

# American Spatial Development and the New Megalopolis

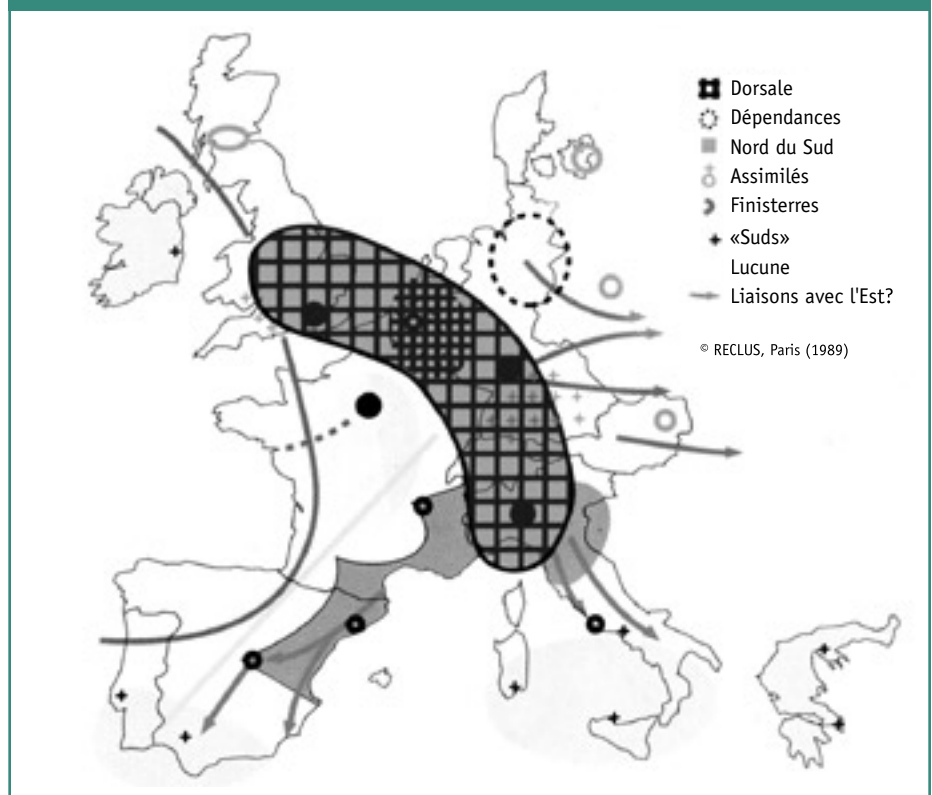
This article is adapted from a policy roundtable report on national spatial development strategies prepared under the auspices of the Lincoln Institute, Regional Plan Association and the University of Pennsylvania School of Design. The roundtable was held in September 2004 at the Pocantico Conference Center of the Rockefeller Brothers Fund. The impetus for this project developed in the spring of 2004 in a graduate city planning studio directed by Robert Yaro and Jonathan Barnett, both Practice Professors in City and Regional Planning at Penn, and Visiting Professor Armando Carbonell. With funding support from the Ford Foundation's Institute of International Education, additional input was provided by a distinguished team of European and American planning experts hosted by Professor Sir Peter Hall at the Institute of Community Studies in London, England.

ARMANDO CARBONELL *and*  
ROBERT D. YARO

European efforts to develop policies and investments for the entire continent and for regions that cross national boundaries have been organized under the umbrella of the European Spatial Development Perspective, a set of policy directives and strategies adopted by the European Union in 1999 (Faludi 2002). Over the past generation the EU has initiated a large-scale approach to planning for metropolitan growth, mobility, environmental protection and economic development. Europeans use the umbrella term “spatial planning” to describe this process, involving plans that span regional and national borders and encompass new “network cities” spread out over hundreds of kilometers (see Figure 1). The EU is also mobilizing public and private resources at the continental scale, with bold plans and investments designed to integrate the economies of and reduce the economic disparities between member states and regions, and to increase the competitiveness of the continent in global markets.

By contrast, the United States has no strategy to anticipate and manage comparable concerns, even though the U.S. population is expected to grow another 40 percent by 2050. How can this growth be accommodated in metropolitan regions that are already choking on congestion and approaching build-out under current trends and policies? How can we improve the competitiveness and livability of our own emerging constellation of network cities? How

FIGURE 1  
The “Blue Banana,” depicting the economic core of the European Union from London to Milan



Sources: Lincoln Institute of Land Policy and Regional Plan Association (2004) and Faludi (2002)

can the U.S. reduce the growing disparities in wealth and population among fast-growing coastal regions, vast interior rural areas and declining industrial cities? How can the U.S. promote regional strategies designed to address these concerns?

Two important precedents have shaped this analysis of America's spatial development. The national development and conservation strategies prepared by President Thomas Jefferson in 1807 and President

Theodore Roosevelt in 1907 stimulated the major infrastructure, conservation and regional economic development strategies that powered America's economic growth in its first two centuries. Other major strategies and investments promoted in the administrations of Presidents Lincoln, Franklin Roosevelt and Eisenhower also had a profound impact on the nation's growth. Some examples are the Morrill Act land grant university system, the Homestead Act, and

creation of the national rail and interstate highway systems.

