



Innovation for the Manchester City Region

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**Innovation for the Manchester City Region:
A Discussion Paper**

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Innovation for the Manchester City Region: A Discussion Paper

Introduction

As part of the new Manchester Multi-Area Agreement (MAA), the Manchester Knowledge Capital partnership is developing an innovation prospectus on behalf of the Manchester city-region (AGMA, 2008).¹ The aim of this prospectus is to present a vision for how innovation strategies in the Manchester city-region will be targeted and developed over the medium-term (next five years) and to enable the adoption of such strategies. (Appendix 1 of this paper provides additional detail about the purpose and scope of the innovation prospectus.)

This discussion paper seeks to inform the development of this prospectus for innovation in the Manchester city-region. After considering what is meant by innovation, we conceptualize the uses and sources of innovation at the level of a city-region. We suggest that this conceptualization, drawing on frameworks available in the literature, can provide a useful basis both for interpretation and policy operationalization. We then consider examples from practice, drawing on mini-case studies of innovation strategies in selected multi-area metropolitan agglomerations in other countries. This leads to a discussion of grand challenges and implementation problems of innovation facing the Manchester city-region. Finally, we consider implications strategy development and for the Manchester city-region innovation prospectus itself.

Evolution in the Meaning of Innovation

Innovation is recognized as a significant contributing factor to productivity growth, competitiveness, and economic development, as well as to improving the quality of life and addressing societal and environmental challenges (HMT, 2000; DTI, 2003; DIUS, 2008).² But what is meant by innovation? And, how has there been an evolution in thinking about what it is innovation?

In terms of the *sectoral focus of innovation*, recent years have seen a broadening out in scope. There is now a recognition that innovation is important across the economy, e.g. in private services and in the public sector, as well as in manufacturing (NESTA, 2008a). Several recent studies have emphasized the importance of the creative sectors in fostering innovations that can have important economic, social, and urban impacts (Florida, 2002; Currid, 2007; Miles & Green, 2008).

This is in turn linked to a broader conceptualization of the *form of innovation*, which in all sectors (including manufacturing and services) is now seen to occur in ways not limited to formal R&D. This is not a new observation. Over eighty years ago, the Austrian economist Joseph Schumpeter (1934) provided his now classic classification of

¹ The Manchester MAA covers the boroughs of Bolton, Bury, Oldham, Rochdale, Stockport, Tameside, Trafford and Wigan and the cities of Manchester and Salford. This is equivalent to the former Greater Manchester metropolitan county. The present population of Greater Manchester is about 2.6 million people. The broader “travel to work area” of the whole conurbation comprises more than 5 million people (AGMA, 2008a). The priority targets for the Manchester MAA are: employment, skills and raising wage income (DCLG, 2008a).

² Since the Greater Manchester Innovation Prospectus is targeted at a wide audience, it should probably include a concise statement as to the why innovation is important to the Manchester city-region.

innovation, comprising: (1) The introduction of a new good; (2) A new method of production; (3) The opening of a new market; (3) The development of a new source of supply of raw materials or half-manufactured goods; or (5) New organization of an industry. Since then, this definition of innovation has been echoed and refined by many. For example, the Organisation for Economic Cooperation and Development (OECD, 2005) define innovation is the implementation of (1) New or significantly improved products (goods or services) or processes; (2) A new marketing method; or (3) A new organizational method in business practices, workplace organization, and external relations.

The latest thinking about innovation adds some intriguing twists. For example, the National Endowment for Science, Technology and the Arts has raised the notions of *hidden innovation* (“innovation activities that are not reflected in traditional indicators such as investments in formal R&D or patents awarded,” NESTA, 2007) and *total innovation* (which combines explicit and hidden innovation, NESTA 2008b), see Exhibit 1. However, these ideas are directed primarily to operationalization and measurement and do not represent an entirely new conceptualization.

There are also less technical– and arguably more far-reaching – interpretations of innovation. For instance, in his recent book, *Innovation Nation*, John Kao (2007, p.19) defines innovation as “the ability of individuals, companies and entire nations to continuously create their desired future.” In Kao’s view, innovation is a “frame” within which to organize agendas that can foster change and improvement at all levels. Insightfully, Kao (2008) stresses the importance of developing a “narrative for innovation” that can convey its scope and significance not only to elected officials and to business, but also to the public at large.

A further evolution in recent years has been on how the *process of innovation* occurs. To the extent that there was ever an exclusive focus on a linear or pipeline view of the process innovation (Research ⇒ Development ⇒ Manufacturing ⇒ Marketing) (see Godin, 2006), this has been superseded by a series of iterative and more complex models of contemporary innovation. We have seen major revisions in the conceptualization of the science ⇔ innovation relationship. This includes arguments that contemporary science has increasingly shifted from individualized, disciplinary and academic-focused methods of knowledge production to problem-focused, more interdisciplinary approaches (Gibbons et al., 1994) or use-inspired research (Stokes, 1997). In this shift, a “triple-helix” of universities, business, and government is seen to have emerged, with much greater collaboration and knowledge transfer among these actors (Leydesdorff and Etzkowitz, 2000). Most significantly, there has been a rethinking about the processes of enterprise innovation. This includes the development of concepts such as open innovation (Chesbrough, 2003) and distributed innovation (Kao, 2007) where companies and

Exhibit 1. NESTA “Total Innovation” Typology

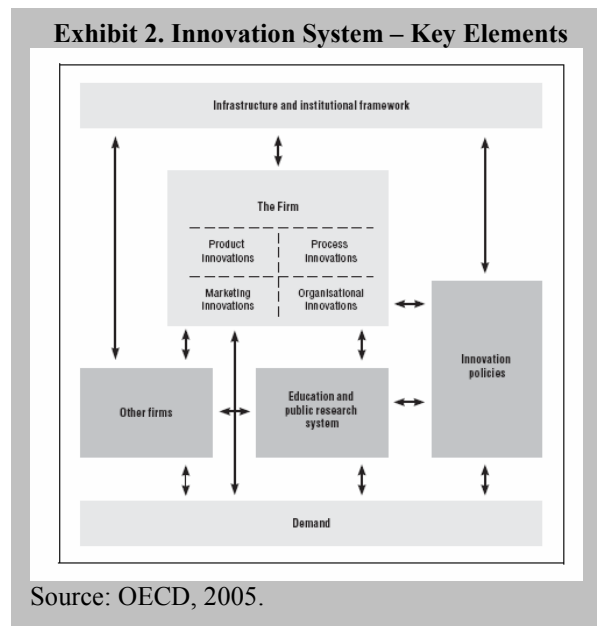
Explicit Innovation	Hidden Innovation
Formal R&D leading to new scientific and technological products and processes.	I. Development and application of knowledge outside of formal R&D
	II. New organisational structures and business models.
	III Novel combinations of existing technologies and processes (e.g. new software development)
	IV. Accumulation of small-scale micro-innovations

Source: Adapted from NESTA, 2008a.

organizations do not limit themselves to internal knowledge but collaborate with others in dynamic and shared processes of knowledge acquisition and exchange that can lead to innovative advances.

