

CHAPTER 4

Containing the Contradictions of Rapid Development?

New Economy Spaces and Sustainable Urban Development

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In recent years we have seen the emergence of two phenomena that indicate major shifts are under way in the organization of economies and societies: the development of a *new economy* and incipient efforts to promote *sustainable development*. The development of a *new economy* composed of high-technology sectors and knowledge-based “production,” such as information and communication technologies and biotechnology and the so-called FIRE sector, which includes finance, insurance, and real estate, is both transforming production and consumption norms as well as altering relations among business organizations, individuals, and institutions (Storper, 1997; Scott, 1987; Porter, 1990; Ley, 1996; Thrift & Olds, 1996; Scott, 2000; Nevarez, 2003; Gleeson & Low, 2000). As with previous rounds of economic development, this new economy is concentrated into specific locales—in this case, into a number of city-regions. Indeed, a parallel set of arguments has emerged suggesting that such city-regions have become the locus of not only the new economy but also global economic growth (Herrshel &

Newman, 2002; Scott, 2001). The success of these “new economy spaces” has meant that local policymakers have sought to replicate similar conditions in less successful locales in the continuing elusive search for economic development (Krueger & Buckingham, 2005; Kong, 2000). To this end, numerous academic and popular works have investigated and/or advocated the merits of developing “clusters” (Porter, 2000), “innovative milieux” (Scott, 2000; Nevarez, 2003), “creative cities” (Kong, 2000; Landry, 2000), and the “creative class” (Florida, 2002) as elements of local economic development strategies.

In parallel with the growing policy and conceptual importance of the new economy, the concept of sustainable development also seems to be a key part of the policy mix for urban and local governments. Sustainable development is a discourse that seeks to offer a somewhat different view of future economic and social organization from that of new economy analysts (World Commission on Environment and Development, 1987; O’Riordan, 1999). Here, notions of combining economic, environmental, and social development in a holistic manner have emerged along a spectrum of approaches from light to dark green, ranging from business as usual with a “green tinge” to deep ecology approaches (Gibbs, 2002; Luke, 1996). Similar to research on the new economy, there has been an outpouring of work on sustainability at the local and urban scale (see Gibbs, 2002; Gibbs & Krueger, 2004), with policy prescriptions for “ecological cities” (Platt, 2004), “compact cities” (Breheny, 1995), “green urbanism” (Beatley, 2000), and measuring “ecological footprints” (Wackernagel & Rees, 1996) and “industrial ecology” (Gibbs, Deutz, & Proctor, 2005). There is considerable evidence that local sustainability initiatives are growing in number—the International Council for Local Environmental Initiatives (ICLEI; 2002), for example, reports that more than 6,000 communities worldwide have adopted sustainability planning practices.

At first sight, these two developments may seem antithetical to each other. Capitalist growth is frequently associated with environmental degradation, thereby creating “both a material crisis of production and a legitimization crisis for capital” (Angel, 2000: 611). Indeed, O’Connor’s (1998) second contradiction of capitalism proposes that capitalist development will tend to degrade the ecological conditions it depends upon. In this view, a tendency toward ecological crisis is just as endemic to capitalism as a falling rate of profit or overaccumulation. At first sight, then, we might expect the new economy to differ little in its impact upon the environment from older forms of economic development. Indeed,

some research would support this conclusion—for example, Pellow and Park’s (2002) research on the archetypal new economy of Silicon Valley indicates that its high-tech sectors may be a significant local pollution source. However, the reality may be more complicated than this suggests. The limited, and often anecdotal, evidence to the contrary that exists suggests that on some indicators the top performers in the new economy are also leading exponents of sustainable development (see Table 4.1). For us, this raises a number of key questions. First, do material conditions in new-economy spaces support both a model of global competitiveness *and* the principles and practices of sustainable development? Second, is a concern for sustainability integral to the development of these new-economy spaces? Third, how is sustainability constructed in terms of policy goals in these locales? Finally, what institutional forms have evolved in new-economy spaces to address these issues? In this chapter we provide an exploratory examination of these questions by focusing on two empirical case studies: Austin, Texas, and Boston, two of the leading locations for the new economy in the United States (see Table 4.1). Our purpose then in this chapter is to consider some conceptual

TABLE 4.1. Top 10 New Economy Spaces and Sustainable Development Cities in the United States

Top 10 on the New Economy Index ^a	Top 10 sustainable cities on Sustainlane Index ^b	Top 10 green cities in <i>thegreenguide.com</i> index ^c
1. San Francisco, CA	1. Portland, OR	1. Eugene, OR
2. Austin, TX	2. San Francisco, CA	2. Austin, TX
3. Seattle, WA	3. Seattle, WA	3. Portland, OR
4. Raleigh–Durham, NC	4. Chicago	4. St. Paul, MN
5. San Diego, CA	5. Oakland, CA	5. Santa Rosa, CA
6. Washington, DC	6. New York, NY	6. Oakland, CA
7. Denver, CO	7. Boston, MA	7. Berkeley, CA
8. Boston, MA	8. Philadelphia, PA	8. Honolulu, HI
9. Salt Lake City, UT	9. Denver, CO	9. Huntsville, AL
10. Minneapolis, MN	10. Minneapolis, MN	10. Denver, CO

^aThis column ranks metropolitan areas on the basis of five categories of indicators: knowledge jobs, globalization, economic dynamism and competition, transformation to a digital economy, and technological innovative capacity. Rankings are for 2001. For details, see <http://www.neweconomyindex.org>.

^bRankings for 2006. Cities ranked on a range of quality of life and sustainability indicators. For details, see <http://www.sustainlane.com>.

^cRankings for 2006 and based upon a combination of rankings for environmental policy, environmental perspective, green design, green space, and public health; air quality; electricity use and production; recycling; water quality; socioeconomic factors; and transportation. For details, see <http://www.thegreenguide.com>.

linkages between sustainability and the new economy in order to shed some light on how sustainability might be congruent (or not) with neoliberal capitalist forms.

