
DEMAND FOR DENSITY?

The Functions of the City in the 21st Century

by Edward L. Glaeser

Is the city becoming obsolete? Many social observers believe that it is. In their view, improved information and transportation technology has deprived urban density of its *raison d'être*. They also argue that many cities have caused themselves irreparable damage by pursuing policies that have attracted the poor and repelled the rich. The combination of foolish policies and technological change, they say, has doomed the city.

Ongoing technological developments do indeed have massive implications for urban form. It is also true that many cities have followed policies that, in hindsight, appear unwise. Without question some cities are in deep decline. Some may not recover. But the turn of the new millennium does not presage the end of a ten-thousand-year pattern of increasing urbanization.

In the cities of America's South and West, where new construction is unfettered, urban population growth continues apace. Edge cities—so called after Joel Garreau's 1991 book by that name—may not look exactly like the older, denser cities of the Northeast, but they confirm the ongoing importance of urban agglomerations. Continued demand for urban proximity is also evident from the path of real estate prices in traditional urban areas. In many older cities, where construction is sharply constricted by the costs of building up and, often, by zoning regulations, increased demand shows up not in population growth, but in higher housing prices. For example, real housing prices grew more than 4.5 percent a year in Boston and San Francisco between 1983 and 1998, though both cities' populations barely budged. And the real estate booms in cities such as New York and Chicago confirm that demand for many of the older urban areas remains strong.

Are cities here to stay? Envisioning their future requires understanding their functions. Ultimately, it's true that the future of cities depends on the demand for urban density. And the demand for density depends on what density does.

Cities: A Moving Experience

Density has important benefits for both production and consumption, primarily because it lowers transport costs. In production, cities traditionally lower the cost of moving goods, people, and ideas. In consumption, they provide access to large public goods and to specialized services. Cities can also provide a desirable (or undesirable) social milieu for consumers, which may be extremely important to the future of cities.

I begin the risky project of crystal ball gazing by noting two trends expected to continue into the foreseeable future. The first is rising incomes, accompanied by increased demand for luxury goods and, especially important for commuting, a higher opportunity cost of time. The second trend, improving technology for transporting objects and ideas, may eliminate some of the productive functions of cities, but may make cities more valuable in other ways.

Today one venerable urban edge—in the cost of transporting goods—has disappeared. As a result, manufacturing has already left the cities, and large-scale wholesale trade is about to follow. But the urban advantage in moving people is still enormously important, both in the service sector, which requires interpersonal contact, and in the labor market, which allows people to switch jobs without switching homes. Cities also remain key in moving ideas.

As important as the production side is, the future of most cities depends on their being desirable places for consumers to live. As consumers become richer and firms become mobile, location choices are based as much on their advantages for workers as on their advantages for firms. Some cities, such as San Francisco, seem to appeal strongly to consumers. Other cities do not. The ones that are attractive have thrived in both property values and population.

Production in the City: Transporting Goods

Businesses have long located in cities to minimize transport costs of all kinds, especially the cost of moving goods. America's familiar port cities—Boston, New York, and San Francisco—grew up because firms wanted to save money receiving raw materials and shipping finished products. Soon the impetus toward growth in such cities transcended the port function, as new firms were attracted less by the port and more by the area's firms and growing population base.

By the last few decades of the 20th century, transport costs for goods had declined so much that it was no longer essential for manufacturing plants to be close to customers and suppliers. Indeed, declining transport costs have driven a de-urbanization of manufacturing almost as striking as manufacturing's overall decline. In 1950, seven out of the eight largest U.S. cities had more manufacturing (as a share of employment) than did the nation as a whole. In 1990, six out of the eight largest cities had less manufacturing (as a share) than did the United States as a whole. And following on the heels of manufacturing in leaving the city is the land-intensive wholesale trade.

But cities' decreasing ability to provide cheap transport for goods may turn out to have a silver lining. As Matthew Kahn has pointed out, for example, improvements in Pittsburgh's environmental quality subsequent to the departure of the manufacturing industry there appear to have attracted the better-educated residents who have spurred the city's rebirth. Census data abundantly document the reluctance of richer people to live close to manufacturing. Not only is it futile for big cities to struggle to hold on to shipyards and big manufacturing plants, it may be counterproductive because heavy industry repels high human capital urban residents.