There has also been new attention to processes of social innovation, which promise solutions to urban and other policy problems, new ways to develop business activities, and spillovers to strengthening capabilities for economic innovation (Mulgan, 2007; Bacon et al. 2008); role of social capital in economic innovation (Putnam, 1993).

There has significant attention to the *context of innovation*. Here, the evolution of thought stresses the importance of the whole framework of institutional structures and interrelationships in the development and governance of innovation. A key idea is that there are “systems of innovation” – including institutions in the public and private sectors, incentives, regulatory and policy frameworks, and other relationships and elements – which shape innovation in any particular circumstance (Lundvall, 1992; Nelson, 1993; and for recent discussion, see Smits et al, 2009). Exhibit 2 provides a simple schematic diagram of a national innovation system. Such concepts have been expanded into notions of regional and sectoral systems of innovation. There are analogies in the development of ideas about innovation ecologies and clusters (Porter 1990) which offer frameworks for interpreting (and acting upon) innovation and its context.



Finally, there has been a broadening in our understanding of the relevant *actors for innovation*. In addition to debate about the relative roles of large firms versus SMEs in producing innovations (Agrawal & Cockburn, 2003; Cantwell & Iammarino, 2003; Shapira, in Smits et al., 2009), there is increased stress on the roles of users and facilitators (von Hippel, 2007). This includes consideration of a variety of new actors and agencies in enabling innovation, including public-private partnerships, intermediaries, development agencies, and the changing roles of actors such as universities in connecting knowledge and spanning boundaries to foster innovation (Youtie & Shapira, 2008). Friedman highlights the relative shift in capabilities to innovate away from large vertically-organized multi-national corporations and towards individuals and organizations working in networks distributed globally (“Globalization 3.0”). Significantly, innovative individuals, organizations and transnational collaborative networks can be found today not only in developed economies, but increasingly in developing countries such as China and India (Friedman, 2005; Saxenian, 2006).

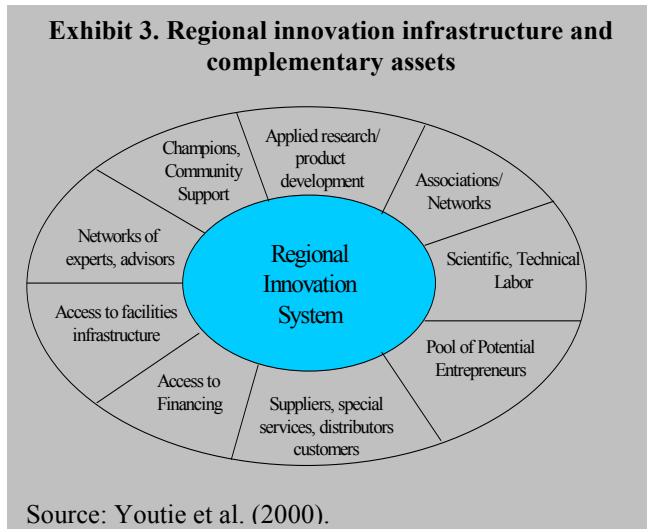
The Dynamics of Innovation

Combining together these ideas about innovation focus, form, process, systems, and actors, we can realize that innovation engages multiple stakeholders in a dynamic and complex set of activities. Some of these activities are visible; others are harder to discern; and there is always the likelihood that innovation itself will transform elements and relationships in the system. It is evident that in a large city-region such as Manchester, there are multiple *sources of innovations*. These include companies based in the city-region, comprising both *existing* companies and *new* start-up ventures. The capabilities of these companies form a cornerstone of the system of innovation in the city-region. Innovative companies are found in both manufacturing and services sectors. Many (but not all) are engaged in a variety of innovation forms (including product, process and organizational innovation) deploying a range of innovation modes (from internal to more open modes of innovation). Some companies are head-quartered in the city-region; others are branches of companies head-quartered elsewhere. There are also spillovers from innovative companies located outside of the formal boundaries of the city-region.³ Suppliers and customers with whom Manchester companies interact with are also important sources of innovation, including through the development of new requirements, sharing of knowledge, and other feedback loops. Universities and research institutions are important (but not exclusive) sources of new research knowledge that can result in innovations, but innovations can also be developed in health sector, transport and other public service organizations.

The development of new knowledge and the building of human capability are two fundamental and interlinked aspects of innovation processes, and here central roles are played by educational institutions, universities, public laboratories, and science campuses. The Manchester city-region and the broader travel-to-work area are well-endowed with these institutions. Such organizations play a central role in the formation of human capital and the training of individuals at secondary, tertiary, and post-graduate levels across multiple domains (including in science, engineering, information technology and management, as well as in technical, problem-solving, and inter-personal skills). Universities and other public institutions have increasingly developed technology transfer and business-facing activities, including the licensing of intellectual property, collaborative university-industry projects, and the incubation of new technology ventures. While universities and other public research organizations have many interactions with local enterprises, their innovation linkages extend to national and international scales. Indeed, increasingly universities offer bridges to global sources of knowledge, whether through attracting talented researchers and students into the region, the international linkages of faculty, or trans-national research collaborations. Yet, it is also important to stress that knowledge and capabilities for innovation are also developed in companies and organizations other than recognized educational institutions, through on-the-job knowledge acquisition, experience, mentorship, and mobility. Research by Saxenian (1994, 2006), Florida (2002) and others has emphasized not only the importance of human capital in regional innovation but also the importance of structures and cultures within regions and the connectivity of regional systems to global talent networks.

³ We raise, but do not here resolve, the issue of delimiting the city region for the purposes of innovation. Is the designated Manchester City-Region of ten local authorities sufficiently encompassing? Should the regional scope be broader?

Appropriate complementary assets are important in successful innovation systems. These include capabilities, infrastructures and other resources necessary for the successful introduction of new ideas (Teece, 1986). At the city-region level, these include innovation finance (such as banks, venture capitalists, angel investors, and public programs); networks and relationships; consultants, technology transfer intermediaries; access to knowledge systems, patents, scanning, and strategic intelligence; logistical systems and access to marketing information; and access to other specialized capabilities and services. (See Exhibit 3 for a schematic representation of regional innovation infrastructure and complementary assets.)



Increasingly, innovation strategies need to pay attention to the *uses of innovation*. The production of new innovations – especially of a technological nature – is typically concentrated among a smaller number of firms and organizations. However, the use of such innovations is much broader, at times extending to whole populations. For example, while just five companies produced 80% of the world’s new mobile phones in 2008, there were an estimated 3.67 billion cell phones in use in the world, with some countries (including the UK) having more cell phones than citizens (June 2008, World Factbook). While we often debate the relative societal merits of many innovations (for instance, cell phone access while flying or online gaming) and limit some (such as genetically-modified foods), over the long-run the accumulation of many innovations in use drives economic and social progress. (Technically, innovations are only “inventions” unless they are deployed and diffused.)