The structure of the chapter is as follows. Drawing on existing theory and conceptual work, in the next section we develop the argument that a closer examination of the interrelationship between the two phenomena raises a set of questions that need to be addressed. We then outline the key environmental and quality-of-life issues that are of concern within new-economy spaces, before turning to our empirical investigations of Austin and Boston. We draw upon secondary sources and published literature for our analysis in this section, as well as interviews conducted with key stakeholders in both areas.¹ Following a section that relates these empirical findings to our theoretical arguments, we come to some conclusions on the potential for a future research agenda.

THEORIZING SUSTAINABILITY: FROM IDEALS TO EQUITY AND BEYOND

Sustainable development is often defined as a process that integrates the three domains of environment, economy, and society, with sustainable development seen as the intersection between these, as depicted in classic Venn diagram format (O’Riordan, 1999). Since the Brundtland report was published in 1987, sustainable development has increasingly become an important discourse in policy debates at all spatial scales. The Brundtland mantra of not leaving people in the future worse off has found its way into academic and policy work worldwide. Despite its widespread adoption, until a couple of years ago many applications were normative in nature and focused primarily on the environment. Recently, these definitions of sustainable development produced by both scholars and practitioners have become increasingly sophisticated (see Hempel, 1999; Agyeman, Bullard, & Evans, 2003; Buckingham & Theobald, 2003; HM Government, 2005), especially in terms of broadening the scope of who should be included in sustainable development. These definitions, while maintaining the spirit of Brundtland, are much more pragmatic. Indeed they seek to address specific urban problems associated with the neglected negative externalities of modern city making. Here, discussions of environmental limits per se are substituted for issues of social and environmental justice. This work rises to Haughton’s

(1999) challenge of acknowledging the interdependency of social justice, economic well-being, and environmental stewardship. He argues that “the social dimension is a crucial one since the unjust society is unlikely to be sustainable in environmental or economic terms in the long run” (1994: 64). This represents a significant shift away from the kinds of trade-offs between economy and environment in past policy definitions (Gibbs, 2002). In this new work on urban sustainability the conversation implicitly acknowledges the human–environment interaction in very real and specific ways. Rather than concerning themselves with ecological footprints and sustainable cities writ large, increasingly authors have engaged with sustainability as a justice issue related to problems involving specific social groups, such as women and disproportionately affected groups (see Agyeman, 2005; Buckingham & Lievesley, 2006). Despite the merits of these conceptual and (limited) practical interventions, the current state of thinking suggests that we remain in an impasse between recognizing the need for policy and the ability to deliver it (Gibbs, 2002; Krueger & Agyeman, 2005).

While the sustainability literature has certainly evolved in the past few years to include exploring issues of equity beyond a focus upon environmental concerns, there is still more work to be done. In the rest of the chapter we explore a set of theoretical concerns relating to social change that we believe commentators on sustainability need to engage with. In the absence of concepts such as materiality, power relations and hegemony, multiple constructions of sustainability, and changes to institutional form and function under different political economic conditions, commentaries on sustainability are reduced to something less than they could be. For without exploring the roots of injustice or the realms of the possible under current political economic conditions, how can we expect to make more progressive changes to the system? The chapter now turns to engage with the four questions set out in our introductory section.

CONVERGENT CULTURES?: GOVERNING ECONOMIC DEVELOPMENT IN THE NEW ECONOMY

The new economy is widely recognized as forming the main driver of global economic growth in the developed world (see, among others, Kelly, 1998; Watson, 2001; Daniels, Beaverstock, Bradshaw, & Leyshon, 2005). According to the Progressive Policy Institute (Atkinson, 1999),

the new economy is a “knowledge and idea based economy where the keys to wealth and job creation are the export of ideas, innovation and technology that are embedded in all sectors of the economy.” While the new economy is composed spatially of groups of high-tech industries, such as information and communications technology, biotechnology, nanotechnology, and so on, there is also a wider sense that a broader “new economy” is developing that encompasses changes in the way that business organizations operate and relate to other institutions, both internally and externally (Kelly, 1998), which has implications for the local areas that “house” these new-economy firms. Moreover, these new relations could have implications for spatial governance strategies.

New-economy spaces mark a new “sphere of convergence” between economic activity and culture. In these spaces capitalism is “moving into a phase in which cultural forms and meanings of its outputs become critical if not dominating elements” (Scott, 1997: 323). Economy and culture have always been intrinsically interwoven, but as Scott (1997) and others point out, new economies involve a much closer relationship between the firm and place, such that new forms of economic activity reflect a dialectic between local culture and capital. We are already familiar with notions of firm embeddedness in local places (Storper, 1997), which takes a variety of forms including internal organizational changes that involve breaking down departmental silos and altered business-to-business relationships, but the connectedness between firms and place and between capital and culture are moving into new realms. Thus, new-economy firms have different relationships with their host locations. In contrast to their Fordist predecessors, which were interested in public subsidies, tax breaks, inexpensive real estate, few regulations, and low wages, it is argued that new-economy firms view location in terms of linkages to external economies (Saxenian, 1994; Scott, 1997), specialized business services (Sassen, 1991), and destination spaces (Judd, 1999; Zukin, 1995) rather than focusing solely on more tangible considerations such as operating costs and rents (Nevarez, 2003). New-economy spaces, theoretically at least, thus have a synergistic relationship with their firms.