Moving People: Urban Labor Markets

Although cities have lost their edge in the cost of moving goods, they retain it in the cost of moving people, which is critically important in many service industries. As the economy becomes more service oriented, that advantage may well rise in importance.

Dense urban labor markets are attractive to both firms and workers in the service industry. As J. Kolko has noted, service industry firms tend to locate near each other because they all use the same types of workers. Silicon Valley's continued ability to attract new firms, for example, appears to stem in large part from its labor force of skilled specialists. In turn, the agglomeration of firms provides workers with a form of labor market insurance. In single-company towns—witness Detroit—the entire work force suffers if the main employer falters. In a multi-industry town, by contrast, workers can respond to a downturn in demand simply by switching firms. The key

point is that cities allow workers to switch jobs without moving residences.

The urban labor market gives workers greater flexibility in other ways. Unlike their peers in small towns, young workers in a big city can switch from job to job as they figure out what to do with their lives. Likewise, competitive demand for skills in dense cities enables workers to invest in education and training, confident of reaping large returns.

Despite constant improvements in transport technology for people (better cars, airline deregulation), it is not obvious whether the costs of moving people are rising or falling. What is clear is that incomes are rising—and with them the opportunity cost of lost time. The ability of cities to save on transport costs for people thus becomes all the more important.

Extreme density is not essential to cities' labor market advantages (Silicon Valley is the classic example of a moderately dense urban area that functions well as a labor market). But increasing proximity is continually valuable for business services. The strengths of downtown Manhattan, for example, come in part from the vast supply of nearby business services. And the same goes for consumer services. The more density, the better when it comes to the supply of restaurants or stores. Analysts who think that cities' chief function is to provide services will value high-density urban areas. Those who believe that their function is to provide large urban labor markets will put their money on edge cities.

The Idea-Based City

Cities are also productive because they move ideas. Patent citations, for example, are remarkable for their geographic localization—inventors appear especially susceptible to the influence of other inventors who are close at hand. As several studies have confirmed, large urban areas are often particularly exciting centers of ferment and product innovation.

The swift movement of ideas in the city spurs production in several ways. People and firms who want to be innovators will come to the city to reap the benefits of the creative milieu. The advantages to being the first innovator in most industries, especially those such as information technology and fashion, appear to be rising. As knowledge becomes an increasingly dominant part of production, the edge from being in a city seems likely to grow.

Even firms that are not seeking to be innovators themselves will be drawn to urban areas to get access to the latest technologies. As the spread of ideas quickens, however, and as the differences in knowledge across space lessen, this effect of the idea-based city will presumably decline.

Finally, idea flows in cities increase the accumulation of skills on the individual level. The rich presence of role

models and mentors in bigger cities hastens the accumulation of skills, as does the wider range of experiences available. Compare, for example, the medical problems encountered by an intern in a small-town hospital and those faced by an intern in an urban hospital. And because cities facilitate specialization—Adam Smith observed more than two centuries ago that people in rural areas tend to be generalists, while city residents are inclined to be specialists—the same time spent learning in a city may lead to more expertise in one's particular area.

Whether cities will retain their edge in moving ideas depends on whether information technology will eliminate the need for face-to-face interactions. Here, the evidence is mixed. Although many people thought a century ago that telephones were going to eliminate the advantages of cities, telephone use today is highest among people who live close to one another. And although faxes and e-mail were supposed to eliminate the need to meet face-to-face, business travel has been booming over the past 15 years. One can certainly build a case that face-to-face contact and electronic contact are complements rather than substitutes. As such, electronic technologies are unlikely to eliminate the informational advantages of cities any time soon.

The Consumer's City

Evidence increasingly suggests that cities that thrive will have to be attractive places for people to live. As incomes rise, the demand for a pleasant local environment will surely continue to increase. The cities that succeed in the next century will be those that can remake themselves as consumer cities. The success of New York over the past eight years comes in part from the success of Wall Street. But New York's reinvigoration also comes from its ability to reduce crime and sell itself on the basis of its many advantages as an exciting place to live.