There are several extensions and implications that relate to the uses of innovation. The first of these is the importance of absorptive capacity – the capabilities that encourage the take-up and effective use of innovations (Cohen and Levinthal, 1990). Generally, these include attributes and factors such as awareness and receptivity, resources, capacities to learn and train, and abilities to implement and integrate. Many of these attributes and factors can be acquired, grown, or improved: endowments of absorptive capacity can be expanded over the medium-to-long run. At the city-region, this raises the significance of policies targeted not only to promote innovations but also to encourage their deployment and use (including innovations developed outside the region, as well as those developed locally). Particularly important are policies and programs to increase the take-up and effective use of innovations (new to the firm, not necessarily new to the market) among SMEs (who often lag in innovation deployment) (Shapira, 2008).

Additionally, Dodgson (2000) observes that there are significant feedback loops between the development and use of innovations. The development of sophisticated use for and demand of innovations is viewed by some as an important element in innovative cluster development (Porter, 1990). If the pace and quality of innovation can be improved

as local users are better connected with local innovators, then the often tacit nature of such relationships can be a source of unique competitive advantage. Other combinations are also important, for example non-local users with local innovators, and local users with non-local innovators. In short, there are likely to be important bridging functions that can be performed at the city region level, e.g. user-led innovation, which policy can try to foster. To the extent that a city-region develops a reputation as an innovative place, with clusters of innovative user communities, then feedback loops to innovation may be strengthened and further innovative people and activities can be attracted (Bathelt et al., 2004).

There are important connections to complementary assets and institutions in the city-region, such as the MAA commissions, health and education services, and the airport and other transport services, with all able to pursue roles in adopting and using innovations. This includes, but is not limited to, demand-led procurement (Edler and Gheorghiou, 2007). Public-sector organizations, including the health service, local government, and transportation and environmental services, are demanders of innovations in their own right. In addition, the public and community services provided by such organizations need to be effective, efficient and responsive in their own right to contribute to the complementary asset base and quality of life in the city-region. Innovations adopted by public service providers are one (but not the only) method of ensuring high quality services.

Innovation and Place

Innovation and place remain inexorably connected. The world of innovation production is not flat but spiky – driven (according to Florida, 2005) by the need to draw upon critical localized groupings of entrepreneurs, scientists, financiers, research universities and flexible corporations. Additionally, while we have noted that use of successful innovations can be very widespread, lead-users may also cluster in poles of sophisticated demand (Porter, 1990). It is true that advances in computing, communications, and transportation technologies have dramatically increased capabilities to collaborate and exchange across distance. Indeed, there has been a growth in the importance of relational and organizational proximity across distance in knowledge, innovation and human capital development. This is particularly illustrated by such cases as software development in Bangalore, India, where customers are often continents away (Taübe, 2007). Yet, this does not negate the importance of place in innovation (in fact, Bangalore has been much trumpeted as a highly-innovative locale), but rather highlights how the capabilities and organizations clustered in a particular location need to interact both internally and externally as they develop and deploy innovations.

This implies that in thinking about innovation strategies for a city-region, we need to draw upon concepts about the dynamics of innovation as a process (as discussed in the prior section) and mesh them with ideas about how innovative places develop. In this section, the paper considers and organizes strands in the literature that relate to the development of innovative city-regions.

Perhaps the first place to start is with views about the factor inputs that are presented as being present in highly innovative locations. For example, Malecki (1997) notes that among the factors seen as important are: venture capital availability, the presence of experienced entrepreneurs, a technically skilled labour force, accessibility of suppliers, accessibility of customers or new markets, favourable government policies, proximity of

universities, availability of land or facilities, accessibility to transportation, a receptive population, the availability of supporting services, and attractive living conditions. The theory is that if a locality can accumulate high levels of these factors, then it will gain a comparative advantage in innovation and technology development. Policymakers can understand and operationalize this set of requirements, not least because it leads to a straightforward list of policies and programs that they can attempt to put in place.

The problem, however, is that while many of these factors are observed ex-post in places that have succeeded in becoming innovative, it is not clear that expanding inputs alone is sufficient to generate innovative clusters. For example, in comparing the relative performance of Northern California's Silicon Valley and Boston's Route 128, Saxenian (1994) discounts the critically favourable defence procurement policies, university research, and finance, and raises the importance of relationships of regional organizational structures and cultures. Indeed, in recent years there has been a flourishing of work which highlights the importance of soft or tacit factors in driving regional innovation. Audretsch and Feldman (1996) argue that knowledge spillovers are central in understanding innovative place development. Their logic goes as follows: Innovation and technology development depend on knowledge, and knowledge spillovers across agents and firms lead to increasing returns and growth. Yet, there are geographic boundaries to information flows and knowledge spillovers, especially of tacit knowledge – including face-to-face communication that can give an edge in technological and business development. Hence, innovative industries which depend on knowledge spillovers will cluster geographically. Where developments, projects, and deals in a sector proceed rapidly (for example in financial or media and other creative sectors), face-to-face contact is especially important to access tacit and non-codified information which is usually incomplete. The flurry (“Buzz”) of activities and interpersonal relationships in the most vibrant and innovative locations in these sectors attracts further inwards flows of people and enterprises seeking to join the leading edge (Storper and Venables, 2004).

Others who have examined innovative regional clusters have varied in which particular relationships and soft factors they emphasize. Porter (1990) acknowledges in his work on competitive advantage and clusters the role of factor endowments (which can be created) in addition to specialized assets, government actions, civic leadership, and entrepreneurship. Putnam (1993) finds that social capital is a foundation for economic development. Social capital is captured in the trust, shared values and norms, mutual understanding, cultural cohesion and relationships which facilitate cooperation for mutual benefit. Enterprise and regional innovation performance has been associated with the presence of social capital (Cooke, et al., 2005). Youtie and Shapira (2008) highlight the importance of boundary spanning organizations and strategies to foster innovation exchange and networking has been highlighted. Florida (2002) combines human, technological and social capital variants in his explanation of the emergence of creative cities, emphasizing the 3 “Ts” of talent, technology, and tolerance. The last ingredient, tolerance, involves the extent to which a locality is open to new ideas, new people, and new ways of doing things. Krugman (1991) further emphasizes the relevance of external economies created at a local and regional level to develop competitive advantages.

This review, which is not exhaustive, illustrates the complexities associated with contemporary thinking about the relationships between innovation and place. Few simple solutions are offered. Yet, significant learning has occurred. We have learned that

advancing only a single element cannot transform a local innovation system. Thus, building a new applied university research centre or establishing a venture capital fund may have individual merits, but need to be associated with parallel improvements in other system components and frameworks to be fully effective. Similarly, we have learned that programs and measures that are successful in one location often cannot be effectively transferred without modification, if they can be transferred at all, to another location where circumstances differ. Places that seek to be more innovative can learn from others, but generally need to customize their own strategies. Yet, such strategies need to be more than lists of initiatives and projects. There is a need to stimulate soft drivers, be they designated in terms of innovation culture, milieu, entrepreneurial motivation, networks, clusters, social capital or other conceptual frameworks. There is no shortage of ideas, but with several possible options on offer, what framework(s) are most appropriate? And, given the elusive nature of many of the concepts involved, how can these be influenced by policy action – and how can performance be measured?