It is for this reason that we can begin to address the question of why new economy spaces may also take sustainable development seriously as an integral part of their development. Thus, the extended relationship between firms and the cultural qualities of place is particularly evident in relation to quality-of-life issues and environmental assets in new-economy spaces. Both quality-of-life attributes and environmental assets are

deemed essential in the new economy to maintain competitiveness vis-à-vis other locations (Bluestone, 2006). In particular, attracting and retaining highly qualified and highly paid key workers is closely linked with quality-of-life issues, such as attractive landscapes and opportunities for leisure (Nevarez, 2003; Florida, 2002; Walker, 2003; Gottlieb, 1995; Herzog & Schlottman, 1991). Elite workers are especially sensitive to local quality-of-life issues insofar as their particular training and skills often give them greater spatial choice and mobility than their less well paid, nevertheless colocated, counterparts. Indeed, the longevity of new-economy spaces may ultimately be determined by the local dependence of elite workers rather than that of the firms for which they work (Cox & Mair, 1988; Nevarez, 2003). Quality of life is thus important in competitiveness terms because it both attracts and helps to retain both new-economy workers and firms within areas (Saxenian, 1994; Gottlieb, 1995; Atkinson, 2002).

NEW-ECONOMY PROBLEMS, NEW-ECONOMY GOVERNANCE

However, new-economy spaces do not merely represent an unproblematic, even convivial, set of relationships between firms, the state, and the environment. Here we can begin to address the question of the form that a concern for sustainability takes in new-economy spaces. Many times it is the contradictions inherent to new-economy spaces, in particular those arising from development (both commercial and housing), environment, and quality of life in new-economy spaces that become the crucible of engagement. Quality of life, for example, typically requires maintaining the fragile balance between economic competitiveness, social and environmental amenities, and affordable housing. As O'Connor's second contradiction of capitalism might suggest, economic "success" measured in conventional GDP terms frequently leads to traffic congestion, poor air quality, groundwater pollution, stress on water reserves, and loss of landscape amenities. Thus, as Prytherch (2002: 773) points out in his study of Tucson, "Marketers may construct nature as a 'condition' for the production of growth, but sprawl devours the landscape upon which their sales pitch is premised." Physical and social infrastructures within new-economy spaces are pressured by increasing land scarcity, traffic congestion, house price inflation, and demands on the local tax base (Harvey, 1985; Saxenian, 1994; While, Jonas, & Gibbs, 2004; Gibbs & Krueger, 2004).

In absolute terms, the direct demands for space from high-tech activities are relatively small as compared to the demands from other associated uses. For example, in Cambridge, United Kingdom, it is estimated that for every hectare of land required for high-tech business an additional 15 hectares is required for related housing, physical, and social infrastructure (Segal, Quince, & Wicksteed, 2000). The impacts of growth pressures are therefore more closely related to the need to reproduce conditions in the living space, such as maintaining the quality of the local environment, facilitating the supply of labor through housing, transport, schools, and health provision, and more generally meeting the demands of local residents for adequate services (Cox & Jonas, 1993). Moreover, such growth is often accompanied by social polarization, labor turnover, and worker discontent (Allen, Massey, & Cochrane, 1998; Crang & Martin, 1991). Social tensions arise in the context of many lower-paid support workers in more mundane jobs. New economy space “success” may price them out of local housing markets, leading to long-distance commuting, two-income households, and negative impacts upon both environmental pollution and family life (Walker, 2003; Luke, 2003).

Institutional responses to these contradictions also represent a key area of inquiry. What institutional forms and practices evolve to address these tensions between the consequences of growth and the preservation of quality of life? The regulations, decisions, and policies affecting sustainable outcomes at the local level are constructed through discursive practices and struggle over materiosocial structures (Gibbs & Jonas, 2000; Krueger, 2002). For Molotch (1996), one way new-economy firms have sought closer forms of engagement with state forms is through public-private partnerships. In this sense, then, such new economic spaces may be closely bound up with the development of new forms of institutional and corporate cultures. The key issue here revolves around structures of governance and institutional forms that arise to address the tensions between growth, social equity, and preservation of local amenities and the environment. Here, the processes and structures of governance and regulation become critical analytical issues. We draw here upon the work of Jessop (1990, 1995, 2002), who conceptualizes the state as an “institutional ensemble” and characterizes state power as reflecting the interrelationships between the interests of politicians and state managers and the promotion of interests by social and economic forces (Jonas, Gibbs, & While, 2004). Jessop’s neo-Gramscian concept of “strategic selectivity” suggests that some actors and institutions have the ability to formulate, secure, and implement specific policies while others do not. Spe-

cifically, the terms of reference for what is being “strategically selected” in the first place largely rests with elite groups in society. While such strategic selectivity in most developed states continues to prioritize competitiveness, entrepreneurialism, and a largely neoliberal agenda over sustainability concerns, this may not be tenable or desirable in new economy spaces. As Nevarez (2003: 11) points out, elite groups in new economy spaces have a different relationship to the political process and the economic landscape than their predecessors did—“a company has to work out of a physical setting, which means it has particular needs from a locality and engages in certain relationships and activities in order to do business there.”

In new-economy spaces, therefore, a concern for sustainability issues may not be an *obstacle* to capitalist accumulation but rather a *constituent part* of it. The consumption of resources may push elites in new economy spaces to promote social and environmental programs, and, as Nevarez (2003) shows for parts of California, forms of governance in such spaces are driven by different corporate cultural values. As we have argued, in the spaces of the new economy, economic success, quality of life, and a “good environment” are closely intertwined. Local political elites need to address the tensions and policy dilemmas that arise in new economic spaces if they are to secure the continued success of their local areas. One key question here is the extent to which elites in new-economy spaces are shifting away from “strategically selective” approaches that focus on competitiveness and entrepreneurialism and toward new forms of social regulation based on equity and quality-of-life issues. In order to address these issues, we now turn to an examination of two U.S. cities that are at the forefront of high-tech development and with long-standing environmental credentials.

