

The Changing Forces of Urban Economic Development: Globalization and City Competitiveness in the 21st Century

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Abstract

Economic development in U.S. cities will be driven increasingly by forces of global economic interaction in the 21st century. Where the export sector is thriving, international trade and investment are creating more and better paying jobs. U.S. cities will have to adjust quickly to these and other international forces. To grow and prosper, metropolitan areas must improve their education systems to produce a highly skilled and flexible work force, improve the quality of living conditions to attract international investment, provide services and infrastructure to support globally competitive firms, and develop stronger entrepreneurial and technological capacity among small and medium-size companies. Civic leadership and community action are essential to expanding and modernizing urban infrastructure, strengthening mechanisms of community cooperation within metropolitan areas, and fostering public-private partnerships to expand opportunities for employment. Demands for integrating the inner-city poor into economic activities will require innovative policies that build on business-oriented approaches to community development.

The 21st century will be a global century, marked by increasing international trade and investment, growing transnational communications, and expanding cross-border alliances businesses and industries. U.S. cities seeking to improve or even maintain their economic position must provide the labor force, services, and infrastructure that allow locally based domestic and foreign-owned firms to participate more successfully in the international

marketplace. Rapidly expanding global markets will provide our cities and their residents with immense opportunities to prosper, but only to the extent that their businesses and labor forces are prepared to respond to new global challenges.

Driven in large part by global competitive forces, the primary engine of urban economic development has shifted from one based on mass-production industries and low-skill service jobs to a more sophisticated technology- and knowledge-based system of production and services. This shift has provided higher incomes to those workers and managers who have the skills and knowledge to participate effectively in the new urban economy while leaving behind those who do not. Likewise, those cities that become more globally linked and responsive to the competitive needs of businesses will attract investment and jobs while those that do not will decline. In the emerging global economy, international trade and investment will be key drivers of urban and regional growth and crucial sources of local jobs and wealth.

In the past, urban economists focused on the domestic exports of cities to areas outside their immediate region, but international trade and investment will play an increasingly important role in the future in urban economic revitalization, job generation, and wealth creation. Miami's economic recovery, for example, rests heavily on its emergence as an important transshipment center for goods to and from Latin America and the Caribbean. More than 50 percent of U.S.-Caribbean trade and nearly 40 percent of all U.S. trade with Latin America now flows through Miami (Jones, 1996). In 1995 alone, Los Angeles County gained more than 93,000 jobs and the surrounding areas gained another 50,000 jobs through growth in business services, tourism, entertainment, and wholesaling largely attributed to international trade. Since 1990, more than 300,000 new jobs have been created in the Los Angeles metropolitan area (MA) from global trade (Kotkin, 1996). Detroit's economic renaissance is being driven largely by the sharp increases in international sales by businesses located in and around the city. Exports to Canada and the European Union from the automobile industry, automotive suppliers, and other high-technology, high-value-added industries in Detroit and other Michigan cities have generated almost 500,000 jobs statewide.

Although firms in America's largest cities have to some degree always been involved in international trade, in recent years a growing number of companies in small and medium-size cities have also become more heavily involved in exporting. The U.S. Department of Commerce reports that by 1995 firms in 253 selected U.S. Metropolitan Statistical Areas made export sales totalling more than \$467 billion, an increase of nearly 13 percent over the previous year (U.S. Department of Commerce, 1996). Approximately 85 percent of these MAs recorded export increases. In 1995, 84 of the 253 MAs surveyed—including Cleveland and Columbus, Ohio; Flint, Michigan; Fort Worth, Texas; Memphis, Tennessee; Providence, Rhode Island; Raleigh-Durham, North Carolina; Richmond, Virginia; Salt Lake City, Utah; Syracuse, New York; and Wichita, Kansas—reached export sales of \$1 billion or more annually.

Moreover, cities around the country are now competing for foreign direct investment (FDI) by Asian, European, and Latin American firms, whose mergers, acquisitions, and new plant locations bring with them capital, technology, and jobs. In Ohio, more than 200,000 workers are employed by foreign-owned subsidiaries of British, German, and Japanese companies that have invested in the State. In Michigan, nearly 1,000 foreign-owned companies created more than 126,000 jobs in the early 1990s (Thuermer, 1996a).

In addition, American firms in cities around the Nation are finding that, to increase their world market share and deliver their products effectively, they must also invest overseas. Foreign investment can generate revenues that keep the domestic parent company financially viable and stimulate exports through intrafirm trade in cities in which the parent firm's subsidiaries or affiliates are located.

The rapid integration of the global economy will be among the most critical factors shaping the viability of urban economies in the U.S. during the coming decade. Investment will flow to—and exports will flow from—those cities that provide better educated and higher skilled workers, globally linked infrastructures, and flexible and responsible public and private organizations. In the future, urban development strategies across America's cities must be based on a clear recognition that the international competitiveness of urban enterprises will create the wealth necessary for job expansion, capital investment, and tax revenues to support local public services. Wealth creation in American cities will occur only when both labor and management in urban enterprises add value to products and services through technological innovation and increased productivity and move them into the world market efficiently, effectively, and rapidly. Wealth creation, increased productivity, and technological innovation, in turn, will enhance the capacity of cities to support even larger numbers of international business transactions.

This article describes the international trends reshaping the economic development of American cities and affecting their capacity to support internationally competitive economic activities—on which urban economic growth, wealth creation, job generation, and a better quality of life (QOL) depend. Progress toward improving the economic well-being of urban residents and alleviating poverty in inner cities will require the expansion of small and medium-size enterprises (entrepreneurship) as well as the continuing growth of large-scale industries. The growth of enterprises of all sizes will depend in the future on their effective participation in international trade. Preparing the urban work force, and especially inner-city minorities, to attain skilled and professional jobs in businesses involved in global trade will be a key to urban economic vitality in the 21st century and will require new and more creative programs of human resource development and urban investment than those used in the past.

Global Trends Affecting Urban Economic Growth

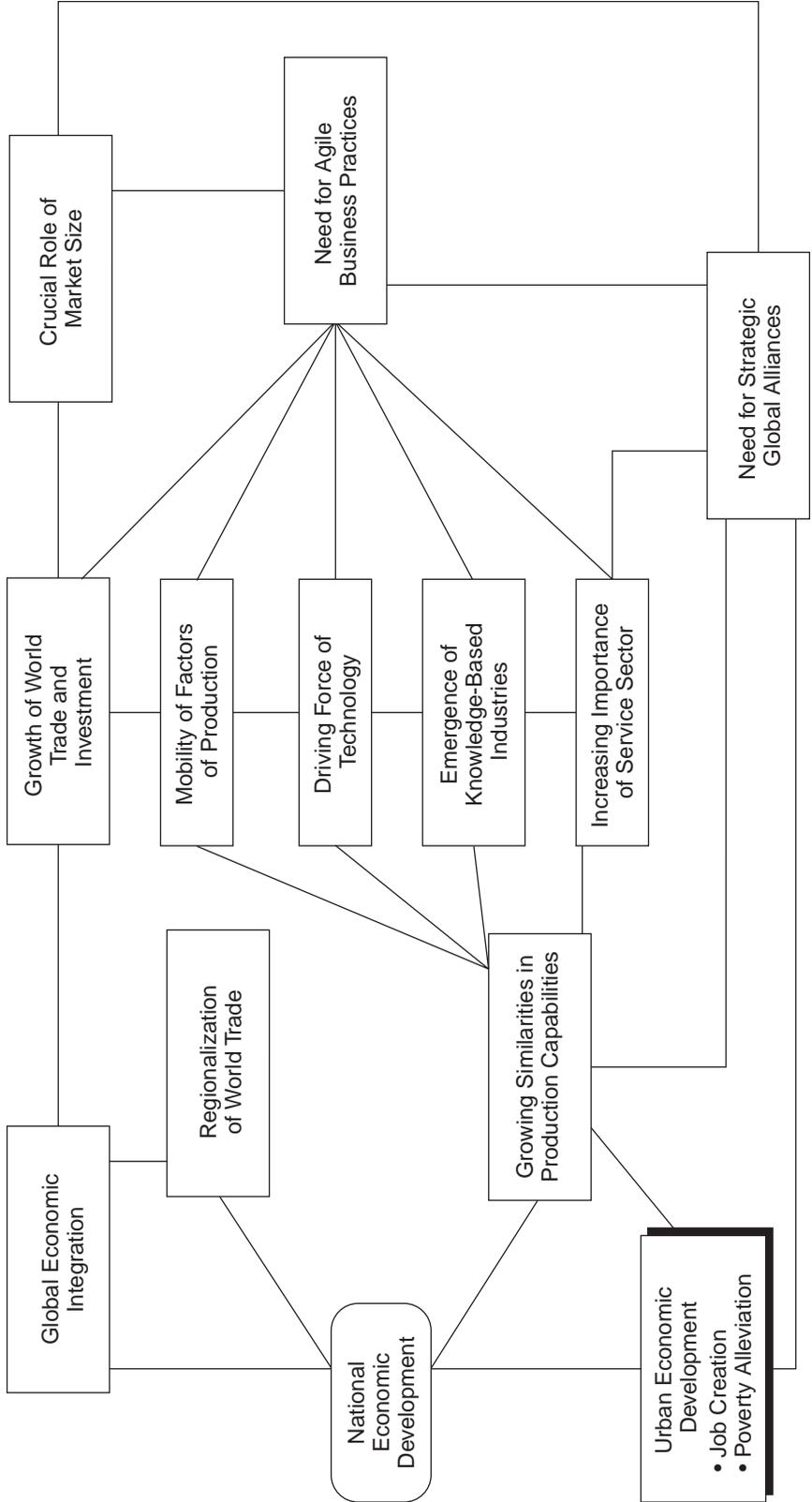
Trends that are likely to affect the economic growth of American cities and MAs in the 21st century include:

- The growing importance of international trade and investment.
- The increasing global mobility of factors of production.
- The driving force of technology.
- The growing importance of knowledge-based industries.
- The critical role of market size.
- The need to adopt agile business practices.
- The necessity of forging international strategic alliances.