Some have suggested that current regional innovation concepts such as clusters or networks are chaotic (Martin and Sunly, 2002) or fuzzy (Markusen, 1999). There is certainly some truth to this. Surely there is little gained (and much lost) from regional innovation initiatives that are not well defined, which overlap, are under-resourced, and which are subject to constant change and interference (i.e. combining both fuzziness and chaos) – a practice that has been observed to occur by OECD's (2008) review of innovation in Northern England. Yet, it remains the case that the soft drivers of innovation are critical, particularly in strengthening multiple clusters of innovation activities and relationships (internal and external) across the city-region. If the Innovation Prospectus is to be effective, it should have clear narrative not only about (1) how innovation is envisioned to occur across the city-region and connected to the broader economy, but also (2) how human, social, and relational capital, resources and networks for innovation, absorptive capacity for innovation will be expanded and, in particular, what will be different in the period *after* the strategies envisioned in the Prospectus are implemented compared with the current situation.⁴ This will help to make clear what progress measures should be assigned to the innovation strategies contained in the Prospectus.

International Leading-edge Approaches and Practices for City-Region Innovation

As the Manchester city-region considers how it might best draw on contemporary thinking to address its particular innovation challenges and opportunities, it is also useful to explore what approaches other city-regions are evolving and deploying to foster innovation. In this section, we consider examples from practice, drawing on mini-case studies of innovation strategies in selected multi-area metropolitan agglomerations. We

⁴ This narrative could (in part) be communicated in the prospectus through scenarios about how a variety of people and enterprises in different situations will encounter new relationships available in the Manchester city-region to develop innovative activities. The scenarios might contain problems, i.e. maybe here is the position now (i.e. banks not lending to established companies for new product development; young entrepreneurs leaving Manchester to set up companies elsewhere; women on estate seeking funds and mentorship for micro-business development; large international company not considering Manchester as a site for a new software development facility; displaced engineers and managers unable to get finance to establish new companies; technology-oriented SMEs confused by plethora of government programs, etc); and here is the position 7 years from now.

seek to distil examples and insights as to how other multi-actor metropolitan regions develop their innovation and governance strategies to address the kinds of challenges and problems that the Manchester city-region also faces.

We selected seven metropolitan cases using three filters. First, we focused on metropolises (preferably not national capitals) in developed economies which have agglomerated population and economic activity over several local government jurisdictions with a common labour-market area. Second, we preferred metropolitan regions with a population size broadly comparable to Manchester’s and which had experienced industrial restructuring. Third, we sought metropolitan regions which demonstrate insightful combinations of organizational characteristics and partnerships, innovation strategies, and performance. The list of the selected seven metropolitan regions is provided in Exhibit 4.

We could not (given very limited time and resources) comprehensively examine every facet of innovation strategy and activity in these metropolitan complexes. Rather our aim was to draw on available studies and team expertise to distil a small number of key insights relevant for comparison with the Manchester city-region. Hence, our denotation of this work as “mini-cases.” In these cases, we asked six questions: (1) What is this city-region? (2) How is this city-region governed? (3) How are strategies for innovation organized in this city-region? (4) How are the city-region’s innovation strategies linked with other policies? (5) What tensions are apparent in developing the city-region’s innovation strategies, and how are these addressed? (6) What insights can be gained from this case for Manchester city-region for innovation governance and strategy? In the balance of this section, we summarize the cases and the insights they offer.⁵

Exhibit4. International City-Region Mini-Cases

City	Population Millions	GDP/Capita USD PPP
Bilbao, Spain	0.9	26.0 ^a
Melbourne, Australia	3.6	32.7
Øresund, Denmark-Sweden	3.6	33.5 ^b
Pittsburgh, USA	2.4	40.1 ^c
Toronto, Canada	4.7	34.9
Turin, Italy	2.2	32.0
Research Triangle, USA	1.4	46.8 ^c
Manchester, UK	2.5	26.6

Source: OECD (2006), Competitive Cities. Data for 2004. PPP = Purchasing Power Parity. ^aEstimated from Barcelona Observatory and OECD data; ^bCopenhagen; ^cCalculated from US Census and BEA data, 2004.

Metropolitan city-regions are complex and diverse. Our case study question about “What is this city-region?” reminds us that metropolitan regions are *agglomerations* of multiple economic activities and communities which – while proximate – are also multi-faceted and not necessarily integrated or well-connected. Our case-study city-regions with the exception of Øresund which includes Copenhagen are not sites of national capitals, although all are the leading cities in their regions or states. Toronto does have more than twice the population of the Ottawa city-region, Canada’s national capital. But none of our study metropolitan areas rank among the largest in the world: for instance, Toronto ranks 57, Melbourne ranks 92, and Manchester ranks 166 among 476 world cities with more than 1 million people (Brinkhoff, 2008). Yet, all of our case study city regions are complex and diverse in structure and economy. For example, North Carolina’s Research Triangle (population 1.4 million) in the Southeast USA comprises 13 counties, two metropolitan statistical areas (plus one micropolitan statistical area), and

⁵ An Appendix is available with additional details.

more than 40 municipalities. The Bilbao, Spain, city region (with under 1 million people) comprises 35 municipalities. Øresund (population 3.6 million) is a transnational region, comprising Greater Copenhagen in Denmark and Skåne (including Malmö) in Southern Sweden, linked by a bridge, but with two different cultures. In this context, the Manchester city-region with 2.5 million people and ten constituent municipalities is not remarkable (even if adjacent areas are included in consideration of the broader city-region). Like Manchester, all of the city-regions examined have experienced industrial restructuring and seek to develop new sources of growth. Examples include Pittsburgh, USA (dramatic decline in traditional steel and heavy manufacturing sectors, now pursuing growth in high technology, services, education and health); Turin, Italy (restructuring of the automotive sector, now pursuing growth in aerospace, IT, design, food, and financial services); Melbourne, Australia (transitioning from manufacturing and port industries to knowledge-intensive services); and Toronto, Canada (traditional automotive and industrial sectors, shifting to aerospace, media and other creative sectors, medical research, education, and other services).