### Economic, Demographic and Spatial Trends

**Rapid population growth.** The U.S. Census Bureau forecasts that the nation's population will grow by 40 percent to 430 million by 2050, whereas most European countries are expected to lose significant numbers of residents, due to declining birth rates and limited immigration. This means we must build half again as much housing and as much commercial and retail space and the infrastructure needed to support these activities in the next half century as we have in the past two centuries.

The study of historical settlement patterns sheds light on current and future patterns. While early settlers clung primarily to the coasts and in compact urban regions, the inventions of rail transportation and later the automobile forever changed settlement patterns and allowed people to set up homes in the interior of the country and in highly decentralized metropolitan areas. Fast-growing Sunbelt states, such as Texas, California and Florida, are expected to see sustained rapid population growth, spurred by the trend of immigrant populations settling in those and surrounding states.

While most central cities will continue to grow at a moderate pace, many metropolitan regions around these urban cores are expected to experience remarkable development. As Philadelphia continues to lose population, for example, its adjacent suburbs and areas further outside the city continue to grow. In general, however, the number of people living in urbanized areas as opposed to rural areas is projected to continue rising, signaling an increase in the amount of urbanized land in the coming decades.

#### *The building out of suburban America.*

Since 1970 the vast majority of the nation's economic and population growth has occurred in 30 large metropolitan regions, mostly in their sprawling outer rings. While some cities and inner-ring suburbs are now experiencing infill development and renewed population growth, many others are approaching "build-out," which increases traffic congestion

and commuting times, contributes to loss of farmland, and creates conflicts between new development and green infrastructure, such as public water supplies and wildlife habitat.

In less than three centuries, 46 million acres of America's virgin landscape have been converted to urban uses. In the next 25 years that number will more than double to 112 million acres. If current growth and land consumption rates continue, another 100 million acres will be urbanized by 2050, at a rate seven times faster than the population will grow.

#### *Uneven and inequitable growth patterns.*

While most population and economic growth has been in large metropolitan regions, other areas of the country have experienced losses. Large rural regions where resource-based economies or groundwater reserves are in permanent decline are left without the means to support even basic services. A number of large urban centers and second-tier cities also have experienced decades of decline. For example, Philadelphia, Baltimore, Pittsburgh, Cleveland, Detroit, St. Louis and New Orleans have lost a third or more of their populations since 1960. Even in cities where the outer-ring suburbs have grown, many inner cities and inner-ring suburbs have lost residents, tax base and economic activity, and poverty has become highly concentrated. Many of these places have high concentrations of African-Americans, Native Americans, Latinos and poor whites who will be increasingly disadvantaged as economic opportunities in these regions decline.

In contrast with the U.S., the European Union for decades has invested vast sums to promote development and redevelopment of comparable bypassed areas. These investments have produced dramatic results in revitalizing the economies of Ireland, Spain, Portugal and Greece, and formerly depressed cities and regions in Europe's periphery. Similar strategic investments in disadvantaged American cities and regions could produce comparable results.

**Limited infrastructure capacity.** Metropolitan infrastructure of all kinds, most of it built in the last half of the twentieth century, will reach its capacity limits in the

first decades of the twenty-first century. Unless new capacity is created in roads, rails, airports, seaports and other systems, the nation's economic potential will be artificially limited. Federal transportation investments over the past decade have been largely focused on maintaining the existing infrastructure, not on expanding the capacity of these systems.

Over the last 50 years, Americans have become increasingly mobile. The increase in miles traveled per person has been most pronounced in car and aircraft travel, creating new challenges to keep various types of transportation corridors congestion-free. At the same time, congestion poses a serious threat to manufacturing and freight sectors of the economy. Experts believe that by 2020 there will be nearly a doubling of trucks on the roadways over current numbers. Significant policy measures are needed to channel more resources into high-capacity transportation systems for both individual and commercial activity.

**Emergence of megalopolis.** In 1961 French geographer Jean Gottman described the Boston–Washington Megalopolis. Between now and 2050, more than half of the nation's population growth, and perhaps as much as two-thirds of its economic growth, will occur in this and seven other emerging megalopolitan regions whose extended networks of metropolitan centers are linked by interstate highway and rail corridors. Similar networks of cities in Europe and Asia are now seen as the new competitive units in the global economy. Major public and private investments are being made in high-speed rail, broadband communications and other infrastructure to strengthen transportation and economic synergies among their component centers.

### The New Megalopolis

The new megalopolis is a model for cooperation among the cities and regions in the U.S. that are growing together and creating dis-economies in congested transportation networks, which in turn affect the economic vitality and quality of life of these regions. This model is based on the idea that if the cities in these colliding regions work together

FIGURE 2  
Emerging Megalopolitan Areas in the United States



Source: Lincoln Institute of Land Policy and Regional Plan Association (2004)

they can create a new urban form that will increase economic opportunity and global competitiveness for each individual city and for the nation as a whole.