These global forces affecting urban economic development are depicted in exhibit 1.

Exhibit 1

Global Factors Affecting Urban Economic Development



Nearly all international reports on world economic trends since the mid-1980s underline a now widely recognized fact: The basic forces integrating the world economy and pacing national, regional, and urban economic growth are international trade and investment.¹ The continued growth of world trade and investment is reinforced by developments in technology and information exchange, changes in market structures, and the rapid expansion of transnational corporations (TNCs). These trends have all created new conditions for national, State, and urban economic development and have been reinforced by the increasing international mobility of factors of production, changes in the nature and scope of economic competition and cooperation, and shifting attitudes of both transnational corporations and government leaders toward international business.²

Freer international trade, financial transactions, and investment across national borders are accelerating the integration of the global economy and intensifying international competition and cooperation among firms and cities. International economic integration is increasing at two levels (United Nations, 1993). At the microeconomic level, international integration intensifies as enterprises expand across national borders, either through equity investments (mergers, acquisitions, or greenfield investments) or through nonequity linkages (strategic alliances) that integrate the activities of independent firms located in different cities. The cross-border acquisitions in such industries as telecommunications, energy, and transportation, for example, have been substantial during the 1990s. At the macroeconomic level, international economic integration results from the weakening of trade barriers and the freer flow of goods, services, and factors of production. Freer trade has been enhanced by the General Agreement on Tariffs and Trade (GATT), the World Trade Organization, and the formation of regional trade associations and bilateral trade agreements such as the North American Free Trade Agreement. In addition, economic interaction is moving from *shallow integration* based on simple trade linkages to *deep integration* shaped by the worldwide production-based linkages of transnational corporations' affiliates in cities around the globe.

Growing Importance of International Trade

Since the 1960s, world trade has been an important source of economic growth for all market economies, especially for the United States. The value of world merchandise exports doubled from slightly more than \$2 trillion in 1980 to slightly more than \$5 trillion in 1996 (World Trade Organization, 1997). World exports of manufactured goods alone increased from \$189 billion in 1970 to \$2.1 trillion by 1990 (United Nations Industrial Development Organization, 1993). In addition, the value of world exports of commercial services increased from \$402 billion in 1980 to nearly \$1.2 trillion in 1996. The United States has emerged as the strongest international trade economy in the world. By 1996 U.S. exports of goods exceeded \$611 billion and exports of services totalled almost \$224 billion. Americans imported more than \$799 billion worth of goods and \$150 billion worth of services.

Exports now account for more than 20 percent of U.S. economic growth and provide more than 11 percent of the Nation's jobs (Bureau of the Census, 1997). On average, jobs depending on exports generate earnings that are approximately 13 percent higher than purely domestic jobs. It is important to recognize that imports also create jobs and wealth for U.S. wholesalers, distributors, service providers, resellers, and others.

Exhibit 2

Export Sales of U.S. Metropolitan Areas, 1995 (Ranked by 1995 Dollar Value)

Rank	Metropolitan Statistical Area	1995 (\$)
1	Detroit, MI	27,314,657,428
2	New York, NY	27,131,083,725
3	San Jose, CA	26,822,811,883
4	Los Angeles-Long Beach, CA	24,730,951,600
5	Chicago, IL	21,083,418,213
6	Seattle-Bellevue-Everett, WA	17,815,387,834
7	Houston, TX	16,247,880,035
8	Minneapolis-St. Paul, MN-WI	11,071,821,888
9	Miami, FL	10,200,814,784
10	Portland-Vancouver, OR-WA	8,931,311,703
11	Washington, DC-MD-VA-WV	8,350,434,637
12	San Francisco, CA	8,133,685,302
13	Orange County, CA	8,041,081,422
14	Boston, MA-NH	7,902,660,426
15	Philadelphia, PA-NJ	7,896,893,158
16	Dallas, TX	6,870,426,107
17	Phoenix-Mesa, AZ	6,780,426,107
18	Oakland, CA	6,372,462,719
19	San Diego, CA	5,860,939,776
20	Atlanta, GA	5,811,439,296
21	Newark, NJ	5,640,023,616
22	Richmond-Petersburg, VA	5,389,333,310
23	Stamford-Norwalk, CT	4,937,570,553
24	Bergen-Passaic, NJ	4,784,006,411
25	Cleveland-Lorain-Elyria, OH	4,706,990,680
26	Wilmington-Newark, DE-MD	4,361,105,684
27	Cincinnati, OH-KY-IN	4,256,652,673
28	Memphis, TN-AR-MS	4,163,837,508
29	El Paso, TX	4,120,776,696
30	St. Louis, MO-IL	3,997,677,655
31	Pittsburgh, PA	3,982,169,190
32	Rochester, NY	3,860,521,321
33	Nassau-Suffolk, NY	3,558,627,404
34	Indianapolis, IN	3,506,904,100
35	Milwaukee-Waukesha, WI	3,448,093,348
36	Middlesex-Somerset-Hunterdon, NJ	3,448,093,348
37	Greensboro-Winston Salem-High Point, NC	3,350,169,565
38	Kansas City, MO-KS	3,350,169,565
39	New Orleans, LA	3,037,819,182
40	Austin-San Marcos, TX	2,929,207,924
41	Laredo, TX	2,897,821,799
42	Dayton-Springfield, OH	2,404,843,615

Exhibit 2 (continued)

Rank	Metropolitan Statistical Area	1995 (\$)
43	Greenville-Spartanburg-Anderson, SC	2,305,311,475
44	Grand Rapids-Muskegon-Holland, MI	2,304,077,070
45	Buffalo-Niagara Falls, NY	2,295,800,493
46	Brownsville-Harlingen-San Benito, TX	2,245,917,188
47	Baltimore, MD	2,209,167,884
48	Louisville, KY-IN	2,199,762,270
49	Hartford, CT	2,167,602,843
50	Tampa-St. Petersburg-Clearwater, FL	2,116,050,399
51	Raleigh-Durham-Chapel Hill, NC	2,093,206,440
52	Charlotte-Gastonia-Rock Hill, NC-SC	2,087,969,592
53	Akron, OH	1,931,665,315
54	Fort Worth-Arlington, TX	1,915,014,056
55	Syracuse, NY	1,894,294,791
56	Riverside-San Bernardino, CA	1,856,457,174
57	Salt Lake City-Ogden, UT	1,838,150,726
58	Fort Lauderdale, FL	1,774,654,135
59	Wichita, KS	1,727,720,131
60	Johnson City-Kingsport-Bristol, TN-VA	1,677,496,932
61	Kokomo, IN	1,648,872,292
62	Boise, ID	1,634,971,533
63	McAllen-Edinburgh-Mission, TX	1,617,130,723
64	Allentown-Bethlehem-Easton, PA	1,492,805,120
65	Tulsa, OK	1,485,149,429
66	Flint, MI	1,451,712,126
67	Sacramento, CA	1,448,341,678
68	Nashville, TN	1,412,347,520
69	Santa Cruz-Watsonville, CA	1,408,245,395
70	Denver, CO	1,385,281,758
71	Columbus, OH	1,358,161,052
72	Davenport-Moline-Rock Island, IA-IL	1,291,031,098
73	Providence-Fall River-Warwick, RI-MA	1,246,013,577
74	Lexington, KY	1,235,008,709
75	Toledo, OH	1,177,715,491
76	Jersey City, NJ	1,159,861,493
77	Ann Arbor, MI	1,157,910,245
78	New Haven-Meriden, CT	1,106,348,547
79	Tacoma, WA	1,098,921,428
80	Lowell, MA-NH	1,079,890,413
81	Albany-Schenectady-Troy, NY	1,061,193,724
82	Saginaw-Bay City-Midland, MI	1,035,564,698
83	Fort Wayne, IN	1,029,423,033
84	Norfolk-Virginia Beach-Newport News, VA-NC	1,005,516,040

Source: U.S. Department of Commerce, 1996

Exhibit 3

U.S. Metropolitan Areas With Fastest Growing Export Sales, 1993–95 (Ranked by 1995 Dollar Value)

Rank	Metropolitan Statistical Area	1993–95 Changes	
		\$	%
1	San Jose, CA	10,651,243,622	65.9
2	Detroit, MI	10,633,768,696	62.8
3	Chicago, IL	6,636,842,150	45.9
4	Los Angeles-Long Beach, CA	4,717,391,138	23.6
5	Houston, TX	3,963,314,091	32.3
6	Portland-Vancouver, OR-WA	3,232,789,471	56.7
7	Orange County, CA	2,387,713,672	42.2
8	Phoenix-Mesa, AZ	2,281,482,691	50.7
9	Oakland, CA	2,190,985,216	52.4
10	Memphis, TN-AR-MS	2,108,755,460	102.6
11	Minneapolis-St. Paul, MN-WI	2,068,003,867	23.0
12	Dallas, TX	2,052,774,278	42.6
13	Philadelphia, PA-NJ	2,027,745,070	34.5
14	Atlanta, GA	1,940,850,505	50.1
15	Miami, FL	1,936,510,838	23.4
16	Stamford-Norwalk, CT	1,571,001,876	46.7
17	San Diego, CA	1,503,190,420	34.5
18	Boston, MA-NH	1,430,189,365	22.1
19	Richmond-Petersburg, VA	1,377,182,785	34.3
20	Newark, NJ	1,352,588,132	31.5
21	Austin-San Marcos, TX	1,207,694,372	70.2
22	Milwaukee-Waukesha, WI	1,169,599,225	50.0
23	Buffalo-Niagara Falls, NY	1,160,647,718	102.2
24	El Paso, TX	1,153,749,790	38.9
25	Kansas City, MO-KS	1,124,269,023	50.5
26	Cleveland-Lorain-Elyria, OH	1,124,231,347	31.4
27	Washington, DC-MD-VA-WV	1,099,834,224	15.2
28	New Orleans, LA	1,003,609,880	49.3
29	Pittsburgh, PA	992,423,968	33.2
30	Wilmington-Newark, DE-MD	937,321,348	27.4
31	Indianapolis, IN	929,299,104	35.4
32	Greensboro-Winston Salem-High Point, NC	903,165,857	36.8
33	Bergen-Passaic, NJ	859,058,037	21.9
34	Greenville-Spartanburg-Anderson, SC	843,199,839	57.7
35	Tampa-St. Petersburg-Clearwater, FL	820,311,109	63.3
36	Rochester, NY	768,992,590	24.9
37	Riverside-San Bernardino, CA	762,658,116	69.7
38	Nassau-Suffolk, NY	755,411,581	26.9