Not metropolitan government, but city-regional governance. Typically, the city-regions we examined had no formal government structures at the metropolitan level. Rather each (with perhaps the exception of Turin) exhibits a variety of organizational forms (public and public-private) which seek to coordinate at the city-region level. Toronto's governmental evolution is interesting (and not without some parallels to the old Greater Manchester County Council): beginning in 1954, Toronto had a metropolitan government structure encompassing several localities, but as the real city-region expanded greatly outside the official metropolitan boundaries, the Municipality of Metropolitan Toronto was abolished in 1997. The City of Toronto was consolidated into the old metro boundaries. Today, there is no formal government across the Toronto metropolitan area (the City of Toronto and four regional municipalities comprising multiple cities and townships), although there are some metropolitan-wide functional organizations (e.g. transit, airport, etc). In Bilbao, with no formal metropolitan government, there are separate organizations for planning, urban development, and major infrastructures. In Melbourne, as in other city-regions, there is weak collective identity at the metropolitan level, there is no permanent metropolitan forum, and governance is dispersed. Planning for the Melbourne 2030 Metropolitan Strategy seeks to develop shared consensus about the development of the city-region.⁶ Øresund is a further example of "governance without government." The key body is a coordinating committee⁷ involving the Copenhagen and Skåne regions, serving as a "political platform, meeting place, catalyst, and network builder." In the Research Triangle region, there are three major levels of government: state, counties, and incorporated municipalities. There is no formal apparatus for metropolitan government, although there are several inter-local agreements for coordination in infrastructure. A key coordinating organization for economic growth and competitiveness is the Research Triangle Regional Partnership – a public-private partnership with a 56-member board representing 13 counties in the city-region.⁸ Similarly, in Pittsburgh, there is no formal metropolitan government (although discussions are under way establishing one). Several non-or quasi-governmental

⁶ <http://www.melbourne2030.vic.gov.au/>.

⁷ <http://www.oresund.com/oresund/creation/committee.htm>.

⁸ <http://www.researchtriangle.org>.

organizations have been developed to facilitate coordination across functional areas, including the Southwestern Pennsylvania Commission – which is a forum for “collaboration, planning, and public decision-making” with public and private members from the ten counties in the metropolitan region.⁹

The organizational structures planned for the Manchester city-region (including seven functional commissions) are not fundamentally different from those observed in the other international city-regions. There is a challenge in Manchester, as elsewhere, to build broader identification, consensus, and engagement in dialogue about strategies for city-region development. Manchester’s city-regional governance structures are public-sector-led (as in other city-regions), although the public-private membership of the Manchester Commission for Economic Development, Employment and Skills has similarities to the public-private partnerships for development seen in US city-regions. One difference could be that Manchester’s governance structures, especially in the economic development and innovation area, are complex and appear to undergo changes in organization and name every few years, whereas those in the US city-regions appear to be somewhat more straightforward and stable.

Innovation Strategies: Often Implicit, Always Ambitious and Multi-targeted. As far as we could determine, innovation strategies were not explicit in four of our case-study city-regions (Bilbao, Melbourne, Pittsburgh, and Turin). In at least one case, that of Bilbao, there were formal state-regional plans, including a Basque Country Science, Technology and Innovation Plan as well as a Business Competitiveness and Social Innovation Plan. Yet, the lack of formal documentation may be misleading. In all of the city-regions we looked at, there was dialogue and strategizing about innovation strategy. Where formalized, these tended to be contained within broader objectives and plans for economic development, higher education, and scientific research, and often expectations were high. For example, the Research Triangle Regional Partnership has formulated a regional competitiveness plan (RTP, 2004) for “Staying on Top” which targets ten clusters: pharmaceuticals; biological agents and infectious diseases; agricultural biotechnology; pervasive computing; advanced medical care; analytical instrumentation; nanoscale technologies; informatics; vehicle component parts; and logistics and distribution. The plan anticipates that “dozens of organizations” (known as “institutional partners” will collaborate to “implement 30 actions” to support the development of these clusters, interconnected businesses and support organizations. In the Pittsburgh city-region, the strategic thrust is on developing a high-technology and advanced services economy, building on research excellence (at Carnegie-Mellon, the University of Pittsburgh, and other institutions), and utilizing a range of agile public-private organizations to define and implement policies. The Pittsburgh Technology Council, established in 1983, is a private-sector-led organizing with membership across the city-region, particularly from leading clusters in the advanced manufacturing / materials, green technology, information technology and life sciences sectors.¹⁰ Also in Pittsburgh, the Allegheny Conference, founded in 1944, is a private sector leadership organization bringing together business development and other private sector entities across the city region to promote economic growth and regional competitiveness.¹¹ In Øresund, a

⁹ <http://www.spcregion.org>.

¹⁰ <http://www.pghtech.org>.

¹¹ <http://www.alleghenyconference.org>.

Science Region initiative brings together 12 universities, regional authorities and business in what is called a “double triple-helix” to promote knowledge-based economic development.¹² The Science Region is focusing on research and innovation in environmental science, ICT, life science, food science, and logistics. A key strategy is the development of platforms such as Medicon Valley Academy which is a networked organization of 250 companies, hospitals and universities aiming to build the region into “one of the five most attractive bioregions worldwide.”¹³ Other platform organizations include the Øresund Environment Academy, the Øresund Food Network, the Øresund IT Academy, and Øresund Logistics.

Compared with the Manchester city-region, the international case-study city-regions exhibit similarities in innovation strategies – for example, in the pursuit of knowledge-led economic development or university-industry partnerships. However, some subtle differences emerge. Several of the city-regions, including Research Triangle, Pittsburgh, and Øresund, appear to have a strong focus on presenting themselves to the outside world, and have identified key target sectors in which they seek innovative leadership and growth. These are not always typical high-technology sectors, for example, the Pittsburgh city-region has well-developed capabilities to assist existing manufacturing enterprises to learn, upgrade strategies and technologies, and network.¹⁴ In Manchester, as is also the case in Melbourne, Toronto, and Turin, the message about where the city-region seeks to go in terms of innovation and what it is focusing upon is more obtuse – one has to dig to find (not necessarily successfully, and as far as Manchester goes, one often finds more about innovation milestones of the past than innovation strategies for the future). Yet, the Manchester city-region, through the new Innovation Prospectus, could take a strategy leadership position among peer city-regions by being more explicit about its innovation goals, targets and strategies, and by raising innovation as a shared-opportunity across multiple organizations and functions. In other words, be not only ambitious and multi-targeted, but also explicit in terms of form and presentation.

Innovation: Linked to Other Policies. Across the case-study city-regions, discussion of innovation is typically linked with other policies and strategies. For example, in Øresund, the development of this trans-national region is closely intertwined with investments in infrastructure. This includes the Øresund Bridge, which links Zealand in Denmark with southern Sweden. The region also seeks to place itself at the centre of a new Northern corridor stretching from Northern Germany through Denmark and Sweden to the Baltic States. Yet, internal integration within the region remains an issue, and there is debate allocating more resources to social, cultural and environmental projects. In the Pittsburgh city-region, innovation is linked with issues of urban regeneration, brown-field redevelopment, and economic exclusion, and policies and programs have been developed for green neighbourhoods, environmental city initiatives, and inclusion and early childhood education policies. Turin is also focused on urban regeneration and economic/social inclusion. In the Research Triangle, issues linked with economic development and innovation include reducing intra-metropolitan inequity, education improvement, and minority business participation. These are all issues present too in the

¹² <http://www.oresundscienceregion.org>. The Øresund Science Region Board comprises university, business, regional authority, and student representatives.

