Social innovation implies extending the dominant model for university external collaboration from the so-called *triple helix* of university (see chapter by Etzkowitz in this volume), business, and government to a *quadruple helix* that embraces civil society. More specifically, to quote two reports for the European Commission:

> The Quadruple Helix, with its emphasis on broad cooperation in innovation, represents a shift toward systemic, open and user-centric innovation policy. An era of linear, top-down, expert driven development, production and services is giving way to different forms and

> levels of coproduction with consumers, customers and citizens. (Arnkil, Järvensivu, Koski, & Piirainen 2010, p. 6)

> The shift toward social innovation also implies that the dynamics of ICT [information communication technology]-innovation has changed. Innovation has shifted downstream and is becoming increasingly distributed; new stakeholder groups are joining the party, and combinatorial innovation is becoming an important source for rapid growth and commercial success. Continuous learning, exploration, co-creation, experimentation, collaborative demand articulation, and user contexts are becoming critical sources of knowledge for all actors in R&D [research and development] & Innovation. (Information Society Technology Advisory Group, 2011, p. 5)

According to Arnkil et al. (2010) the quadruple helix model can have four variants, depending on whether the focus is on citizens, firms, the public service sector, or simply the better commercialization of university research by testing products and services with users; first, a triple helix model with users added on; second, a firm-centered *living lab* model; third, a public-sector-centered living lab model; and finally, a citizen-centered model.

Although the role of digital technologies is central to the quadruple helix, this does not necessarily mean that geography no longer matters. Indeed, the city as a living lab for testing new ways of organizing the delivery of services in a sustainable and inclusive way, for example, to an ageing population, is influencing public policy all over Europe.

Societal Challenges and the Civic University

Part of the growing expectation of universities is that they will contribute to the major challenges facing society. Such an approach characterizes the European Union's Horizon 2020 program designed to contribute to the Europe 2020 Lisbon Treaty agenda of "smart sustainable and inclusive growth" (European Union, 2007). Many of the themes within the program, such as health, demographic change, and well-being; smart, green, and integrated transport; and inclusive, innovative, and secure societies, have an explicit or implicit territorial dimension.

Horizon 2020 also has a cross-cutting theme of *Science with and for Society*, which recognizes that "betting on technology acceptance by way of good marketing is no longer a valid option . . . Early and continuous iterative engagement with society in research and innovation is key to innovation adequacy and acceptability" (Science With and For Society Advisory Group, 2014, p. 7).

With these points in mind the European Commission has endorsed the concept of Responsible Research and Innovation (RRI):

> RRI is a process where all societal actors (researchers, citizens, policy makers, business) work together during the whole R&I process in order to align R&I outcomes to the values, needs and expectations of European society. . . . There is a need for a new narrative drawing on a broad-based innovation strategy encompassing both technological and non-technological innovation at all levels of European society, and with a stronger focus

> on the citizen and responsible and sustainable business—a quadruple helix and place-based approach to science, research and innovation. (Science with and for Society Advisory Group, 2014, p. 8)

These principles have been embodied in the Rome Declaration adopted by the European Council in December 2014, which calls upon public and private research and innovation performing organizations, including universities, to implement institutional change that fosters RRI by:

- Reviewing their own procedures and practices in order to identify possible RRI barriers and opportunities at organization level;
- Creating experimental spaces to engage civil society actors in the research process as sources of knowledge and partners in innovation;
- Developing and implementing strategies and guidelines for the acknowledgment and promotion of RRI;
- Adapting curricula and developing training to foster awareness, know-how, expertise, and competence of RRI;
- Including RRI criteria in the evaluation and assessment of research staff.

Although not specifically referring to the civic university, traditional universities seeking to pay regard to RRI and perform a civic role may need to implement significant changes in the way they work and collaborate with the city. There may well be tensions in this change process.