Exhibit 3 (continued)

Rank	Metropolitan Statistical Area	1993–95 Changes	
		\$	%
39	Santa Cruz-Watsonville, CA	743,913,682	112.0
40	Boise City, ID	612,226,115	59.9
41	Lexington, KY	610,818,213	97.9
42	Middlesex-Somerset-Hunterdon, NJ	607,532,405	21.4
43	Grand Rapids-Muskegon-Holland, MI	599,117,566	35.1
44	St. Louis, MO-IL	597,680,303	17.6
45	Louisville, KY-IN	525,913,803	31.4
46	Charlotte-Gastonia-Rock Hill, NC-SC	524,244,749	33.5
47	Syracuse, NY	520,207,879	37.9
48	Akron, OH	496,723,480	34.6
49	Flint, MI	492,788,508	51.4
50	Raleigh-Durham-Chapel Hill, NC	472,322,653	29.1

Source: U.S. Department of Commerce, 1996

In the past, international trade was widely perceived as a firm- or national-level issue. Most of the public accounts for exports, imports, and balance of trade are reported at the national level. But trade takes place among firms based primarily in cities. Only recently have data been disaggregated to show both the crucial role that U.S. cities play as locations for international trade and the impact of global trade on their economies. These data show that the export sales of firms in 253 of the Nation’s MAs surveyed by the U.S. Department of Commerce totalled nearly \$1.3 trillion from 1993 to 1995. The \$467 billion in exports from these MAs in 1995 represented 80 percent of total U.S. merchandise exports of final goods leaving the country (see exhibits 2 and 3). The figures do not include U.S. intercity shipments of raw materials and intermediate components that are incorporated into finished export products that generate revenues, income, jobs, and wealth in U.S. cities. They do, however, indicate the crucial role that MAs play as locations for firms engaged in exporting. The 25 metropolitan areas accounting for the largest export sales in 1995 are shown in exhibit 4.

Among the MAs with the fastest growing export sales were smaller cities throughout the country, including Altoona, Erie, and Sharon, Pennsylvania; Buffalo, New York; Florence, South Carolina; La Crosse, Wisconsin; Lafayette, Muncie, and South Bend, Indiana; Odessa-Midland and Sherman-Denison, Texas; Reno, Nevada; and Trenton, New Jersey.

Those cities that are competitive in international trade can accelerate their economic growth because exports generate employment and increase productivity. Higher productivity comes from shifting resource allocations to more productive sectors, as industries and firms attempt to compete more effectively in world markets, by requiring improvements in technical efficiency and by raising scale efficiency.

Exhibit 4

Metropolitan Areas That Account for the Largest Export Sales, 1995

Export Sales	City
More than \$25 billion	Detroit New York San Jose, California
More than \$20 billion	Chicago Los Angeles
More than \$10 billion	Houston Miami Minneapolis-St. Paul Seattle
More than \$5 billion	Atlanta Boston Dallas Newark Oakland Orange County, California Philadelphia Phoenix-Mesa Portland, Oregon Richmond-Petersburg San Diego San Francisco Washington, D.C.
More than \$4 billion	Bergen-Passaic, New Jersey Cleveland Stamford-Norwalk, Connecticut

Internationalization of Investment

Although trade continues to be a critical force in urban economies, participation in FDI is becoming an even more important factor in urban economic development and may well exceed exports as a driver of economic growth in the future. Both the stock and flow of global FDI have increased substantially since the late 1970s. Between 1988 and 1993 alone, the world's inward flow of FDI increased from \$1.2 trillion to nearly \$2 trillion. Average annual worldwide inflows of FDI have increased from \$77 billion in the period from 1983 to 1987 to \$249 billion in the period from 1993 to 1995. Average annual worldwide outflows of FDI increased from \$76 billion from 1983 to 1987 to \$257 billion from 1993 to 1995. By the early 1990s, the sales by foreign affiliates of TNCs surpassed exports as the primary means of transferring goods and services across national borders. The total value of cross-border mergers and acquisitions in 1995 nearly doubled that of 1988 to reach \$229 billion (United Nations Conference of Trade and Development, 1996). The United States had the highest share of international mergers and acquisitions. Small and medium-size firms played a significant role in the growth of cross-border mergers and acquisitions, especially in electronics, business services, personnel services, healthcare, distribution, construction, and engineering.

The United States has, by far, the largest group (32 of the top 100) of TNCs by share of foreign assets in total assets. Cities that do not participate in FDI incur serious opportunity costs because FDI can help develop their local and export manufacturing industries.

Inflows of FDI can provide tax revenues, increase regional and personal incomes, modernize social institutions, and change social values (Billerbeck and Yasugi, 1979). Inward FDI can bring cities technical expertise, capital, and imports as well as export marketing capability and an international network of supply and distribution channels (United Nations Industrial Development Organization, 1993). The United Nations Conference on Trade and Development (1993) correctly points out that “as the competitive advantage of resource-intensive, low-cost, low-skill activities declines, countries must be able to attract higher value FDI. If they fail to do so, they will pay the price in terms of slower economic growth.” In addition, outward FDI stimulates exports by encouraging intrafirm sales of manufactured goods, natural resources, services, and intangible assets by U.S.-based parent firms to their foreign affiliates. Foreign affiliates in host countries may create demand for equipment and services provided by U.S.-based headquarters as well as in third countries to which they export.

Increasing Mobility of Factors of Production

The expansion of world trade and investment results from and contributes to the increasing global mobility of factors of production. Since the late 1950s, all of the factors of production—labor, capital, ownership of land, and technology—have begun to move more rapidly and easily across national borders. Although capital has always been mobile, the scale of the transfer has significantly increased with the expansion of FDI during the past 25 years. Capital flow across national borders has accelerated through direct investment, medium- and long-term foreign private borrowing, short-term borrowing and domestic outflow, private grants, and official bilateral and multilateral foreign aid. Workers also move more freely among nations or are transferred within TNCs or by contract to large projects in foreign countries. Worldwide employment in TNCs grew from approximately 40 million people in 1975 to more than 73 million by 1992. Managers are rotated among international branches and divisions or contract their services. Modern management practices are taught worldwide. Land is bought and sold across national borders, giving foreign companies an important economic stake in U.S. cities.

The global mobility of factors of production alters the structure and the location of employment, use of technologies, patterns of trade and investment, and economic opportunities in and among cities. For U.S. cities, this global restructuring accompanies the shift from heavy manufacturing or smokestack industries to knowledge-based industries and a rapid expansion of the service sector. Boston, Chicago, New York, Washington, and other cities remain international information and financial centers, tied to a network of communications and financial, commercial, and supplier-vendor relations. But because of technological advances in communications, information exchange, and transportation, many multinational and domestic companies are free to locate anywhere that local advantages suit their needs. Growth in business activity is taking place more rapidly in suburban areas around these cities than in the urban core. These changes increase the flexibility of cities to accommodate diverse types of industries and services, but increase their vulnerability to frequent and spontaneous shifts in the location of domestic and transnational companies.

The mobility of production factors means that there is a potentially greater similarity of production capabilities in cities around the world as nations attract or lose competitive advantages. Whether American cities gain or lose economically depends on government policies and the ability of business and political leaders to direct the use of local human and physical resources effectively and recognize their value. To the extent that factor mobility narrows comparative advantages, the structure of production worldwide becomes more similar—or at least it becomes more feasible to produce almost any item in a number of different locations. In the future, income differences among American

cities will be based on the productivity of labor and management for using similar production factors. Greater progress will occur in those cities that can attract investment in high value-added industrial and service sectors with international markets.

Technology-Driven Economic Growth

Technology—reflected in new production techniques, products, communication, transportation, and energy sources—has been a major force in creating global markets. Rapidly growing international markets have, in turn, been a driving force in technological innovation. New technologies both enhance factor mobility and create new varieties of products. They also change the relative costs of production and distribution and the comparative advantages of both corporations and cities. In so doing, they increase the gains from trade. The process of technological change continues to enhance specialization, leading to stronger economic linkages and further global integration.

New technologies create information and increase the importance of access to it. By accelerating the flow of information, they further stimulate technological development. The techniques of information flow permit rapid exchange of data across national borders, making collaborators and competitors abroad aware of new processes and products. The mere flow of information, therefore, increases the similarity of behavior of companies in different countries that have access to it, thereby intensifying competition. Continually enhanced technology is also affecting and accelerating all other aspects of global economic integration. Technologically driven growth will require American cities not only to expand their transport and communications infrastructure as speed and agility become more crucial factors in competition, but also to improve their educational systems as more career opportunities open in technology-driven TNCs.

The locational needs of high-technology firms are reshaping American MAs and their economies. Globally oriented high-technology corporations are locating in places outside of older northeastern and midwestern American cities and in new MAs in the Southeast, South, Southwest, and Northwest regions of the United States. Companies that still depend on proximity to older American MAs are locating in *edge cities*—that is, in suburbs where newer infrastructure and a better quality of life can be created and where larger amounts of less expensive land are available.³ Technology industries seek locations near research, service, and commercial support institutions and will often leave older inner cities to find them. San Francisco, for example, remains a leading city in terms of new business startups, but at the same time many existing city businesses are moving out of the city to expand. Corporate expansion is taking place on the northern and southern tips of the Bay Area rather than within the city. Other edge cities include the Route 128 area outside of Boston, the Schaumburg area outside of Chicago, the Perimeter Center north of Atlanta's Beltway, Irvine outside of Los Angeles, and King of Prussia outside of Philadelphia. These edge cities, which did not exist as urban areas in the 1950s, now have substantial office space, large retail complexes, corporate headquarters, and clean production facilities, as well as residential and recreational areas that are eagerly sought after by globally oriented firms.