¹³ <http://www.mva.org/>.

¹⁴ <http://www.catalystconnection.org>.

Manchester city-region, and in answering the question “innovation for what ends?” similar linkages to broader economic, social, and environmental concerns will be important.

City-Region Development: Not Without Local Tensions. One might assume that economic development and innovation strategies at the city-region level would be relatively non-contentious: who could be against it? In Research Triangle, there is broad support for economic development and innovation across the city-region, reinforcing a desire for growth that has been in place since the 1950s. Environmental concerns are beginning to shape this into more of a “smart growth” strategy. If there are tensions, it is often about leadership among the constituent counties and there is always a challenge, in public-private partnerships, to keep business leaders engaged. Tension between constituent municipalities is evident in the other city-regions we examined. In the Pittsburgh city-region, there are differences between more prosperous suburban municipalities and older core cities, such as the City of Pittsburgh, and indeed problems in these locations have often been different, ranging from dealing with declining industries to managing growth. In Turin, smaller municipalities are sceptical about the effectiveness of a unified strategy for the city-region and fear loss of independence and local authority. In Bilbao, there have been concerns that the city-region strategic planning process has not been sufficiently inclusive and participatory. Flagship projects, such as the Guggenheim Museum, have also raised debate about their broader impacts on Bilbao. In Øresund, integration across the trans-national city region is at times stymied by economic, social, cultural, and language differences, and there is concern that the population does not identify with the metropolitan region. These are all issues that will surely resonate among those engaged in the development of the Manchester city-region. They reinforce the importance of ensuring that the Innovation Prospectus does speak to broader concerns across the city-region, noted previously.

Insights for the Manchester City-Region. Our international city-region “mini-cases” make it evident that peer city-regions face similar challenges and issues to those confronting the Manchester city-region. These include the diversity of the city-region, the challenges of economic restructuring and in seeding new knowledge-intensive sectors, and (given the lack of metropolitan government) developing effective governance organizations and strategies. Typically, innovation in the case study city-regions was a diffused and shared responsibility, involving government, business, universities, associations, and other organizations. There is engagement in strategies for innovation, but these are not often based on a single plan or document. Rather, these strategies are embedded in the activities of constituent organizations operating throughout the city-region. In at least one city-region, there is strong public-sector leadership (for instance, in Bilbao), but in most cases the organizations most active in innovation are public-private, private or non-governmental organizations (including universities). In several city-regions (including Pittsburgh, Research Triangle, and Toronto), university capacity is used to aid strategy development and planning, as well as for research, spinout, and other technology transfer activities. Linking innovation strategies with broader issues and opportunities facing the city-region is important.

Grand Challenges of Innovation for the Manchester City-Region

The case studies reinforce the point that all metropolitan areas face challenges of innovation. Moreover, these city-regions not only develop their own indigenous innovation policies, but are also affected (both positively and negatively) by policies and decisions made outside of their direct control, including by other levels of government and corporations. The Manchester city-region is no exception here, which in turn has led to a considerable body of research and policy deliberation, undertaken inside and outside of the city region. Multiple recent studies have been undertaken in recent years which have examined issues of economic development, innovation, and restructuring in Manchester and its region and proposed strategies.¹⁵ These studies have been completed by a range of governmental agencies (for example, Manchester Enterprises, 2005, 2006; 2008; AGMA, 2008b; and OECD, 2008) and by university scholars (see: Peck and Ward, 2002; Ward, 2003). In turn, this literature (and policy actions based upon it) is situated within a further set of national policy reports and reviews that provide frameworks and guidance for developing city-region innovation strategies (for example, DCLG, 2006, 2008b; HMT 2007; Northwest Science, 2007; DIUS, 2008).

A wide series of developmental problems for the Manchester city-region are raised in these studies. For instance, a recent Greater Manchester Economic Development Plan (2005) highlights issues related to uneven business competitiveness, attracting and retaining investment and talented people, inadequate levels of education and skills, labor market participation and economic inclusion, school-work transition, and transportation infrastructure. The Manchester Multi-Area Agreement (AGMA 2008a) similarly highlights barriers to growth in the city-region as including low value-added among many firms, the relative lack of higher level economic functions, weaknesses in skills, and legacies of joblessness and under-employment, as well as problems associated with climate change. Enhancing investment, knowledge and innovation is seen in the Multi-Area Agreement as one of eight building blocks to address these barriers.

It is not our purpose to examine the details of specific strategies for innovation for the Manchester city-region. Rather, we suggest that while there are indeed a series of specific objectives for innovation strategy, there are two overarching or grand performance challenges for innovation that the Manchester city-region faces. These challenges are interrelated.

The first of these grand challenges is to *expand the scale and accelerate the pace of innovation* in the Manchester city-region. Manchester is championed as the best performing city-region economy in Northern England, with a series of key assets including its universities, restructured manufacturing sector, expanded services sector, an emerging media hub, and airport (Northern Way, 2005). Yet, the evidence is mixed. On the one hand, Manchester has been highly rated for innovation and creativity among UK cities (Frith, 2003). Yet, on the other hand the Manchester city-region continues to lag

¹⁵ The Manchester Independent Economic Review (MIER, 2008) has identified 108 studies and reports published 2002-2008 on planning, economic development, innovation, employment, housing, transportation, and other topics relevant to the Manchester City Region. Five studies were identified as in progress. (This excludes 11 references related to the Daresbury Science Campus.) MIER is itself undertaking a series of additional studies related to the Manchester City-Region economy. See <http://www.manchester-review.org.uk>

London and the UK Southeast in terms of gross value-added per person¹⁶ (although it is argued that London is not a fair comparator, not only due to its size but also because of differences in the structure of employment). Moreover, by GDP per capita, Manchester lags many international cities against which it would wish to be benchmarked.¹⁷ Ongoing investments in human resources, infrastructure and other factor inputs are likely to be fundamental for the Manchester city-region to improve its performance compared with its peers. At the same time, enhancing the rate at which value is obtained from these factors through innovation will be crucial. Yet, if Manchester maintains the pace of innovation seen in recent years, it will at best maintain its position. The challenge then is to accelerate the pace of innovation, so that the city-region can begin to close the gaps between it and the UK Southeast and international metropolitan peers.

The second grand challenge facing the Manchester city-region is ensuring that strategies for innovation *address broader economic development, sustainability and societal goals*. Innovation is not an end in itself; rather it is a means towards ends which may include improvements in well-being and the quality of life that are sustainable and more equitably shared. Within the Manchester metropolitan area, there are significant differences in income per capita, as suggested by the headline difference in GVA between South Manchester and North Manchester of some 62% (ONS 2008a). The city-region as a whole is unlikely to be able to close GVA gaps with its peers unless it also reduces such wide intra-metropolitan differences.