Tensioned Themes

Developing a quadruple helix and RRI approach to science, research, and innovation within the city is not without both challenges and opportunities. This is inevitable. To once again refer to Thomas Bender (1988):

> I propose that we understand the university as semi-cloistered heterogeneity in the midst of uncloistered heterogeneity (that is to say the city . . .). Because of this difference, relations between the two are necessarily tense, and they cannot be assimilated into one another. To do so, either practically or conceptually, is to empty each of its distinctive cultural meaning and falsify the sociology of each. (p. 290)

In terms of physical development there may be tensions between the optimal strategy for the expansion of the university estate in terms of location and function and with projects that have an urban development or regeneration focus targeted at the needs of the city. This includes issues around student housing.

Universities as institutions partly protected by public funding can be sources of "slack" in metropolitan innovation systems. By virtue of harboring noncommercial activities that cannot be supported by the local private sector, universities can potentially add to the adaptive capacity of the metropolitan economy, particularly small and medium-sized enterprises (Vallance, 2016). But this potential is tensioned

against the immediate opportunities of working with the best companies regardless of location and the (low) level of absorptive capacity of local businesses.

These specific tensions are underpinned by those between the external civic role of the university and the internal processes within the university, which are heavily influenced by the higher education policy environment within which it operates. Public universities are principally influenced by national (or federal) governments. A city may have several higher education institutions within its boundary but no powers to develop a city- or region-wide higher education system to meet a range of local needs. It could be said that this is because the work of a university is not bounded by any specific territory. It operates within a national higher education system that does not have an explicit concern with territorial development issues. Because higher education is now a global business, a key driver for many universities is position in national and international ranking tables. These are heavily weighted in favor of recognition for research, with its very straightforward metrics of citations, and pay little regard to contributions to civil society where the metrics are much more complex.

Although city interests might expect a corporate response from "the university," this does not recognize that the *traditional* university is a loosely coupled organization composed of discipline-based units driven by higher education metrics and with only limited horizontal or vertical coordination. In such universities responding to external needs may be easier at the level of the academic unit than the entire university. This raises questions around business models of the university.

Business Models of the University

One well-established model is that of the entrepreneurial university model outlined by the American sociologist Robert Burton Clark (1998). This was designed to help the traditional university become a more corporate and outward facing institution, hence its subtitle "organizational pathways to institutional transformation." His model consists of a strengthened steering core (or what would now be called an executive board), an enhanced developmental periphery (composed of intermediate organizations like science parks and centers for continuing professional development), a diversified funding base (reducing dependence on state funding), and a stimulated and more entrepreneurial academic heartland. It is this model that underpins the triple helix framework extolled of universities, business, and the state and now adopted by governments across the world (Etzkowitz & Leydesdorff, 2000).

However, the shortcomings of this model as it has been adopted in policy and practice are increasingly being recognized, not least for its focus on research in science and technology and links to business. It neglects teaching except in the field of student entrepreneurship, the role of humanities and social sciences, place-based communities, and civil society more generally. An alternative model for the civic university is proposed here and this is best introduced by defining first a non-civic university (Fig. 11.1).