Many cities are seeking to develop industrial clusters of internationally oriented high-technology firms as a core of economic development. Minnesota's *medical alley*; Corning, New York's *ceramics corridor*; Orlando's *laser lane*; Philadelphia's *medical mile*; and Austin's *silicon hills* reflect the importance to urban economies of attracting a cluster of globally oriented high-technology industries that can take advantage of the synergies created by close physical proximity (Thuermer, 1996b).

Shift Toward Knowledge-Based Production

As the world economy has become more deeply integrated, the basis of urban economic development has shifted quickly from mass-production industries relying on low-wage labor and cheap raw materials and energy to a technology- and knowledge-based system of production and services. The service economy now accounts for 65 to 80 percent of U.S. economic activity and for approximately 80 percent of the total employment. In 1995 alone, 1.7 million new jobs were created in the service sector (Sinai, 1996). The biggest job gains were in knowledge-based sectors, such as business services, healthcare, computer data and processing, engineering and management services, education, finance, insurance, and real estate. These are also sectors in which significant increases have occurred in trade in services and international investment.

The locational patterns of globally oriented knowledge-based companies are also changing the pattern of urban development and the economies of MAs. Knowledge-based companies are locating with greater frequency in relatively newer cities in the South and West and in the suburbs of older MAs. Atlanta, Georgia; Austin, Dallas, and Houston, Texas; Charlotte and Raleigh-Durham, North Carolina; Denver, Colorado; Portland, Oregon; Provo, Utah; San Jose, California; and Seattle, Washington, have become new centers for the computer hardware and software, financial services, telecommunications, and medical technology and products industries and actively seek to strengthen these core industries. Over the past decade, Charlotte has emerged as the third most important commercial banking center in the United States (Labich, 1994). Provo has the second largest concentration of computer software jobs, surpassed only by the Silicon Valley in California, and Orlando, Florida, has diversified its entertainment and tourist industry to become a center for electro-optic and laser technology companies.

The location of increasing numbers of businesses in new locations has, in turn, created new white-collar towns where scientists, managers, and professionals seek to live. Areas like Douglas and Jefferson, Colorado; Fort Bend, Texas; Loudoun and Prince William Counties, Virginia; Olmsted, Minnesota; Shelby, Alabama; and Somerset, New Jersey, were on the rural periphery 30 years ago and are now among the fastest growing areas in the United States, mainly because of the influx of commercial, service, and clean manufacturing activities in nearby edge cities or urban centers (Swasy, 1994). As these places concentrate a critical mass of high-income people, they attract investment in new office, retail, and commercial activities; build good schools; install efficient infrastructure; and potentially become the edge cities of the future.

Importance of Market Size

In the new global economy, few countries, including the United States, will have domestic markets that are large enough to ensure continued economic growth and job creation. To grow and develop in the future, cities of all sizes must nurture enterprises that can trade and invest globally. The new international economy will require cities to encourage their firms and industries to develop larger markets that extend beyond national borders both to attain economies of scale and specialization and to satisfy the growing similarity of tastes and demands for a variety of consumer and industrial products. The large size of markets needed by TNCs can stimulate economic growth in cities where they are located, as the experiences of even relatively small city-states such as Hong Kong and Singapore have shown. In the future, cities with firms that depend primarily on domestic markets will be unable to adequately protect them from penetration by foreign competitors. Worldwide market expansion will be their only option for survival and growth.

Agile Manufacturing and Virtual Corporations

To cope with the rapidly changing trends in the international economy, transnational manufacturing and service corporations must also organize and operate in a more fluid manner; become more attuned to the changing and diverse needs of their customers; be able to organize in more flexible ways their systems of suppliers, distributors, workers, and managers; and use high-speed telecommunications and transport networks to collect and disseminate information, obtain inputs, and distribute products and services. Although the costs of production are crucial in a global economy, labor costs alone are becoming far less important than overall cost efficiency. More important for competitiveness are the production of high-quality goods and the ability to deliver them rapidly and service them quickly and conveniently.

This requires not only agile manufacturing systems that use decentralized plants and networks but *virtual organizations*, in which teams of managers and workers are combined to achieve specific and temporary goals and then reformed into new structures as new opportunities arise (Goldman, Nagel, and Preiss, 1994). Speed to market requires manufacturing companies to adopt *concurrent engineering*, in which all aspects of a product's development are planned simultaneously, rather than wait for research and development (R&D) phases to end before testing them with customers and developing marketing and service strategies. Cross-functional teams representing engineering and design, marketing, purchasing, distribution and service departments, and customer representatives—some of whom are scattered widely in different cities or countries—must be part of the product development process (Port and Cary, 1991; Port, 1992).

Agile and flexible corporations must be able to use decentralized structures and be willing to empower teams and units to make decisions and carry them out, adjusting as they learn more about the business environment, customer needs, and the characteristics of logistics systems (Hayes and Pisano, 1994; Maital, 1994; Bleeker, 1994). Agile and flexible corporations must be able not only to manage their own internal operations effectively, but to coordinate the entire value chain of suppliers and distributors on which they depend. Virtual organizations are not constrained by requirements of geographical space or location in particular cities in the same way that mass-production facilities are. Agile and flexible corporations involved in global transactions must have a global presence to attain economies of scope. They require workers with high-level education of appropriate skills to participate effectively in agile manufacturing practices, just-in-time inventory programs, and total-quality-management systems. Virtual corporations connect components of a production-distribution system in many locations that have the physical and geographical characteristics most appropriate for that component's efficient operation (MacCormack, Newman, and Rosenfield, 1994).

Strategic Alliances and Global Networks

The trend toward worldwide market expansion requires companies located in one city to form strategic alliances or intercorporate networks with firms in other cities around the world. This situation leads to a type of specialization that is substantially different from that of trading. Each party to the alliance or network brings a particular talent that is merged with that of the others to produce a new technology, product, or service or to provide a similar one at lower cost or higher quality. More importantly, alliances may open access to new international markets that would be difficult or impossible for any single alliance member to penetrate on its own.

The emergence of corporate strategic alliances and global manufacturing networks is one of the most important dimensions of the new international economic order affecting the

economies of American cities. Manufacturing networks tie together various stages of production in plants located in cities around the world. The final assembly of a well-known automobile model by a Detroit-based TNC in its plants in Halewood, England, and Saarlouis, Germany, for example, draws on components produced from 15 countries that include tires, paints, and hardware from the Netherlands; fan belts from Denmark; radiator and heater hoses from Austria; starters, alternators, and bearings from Japan; glass, valves, and hydraulic tappets from the United States; cylinder heads, carburetors, and defroster grills from Italy; and clutch release bearings, steering shafts, and joints from France (Dicken, 1986). Similar linkages exist in the electronics, aircraft, and chemicals industries. These stages of production are linked by technology agreements, contracts, joint ventures, or direct ownership.

Because of the costs and diverse resources required to meet the needs of the global economy, few corporations—no matter how large—can always respond on their own. AT&T needed the assistance of Japan's Marubeni Trading Company to get the assistance of Matsushita Electric Industrial Company to develop the Safari notebook computer. MCI Communications uses up to 100 partners to bid successfully on contracts with large customers. IBM, Apple Computer, and Motorola have formed strategic alliances for developing new computer microprocessors (Byrne, Brandt, and Port, 1993). In addition, a variety of services are attached to strategic alliances, including advertising, storage, transport, and financing. At any production or distribution stage, an affiliate can be located in one of many cities, depending on national capabilities and incentives, market opportunities, infrastructure, and transport networks. These networks also shift employment and income opportunities, thereby altering the patterns of living in each city.

In sum, the challenges facing American cities in the 21st century are these: The world economy is being restructured not only by technological changes but by the geographic movement of all factors of production. This mobility will change the location of production as well as the direction and volume of flows of trade and investment among cities. The continuing integration of the world economy is creating new opportunities for trade and investment. These changes will continue to intensify the competition among American cities to attract and efficiently use capital, labor, and technology ("Getting in on Europe's Boom," 1990). The opening of the world economy and the expansion of cross-border transactions will make cities more interdependent and require their firms of all sizes to participate more directly in international competition to remain economically viable. In the future, the economic growth of American cities will depend on expanding trade: Imports will become more significant in absolute volume and value, and exports will be needed to pay for them. Additional capacity to export and import will be created by FDI.

To meet the challenges of an open world economy, new initiatives will have to be taken in American cities to form internationally oriented communities centered on agile public and private organizations promoting innovation and creativity, not only in manufacturing, trade, and services, but also in the physical sciences, technology, education, and the arts. In the future, economically vital cities will be those that can adapt their economies, physical structures, and cultures to become part of a new international urban network of trade and investment.

A New Urban Development Strategy

Despite the advances in transportation and telecommunications that make globally oriented firms more flexible, cities will remain the primary locations for international commercial interaction. To play their crucial supporting role in helping more local firms participate in international trade and investment, however, they must seek new ways to

Exhibit 5

From Mass-Production Economy to Agile Response Economy

	Mass-Production Economy	Agile Response Economy
Basis of Competitiveness	Comparative advantage based on: <ul style="list-style-type: none"> ■ Natural resources ■ Physical labor ■ Low-cost production 	Sustainable advantage based on: <ul style="list-style-type: none"> ■ Knowledge creation ■ Continuous improvement ■ Speed-to-market
Production System	Mass production <ul style="list-style-type: none"> ■ Physical labor as source of value ■ Separation of innovation and production ■ Synthesis of innovation and production 	Knowledge-based production <ul style="list-style-type: none"> ■ Continuous creation ■ Knowledge as source of value
Manufacturing Infrastructure	Arm's length supplier relations	Supplier-customer systems as source of innovation
Human Infrastructure	Low-skill, low-cost labor <ul style="list-style-type: none"> ■ Repetitive work tasks ■ Limited education and training 	Knowledgeable workers <ul style="list-style-type: none"> ■ Flexible, changing work tasks ■ Continuous education and learning
Physical and Communication	Domestically oriented physical networks <ul style="list-style-type: none"> ■ Promote flow of raw materials and finished goods 	Globally oriented physical and communications systems <ul style="list-style-type: none"> ■ Promote flow of people, information, goods, and services
Industrial Governance System	Command and control <ul style="list-style-type: none"> ■ Hierarchical ■ Adversarial relationships ■ Control oriented 	Cooperative and interdependent <ul style="list-style-type: none"> ■ Mutually dependent relationships ■ Team oriented ■ Network based
Policy System	Specific industrial policies	Systems-infrastructure policies

Source: Florida and McNulty, 1995

integrate their productive activities into the emerging global economy. To do so, both the public and private sectors in cities must be able to facilitate and support business practices that enable firms of all sizes to respond quickly to international changes in demand and opportunities. The economies of internationally competitive cities are shifting from what Richard Florida and Timothy McNulty (1995) call *mass-production economies* to *agile response economies*. Internationally competitive MAs must shift their economic development strategies in ways described in exhibit 5.