AUSTIN, TEXAS: GREENING THE NEW ECONOMY CITY

The city of Austin has expanded rapidly in recent years, with a population growth of 42.8% between 1994 and 2004, leading to a total population of 1.4 million people in the metropolitan statistical area (MSA). The catalyst for this rapid population growth is its role as a leading location for high-tech industry, including ICT and biotechnology firms, with the Dell Corporation also headquartered in the city (McCann, 2003). This high-tech boom had its roots in the local development strategies of the 1950s, reaching its height during the 1980s and 1990s and the

dot.com boom, when Austin was acclaimed as a high-tech capital that also boasted a high quality of life (McCann, 2005). At the same time, the city has gained a reputation for having a progressive approach to environmental issues:

The City of Austin is among the elite when it comes to setting environmental policy. Over the past fifteen to twenty years the City of Austin has earned hundreds of environmental awards. The following City programs have received national, state, or trade association recognition: Water/Wastewater Department's Dillo Dirt, Keep Austin Beautiful, Water Conservation, Austin Recycles, Energy Conservation, Public Works, Green Builders, and the Propane Program. Other active City-sponsored environmental programs include alternative fuel technology, teleworking, alternative commuting, tree planting, sustainable communities and "smart growth" incentives. These environmental initiatives are not just government-led; Austin is one of the most environmentally active communities in the country: The City of Austin was ranked second "greenest" city in the nation by the World Resources Institute in 2004. There is a powerful environmental coalition of organizations, with active local chapters of the Sierra Club, National Audubon Society, Environmental Defense, and over fifty other environmental organizations in the city alone. (Gunn, 2004: 7–8)

This strong local environmental culture in the city, together with a mix of environmental and other interest groups, both supports environmental preservation and protection and has an important input into local policymaking (Gunn, 2004). From 1996 onward, the city developed a Sustainable Communities Initiative that created plans, conducted evaluations, and educated city staff and the public on ways to make the city more sustainable. The Austin Green Builder Program was the first sustainable residential program developed in the United States, and this has now spread into other areas of construction and development (Tinker, 2003). More recently a 2005 transit-oriented development ordinance aims to encourage maximum mixed-use density development around major transit nodes (Nichols, 2006). One of the primary roles for policymakers and local government leaders in Austin has been to focus on quality of life. In the mid-1980s an independently commissioned quality-of-life survey rated the city as "exceptional" (as compared to San Diego, Atlanta, and Raleigh–Durham) in terms of the quality of primary and secondary schools, the quality of its parks and playgrounds, outdoor

recreational opportunities, community cleanliness, and as an affordable place to live (Smilor, Gibson, & Kozmetsky, 1988). These are seen as key assets in attracting the kinds of highly qualified labor that the city's high-tech industries rely upon.

Despite these plaudits, Austin suffers from the same problem as many other high-tech locations, namely, how to continue economic development but at the same time maintain the local environment and quality of life. As Smilor et al. (1988) point out:

Over the history of the economic development of the Austin area, local government has tended to favour either the “developers” or the “environmentalists.” When local government supports economic growth then the development of the technopolis is more likely to increase; that is, company relocation seems to be facilitated and obstacles to development seem to diminish. On the other hand, when local government believes that the quality of life is diminishing, then the development of the technopolis is inhibited; that is, obstacles to development increase (such as high utility rates or slow permit procedures). The issues become quite complex because many developers are often local residents who also want to preserve the community's quality of life.

One of the key battles within the city has come over the location of any future development, with concerns over the impacts upon the Texas Hill country to the west of the city and, in particular, over the impacts upon the Barton Springs portion of the Edwards aquifer. While some developers and firms have wanted more office and manufacturing space and housing developments, these have been opposed by environmentalists—particularly the Save Our Springs Alliance—and some businesses concerned about the loss of habitat for endangered species and the aquifer from which the city obtains much of its drinking water (McCann, 2005). The 1990s was a period when “a coalition of environmentalists . . . organized around issues of environmental justice and pollution in inner city neighborhoods, engaged in conflict with developers and newly arrived corporations over the future of urban development” (McCann, 2003: 165). Local elections at this time produced a Democrat-dominated “green city council” that sought to address four interrelated problems: population growth, the site demands of high-tech firms, social and economic inequality, and the environment (McCann, 2003). Policymakers have attempted to address these issues in various ways. In 1997 Austin developed a Smart Growth Initiative, effectively a set of land-use poli-

cies, which was intended to discourage development in the environmentally sensitive areas while promoting growth in the urban core, especially in the downtown area. It was specifically intended to determine how and where development should take place, improve the quality of life, and enhance the city's tax base. It created a Desired Development Zone and a Drinking Water Protection Zone, where development was to be encouraged and discouraged, respectively (City of Austin, 2001). However, Smart Growth in Austin was an incentive-based rather than regulatory response to urban growth, in part influenced by the local context, where clashes with the state government had "led to a series of disputes over development between the traditionally liberal and environmentally conscious city of Austin and the traditionally conservative and growth-oriented state of Texas" (McCann, 2003: 168).

While it proved possible to manage the tensions (or produce a "sustainability fix") between environment and development for a time, this became increasingly problematic following the impact of the dot.com crash that followed the boom of the 1990s. While population grew by 47.7% between 1990 and 2000, it subsequently slowed to 13% between 2000 and 2004 (Greater Austin Chamber of Commerce, 2005). At the same time, unemployment rose, and the city's revenues from both sales and corporate taxes declined significantly. The fragile consensus between environmentalists, developers, and neighborhoods that had been created through Smart Growth fell apart as environmental groups favored a "no growth" approach as opposed to the Smart Growth plan of directed growth, and developers left building projects uncompleted in the downtown area to the annoyance of local activists for whom city center redevelopment was a major factor in combating urban sprawl (interview, Smart Growth coordinator, December 2003). The negotiated consensus over protecting the aquifer has also started to unravel, with debate over environmental protection versus economic development continuing with the controversy over attempts by Advanced Micro Devices to build a corporate campus on the Barton Springs watershed and opposition by the Save Our Springs Alliance (*Austin Chronicle*, www.austinchronicle.com/issues, accessed January 27, 2006).