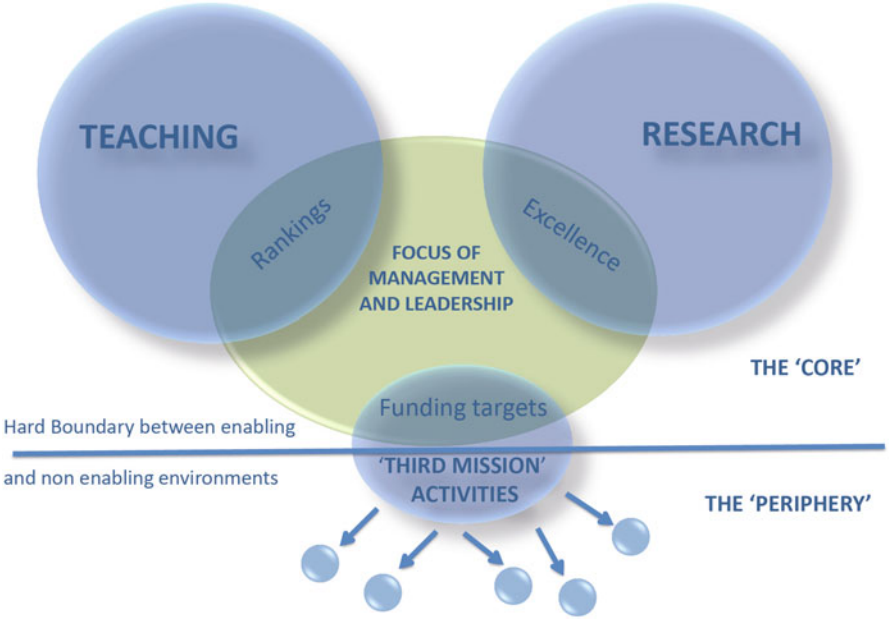

Fig. 11.1 The non-civic university. Source: Design by author.

Such a university maintains a strict separation of its teaching and research, with research performance judged by academic publications in peer-reviewed journals and teaching judged by student-satisfaction scores. Third mission activities are only seen as *core* when there are hard funding targets attached. Activities outside the core areas of focus are not enabled through incentives and others kinds of support, so are often seen as "below the radar" of management. The outcome of this is that the results of this work is not absorbed back into the teaching or research taking place in the university and impacts are not tracked or measured.

In contrast, Goddard, Hazelkorn, Kempton, and Vallance (2016) have developed an alternative model of the civic university that integrates teaching, research, and engagement with the outside world such that each enhances the other (Fig. 11.2). In the civic university, research has socioeconomic impact designed in from the start and teaching has a strong community involvement with the long-term objective of widening participation in higher education. Most importantly there is a soft, flexible boundary between the institution and society.

To turn this into a practical way in which institutional leaders and managers can appraise their own organizations seven dimensions of the civic university can be suggested. These are:

1. It is *actively engaged* with the wider world as well as the local community of the place in which it is located.
2. It takes a *holistic approach* to engagement, seeing it as institution-wide activity and not confined to specific individuals or teams.

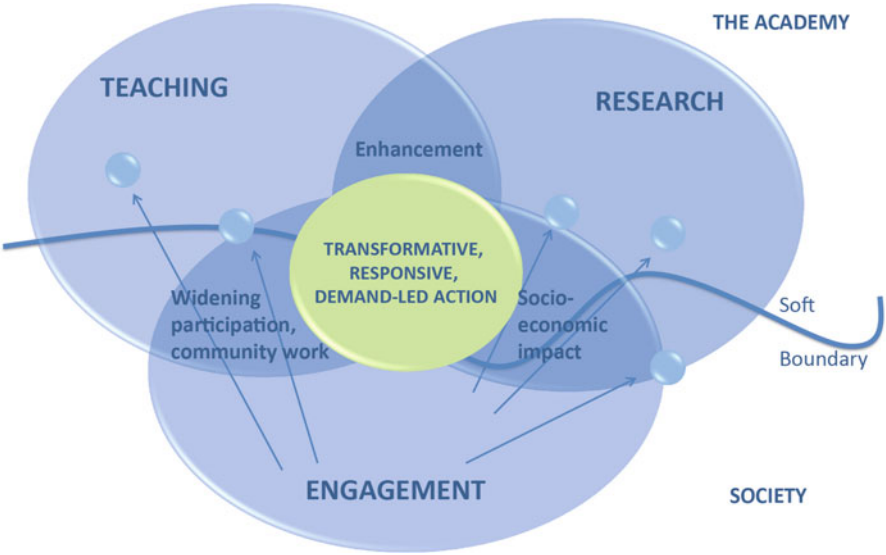

Fig. 11.2 The civic university. Source: Design by author.

3. It has a strong *sense of place*—it recognizes the extent to which is location helps to form its unique identity as an institution.
4. It has a *sense of purpose*—understanding not just what it is good at, but what it is good for.
5. It is *willing to invest* in order to have impact beyond the academy.
6. It is *transparent and accountable* to its stakeholders and the wider public.
7. It uses *innovative methodologies* such as social media and team building in its engagement activities with the world at large.