American cities seeking to accelerate economic growth in the future must develop a new set of objectives that include:

- Improving the MAs' international competitiveness as a way of enhancing its economic vitality.
- Seeking opportunities for importing advanced technologies and products and developing improved import replacements.
- Increasing the export of locally manufactured products and services.
- Facilitating the expansion of inbound FDI in high-technology industrial clusters that generate jobs and enhance the city's capacity to promote the international competitiveness of its businesses in the future.
- Encouraging outbound FDI by enterprises located in the city (Cordrey, 1994).

To achieve these objectives, American cities must make significant improvements in their telecommunications and in air and surface transportation infrastructures. The "soft factors" of global competitive success are equally important. Commercially successful cities in the future are likely to be those that also develop competent and well-trained labor forces; provide an attractive QOL; and promote the innovation, creativity, and flexibility in public and private institutions that will allow local economies to adapt to rapidly changing and increasingly competitive international conditions.

To implement an internationally competitive urban development strategy, public- and private-sector organizations in U.S. cities will have to give more serious consideration to policies that address the activities described in the following seven subsections.

Improve and Leverage Education To Increase Work-Force Productivity and Attract Investment

The labor-force characteristics of urban areas will fundamentally and pervasively affect the ability of their businesses and industries to produce goods and services for export and to participate effectively in other international economic transactions. One of the most important features of internationally competitive U.S. cities in the future will be their capacity to mobilize skilled labor and managerial resources quickly and efficiently for new tasks as global business opportunities change. The most competitive cities recognize that global enterprises must be located near or have access to knowledge centers that can generate or stimulate innovation and provide a reliable source of skilled workers, technically trained supervisors, scientists, engineers, and managers. Incorporating continuous innovation as a standard operating practice protects companies against the complacency that allowed previously successful firms to be bypassed and made obsolete by new technology. Among the most important knowledge-based organizations on which globally oriented businesses depend are R&D laboratories engaged in technology development, colleges and universities providing trained personnel and research capacities, and consultant organizations that develop new products to help commercialize technology and manage international activities more effectively. Globally competitive companies also depend heavily on data-gathering and data-analysis units and on training and continuing education facilities that help them become and remain learning organizations.

The labor-force characteristics of a metropolitan area invariably affect its ability to produce goods for export and undertake the tasks involved in import replacement. One of the most important features of internationally competitive cities will be the ability to mobilize

labor resources quickly and efficiently for new tasks as global business opportunities change. In its ratings of cities with the best working conditions, a leading business magazine looks for a large available labor force that has advanced skills and a strong work ethic and for local and State governments that have effective programs to help corporations find and train the types of workers they need (Sellers, 1990).

Both domestic and foreign firms consider the disciplined, hard-working, and loyal work forces in cities such as Minneapolis-St. Paul, Sacramento, and Salt Lake City essential to increasing productivity and efficiency and adjusting to changing market demands. Internationally oriented businesses consider not only the cost of labor but also the quality of the labor force. The ability of Austin, Texas, to supply a skilled and educated work force gives it an advantage in attracting international companies. Salt Lake City is an attractive labor market because Utah has the highest literacy rate in the United States and because so many of Salt Lake City's residents have participated in Mormon missions overseas and are therefore more fluent in foreign languages than residents of most other American cities. Columbus, Ohio, and Baltimore, Maryland, remain attractive because their universities provide a steady supply of well-educated and technically trained people who can meet the needs of international companies. Phoenix, Arizona, has become a more attractive labor market because of its large, well-educated, and productive work force and its excellent school system, which includes a community college network geared to providing skills that meet business needs.

A city's public and private educational institutions must not only develop literacy and numeracy but also challenge students to attain high levels of competency in math, science, and liberal arts at the primary and secondary levels. Beyond these requirements, though, if urban businesses are to become more competitive in response to the demand for technological and organizational innovation, schools must teach in a way that fosters innovation and creativity. At both the secondary and higher education levels they must focus on teaching *how to learn*, because knowledge of the learning process will become far more important to students in a globally competitive world. A strong foundation in fundamentals must be built on a process of teaching that creates the capacity for lifelong learning. Educational policies must be based on a fundamental understanding that internationally competitive companies—both domestic and foreign—will be looking for a work force that is not only technically trained but also skilled in managing rapidly changing businesses (Reich, 1991).

American cities can improve the skills and productivity of young workers by eliciting the participation of employers in school programs that prepare young people for high-skill, high-wage jobs (Flynn, 1994). Such a partnership between employers and schools prepares high school students for the labor market by integrating structured learning experiences at the workplace into the school curriculum. These programs allow students to prepare for entry-level work after graduation, for technical training, or for college while developing the skills to fill the needs of employers in the community. These programs not only increase worker productivity by giving students work experience but also link academic subjects to real-world activities. These programs are especially attractive to industries anticipating or experiencing shortages of skilled workers, those competing in international markets with rapidly changing customer demands, and firms that benefit from community involvement.

To the extent that the private and public sectors in U.S. cities can produce a work force and managerial talent pool that is numerate and literate, technically skilled, and managerially adept through its primary, secondary, and higher education systems, they can substantially increase their international competitiveness and job-creation potential.

Improve Quality of Living Conditions

U.S. cities that seek to create an environment for attracting and sustaining TNCs must give much more attention to policies that promote a better QOL. Although the narrower site- and location-specific criteria traditionally used by mass-production manufacturing industries are still important, a recent study concluded that “a good deal of evidence gathered over the last 15 years from several regions of the United States suggests that least-cost location criteria may now have given way to QOL considerations in industrial location preferences” (Hart, Denison, and Henderson, 1989).

The crucial aspects of a community’s QOL include the quality of education at all levels; the quality and diversity of cultural, artistic, and recreational resources; environmental quality; and physical security. Economically competitive cities must develop neighborhood and community solidarity to ensure greater physical security and reduce crime and violence. More effective law enforcement must be supplemented by the promotion of community arts, recreation, and social functions that can help forge strong community ties and reduce the incidence of conflict. Policies that strengthen neighborhood and community identity and interaction and that encourage individual and household responsibility for crime prevention can also contribute to a higher QOL.

High-technology plants located in communities that rank low on the “livability scale” have difficulty attracting technical and managerial personnel or moving them from other plants in the company (Rees, 1986). Studies of the locational preferences of high-technology firms in the Southeast have found that the livability and education factors were the most important locational criteria, followed by local transportation and infrastructure availability (Malizia, 1985). Raleigh-Durham is consistently rated by business magazines as one of the best places in the United States to live and work. The concentration of research universities and research-based industries in Research Triangle Park has drawn a significant number of achievement-oriented people, reflected in the fact that the area contains the highest per capita concentration of Ph.D.s in the United States. A culture that supports action to create a high QOL is strongly valued by companies seeking to expand their operations. Minneapolis-St. Paul, for example, remains attractive to companies because it is among America’s cleanest, safest MAs and has outstanding schools. Businesses are attracted to Minneapolis-St. Paul because of its rich resources in the arts, music, education, and recreation and are willing to support a QOL that attracted them to the metropolitan area in the first place.

Develop Stronger Entrepreneurial and Technological Capacities

Increasing evidence suggests that a culture promoting innovation, creativity, flexibility, and adaptability will be essential to keeping U.S. cities economically vital and internationally competitive in the future. A recent study of regional economic growth and decline in the United States confirm that entrepreneurial functions are the most critical factors affecting regional economic change (Suarez-Villa, 1989). Entrepreneurs make new investments, link markets together domestically and internationally, coordinate production, plan strategically, and develop inventions—all functions that are critical to sustaining a city’s economy. They will become an even stronger source of international competitiveness in the future.

Economic development policies that focus on replacing declining industries by providing incentives to attract others or correcting market failures through government actions are not likely to succeed in the future. International and industrial changes are occurring too rapidly for either national or city governments to pick winners and losers. Cities are more likely to succeed by adopting entrepreneurial development policies, especially

in technologically advanced sectors. These policies develop a business climate that attracts and supports technologically based manufacturing and services, encourages the creation of new, locally initiated or incubated economic activities by the private sector, and removes unnecessary or overly restrictive barriers to the expansion of local small and medium-size enterprises (Clarke and Gaile, 1989). Six potential policy options are described below.

Small-business incubators. Cities in which leaders are concerned with job creation are providing facilities to support the startup and expansion of small enterprises. Some State governments support business incubators to help cities create new enterprises, facilitate entrepreneurship, stimulate job creation, and encourage economic diversification. These urban incubators also promote technology transfer, contribute to research and development, and mitigate poverty (Weinberg, Lyons, and Shook, 1995). Small-business incubators provide assistance to existing or new enterprises in the initial stages of development by providing them with low-cost production or office space, shared office services, management and business advice, and financing in a single facility owned and operated by public agencies, universities, nonprofit organizations, or private corporations.