It has also become increasingly apparent that the downside to Austin's growth has been an increase in inequality and a decrease in housing affordability, particularly among the city's African American and Latino populations (McCann, 2005). This inequality has also been the subject of local debate both among activists and the business community. As McCann (2005: 12) points out:

While late-Twentieth Century Austin gained an image as a high-tech boomtown and an ideal hometown where Creatives could “live the life,” the city’s politics and policy were dominated by ongoing negotiations between the local, state and various activist groups aimed at mitigating the negative effects of rapid urban growth on fragile landscapes and on low-income people.

Indeed, although they may disagree over the most suitable policy to reconcile economic development and environmental policy, both environmentalists and developers “agree that overall quality of life suffers when the people who inhabit the community are out of work and cannot afford to pay the costs associated with infrastructure development, housing, or factors such as expanded park land or recreational opportunities” (Smilor et al., 1988). As McCann (2005: 14) points out, debates over quality of life and “livability” should not be taken for granted: “Rather than being a self-evident and generally agreed upon ‘fix’ to institutional and geographical problems of urban development, the regionalist livability agenda has become the context and object of a wide range of urban political struggles.”

Within Austin there has been a search for new forms of governance and new institutions that can adequately address both the perceived development needs of the city and yet, at the same time, maintain a high quality of life and address some of the inequality problems. Two specific local institutionalist approaches or intended “fixes” for these problems have come in the form of the Austin Network and Opportunity Austin. The Austin Network arose out of a local conference, the Austin 360.00 Summit, that brought together many of the city’s high-tech CEOs in response to the questions of preserving quality of life, improving infrastructure, and an apparent disconnect between the technology community and community issues (Bishop, 2000). Some have argued that this type of development effectively represents a new form of governance or a “network governance mode” (Bishop, 2000) in high-tech areas, where voluntary associations of business leaders, nonprofit groups, and local government come together to address issues that may spill over formal government boundaries, blurring the lines between the private and public sectors. In Austin, part of the strategy involves the use of technology in the form of GetHeard.org, a website that provides a channel of communication between the private high-tech sector, local government officials, and nonprofit organizations. As elsewhere, public–private partnerships have become one way to address governance problems.

Opportunity Austin was a direct institutional response to the loss of over 30,000 jobs after the 1990s boom, combined with a national recession and technology shifts. These changes led the local chamber of commerce to commission a report on the city's economy, to benchmark it against competitors and to develop a job creation strategy. This resulted in the creation of Opportunity Austin, with the aim of creating 72,000 jobs and an increase in payrolls. As a consequence, the Greater Austin Economic Development Corporation was created to oversee the initiative's planning and progress and to seek financial support. Portfolio Austin—A Strategy for Growth was launched in August 2004, with a central component composed of a “‘SWAT team’ of regional leaders to respond to critical challenges standing in the way of local businesses’ growth and success” (Opportunity Austin, 2005). Despite the economic focus of this institutional and governance response, Opportunity Austin continues to prioritize environmental protection; thus, “We must protect the local quality of life—so citizens can move about quickly, cheaply and conveniently, enjoy clean air and water, and take advantage of the region’s abundant green space” (2005: 2). Indeed, environmental issues form a central part of Austin’s development plans. Thus, Opportunity Austin’s economic development plan includes a strategy to encourage the development of a clean energy sector in the city through a newly established Clean Energy Development Council (CEDC), funded and endorsed by the city council and the chamber of commerce. This is promoted as a win–win between economic development and the environment, although skeptics are said to be “watching to see if the CEDC is indeed an economically and environmentally sustainable development project, or just the same old corporate incentives in trendy new clean energy bottles” (<http://www.austinchronicle.com/issues>, accessed January 27, 2006). The city council and Austin Energy are also the driving force behind a coalition of U.S. city governments, nongovernmental organizations, and utility companies² established to lobby auto manufacturers to produce plug-in hybrid gasoline–electric engines and have pledged to purchase 600 of these for the city’s own municipal fleet (<http://www.msnbc.msn.com/id/10990145>, accessed February 2, 2006).

THE “BOSTON FORMULA” FOR SUCCESS

Boston, Massachusetts, is the “hub” of one of the United States’ most competitive economic regions. In its approximately 350-year history

Boston has responded to changes in the structure of the global economy, from mercantilism to neoliberalism. Until the 1930s, for example, the region was known for textiles and manufacturing. In the late 1960s, from the strength of Raytheon and other defense contractors, the Boston metropolitan area evolved into a signature region of the military production complex, both in terms of innovation and manufacturing. After losing the battle over the computer industry to Silicon Valley, the city and regional economy waned again in the late 1980s. The recession that followed was the worst in the region since the Great Depression of the 1930s. From 1970 to 2000 the region lost 35,000 manufacturing jobs, bringing the percentage of those jobs from 12% of the region's employment down to 4% (Boston Foundation, 2004). During this same time Boston's knowledge economy grew to some 68% of employment (Boston Foundation, 2004). The Boston region is now widely recognized as one of the world's most innovative economies. Boston's shift from a manufacturing economy to a knowledge-based economy is rooted in the research and development emerging from the area's institutions of higher education and health care, as well as the financial, governmental, business, professional, and human services sectors. By many indicators Boston ranks as one of the most competitive city-regions in the world. The Boston area's population is highly educated, with 34% of adults holding a bachelor's degree (Boston Foundation, 2004). According to the Massachusetts Technology Collaborative, Boston also produces patents at a rate of 61 annually for every 100,000 residents. This is higher than in any of the region's U.S. competitors. In terms of R&D, Boston is outpaced only by Silicon Valley for venture capital access and federal research funding. The Boston metro area houses half of the state's population and jobs. The city of Boston alone has 9% of the population and 16% of the state's jobs. During the growth period of the 1990s the Boston area's population increased at a rate of 5.5%. This overall modest rate conceals the explosive population growth of some towns in the region. Chelsea's population, a town to Boston's immediate north, increased by 22%, while cities around the emerging high-tech corridor of Interstate 495 grew at a pace of 45% during the same time period. Overall, while the city of Boston gained 5.5%, the high-tech communities to the west grew at a rate of 11.3% during the same time. Boston's economy generates substantial commuter traffic; while the city's total population is about 600,000, the number of people in the city doubles each day during working hours, some 300,000 workers making their way into the city via rail or automobile.