Those traditional universities that are seeking to enhance their civic role are likely to be on a journey of institutional transformation and may position themselves at different points along a spectrum against each of these dimensions, from embryonic to fully embedded in the customs and practices of the institution. In an international comparative study on the leadership and management of aspiring civic universities this framework is used as a means of developing a shared understanding among the participating institutions of the challenges they may be confronting on this journey and how these might be overcome.

Linking the University to the City and the City to the University

Realizing the potential of the civic university will not only depend on what the university does, but also on the capacity of its city partners in the public and private sector. A review of university partnerships with their regions for the European Commission has provided a framework to characterize the "connected region" (European Commission, 2011). Most of the regions reviewed had city-based universities at their core.

As in the case of the civic university it is best to start by characterizing the disconnected region. In terms of higher education universities were seen as *in* the region but not *of* the region. Their policies and practices discourage engagement with a focus on rewards for academic research and teaching. In terms of the public sector there was a lack of coherence between national and regional or local policies, a lack of political leadership, and a lack of a shared voice and vision at city region level. In the case of the private sector there was no coordination or representative voice with which universities could engage; firms were motivated by narrow self-interest and short-term goals and had low demand or absorptive capacity for innovation. Lastly, in terms of the mechanisms for connecting higher education into the development of the city and region, there were no *boundary spanning* people; relations with universities focused on supply side, transactional links; ineffective or non-existent partnerships; no shared understandings about the challenges, and last but not least entrepreneurs being locked out of regional planning.

By way of contrast in the connected city, the university is generating intellectual and human capital assets for the city region. The public sector is developing coherent policies that link territorial development to innovation and higher education and the private sector is investing in people and ideas that will create growth.

The U.K. Experience: Universities and Sustainable, Healthy, and Creative Cities

In the United Kingdom nineteenth-century institutions that were the predecessors of the so-called *redbrick* universities evolved to meet the needs of a rapidly evolving industrial society. This included not only support for key industrial sectors such as mechanical engineering but also hospitals contributing to a healthy workforce (and which later became the foundation for university medical schools). These institutions depended to a large degree on local public support. During the twentieth century these local links weakened with increasing central government support and influence over local government, the nationalization of higher education, and the concentration of banking and corporate headquarters in London. As a consequence, many of these civic institutions turned their backs on their host cities. However, in the twenty-first century some of these universities are seeking to

reinvent themselves as civic institutions in the context of a globalization of both the economy and higher education, an urban renaissance, and of devolution to city regions (Goddard, 2009).

More specifically, how are the universities in four English cities—Newcastle, Manchester, Sheffield, and Bristol—meeting contemporary urban challenges of environmental sustainability, health, and cultural development? To set these responses to urban challenges in context, it is possible to compare the promise and the practice of one aspect of civic engagement—research—by drawing on the evidence of a coauthored online survey of a 1-in-3 random sample of academics in all disciplines at the six universities in these cities (Newcastle, Northumbria, Sheffield, Sheffield Hallam, Bristol, and the University of West of England) regarding the intended impact of their research. These data related to both the older redbrick universities and the former polytechnics given university status in 1992. The coauthored survey had 700 responses, a response rate of 30% (Goddard & Vallance, 2013).

Respondents were asked to distinguish between the direct and indirect impacts of their research in terms of the intended primary and secondary beneficiaries. Not surprisingly the principal focus of most academics was on knowledge creation, followed by the transfer of this through education. Impact on the economy and society across a wide range of areas from public policy through to cultural enrichment was a secondary concern (Fig. 11.3). It makes sense that the primary intended beneficiaries of most academics' research were peers in their own discipline, followed by their own students (Fig. 11.4). Notwithstanding the triple helix rhetoric only 10% of academics intended their research to have direct impact on private businesses. And only 20% saw their work as directly contributing to technological development.