Technical knowledge transfer and outreach programs. Urban areas that seek to expand job opportunities should develop technology transfer and outreach programs to increase the international competitiveness of urban industries and services. Cities in Europe and the United States are experimenting with programs to provide small businesses and entrepreneurs with the technical information they need to become more internationally competitive. The Minnesota Outreach Program, for example, provides small manufacturing and other technology-driven businesses with access to technical and business information that individual firms could not afford or easily find on their own (Coyle, 1992). Information is provided to member companies at more than 75 access sites through the Teltech Resource Network and specialized databases at the University of Minnesota. Small companies and entrepreneurs can obtain information on product and process development; manufacturing failure analysis; materials selection; manufacturing cost reduction techniques; new production technologies; methods of quality improvement; codes, regulations, and standards; market and competitive analyses; and patents, licenses, and trademarks. The program gives small businesses and entrepreneurs technical information, saves small companies money, reduces R&D expenditures, provides access to new ideas, allows companies to become more flexible and responsive to customer needs, and gives companies the chance to use technologies and processes that have already been developed and proved successful.

Technology commercialization assistance programs. Several cities in the United States are developing programs that bring together the resources of universities, businesses, and government to accelerate the development and commercialization of new technologies that can help make small and medium-size businesses internationally competitive. City governments can be catalysts for linking small and medium-size companies in various industries with universities and research institutes to develop new technologies and accelerate their commercialization. In the United States, high-technology complexes such as Route 128, the Silicon Valley, Research Triangle Park, and the Forrestal Research Center in New Jersey have stimulated the growth of small and medium-size enterprises by linking them directly to university-based research facilities (Baron, 1993). Government funding can facilitate the linkages between businesses and universities and develop an organizational structure through which technological research and development in universities can be oriented toward the needs of small and medium-size businesses.

Local business retention and expansion programs. Governments in several cities in the United States and Canada are attempting to improve their international competitiveness by developing programs to retain and expand local businesses as the basis for sustained economic vitality. Chicago; Davenport, Iowa; Minneapolis-St. Paul; and San Francisco are among the cities recognizing that businesses are likely to be the largest job creators if they remain in the city and expand their sales and market shares through international trade and investment. Their development programs help small and medium-size local companies to expand their sales overseas (Clarke and Gaile, 1997). Canadian programs develop communications between business leaders and city officials, provide a forum through which businesses can resolve problems with city administrators, and provide information and analysis on services available to businesses and on opportunities and conditions affecting local businesses (Graham and Ashkenazy, 1993).

Product development corporations. Public and private organizations in urban areas could strengthen the competitiveness of small businesses by creating production development corporations (Fisher, 1988). These public corporations promote the development of innovative and globally competitive sectors of the metropolitan economy by providing grants to small firms to fund the design, testing, and commercialization of new products in return for royalties on the sale of the product. The royalties can make the product development corporations financially self-sustaining within 7 to 10 years and thereafter provide an important new source of venture capital to small firms that might not be able to obtain such financing from the private sector.

Financial incentives to attract and develop globally competitive industries. State, regional, or local governments must consider creating or expanding financial and tax incentives to attract domestic and foreign firms in core industries. Among the types of incentives most frequently used are municipal revenue bond financing, public financial aid for existing plant expansion, government loans for building construction, corporate income-tax exemptions, tax exemptions for land and capital improvements, municipal government land provisions for industrial development, and tax incentives for job creation (Ledebur and Woodward, 1994).

Enhance Civic Leadership and Community Action

To attract and sustain technology-based manufacturing and services activities that are internationally competitive, urban leaders must promote a common civic perspective in the public and private sectors and a positive attitude about a city's or metropolitan area's comparative advantages. The U.S. Office of Technology Assessment (1984) contends that successful regions and cities must develop a culture that "nurtures leaders, both public and private, who combine an established track record for innovation with a broad view of their community's resources and promise."

An urban culture that encourages and supports cooperation among the public, private, and civic sectors to anticipate and adapt to change is crucial for competitiveness in a global economy. In every city that has successfully restructured its economy, changes came through concerted action and civic commitment.⁴ The restructuring of metropolitan Pittsburgh's economy, for example, was the result of leadership and close cooperation among business executives, local and State government officials, and university leaders in the area. Although they were formed and often acted independently, many of the groups had overlapping memberships that ensured widespread cooperation (Ahlbrandt and Weaver, 1987).

A city that promotes cooperative effort also contributes to the agility needed to restructure and adapt as economic needs change. Urban historians point out that promotion of economic enterprise by organized public and private groups—that is, intelligent and coordinated *boosterism*—has been one of the most important activities associated with the continued vitality of American cities (Glaab and Brown, 1967). One of the qualities most often cited in the selection of cities as locations for international companies is this ability of local groups to work together to attract new investment (Graff, 1990). The ability of Atlanta's government and business leaders to mobilize resources for the transformation of the economy has given the city a strong base for expansion, despite its high crime rate and mediocre educational system. Atlanta is praised for the enthusiasm and persistence of city government and business leaders in seeking investment from international corporations, as manifested by its designation as the site of the 1996 Summer Olympics. Similarly, Seattle attracts international investment and trade because it has an office of international affairs that coordinates 14 sister-city programs, provides government and business leaders information on international trade and cultural and political issues, and works with the Chamber of Commerce and 12 other internationally oriented business and civic associations to maintain international relations that attract new businesses. Tucson, Arizona, also has its own international trade office in Asia and provides extensive help to companies interested in locating in the city.

To attract, expand, and sustain job-creating manufacturing and services enterprises that are internationally competitive, government and business leaders in U.S. cities will have to promote a common civic perspective in the public and private sectors and a positive attitude about their region's comparative advantages. A city that encourages and supports cooperation among the public, private, and civic sectors to anticipate and adapt to change will more easily maintain economic vitality in the global economy.

Local governments and private and community organizations should also consider developing community support structures to attract job-creating foreign companies. To the extent that such a community support organization can provide a one-stop center through which foreign investors and potential joint venture partners for local firms can get all of the assistance they need, cities will be much more attractive locations for foreign companies that are competitive in international markets. Aspects of such a community support system could include assistance with contacting financial and capital venture institutions; assistance with acquiring utilities, permits, licenses, and official approvals; access to potential suppliers, contractors, and potential customers in the region; help to negotiate with local governments and private organizations on business matters; help to identify labor sources; information on import and export regulations; assistance with finding a production site or office space; and information on housing, cultural activities, and other matters related to living in the city (Nies, 1994).

Expand and Modernize Urban Infrastructure

Economically vital and competitive American cities must have modern and efficient physical infrastructures—roads, bridges, highways, energy systems, telecommunications, and airport and air cargo facilities—that facilitate international trade and investment. America's competitor cities in Japan and Europe are investing heavily in "smart roads," high-speed trains, national information networks, and air cargo systems (Reich, 1991). The most attractive regions for business expansion and investment during the 21st century will be those that give increasing attention to cutting-edge infrastructures that make business operations within the metropolitan area more efficient and responsive to international economic trends and allow businesses to operate more effectively in the global economy.

In addition, many foreign cities with which U.S. urban areas compete are developing special infrastructure complexes to attract and expand internationally competitive enterprises. Some of the options that U.S. cities should consider are listed below.

High-technology enterprise zones. To provide the physical and support infrastructure for agile manufacturing enterprises, U.S. cities can establish high-technology enterprise zones. Cities in China, Japan, the United States, and Europe have developed high-technology zones or parks (Rondinelli and Vastag, 1998). These zones provide a business climate suited to the needs of firms engaged in international trade that use agile business practices.⁵ The zones are organized around high-performance core industrial networks: hub companies and their major suppliers. Those companies locating in the zones enjoy more flexible regulatory treatment and tax incentives as well as expedited customs clearance of imported and exported materials and goods. The zones provide multimodal transport and communications infrastructure systems to facilitate global logistics and production and just-in-time inventory and production processes (Kasarda and Rondinelli, 1998).

Advanced telecommunications infrastructure. Increasingly the international competitiveness of cities depends on rapid and efficient communications. Globally competitive companies are relying on integrated telecommunications networks to obtain information on markets and orders, adjust their product designs and product runs, manage materials and inventory, and deliver their goods quickly. Agile manufacturers are increasingly using advanced computer technology and robotics to perform simulated product design, virtual prototyping, concurrent or simultaneous engineering, and motion planning to reduce design and production cycles and increase their flexibility to meet customer orders. The telecommunications systems needed to support agile business practices include an extension of the information superhighway: a network of multimedia communications devices that includes fiber-optics, cellular connections, and satellite linkages that connect companies to their customers and suppliers and to their own branches, offices, subsidiaries, and partners. Teleports with advanced information and telecommunications management systems must be linked to one another and to customer premise equipment, including telephones, facsimile machines, e-mail, electronic data interchange systems, and videoconferencing equipment through worldwide broadcasting networks and communications satellite networks.

In addition to the hardware aspects of infrastructure development, Federal, State, and local governments play important roles in:

- Encouraging technological information flows and technology transfer in the advanced telecommunications field.
- Assisting private firms, universities, and research institutes with investments in fundamental R&D on telecommunications technology and processes.
- Reducing the costs of information dispersion.
- Modifying the duration of patents and increasing the opportunity for firms to control licenses for new telecommunications hardware and software.
- Financing education in telecommunications technology and management skills (Schwartz, 1990).

Global trade logistics infrastructure support. Modern air transport and manufacturing logistics infrastructures are becoming increasingly important to attracting and developing internationally competitive businesses. Governments and private-sector organizations in U.S. cities must develop global trade logistics infrastructure support facilities that will help locally based TNCs remain competitive and help metropolitan areas attract foreign investment. Facilities being developed in Ohio, Texas, and North Carolina exemplify the types of cooperative actions cities will have to take.

In Ohio, Columbus' trade capacity is enhanced by the transformation of the former Lockbourne Air Force Base into the Rickenbacker International Airport and the development of an integrated air cargo and intermodal transport facility, a U.S. customs office, a foreign trade zone, warehousing facilities, and administrative service support. Similar facilities are being developed at San Bernadino International Airport at the site of California's former Norton Air Force Base (Thuermer, 1997).

Joint investment by the Federal Government, the Fort Worth municipal government, and a private company was used to develop Fort Worth's Alliance Airport (Nunn, 1991). This airport and industrial park was conceived as a large air cargo facility to help aerospace and high-technology firms ship finished and intermediate products and manufacturing equipment rapidly and efficiently. The U.S. Federal Aviation Administration provided a \$34 million grant to construct a runway, the city government planned more than \$65 million in public infrastructure required to support Alliance Airport, and the private company invested more than \$100 million in land acquisition. The city also authorized a property-tax abatement for the project. A public authority was formed and authorized to issue \$800 million in tax-exempt debt to build private maintenance hangars.