In a similar fashion to Austin, the city's administration has pursued several green initiatives. In 1995, for example, the Office of the Mayor initiated Sustainable Boston, which was modeled after Local Agenda 21, was supervised by ICLEI, and included an indicators project. In 1995 and 1996 public forums were held around the city to begin a discussion on the city's quality of life issues. Over 2,000 citizens attended visioning sessions, which were intended to produce a common vision for a sustainable Boston. A report from this effort, *The Wisdom of Our Choices: Boston's Indicators of Progress, Change and Sustainability*, was published by the Boston Foundation in 2000. Before the report was published, however, the Sustainable Boston Initiative floundered. Portney (2003: 224) reports that the initiative "quickly took a back seat to traditional economic development in the city's priorities." This supports Lake's (2000) observation that the city of Boston was motivated less by the principles of sustainability and more by the potential for stimulating economic growth and urban redevelopment.

While the successor plan, Boston 400, retained some of the influences of the Sustainable Boston plan, it was decidedly more focused on economic development. The Boston 400 plan was housed in the Boston Redevelopment Authority, the city's primary economic development agency, whereas Sustainable Boston had been located in the city's environment department, primarily charged with environmental compliance and monitoring. In his remarks to the American Planning Association in 1998 the city's chief economic development officer Thomas O'Brien revealed the economic development-oriented nature of Sustainable Boston's successor. He argued that "economic vitality leads to opportunity, as projects which were once only ideas can now become a reality." A key component of this plan was the commitment of \$700 million by the city to waterfront redevelopment to improve tourist and commercial opportunities in east Boston, based on the premise that by planning for, and promoting, the right set of assets, such as Boston's waterfront, the city as a whole would benefit.

Yet, while economic development is the cornerstone of prosperity, the Boston Redevelopment Authority (BRA) also recognized a broader set of city assets. Haar (1998, p. 1), while describing the plan, remarked:

Boston's primary assets are the mixed-use character of our neighborhoods, a multi-faceted economy, outstanding locational advantages for business and industry firms, world-renowned educational and medical

institutions, a strong community service system, and a rich and diverse cultural and ethnic heritage, not to mention the City's vibrant and walkable urban fabric and its location near one of the most attractive harbors anywhere. . . . Boston 400 must strengthen the City's already firm, reliable infrastructure to enhance a wide range of activities—so that everyone in the City can respond to challenges that we cannot predict today.

As a comprehensive plan, however, the Boston 400 plan, like its predecessor, Sustainable Boston, withered on the political vine. As one former employee of the BRA (interview, June 2006) put it, “The Mayor wasn't completely behind it, so we had no incentive to keep it going.” Aspects of both plans remain alive today both discursively and materially, though in a more piecemeal way and spread out through several city departments and local growth coalitions. Discursively, it would seem that the broader set of issues identified in Sustainable Boston and Boston 400 have been codified in what the Boston Foundation, among others, has referred to as the “Boston Formula” (see Table 4.2). Implied here, and explicit in the Boston Foundation's publication *Thinking Globally/ Acting Locally: A Regional Wakeup Call* (2004), is that Boston is in competition with other high-tech areas such as Chapel Hill, North Carolina, and the San Francisco Bay area and that these competitor “city-states” are applying similar formulae to attract workers to their area. Thus, Boston's quality-of-life assets, such as its Olmstead-inspired “Emerald Necklace,” its waterfront and other open spaces, and the New England village image, in addition to economic factors, are crucial to the success of the region in the new economy.

Other initiatives also represent the city's efforts to deploy the sustainability discourse to promote itself in today's entrepreneurial envi-

TABLE 4.2. The Boston Formula for Success

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- Excellent higher education institutions with large student bodies, including foreign students skilled in math and science.
 - Highly educated young workers and families.
 - Access to private venture capital and public research funding.
 - Culturally vibrant and walkable neighborhoods.
 - City and town centers near public transit.
 - Nearby recreational and natural areas.
-

Note. Data from the Boston Foundation (2004; emphasis added).

ronment. In the fall of 2005 the city had unveiled its own green roof atop Boston City Hall. At the ribbon cutting of the new roof the Mayor announced, “I am determined to make the city of Boston a leader in green technology. Not only will it keep us on the cutting edge; it also just makes good sense—for our budgets and for our environment.” In May 2006 the Boston Environment Department hosted a green roofs conference. Another of Boston’s environmental initiatives is the city’s groundwater overlay districts, first established in 1986. In 2005 Mayor Thomas M. Menino announced that the whole city would become part of the groundwater overlay district. The development of the district also marks a new watermark in collaboration between the city, the state, and local nonprofit organizations. New projects that fall within the district (the actual borders are being shaped by the political process) will undergo a review that measures their implications for groundwater levels. The event that set this initiative into motion was not water scarcity per se but rather the physical settling experienced in many of Boston’s famous historic structures, which are seen as a crucial element in Boston’s formula for success in the new economy. The wooden pillars supporting many of Boston’s famous historic brownstones were being exposed to air and bacteria as the water table gradually dropped from overconsumption generally.