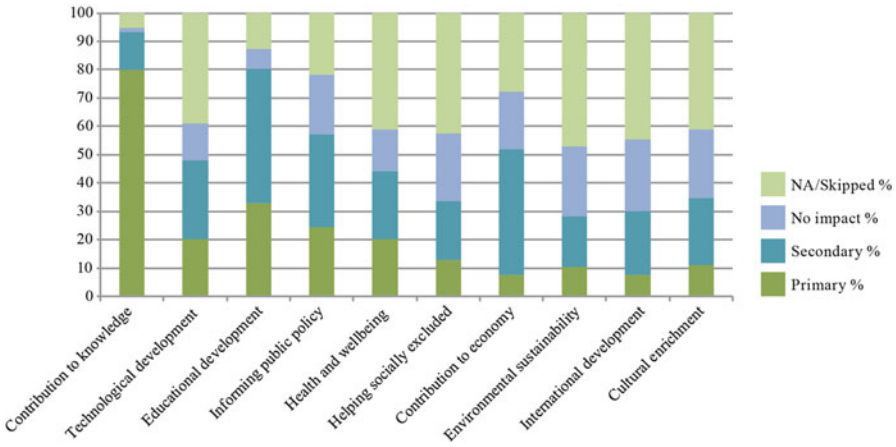

Fig. 11.3 Areas of research impact. Source: Goddard & Vallance (2013, p. 162). Reprinted with permission.

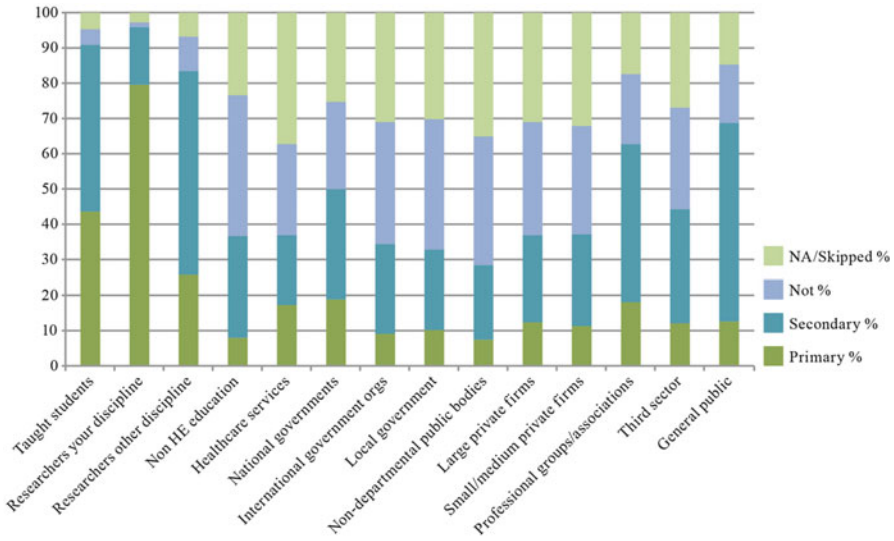

Fig. 11.4 Beneficiaries of research. Source: Goddard & Vallance (2013, p. 163). Reprinted with permission.

However, academics anticipated their research to have a secondary impact on a wide range of beneficiaries in civil society, most notably professional associations, the third sector, and the general public. This lends support to the quadruple helix model. Moreover, when those who said the intended impact of their research was on one of our urban challenge themes were separated out, it became apparent that those academics were more likely to be seeking an impact on other disciplines and civil society across the board.

But to what extent were these intended impacts geographically targeted? Not surprisingly the majority of academics did not intend their research to have an impact on particular places. However, there were pronounced differences between disciplines. Academics in the social sciences and humanities were most likely to want their research to have a place-specific impact. In contrast the hard sciences, which have been the focus of much effort in terms local economic development initiatives, were even less likely to look to specific locations for research impact.

There were also important differences between universities in terms of geographical focus. Again not surprisingly, academics in the former polytechnics in the three cities covered in the survey were more likely to want their research to have a geographically specific impact. Interestingly this orientation across both types of university was greatest in the northern cities, which have a lower level of prosperity than Bristol, which is arguably an extension of southeast England's *golden triangle*. This lends weight to the view that some academics are influenced in their priorities by the challenges presented by the place in which they work (Fig. 11.5).