Another notable example of such investment in logistics infrastructure is the Global Transpark Project (GTP) being constructed in Kinston, North Carolina (North Carolina Global Transpark Authority, 1994). GTP is a multimodal transportation complex combining air cargo and passenger, rail, highway, and other transport facilities with just-in-time manufacturing and distribution facilities and the latest communications technology systems to produce a world-class logistics complex for companies engaged in international business (Kasarda, Rondinelli, and Ward, 1996). GTP will concentrate infrastructure and equipment on 15,300 acres of land that will support transport and logistics systems for speedy and reliable materials handling and manufacturing. GTP will also facilitate the international business activities of companies that depend on speed in delivering parts and finished products. The economic activities located in GTP will have access to advanced telecommunications and computer systems and electronic data interchange (EDI) to track orders and shipments and to control sourcing, production, and distribution.⁶

GTP will give corporations access to a state-of-the-art manufacturing, logistics, and communications complex linked to national and international markets. Plans for GTPs that could link North Carolina's GTP to a network of logistics complexes in Europe and Asia are being explored in Thailand and Germany. The State and local governments in North Carolina will benefit from increased tax revenues from the companies and workers attracted to GTP, from the 23,000 new jobs expected to be created in GTP after it is constructed, and from the generation of an additional 26,000 jobs in the area surrounding GTP.

Such facilities will give MAs that develop them competitive advantages in the 21st century and will weaken the relative international competitiveness of MAs that cannot provide the physical and logistics infrastructure that will be needed for their industries to become or remain agile and responsive global competitors.

Create New Forms of Metropolitan Cooperation

To maintain their economic vitality and increase their international competitiveness, U.S. MAs must be able to create the institutions that foster local leadership and facilitate cooperation among business, government, and educational organizations throughout the region. The increasing intra- and inter-metropolitan interaction that is necessary to restructure urban economies implies the need for new forms of governance that encompass an entire metropolitan area and reduce the segmentation and competition among communities (Rothblatt, 1994).

Metropolitan coordination could help build consensus on a strategy for increasing international competitiveness; build incentives for the participation of community groups, private companies, and civic organizations in decisionmaking; and present a united approach to influencing national competitiveness and trade policies. A metropolitanwide system of governance or planning would also allow MAs to develop and present a coherent image to the rest of the world for promoting exports and FDI. Such a system would also allow more rational and efficient decisions to be made about the allocation of investments in infrastructure and services and provide a mechanism for tax sharing. Such a system would, of course, require the creation and maintenance of participatory forms of decisionmaking that draw on the wide range of knowledge, resources, and perspectives that exist throughout MAs.

Local governments in MAs should consider alternative forms of governance, coordination, and planning. Two-tiered metropolitan governments—a form of federation that has been used successfully in Montreal, Toronto, the London metropolitan area, and several European cities—consist of a council with representatives from the governments of the core city and surrounding suburban communities. Each local government retains its own powers within its own boundaries and cedes others to the metropolitan government council (Holden, 1995). Another form of federation that is somewhat looser in its requirements and is usually voluntary in membership is a metropolitan council of governments. Usually local governments within a metropolitan area join together in a council whose members perform delegated or contracted functions. The Association of Bay Area Governments in the San Francisco metropolitan area, for example, has 92 city and 9 county governments as members that provide representatives and pay dues to finance its operations. The association provides information, offers a forum for regional concerns, formulates a regional plan, and seeks cooperation from local governments to implement the plan.

Regional service districts or regional authorities have been created in MAs throughout the United States to provide services with impacts that cross local government jurisdictions. These regional services districts coordinate the planning of network- or system-based infrastructures such as telecommunications, highways, utility systems, healthcare systems, and educational systems. Regional services districts can be either multipurpose (providing a combination of services such as education, health, and law enforcement) or special-purpose (providing a single function such as transportation).

In some MAs, local governments cooperate on areawide planning but reserve administrative and taxing powers. For example, the Northeastern Illinois Regional Planning Commission provides areawide planning for Chicago and surrounding cities and towns. The planning agency has no official authority to impose the plan's components but serves as an information, coordination, and advisory organization.

The most appropriate alternative for any metropolitan area must be selected after careful assessment of local and regional needs and of the political feasibility of each option.

Private-sector participation in public service. New forms of governance for promoting international competitiveness also require expanding private-sector participation in providing services and infrastructure. Increased participation by the private sector will be essential to meet U.S. cities' growing demands for infrastructure and services in the 21st century. The capability of government agencies alone to provide adequate water, sewage, and wastewater treatment facilities; roads and highways; air, rail, and water transportation networks; telecommunications and utilities systems; and schools, hospitals, and other social service facilities is likely to become more limited as MAs grow and the demands of international competitiveness become more complex. Even if governments were financially able to raise the capital needed for infrastructure investment, they would have to look to the private sector to undertake most of the construction and much of the maintenance.

An internationally competitive metropolitan area must encourage businesses, community groups, private voluntary associations, small enterprises, and other nongovernmental organizations to offer services and provide facilities for education and healthcare. Governments at the national, metropolitan, and local levels all need to provide financial assistance and guarantees for private investment in physical infrastructure, create new types of public-private partnerships, and contract with private organizations to manage a larger range of public facilities and services.

Comprehensive tax-base sharing. Another means of promoting regional cooperation in MAs, with or without a metropolitan governance organization, is through agreements between local governments to develop a comprehensive tax- and revenue-sharing system (Smith, 1994). Such agreements have been used successfully in the United States in Minneapolis-St. Paul MA and in New Jersey's Meadowlands region. These agreements link the long-term economic vitality of central cities with suburban and peripheral areas and reduce the tax-rate-based competition among localities. The shared revenues can be used to increase the quality of services and infrastructure for economic development throughout a metropolitan area. Tax-base sharing can also help to reduce or eliminate distortions in property-tax rates, inconsistent municipal service levels, and conflicts among local units in attracting new economic activities that benefit the whole metropolitan area. A successful tax-base-sharing agreement can also lead to cooperation among local governments on services and facilities planning and on the coordination of economic development strategies that contribute to international competitiveness.

Develop an International Business Promotion Program

Another means of enhancing American cities' economic vitality and international competitiveness is to develop an international business promotion program that assists locally based companies in expanding their exports and FDI and that helps foreign companies to expand their trade with them.

City and State governments in cooperation with world trade centers and regional industry associations can make a substantial contribution to increasing the international competitiveness of businesses and industries by coordinating efforts to expand trade and investment (Kurdle and Kite, 1989). Such programs can help local firms by holding trade seminars and conferences, counseling small and medium-size companies on trade opportunities, disseminating trade leads, referring firms to local export services, publishing trade newsletters and handbooks, and providing studies of foreign markets for local goods and services. It can also assist by identifying sales agents abroad and developing trade leads that locally based firms can use to expand their exports.

These programs must also increase the interest of foreign firms in doing business in cities by advertising local exports and location advantages, hosting foreign trade delegations, helping to finance foreign investors, conducting trade shows and missions abroad, and advertising the city's business advantages in international trade publications.

Integrating the Inner-City Poor Into the Urban Economy

Those cities that recognize the need for changes and can mobilize their resources to implement them will progress the fastest and will have the best prospects for attracting investment during the coming decades. Because cities remain primary locations for wealth generation, they must seek new ways to integrate into the new global economy.

No one can predict with certainty how the global economy will change during the next century or how government and business leaders in U.S. cities will react. Emerging trends indicate, however, that to compete effectively cities will have to develop a stronger work ethic in their labor forces; be able to mobilize resources quickly to restructure their economies for import replacement and export production; and develop well-trained, creative, and flexible work forces. They will need to build and maintain new types of logistical infrastructures that facilitate flexible and rapid international transactions and create a business environment that fosters technological innovation and entrepreneurship. These actions will require greater cooperative action and more participatory decisionmaking.

The economies and cultures found in many older U.S. inner cities, however, are being shaped by demographic and social trends that are not conducive to the kind of economic and social restructuring needed to participate effectively in the emerging global economy. The litany of problems has become all too familiar: The population of many inner cities is aging, the growth rate of the productive labor force is declining, the expanding underclass that is concentrated in the cores of U.S. cities is ill prepared educationally and psychologically for productive work and technological change, and the geographic mobility that allowed cities to attract diverse groups that periodically reshaped their cultures is slowing appreciably in all but a handful of cities (Sternlieb and Hughes, 1987). Many older U.S. inner cities continue to face a decline in households with traditional families, which are being replaced by single-parent, female-headed families—a large proportion of whom are poor—and by nonfamily groups.

The values, motivation, and discipline that middle-class families once traditionally passed on to their children have not been taken up or extended by other urban institutions. An alarming number of minority children in cities are growing up in poverty, without skills, and with little socialization or preparation for higher education. Equally serious is a weak work ethic in many older U.S. cities that yields low productivity and efficiency. A recent poll found that 60 percent of the chief executives of leading U.S. companies said that the quality of the U.S. work force has either grown worse or not improved substantially during the past decade (Eidman, 1990). A more critical problem for companies attempting to operate in many large U.S. cities is the low level of literacy and numeracy among those entering the work force. Nearly 76 percent of leading corporate executives claim that public education systems actually decrease the quality of the U.S. work force, and more than 90 percent say that their companies must spend more to educate their employees because the public schools no longer provide an education that meets their needs.

The public school systems of too many U.S. cities are not adequately preparing children in math and science—subjects crucial to developing a technologically literate and productive work force. High-technology firms frequently reject job applicants who cannot

perform high school algebra and trigonometry or read technical drawings—basic skills that even many entry-level workers need. Urban labor markets increasingly reward education and technical training and economically marginalize no-skill and low-skill workers.