Perhaps the most striking evidence for the importance of consumer cities is the rise of reverse commuting. Traditionally, people lived in suburbs and worked in cities. Today, patterns are often reversed. Clearly, the desire of large numbers of consumers to live far from their jobs in urban areas implies the desirability of cities as places to live.

One way to see the relative attractiveness of a place is the gap between housing costs and wages. Between 1980 and 1990 increases in a metropolitan area's size pushed wages up marginally, but pushed housing costs up much more. (For the statistically minded, the elasticity of wages with respect to metropolitan area size went from .051 to .082, while the elasticity of housing costs with respect to metropolitan area size rose from .114 to .225.) The substantial increase in housing relative to wages reflects the possibility that the value of the amenities of the largest metropolitan areas has risen steeply.

But have central cities themselves done well? Within cities, both rents and incomes rose steeply closest to the city center during 1980–90. A strengthening of the trend through the 1990s suggests that these neighborhoods are indeed becoming more appealing, especially to the rich. Much of this growth probably comes from rising wages and the rising opportunity cost of time. But the important fact is that some types of consumers who once would have moved to the suburbs are choosing cities.

As with production, cities' consumption advantages stem from lower transport costs. In the market sector, the advantages are greater access to, and greater variety of, services. The wealth of restaurants and stores and the dizzying array of goods available from them surely make cities attractive to consumers. And despite the advent of Internet shopping, stores will continue to attract customers, particularly for the most expensive commodities. The large market size of cities also makes it possible to support big art museums, symphonies, and professional sports teams. Smaller areas cannot provide all these public goods, and their value favors the largest cities.

Although analysts are just beginning to understand the importance of consumer preferences in driving the success of different places, it seems clear that if cities are to succeed, one of their functions must be to please consumers. A rich variety of services, a thriving social environment, and access to public amenities can make big cities consumer havens.

Policy Implications

Given cities' comparative advantage in moving people and ideas and in being pleasant places to live, what are the policy implications for both city and national leaders? In any policy discussion, it is crucial to distinguish between the obligations of these two types of leaders. City leaders have an obligation to build their cities. National leaders should focus on the well-being of their nation as a whole and not favor any particular region.

The most reliable predictor of urban growth—aside from the weather—is the human capital level of a city's work force. The median years of education of a city's work force, in particular, goes far to predict the growth of its population, income, and housing. Two key ways for city leaders to build human capital are by emphasizing quality education and by avoiding an emphasis on redistributive spending, such as welfare, public health, and public housing. This latter recommendation goes against the admirable impulses of most city leaders, who wish to alleviate the pain in the lives of their city's poorest residents. But for cities to undertake large-scale redistribution is counterproductive: they only damage themselves (and their residents) in the process. Redistribution at the city level causes wealthy and skilled citizens to avoid the city, badly erodes the tax base, and leaves the poor isolated.

The obligation of national and state leaders is to fashion public policies that are spatially neutral across areas. These government leaders must eliminate the pieces of spatial non-neutrality that now exist, particularly those that artificially attract the poor to, and repel the wealthy from, big cities. Some spatially neutral national and state policies can benefit cities in important ways. If, for example, the state and national governments were to assume the full burden of redistribution, they would help keep big cities from being poverty centers. And if state governments were to move to a system of statewide education vouchers, they would both increase the quality of schooling available to poor children in cities and provide a major incentive for the wealthy to live in cities. Cities, being large markets, will benefit much more than low-density suburbs from the competition introduced by a voucher system. Indeed, evidence from the Chilean voucher program shows the tendency of the program to favor the larger cities. And if suburbs lost their edge in education, cities would become much more attractive to many families with children.

Looking Ahead

The future of the city depends on the continued advantages of density. The high density levels of traditional downtowns will continue to be valuable if center cities maintain a productive edge in their ability to speed the flow of ideas and if they keep and develop any advantages they may have as centers for consumption. Traditional cities that rely on manufacturing face an extremely uncertain future, because poverty makes them unattractive as consumer havens. They will continue to exist as long as their housing stock remains, but their populations will continue to shrink. The dominant urban form of the future, almost unquestionably, will be the edge city with its moderate density levels.

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