Reviewing the documentary evidence, it is clear that universities in the four U.K. cities considered are working hard to minimize the environmental footprint

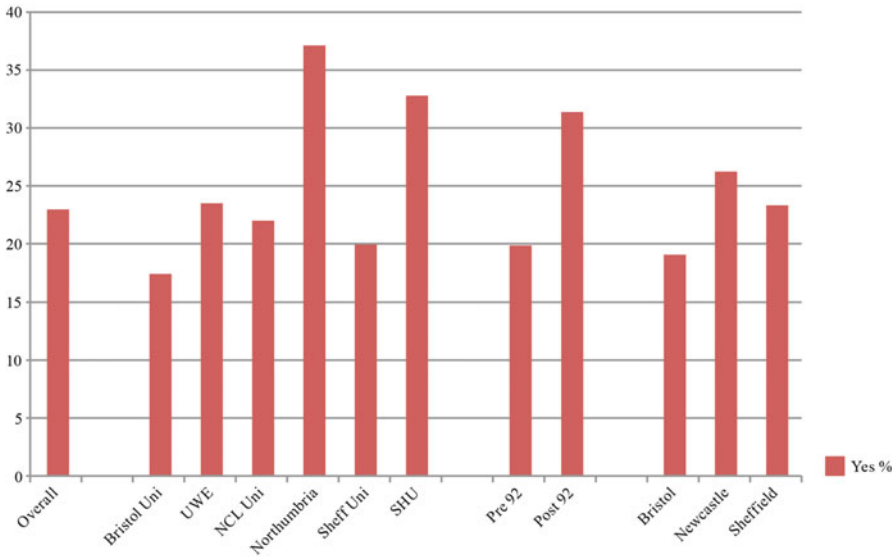

Fig. 11.5 The geography of research impact. UWE = University of West England; NCL Uni = Newcastle University; Sheff Uni= Sheffield University, SHU = Sheffield Hallum University. Pre 92 = universities existing prior to 1992; Post 92 = institutions granted university status in or after 1992. Source: Goddard & Vallance (2013, author's data).

of their estates. More significantly they are involved in economic development and regeneration initiatives involving the public sector that have a strong environmental dimension—among others the Science Central site in Newcastle and the Manchester Low Carbon Economic Area and the Manchester Corridor. Academics through their national and international roles are influencing the debate about sustainable cities and the regulatory environment within which energy production, distribution, and consumption has operated. In this process they are contributing to what can be referred to as multilevel governance and anchoring their agenda setting roles in their home university and city. Academics from different disciplines are engaging with the city as an urban laboratory. The city is simultaneously the object of study, the setting for field research, and the site for collaboration, experimentation, and intervention. For example, one senior academic reported:

> The notion of treating our city and its region as a seedbed for sustainability initiatives is a potent one . . . the vision is of academics out in the community, working with local groups and businesses on practical initiatives to solve problems and promote sustainable development and growth. This necessitates that we proceed in a very open manner, seeking to overcome barriers to thought, action and engagement; barriers between researchers and citizens, between the urban and the rural, between the social and natural sciences, between teaching research and enterprise. (Goddard & Vallance, 2013, p. 148)

Turning to the health challenge facing cities there is a mutual dependence of public health services and university medical faculties. They are in separate governance domains but joined together by many types of organizational and personal

linkages of a financial and informal character. There is a well-established work-based learning model for medical students and the hospital and local population acts a living laboratory for clinical academics. Although acute medicine and public health are in different universities, the latter is now a key function of local government. This is leading to three-way partnerships.