However, if Manchester is successful in accelerating the pace of innovation, it is likely that income inequality will increase in the short- to medium-term (cf. Kuznets' (1955) classic observation of a U-shaped relationship between economic growth and income inequality). To change or shift this relationship, appropriate strategies would need to be put in place to broaden out the base of innovation.¹⁸ At the same time, such strategies could help to foster widespread "buy-in" across the city-region that increased efforts to foster innovation will help multiple communities rather than just a few groups. In this context, there may be significant opportunities to exploit feedback loops between sustainability and other societal goals with innovation. For example, ADL (2005) has highlighted the business opportunities that are emerging through "sustainability-driven innovation" which they define as "the creation of new market space, products & services or processes driven by social, environmental or sustainability issues." More broadly, there are likely to be opportunities for social-market innovations that can be piloted within the city-region and which may lead to larger-scale commercial applications. The challenge of addressing innovation to broader economic development, sustainability and societal goals implies that not only the Manchester Commission for Economic Development, Employment, and Skills, but also other commissions and organizations in the Manchester city region need to be engaged in dialogue, planning, and actions related to innovation.

¹⁶ The Manchester city-region lagged the UK Greater Southeast in terms of gross value-added (GVA) per person by about 40% in 2006 and the GVA per head comparison between the Manchester and London conurbations fell from 66.5 percent in 1998 to 61.5 percent in 2006 (calculated from ONS 2008a, 2008b).

¹⁷ By GDP per capita, Manchester has been ranked 57th out of 78 major metropolitan areas by OECD (2006).

¹⁸ In the medium-term horizon of the prospectus (5 years), intra-metropolitan innovation inequities are unlikely to be eliminated, but it could be feasible to project that there would be measurable progress in starting to reduce those gaps.

Going forward, there are (at least) two contrasting innovation scenarios that can be envisioned for the Manchester city region. The first is Manchester as a city-region of hot spots of localized innovation in the context of a metropolitan region that contains multiple communities, actors and enterprises that do not fully participate in this innovation economy. The second is of a city-region where the distribution of innovation hotspots has become significantly more dispersed and which engages many more of the city-region's constituents. Ideally, the first scenario leads to the second, but this transition is not likely to be automatic, and it probably requires new thinking about the kinds of awareness and engagement strategies, capability enhancements, investments, and organizational designs to achieve a step-up in innovation performance across the city-region.¹⁹

Yet, while it is possible to identify key innovation challenges facing the Manchester city-region, the design and implementation of strategies and programs is complicated by a series of problems.

- Scope-achievement problem. Appropriately, the definition of innovation has been broadened to include product, process, organizational and market innovation at private and social innovation across multiple sectors. Yet, there is a trade-off. As end goals are multiplied with broadened scope, achievement across these goals becomes more complex and trade-offs may be required. For example, broadening the definition of innovation may increase the time scale and resources needed to ensure progress, but this may conflict with existing political goals to constrain budgets and ensure results in the immediate term (cf. Shapira, 2001). Additionally, as the definitional scope of innovation is widened, problems of measurement abound. For example, despite renewed efforts, it is still difficult to measure “hidden” innovation.²⁰ In a policy-environment strongly influenced by performance measurement, this is an important consideration.
- Policy-mix problem. As a systems view is taken of innovation, it becomes important to align streams of policymaking including education, training, and other policy areas which influence innovation (Flanagan et al., 2008). However, the alignment (or “joining-up”) of multiple policies is complex, reflecting administrative divisions, institutional rigidities and multiple if not conflicting goals. The complexity of the policy-mix is reflected in the multiple policy documents, statements, and strategies applicable to innovation in the Manchester city-region that have been produced in recent years.²¹ Moreover, while many of the policy statements that are available discuss the broader system conditions that

¹⁹ For example, a new analysis on the comparative emergence of nanotechnology in metropolitan regions in the US and Europe indicates that Manchester has one major player (the University of Manchester) but weak research engagement in this domain by companies and other organizations (Shapira, et al., 2009). Does Manchester seek to move up in the leading tiers of metropolitan nanodistricts with clusters of promising commercial applications (a different measure than being in the top tier of universities in nanotechnology)? If yes, then expanded strategies in the city-region may be necessary to engage existing and new companies, as well as other organizations, in nanotechnology development and applications, linking with (and perhaps motivated by) the University of Manchester.

²⁰ NESTA (2008c) has initiated research to develop measures of innovation in the UK that can better capture hidden innovation, and this may lead to new measurement approaches. However, many intrinsic problems in measuring non-traditional innovation are likely to remain.

²¹ We have identified upwards of 100 local and national policy documents published in the last decade that are relevant to innovation in the Manchester city-region. We make no claim that our search was exhaustive

- influence or constrain innovation, often the instruments employed or proposed focus on individual actors (e.g. business start-up incentives, individual training programs, single research project awards).
- Governance problem. A related problem arises with the multiplicity of actors and levels in governing innovation at the city-region level. Prior to the MAA, there have been several levels of government or intermediation engaged in policies and strategies for economic development and innovation in the Manchester city-region, including at least 15 national and regional agencies and offices, 6 Manchester city-regional organizations, the 10 local governments and their various departments, more than a dozen city companies and local initiatives, 4 universities and nearly two-dozen colleges, and many other community and private-sector organizations. With the MAA, there will now be a new multi-area Greater Manchester Economic Development, Employment and Skills Commission, alongside Commissions for six additional functional areas: Environment; Health; Improvement and Efficiency; Planning and Housing; Public Protection; and Transport. It is not clear which powers, if any, local, regional or national governments are giving up in favour of these Commissions. In the mid-term period of the prospectus, innovation will thus likely become even more of a multi-actor arena of activity than it is at present. High transaction costs in regional innovation governance due to multiple organizational engagements have been highlighted in the recent OECD (2008) review of regional innovation in Northern England. Yet, reducing organizational complexity and redundancy, although desirable, may be hard to achieve. The question for the Manchester city-region is thus: how can smart and effective ways be devised to structure an inevitably complex organizational ecology for innovation that will address the grand challenges facing the city-region? One approach may be through the fostering of shared consensus and clearer divisions of labour among multiple actors, aided by development and deployment of systematic “strategic intelligence” (Kuhlmann 2001; Smits and Kuhlmann, 2004) – using instruments and methods which can provide information and insight and encourage reflexive and anticipatory innovation policymaking.
 - Path dependence problem. If a location is to significantly change its innovation standing, it will surely need new strategies and significantly enhanced capabilities to build innovative institutions and companies, develop resources, change behavior, and foster an innovative environment. Such strategies need to be distinctive (since it is hard to envision catch-up occurring by pursuing the same innovation strategies used in other locations), and they are likely to be accompanied by higher-levels of risk. But, even where there is policy intent, institutional circumstances and structures established through prior rounds of development may make it difficult (even individually irrational) to make step-wise changes in development trajectories. In other words, there may be path dependencies which “lock-in” a region to a sub-optimal levels of innovation development (see Fuchs and Shapira, 2005). Overcoming path-dependency may require rethinking relationships of internal and external connectivity (e.g. among firms, universities, and other actors) to change patterns of awareness, comparison and learning.