As well as being evident in various piecemeal city efforts over the past decade, Boston’s original sustainability initiative and its successors have also been manifest in regional and state activities. In 2002, the Metropolitan Area Planning Council (MAPC), the regional planning entity for Boston and its 100 surrounding towns, initiated the “MetroFuture” project. MetroFuture is designed to update the earlier Metroplan developed in the early 1990s, which was the region’s first effort to grapple with regional rather than town planning. The need for the plan is being driven by a familiar theme. According to proponents of the plan:

We live in a very desirable region. The quality of life offered by our historical, cultural, natural, and economic attributes continues to retain residents and draw increasing numbers of people to make their homes here. As the number of households in Metropolitan Boston is rising, we are all—long-time resident and newcomer alike—placing increasing demands on the infrastructure that supports our quality of life. Indeed, we appear to be jeopardizing many of the attributes that drew us here in the first place. (Metropolitan Area Planning Council, 2002)

The goal is to develop a sustainable growth plan for the MAPC region, including implementation steps for state and local government and recommendations for private sector stakeholders. To do so, the MAPC is following a Local Agenda 21 style process, involving large-scale public education to increase the visibility and awareness of regional issues related to the economy, environment, and quality of life; region-wide civic engagement in the planning process, helping to build a constituency of knowledgeable and committed supporters who will work to translate the plan into reality; and institutional capacity building throughout the region, linking technology and information to community decision making for current and future planning processes. This MetroFuture effort is ongoing and at the time of writing the team was in the midst of stage 2 of the plan. The rhetoric behind the plan reflects the historical trajectory of sustainability in the region over the past decade. The Local Agenda 21 style of visioning, consensus building, and implementation, the link between economic competition and sustainability and environmental concerns, and the relative absence of business from the process all reflect Boston's previous experiences in sustainability.

The manifestation of sustainability and economic competitiveness as public policy and planning concerns are also present at the state level. The Commonwealth of Massachusetts, through the efforts of the Office of Commonwealth Development (OCD) and the state legislature, have attempted to address sustainability concerns and economic competitiveness through the state's most pressing public crisis, affordable housing. There is not enough space to go into detail here, but a brief discussion is necessary. In 2005 the state legislature passed amendments to the affordable housing statute that included certain "smart-growth" components. In particular, the state would provide incentives for developments that used existing developed sites (not open space) and were near rail transport terminals. The statute further required that 20% of housing at these sites had to be "affordable." As a further incentive to cities and towns across the state, the Office of Commonwealth Development linked its funding allocations (nearly \$500 million annually) to its sustainable development checklist. The checklist would be evaluated and weighted into grant applications submitted to the state. What this means is that all cities and towns that seek state funding for road or development projects must (1) complete the form and (2) rank highly enough on its criteria (or at least higher than other towns) to receive state funding.

GOVERNING SUSTAINABLE NEW ECONOMY SPACES?

These two case studies reveal, perhaps not surprisingly, that new economy spaces are probably as diverse as the landscapes they occupy. A concern for sustainable development certainly exists alongside the new economy in both locations, but it is questionable as to whether this really represents a shift toward greater “ecological rationality.” For example, rapid growth in the Boston region and in Austin has affected their respective groundwater supplies. While adequate water supplies are obviously crucial, the issue of scarcity has been linked less to future consumption than to the prospective loss of future amenities. In Austin, Barton Creek is a regional icon: not only does it provide drinking water for the region’s inhabitants, but it also provides the backdrop for many of the region’s recreational amenities. Thus, its importance to the region as both a water supply and amenity is clear even to firms seeking to expand their operations in the area. Boston’s historic “Back Bay” is similar to Barton Creek in cultural significance. Built 140 years ago, the Back Bay neighborhood is constructed on landfill that was placed over the Charles River estuary. Not only does this historic landmark area house Boston’s “creative class,” but also it attracts tourists, and the wide tree-lined sidewalks provide a resource to residents and visitors alike.

In both locations, concerns over equity have tended to take a backseat to concerns over quality of life issues as factors in local economic competitiveness. In both cases, smart-growth initiatives have formed a mainstay of attempts to address these concerns. In Austin these initiatives have sought to overcome the impasse over development, while in Boston one concern has been to maintain the distinctiveness of both the “Boston formula” and the New England village character felt to be crucial in the city’s appeal to the creative class. However, although Austin may have smart-growth and neighborhood planning initiatives, these exist alongside substantial income disparities and concerns that “smart growth” is encouraging gentrification in low-income inner-city neighborhoods (McCann, 2003). In Boston, regional and state efforts to promote smart growth have resulted mainly from the soaring property values in the region. Boston is more expensive to live in than Austin, making it the most expensive rental market in the country. Yet, for policymakers this is only part of the problem. There is a growing concern by young people from the region that they will be unable to afford to live in the region after they are graduated from college. Furthermore, as commercial development in the Boston city-region expands outward

with its associated land-use demands, it impacts upon the space available for workers to live in and to get to work. This concern lies behind the state's incentives for Transport Oriented Development (TOD)—high-density development along rail and commuter links. The impetus behind smart growth in Boston is thus to retain and attract key workers for the knowledge economy and less about housing opportunities for those who participate in the ancillary economies.

In both of the case studies the two cities certainly face similar new economy problems. In both, traffic congestion, the environmental consequences of rapid growth, high property values, income disparities, and increasingly scarce natural resources are all major concerns. However, the form of concern for sustainability and quality of life issues differs between the two areas, as have the forms of institutional response. Austin's governing coalition has been able to forge alliances between NGOs, environmental groups, new economy firms, and the state. New forms of governance have emerged in Austin with the creation of public-private partnerships, where issues of sustainability have been addressed as a factor in maintaining economic competitiveness through quality of life issues but also as a potential future accumulation strategy—for example, through promoting the clean energy sector as a source of future growth. In Austin, there has been much greater corporate involvement in sustainability initiatives than in Boston, where the public sector has struggled with the lack of corporate engagement. One explanation may be that whereas in the (Fordist) past Boston had two or three key firms that were civic minded and participated in local politics beyond their self-interest, over the past decade these companies have been sold to larger ones and their headquarters have moved out of the city or have closed altogether. As a result the city of Boston has not been able to create a strong culture of participation in land-use or development affairs outside the typical pathways. From our interviews with planners involved in the MetroFutures project, getting business firms to the table has been one of the biggest obstacles in the process. In contrast, at the subregional level along the 128 and 495 high-tech beltways, new economy firms are participating, which is more in line with the Austin experience. Rather than reaching any form of consensus (forced or otherwise), development politics in Boston remains clannish. While Austin's new economy firms came to the table and worked to help protect environmental resources (regardless of motivation), Boston firms (either in the city or around the metropolitan area) are largely absent from planning. Indeed, as one respondent in the Office of Commonwealth Development noted,