In terms of public health, work-based learning is a key mechanism linking one university to the city. According to one interviewee in Sheffield Hallam University

> We're continually revising our curriculum, in partnership with our stakeholders—the strategic health authorities, the acute trusts, the PCTs—in order to be one step ahead in terms of anticipating the need. . . . We are very much wedded to work-based learning delivery, and particularly when you're talking about part-time, postgraduate [students] our unique selling point is that you learn by using your day-job, and so the assignments are actually around projects that will take your organization forward as well as yourself. (Goddard & Vallance, 2013, p. 116)

Finally, in relation to the contribution of universities to the creative city, the diversity of the cultural sector in cities is mirrored by the diversity of creative and artistic disciplines taught, researched, and practiced in universities—visual arts, music, drama, creative writing. The academic units in the universities and the constituent communities of students and staff have a strong identity with and connection to urban cultural life. These are fields where the hierarchy of research ratings between "old" and "new" universities does not apply—practice led research and teaching used in art, design and media fits particularly well with the mission of new universities. The campus provides cultural venues—university museums, theatres, art galleries, media labs and also the shared use of off campus sites where practice, teaching and research are linked. According to one interviewee in Northumbria University:

> I think what we are attempting to do is to try and crack that nut that a lot of fine art departments have to crack, which is how do you work in a professional practice environment that's recognized by students and postgraduates, but also works to the needs of a research culture. . . . What kinds of resources do you need? . . . Really the model you want to put forward is a sort of relationship of art and the city; so very metropolitan, very urban. It's not on campus, its right in the middle of town. (Goddard & Vallance, 2013, p. 135)

In the digital media area and according to one interviewee in the University of the West of England complementary temporalities can be seen:

> We as academics are really planning for five to ten years ahead, people in business are usually planning for the next quarter or the next six months or the next year. There are different temporalities, and one of the things that we can do is try to use our expertise to catch some of the things that they don't really have time to reflect on, or have the analytical purchase on, and play it back to them, and help them enrich their own process. (Goddard & Vallance, 2013, p 144)

And according to one interviewee in the Watershed's Pervasive Media Studio:

> I think one of the benefits of working with academics is that they provide a kind of stability in the way we work. . . . There is a space in the middle where they can collaborate which is the work that might come out in 2 to 3 years. And then there's the horizon work, which the academy is in a much better place to look at, because it hasn't got the commercial

> constraints. . . . But the studio acts as a kind of gearing mechanism to try and help those timescales, agendas, cash flows, find each other and work together. . . . There is a 5 year collaboration agreement between the three [organizations] at a corporate level, which we are calling a creative technologies collaboration. It's for research, innovation and teaching in what we are broadly calling creative technologies; so that cross—over space between what you would normally call creative content and what you would normally call digital computing. It is a mixed up space that none of us quite understand. . . . So it is an active collaborative space, which adds value to what the universities can do in their own faculties, on their premises, and on their own. (Quoted in Goddard & Vallance, 2013, p. 145)

All of these examples refer to ongoing collaboration and short- to medium-term horizons in regard to city development. Nevertheless, some of the challenges are longer duration, raising the question of the contribution a university can make to long-term thinking and planning about the future of the city where it is located using the methodologies of science foresight.

Anchoring Universities in Cities through Urban Foresight: The Civic University in Action

Foresight projects examine either an important public policy issue where science might be part of the solution, or a scientific topic where potential applications and technologies are yet to be realized. The projects involve critical thinking concerning long-term developments, debate and effort to create wider participatory democracy, and shaping the future, especially by influencing public policy. City-based foresight activity can be one means by which the global knowledge base and influence of the academy are unlocked for the benefit of the city where they are based. This can be achieved by universities fostering networks across and between the public, private, voluntary, and community sectors; identifying gaps in intelligence within cities, sector by sector; facilitating the exchange of intelligence and data between different agencies; developing long-term scenario options; synthesizing and mapping the varying strands of intelligence and data that exist within each city region; and mediating between government and citizens by actively engaging with service providers and others.