The ravages of the illegal drug trade have destroyed many African-American families and inner-city communities. The social cohesion and security of neighborhoods have all but disappeared in both inner cities and the suburbs. As a result of these factors, older American cities are among the most violent and crime-ridden in the world. The central cities of most MAs, especially in the North and Northeast, have lost both population and employment-generating industries to the suburbs. The resulting fragmentation and segregation of communities within MAs has also fragmented and segmented the local polity that helps guide and facilitate urban economic development. The immediate-gratification, consumer-oriented culture that has emerged in many American cities has weakened the commitment of residents to making the large financial investments needed to reinvigorate public institutions, especially the schools, and to maintain and reconstruct the physical infrastructure on which private companies depend for efficient operation.

Given the global factors affecting urban economic development and the major components of an urban development strategy outlined earlier, how do leaders in U.S. cities build the necessary bridges to the social and economic mainstream that will enable the inner-city poor and the communities in which they live to thrive locally in a highly competitive and increasingly global society?

Most of today's poor communities are inhabited by people who, by virtue of their economic marginalization and social isolation, are skeptical of grand schemes to improve the quality of their lives, and for good reason. Such efforts, for the most part, have not worked in the past, even when the residents of these communities were allowed to participate in the process (Haynes and Stough, 1977). Part of the problem lies in the usual entry point governments use to try to reduce inner-city disparities. Typically, they attempt first to resolve the "can we all get along?" question. This approach, however, never allows the government or community groups to focus on the details of effectively creating jobs and revitalizing economically distressed communities. The discussion too often becomes mired in the politically and emotionally charged issues of race and class conflict. How, then, do community leaders foster business development and create jobs in inner-city areas?

First, both business leaders and policymakers must embrace the view that *inequality is bad for business and taking proactive steps to eliminate geographical and socioeconomic disparities in cities is a form of enlightened self-interest*. In a globally competitive economy, what is good for business is likely to be good for the urban economy and especially for those who are seeking jobs. Any city, however, that fails to fully develop its human capital potential and to deal effectively with the problems of inner-city economic disparities will find itself falling further behind in the highly competitive global marketplace.

Second, efforts to integrate the inner-city poor into the new global economy must be pursued in conjunction with efforts to deal systematically with fundamental problems in three crucial domains: education and literacy training, family and child development, and drug and crime prevention. These three areas are crucial because urban businesses are unlikely to be competitive, and communities are unlikely to prosper, if the local population is poorly educated, families are unstable, and drugs and crime are pervasive problems.

What this means is that any effort to create jobs for the inner-city poor must focus on building the necessary capacity among inner-city residents to engage in *comprehensive* community development. But the kind of capacity building that will be needed in the future requires a *business-oriented* rather than the traditional *social welfare-oriented* approach to community development. That is, inner-city residents must be equipped with the requisite skills and knowledge to take control of their lives and the destiny of their communities rather than rely only on government assistance. Consistent with a business-oriented approach to community development, the urban disadvantaged must be taught to be productive and skilled workers, professionals, and entrepreneurs.

Given the increasing demands for more productive and flexible workers, governments, businesses, and civic organizations in older U.S. cities must give greater attention to bringing the urban underclass into the productive work force. Reducing the demand for drugs and rehabilitating drug users will be essential first steps. As Anthony Downs (1991) points out, the drug culture greatly complicates efforts to change the attitudes, behavior, and motivations of the underclass in U.S. cities because it attracts potentially entrepreneurial people into nonproductive and socially dangerous activities, destroys motivation and the work ethic among young people, and perpetuates addiction among young mothers, thereby ensuring a new generation of damaged children. Cities must find new ways of quickly training the urban underclass, especially female heads of households, for skilled jobs through vocational education; of providing early childhood care and education for poor, preschool children; and of changing welfare policies that reduce or eliminate incentives for the poor to work and maintain family living arrangements.

Moreover, public and private organizations in urban areas must develop training and technical assistance programs designed to:

- Provide aspiring inner-city entrepreneurs with assistance in the principles of sound business practices.
- Upgrade the technical and managerial skills of existing inner-city community development specialists, including the employees of community development corporations (CDCs), other nonprofit, community-based organizations, and government agencies.
- Recruit and train a new generation of private-sector community development practitioners.

Special assistance must go to underperforming, minority-owned businesses in economically distressed urban communities and to “mezzanine-level” businesses in the growth sectors of the economy; that is, businesses that are capable of substantial growth in terms of gross receipts and job creation.

Intensive management and technical assistance programs for mezzanine-level, minority-owned businesses should be part of large inner-city business development and job creation initiatives to improve the survival rate of minority business enterprises. Assistance programs should be organized around the life stages of business development and link program participants with successful entrepreneurs from similar businesses and industries. The goal is to create jobs in the inner city by strengthening the program participants’ connections to the wider business community—especially those involved in international trade—and to additional sources of technical expertise, guidance, and inspiration. By counseling younger business leaders, the successful entrepreneurs who are willing to serve as mentors can foster economic development in distressed communities and may themselves benefit from networking opportunities and collaborative ventures.

At the same time, cities seeking to integrate inner-city businesses into the global economy must train a new generation of community development practitioners. As Federal resources for urban areas become scarce, CDCs and other local economic development organizations will play an increasingly important role in inner-city economic revitalization. If these organizations are to be successful in securing capital from corporate and banking sources and from financial intermediaries, they must begin to operate less like social service agencies and more like business enterprises. They need to upgrade the business skills of their personnel to foster this new image. Community development practitioners must receive training in the basic principles of sound business development, especially in general management, finance, accounting, marketing, strategic and long-range planning, organizational development, commercial real estate, entrepreneurship, local economic development, and human resource management (including diversity training).

In addition to acquiring training in the fundamentals of sound business practice, leaders of CDCs must be trained to leverage the dollars they currently spend with private-sector companies to create additional jobs for the inner-city poor. It has been estimated that Federal, State, and local government organizations purchase more than \$1.2 trillion in goods and services from profit-seeking businesses. However, in contrast to their private-sector counterparts, public agencies rarely negotiate a return on their investment with the private companies with which they do business by encouraging them to hire inner-city residents or to contribute financially to the solution of social and economic problems that plague inner-city communities.

Local community development organizations and other nonprofits that serve the inner city also can develop, as part of an overall job-creation strategy, for-profit subsidiaries. Finally, cities can help develop contextualized educational and training programs designed to improve the employability of inner-city youth. Through corporate partnerships, public and private organizations in cities can develop customized training programs to increase minority youth access to business and employment opportunities in growth sectors of the global economy.

Conclusions

This article outlined the major elements of an urban development strategy for economic growth, job creation, and poverty alleviation in the 21st century. Despite rapid changes in technology that are making globally oriented companies more flexible, cities will continue to be catalysts for economic and social progress, incubators of technological innovation, and sources of national wealth well into the next century. The ability of the U.S. economy to thrive and grow will depend on the capability of its cities and MAs to adjust to the complex international social, political, and economic changes that are intensifying business competition. But U.S. cities will have to reshape their economies in creative and innovative ways to meet new global conditions. It is becoming increasingly clear that both domestic and multinational companies—especially faster growing high-technology industries and information-based services—are using new criteria to choose cities in which to locate or expand their business activities.

American cities, both large and small, will have to adapt their services and infrastructures in new ways to compete and cooperate at the international level during the 21st century. The efforts of virtually all countries to open their economies to international trade and investment are diminishing the economic influence of nations and increasing the importance of MAs as centers of international economic transactions. Transnational and domestic companies are attempting to become more flexible and responsive to international

business trends by adopting agile manufacturing practices, customer-driven production and service strategies, just-in-time inventory systems, and speed-to-market delivery of goods and services. Companies engaged in international transactions are locating in urban places outside of older North and Northeast central cities of the United States and moving to newer cities in the South and West, rapidly expanding edge cities in suburban areas, and even rural towns that have the characteristics necessary to support global interactions.

The global forces affecting urban economic growth require new urban development strategies for building the necessary bridges to the social and economic mainstream that will enable the inner-city poor to thrive locally in the international marketplace. These capacity-building efforts must be designed to stabilize inner-city communities and place them on a firm economic base; reduce current levels of persistent and concentrated inner-city poverty; reduce the dependence of the urban poor on social programs; and increase the level of local revenue from taxes, consumer spending, and business investment.

Improvements in telecommunications, air transport, and information management systems have made distance to suppliers and markets less critical for high-technology and information-based industries. The most dynamic cities in the 21st century, therefore, are likely to be those that offer a well-trained labor force, a modern and efficient infrastructure, and an attractive QOL. They will also be those that foster creative and flexible public and private institutions to help local economies restructure and adapt to rapidly changing international business conditions.

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Notes

1. See, for example, the United Nations Conference on Trade and Development's *World Investment Reports* (New York: United Nations), various issues, two of which are cited in the References section.
2. For a more detailed treatment of this argument, see Jack N. Berhman and Dennis A. Rondinelli, 1995, "Urban Development Policies in a Globalizing Economy: Creating Competitive Advantage in the Post-Cost War Era," in William Crotty (ed.) *Post Cold War Policy, Vol. I: The Social and Domestic Context*. Chicago: Nelson-Hall: 209–230.
3. The term *edge city* was coined by Joel Garreau, 1991, *Edge City: Life on the New Frontier*, New York: Doubleday.

4. For an assessment of the needs for closer community in America and the requisite transformation of American culture, see Robert N. Bellah, Richard Madsen, William M. Sullivan, Ann Swidler, and Steven M. Tipton, 1985, *Habits of the Heart: Individualism and Commitment in American Life*, Berkeley: University of California Press, 1985.
5. The concept is discussed in more detail in Richard Florida and Timothy McNulty, 1995, "High-Performance Economic Development," *Economic Development Commentary* 19(1):22–29.
6. GTP is a result of joint investment by the Federal and State governments, private companies, tenant firms, and 12 county governments in the eastern region of North Carolina. Federal and State governments have provided funding for the feasibility study, master planning, and environmental impact assessment. A Global Transpark Foundation, comprising representatives of government and the private sector, is raising \$30 million from corporate and other sources to help develop the GTP infrastructure. The 12 county governments in the areas around GTP will raise an additional \$35 million to provide supporting infrastructure. More than \$285 million in commitments from public and private sources had been made by 1993.

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