corporate involvement is largely restricted to “firms telling the governor what they want in terms of quality of life and infrastructure” (interview, OCD, June 2006). They do not, however, work with the Boston local authority to resolve problems through the planning process. Moreover, our respondents suggested that new economy workers in Boston participate even less than their employers. According to one respondent, “New economy workers in Boston tend to be rather young and not have children.” He feels that, as a result, they are not as closely tied to the community. “They are motivated to go out and protest global warming or the war in Iraq, but the mundane issues of local development don’t motivate them to attend a planning meeting” (interview, Boston Environment Department, June 2006). Thus, as previous scholars have noted (Saxenian, 1994; Horan & Jonas, 1998) the “Massachusetts miracle” that propelled the region’s economy during the 1980s hardly constituted a virtuous form of local or regional governance. Saxenian (1994) observed that Boston was overhierarchical, reflecting a disposition toward rigidity and not enough flexibility and collaboration in the corporate gene pool. Apparently, this condition has worsened in wake of the recent sale of such local companies as Converse, Gillette, and John Hancock. As one official from Boston’s Environment Department (BED) put it, “Firms such as Bank of Boston or Very Fine Juice were willing to put up something; now there is no clear place to go to support local initiatives” (interview, BED, May 2006).

CONCLUSIONS

In this chapter we began with a number of key questions to be addressed: Do material conditions in new economy spaces support both a model of global competitiveness and the principles and practices of sustainable development? Is a concern for sustainability integral to the development of these new economy spaces? What policy forms does a concern for sustainability take in these localities? Finally, what institutional forms have evolved in new economy spaces to address these issues?

With regard to the first three questions, it appears that new economy spaces set out on “sustainable” pathways when the material conditions that underpin them are compromised by rapid growth. In the spaces of the new economy there are two major problems that need to be addressed. First, there is a contradiction between the economic growth of such areas and quality of life/“good environment.” While the success

of these areas is intimately bound up with quality of life issues for the elite groups of high-tech workers, the consequences of growth through congestion, housing costs, and sprawl may make these areas less attractive to highly mobile workers. The second problematic issue is over the inequitable impacts of growth and prospects for continuing success. Those lower-paid workers who service the new economy are increasingly unable to afford the costs of housing in such areas and may suffer from poor housing, long commuting times, and poor working conditions. Thus, in the case of Austin, engagement with the sustainable development agenda has been framed around preserving the reason many knowledge workers come to the area—its natural environment. Boston is similar, but here the issue of quality of life is problematized by the scarcity of affordable housing. What both cases suggest, however, is that there is a certain aesthetic about these places that must be preserved, whether it be the open space, historic buildings, the “urban village,” or the outdoor lifestyle. In this sense then it would appear that sustainable development is a key component that is mobilized in support of existing economic trajectories. In the spaces of the new economy, economic success, quality of life, and a “good environment” are closely intertwined. It would appear, *prima facie*, that the economic competitiveness of new industrial spaces is contingent upon continuing engagement in the sustainability discourse. However, at a more theoretical level, we cannot assume that a greater concern for environmental issues in new economy spaces simply represents sustainability in practice. While, at least in its “stronger” forms, sustainable development may represent a political challenge and an alternative to “development as usual,” the concern for continued economic success may simply see the environment as a means of securing accumulation regardless of the social costs involved. Thus, in new economy spaces as elsewhere, it is possible that “the current proliferation of sustainability projects and products represents little more than a strategy to secure conditions for the continuance of accumulation-as-usual” (MacBride, 2004: 341). As the ideology of neoliberalism continues to hold sway, economic decision making increasingly dominates the political agenda and thus maps directly onto the sustainability agenda. Because of this inescapable engagement with capitalist social relations, the true intent of “sustainable development policies” is frequently marginalized (Gibbs, Jonas, & While, 2002; Lake, 2000).

Sustainable development has thus been deployed as an alternative set of policy options, or institutional fixes, in cities seeking to curb en-

vironmental transformation and degradation from rapid economic development. Indeed, those high-tech U.S. cities that top the index for competitiveness are the same cities that also rank most highly on the key metric of sustainable development. The claim here is not that these cities are more sustainable, as city boosters would have us believe. Rather, it is that they have adopted the sustainable development discourse and formulated policy options to address the tensions from their models of growth and economic competition. The types of sustainable development institutions and policy proscriptions that emerge are partially a result of the constraints of a neoliberal discourse. That is, they are crafted hybrids of a market-based ideology—incentives, volunteerism, and private sector rationality carry the day. After all, whether “rolling back” the state or “rolling out” neoliberalism, the recent political power of economic liberals has fundamentally transformed state–society relations (Peck & Tickell, 2002; Raco, 2005). The current harmony between economically liberal social conservatives and third-way progressives will become cacophonous at some point. Perhaps more important is the observation that the politics surrounding regulation today is not *all* of a neoliberal orientation. Actors engaged in the politics of regulatory change represent many differing views. The resulting institutions and policy choices do not necessarily follow the straight edge of the neoliberal project. Contingency solutions potentially exist when actors struggle to define just what the problem is that institutions must ameliorate.

NOTES

1. A total of five interviews were conducted in Austin in 2003 as part of an Economic and Social Research Council funded project (Grant No. R000239428) and eight interviews in the Boston area in 2006.
2. The Plug-in Partners Coalition also involves Arlington (VA), Baltimore, Boston, Fort Worth, Corpus Christi, Denver, Irvine (CA), Los Angeles, Seattle, and Wenatchee (WA) (see www.pluginpartners.org).

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