As part of a national foresight project on the Future of U.K. Cities to 2065, Newcastle University—which badges itself as a "World Class Civic University"—has sought to mobilize the academic expertise of the two universities in the city to work with partners in the public, private, and voluntary sectors on the long-term future of the city region (Tewdwr-Jones, Goddard, & Cowie, 2015). This approach involved applying national foresight methodology locally by establishing a Lead Expert Group and a wider Stakeholder Group undertaking the following activities:

- Baseline evidence—the current picture
- Newcastle City region research and literature database
- Stakeholder workshops
- Delphi survey of key actors

- Newcastle City Futures Exhibition—an Urban Room
- Scenario building

More specifically this process involved over 100 experts and stakeholders from diverse disciplines and organizations in the North East of England, covering public, private, community, and voluntary sectors; over 100 pieces of evidence contained in official reports and academic papers, as well as a wide range of ongoing reviews and studies; the opinions of approximately 2500 members of the public expressed at a specially convened *futures facing city* pop-up exhibition and events series, generating over 100 comment cards and ideas alongside feedback in 24 public forum events. This work fed into scenarios around the following dimensions:

- Technological (e.g., digital)
- Economic (e.g., globalization)
- Environmental (e.g., climate change)
- Political (e.g., devolution)
- Social (e.g., ageing population)
- Values (e.g., individualism)

Three scenarios emerged: Continuation of present socioeconomic trends (business as usual); London implodes: rebalancing the national economy; and Newcastle finds its niche: test bed city. The last of these found most support. More specifically the city has developed as a demonstrator platform for a range of scientific and technological future-facing public–private projects and programs that are socially inclusive. Social and cultural developments and consumer services support this platform role. A City Futures Development Group involving the universities and the City Council with participation from the other parts of the public and private sector has been established to sustain the activity. The Group is committed to improving services, quality of life, and economic growth by utilizing existing academic and industry excellence; creating opportunities for research and product development by facilitating access to infrastructure and residents; and overall ensuring that Newcastle is seen as a test bed for innovation providing further chances for research, investment, and business growth.

Going forward the Group will seek to use a city futures perspective to get around all of the "here and now" challenges of collaboration; appoint a dedicated city futures partnership manager jointly between the universities and local authorities with access to senior offices in each organization; create a value-added knowledge base by linking primary research in the universities with policy and practice research produced by the public and private sectors; launch a professional development program for key individuals expected by institutional leaders to play a boundary-spanning role between higher education and the city region, covering the *know what* and *know how* of futures work; develop an *action learning* program for those individuals around selected mid-term projects; and link up with other cities and universities nationally and internationally to create a community of practice around city futures.

Conclusion

Across the world universities are increasingly being expected to be active contributors to city development—in place-making, in business innovation, and in economic and social development in the round. With society increasingly facing complex challenges (for example ageing and climate change) that have both local and global dimensions, the role of universities in addressing these problems must come to the fore. To meet these demands universities will need to work in new ways. Frameworks and methodologies, such as the quadruple helix, social innovation, living laboratories, and city futures, are just some emerging tools for the new forms of multidisciplinary and transpartner working that can help.

Developing a quadruple helix approach to science, research, and innovation within the city will not be easy. There will be tensions between the external civic role of the university and its internal processes, with the latter being heavily influenced by the higher education policy environment in which it operates, one which in many countries is quiet detached from other policy areas, not least those relating to city and regional development. Addressing societal challenges requires an institutional response from a wide range of disciplines and clear institutional leadership. This raises questions around business models of the university. A new set of models may therefore be needed, of which the civic university is one.

The civic university should be characterized by its ability to integrate its teaching, research, and engagement with the outside world in such a way that each enhances the others without diminishing their quality. Civic research will have socioeconomic impact designed in from the start and teaching will have a strong community involvement with the long-term objective of widening the participation in higher education of disadvantaged groups and producing civic-minded graduates. Most importantly, taken together this will require a soft, flexible boundary between the institution and society.

Nevertheless, realizing the potential of the civic university will not only depend on what the university does, but also on the capacity of its city partners. Where there is weak leadership, ineffective partnerships, and lack of a shared vision the university may need to take a leadership role and over the long term help other public and private institutions in the city and beyond to build their capacity to absorb knowledge generated within the academy, to coproduce knowledge, and to articulate knowledge demands. Or to put another way, to both anchor the university in the city and the city in the university.

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