- Economic cycle and bandwidth problem: The next period (of two or more years) will be overshadowed by the downturn in economic activity that is affecting the UK and most other parts of the world. Many firms are downsizing, some are going out of business, unemployment is rising, and many organizations are being squeezed to reduce costs. Historically, deep economic downturns have been associated with the clustering of innovation (Freeman, et al., 1982). In the present downturn, increases in public infrastructure spending²² coupled with attention to sustainability concerns and the emergence of new technologies (such as nanotechnology) may present new opportunities for innovation. Yet, problems abound. Existing firms and potential new innovative entrepreneurs may not be able to access finance to develop and commercialize their ideas. Additionally, attention to longer-run objectives in innovation may be swamped by imperatives to deal with immediate joblessness and cash flow. In short, thinking and acting on innovation may be crowded-out as the “bandwidth” of policymakers, companies, other actors, and the public at large is pre-occupied in addressing immediate economic concerns.

Innovation Strategies and Governance in the Manchester City Region: Targeting the Innovation Prospectus

The discussion in this paper about the evolution in thinking about innovation and the complexities often associated with implementing innovation strategies highlights the important role that the Innovation Prospectus can play in building shared understanding among multiple stakeholders involved in fostering economic development and innovation in the Manchester city region. In valuable ways, the Prospectus is effectively a heuristic – an instrument that can be used to draw attention to the importance of innovation, to delineate key problems and opportunities that need to be addressed, and to develop common agreement on an optimal way forward. It should indicate what will be the most effective ways to pursue innovation in the Manchester city-region, given the strengths and weaknesses apparent in the city-region’s innovation capabilities and the innovation opportunities (and threats) that can be anticipated. It needs to leverage and connect sources and uses of innovation across the city-region and beyond, as well as ensure links with broader concerns about equity and sustainability. And, in the context of the new multi-area agreement in Manchester, it should be clear about how innovation strategies will be formulated, implemented, led and governed.

This “multi-targeting” of the Innovation Prospectus represents a significant challenge, which is further complicated by the multiple audiences that may need to be addressed. While national government is the immediate target, the Innovation Prospectus also needs to be relevant for the city-region including public, private, non-profit, community and academic sectors.

The Innovation Prospectus should be clear as to what is the overall goal of innovation in the city-region. In procedural terms, we have suggested that there are *two grand*

²² It is not clear yet whether the UK Government will expand public R&D spending and investment in new energy and sustainable technologies akin to the massive increases (\$13.3 billion in new federal R&D alone) being proposed by the new US administration. If the US expands public R&D massively, the possibilities for an increased loss of UK scientific and engineering talent (as well as talented new international students) may increase.

challenges facing the city-region: expanding the pace and scale of innovation, and ensuring that innovation addresses broader economic, social, and environmental concerns. It is not purely about raising value-added per capita, although that is an important measure, both in comparison with Manchester's international city-region peers as well as with UK national and southeast averages. Innovation is also more broadly about improving the quality and sustainability of life across the city-region and, as an aspiring global city, Manchester's contribution to living quality and sustainability on a world scale.

An important opportunity presented by the Innovation Prospectus is to embrace current thinking about the scope of innovation across all economic sectors, the material and immaterial forms of innovation (product, process, organizational, business model, and relational), and the need to engage innovation users as well as producers in varied ways within and outside of the city-region. But there is a need to do more than talk about the totality of innovation: the Prospectus needs to operationalize these new approaches. It should identify how many different actors (including established SMES, larger businesses, new start-ups, micro-enterprises, universities, public agencies, associations, government, and individuals) can be innovative, and what resources and assets in the city-region are available to facilitate innovation.

At the same time, the Innovation Prospectus needs to recognize a range of problems facing the city-region. These include the legacies of industrial restructuring, problems of sub-optimal path-dependent development, and issues of infrastructure and education. There will need to be *considered navigation* through the problems of scope-achievement, policy-mix, and governance highlighted earlier in this paper. Additionally, the Prospectus will appear out-of-focus if it does not address issues associated with the current sharp economic downturn. The Prospectus could attend to the latter not only by defining medium-to-long run innovation targets and opportunities, but also by discussing strategies for sustaining innovative capability and momentum during the present economic crisis.

Overall, the Prospectus presents an opportunity to advance two intertwined strands of action on innovation in the Manchester city-region. The first is about *strategies for innovation* for the city-region: what should be done and how. The second is about *organization for innovation*: who should do it and when. Although we have drawn contrasts with other international city regions, this paper has sought not to recommend specific actions on these fronts. There are already many studies, recent and ongoing, which do this; and there is a wealth of experience within the city-region that can be drawn upon to fine tune these. Rather, we have sought to offer a series of propositions and insights which can help to prompt dialogue and debate about innovation strategies and governance modes for the Manchester city-region, which in turn will help to frame an Innovation Prospectus that is relevant, customized, broadly-supported, and innovative.

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Appendix 1. Purpose and Scope of the Greater Manchester Innovation Prospectus (Updated)²³

A1.1 Purpose of the Prospectus

- To achieve a broad consensus on the approach to innovation across the city-region and to set this out and communicate this clearly as a roadmap for the coming 3-5 years.
- To identify those policy initiatives which can be implemented at the city-region level, in collaboration with the NWDA, Northern Way and central government (DIUS, BERR, DGLC and Treasury, TSB).
- To identify the role of different Manchester agencies, organizations and their responsibilities for delivery, including but not limited to the seven new commissions.
- To establish a framework for actors within the city-region to take their on initiatives
- To set out the likely resource implications.
- To set out the way of working going forward for the delivery (not of the Prospectus but of the desired outcomes).

A1.2 Scope of Prospectus

- Addresses city-region innovation taking a broad approach including multiple forms of business innovation and social and organizational innovation as well as a more-narrowly focused science and technology-based approach to innovation. This will involve public, private and third-sector organizations.
- Seeks to establish the areas of greatest challenge and need for innovation in the city-region.
- Sets out the core values and principles which underlie the city-region approach to innovation.
- Incorporates an “eco-system” approach – aimed at creating an innovation-friendly environment which is widely shared and optimizes various forms of capital (physical, human, intellectual, financial, and social) and fosters outlooks and expectations conducive to innovation.
- Addresses innovation through both supply and demand side interventions and incentives.
- Seeks to identify the leading thinking about the drivers of innovation and how these can be applied in the context of the Manchester Multi-Area Agreement and the city-region.
- Seeks to establish where the priorities for innovation lie; what business and social areas/sectors are priorities.
- Seeks to identify the sources of innovation in the Manchester city-region.

²³ This Appendix is a summary adapted from the paper “The Greater Manchester Innovation Prospectus,” Project Inception Meeting, Manchester Knowledge Capital. December 12, 2008. Several suggestions made by the Project Advisory Group have been added to the original text.

- Seeks to identify which organizations have key roles to play, what are their strategies for innovation and what assets they can bring to driving city-region innovation.
- Seeks to set out which other city-regions we should benchmark against and how we will measure progress.