These component metropolitan areas will have to cooperate in the formation of a structure that takes advantage of the complementary roles of each area while addressing common concerns in the areas of transportation, economic development, environmental protection, and equity. The new megalopolis model will contribute to improving social and economic cohesion along with a better territorial balance, and will support more sustainable development by emphasizing collaboration on important policy issues, infrastructure investments and instruments for facilitating economic growth and job creation.

To facilitate the development of megalopolitan areas, the U.S. could focus on creating a truly intermodal network linking rail, highway and air transportation. Such con-

nections would relieve congested airports and provide greater options for freight movement. The resulting transportation flexibility would be less vulnerable to terrorist attacks and disaster. Furthermore, regional infrastructure and development focused around rail stations would shape and redirect urban growth in more efficient, less sprawling patterns.

Our current direction is building a country whose competitiveness is threatened by inefficient urban forms and declining rural communities. The new megalopolis concept points us in a different direction, one in which urban areas and their surrounding regions work together on a larger scale to address common concerns and share their complementary strengths. This new model would produce an America that is environmentally sustainable, socially equitable, and competitive in an increasingly global economy.

Six distinctive regions can be identi-

fied based on common history, geographic location and topography: the Northeast, Mid-Atlantic, South, Midwest, Southwest and West. Most of the nation's rapid population growth, and an even larger share of its economic expansion, is expected to occur in eight emerging metropolitan areas spread over thousands of square miles and located in every one of these regions (see Figure 2). These megalopolitan areas are becoming America's economic engines: centers of technological and cultural innovation where the vast majority of immigrants who are driving population and economic growth will assimilate into the economic and social mainstream.

In Europe and Asia similar network cities are already being seen as the new competitive units in the global economy. The European Union and national governments in Europe, China and Japan are investing hundreds of billions of dollars in new intermodal transportation and communication

links and other infrastructure to underpin the capacity, efficiency and livability of these regions. In all of these places, new high-speed rail networks are integrating the economies of formerly isolated regions.

### Toward an American Spatial Development Perspective

An American Spatial Development Perspective (ASDP) could encompass long-range strategies to achieve five broad national goals.

1. Facilitate the emergence of eight new megalopolitan areas that can compete with similar emerging networks of cities in Europe and Asia.
2. Create capacity for growth and improved global competitiveness in the nation's transportation and other infrastructure systems.
3. Provide resiliency, redundancy and capacity in the nation's infrastructure to respond to national security needs.
4. Revitalize bypassed urban and rural regions.
5. Protect and reclaim important nationally significant natural resource systems and promote less land-consuming patterns of growth.

The federal government could play a crucial role in this process, through collaborations with existing and emerging "bottom-up" networks of interconnected regional strategies, encompassing each of the emerging megalopoli. Ideally, the federal government would help coordinate and "incentivize" these planning efforts, but rely on local and regional initiatives to drive each region's own strategies.

The federal government could also lead in coordinating infrastructure planning and investments for national and regional intermodal, high-speed transportation networks, as it did in promoting creation of the national rail and interstate highway systems. These investments would be made through partnerships between federal, state and regional government, and private investors. User fees, tolls and fares would cover a substantial portion of the cost of developing and managing these systems.

Regional strategies could also promote investments in major higher education and research institutions needed to maintain the

nation's competitive advantage in technology and create a lifelong learning system to help skilled workers adapt to economic change. This broad approach could also identify the important natural resource systems that sustain public water supplies, biological resources, sense of place and recreational opportunities. Future growth could be designed to reuse formerly used sites and to reclaim and restore impaired landscapes and natural resource systems.

Plans for these infrastructure systems should be closely coordinated with strategies for smaller-scale urban and regional development, to ensure that future development patterns support, and are supported by, these infrastructure investments. Federal and state governments could invest in demonstration projects to test innovative transportation, land use, environmental and other strategies.

### Building and Financing the ASDP

The proposed new infrastructure systems and urban development outlined in this article could cost trillions of dollars, much of which could be financed through user fees and public-private partnerships. It should also be possible to employ modest payroll or other taxes to finance some of these investments, which would generate trillions of dollars of new economic capacity for the whole nation. The expected doubling of the national economy by 2050 would expand the gross domestic product by more than \$14 trillion (in constant dollars). Redirecting even a small share of the growth of tax revenues in these strategic investments could secure the nation's economic future.

For over a hundred years, the U.S. has financed major infrastructure projects through a "top-down" system, with major funding from the federal government complemented by state resources. Based on general public agreement of national priorities, this model financed several generations of growth and paid for one of the world's great infrastructure systems. However, this approach is now being challenged as the needs of maintaining our aging infrastructure systems outpace federal and state funding, to say nothing of new capacity expansion. Today we witness a debate between "donor" and "donee" states over

the fairness of federal transportation funds, even as the total amount of federal dollars falls far short of estimated needs. As a result, we find ourselves increasingly starved for capital for infrastructure systems.

To provide more funding for system maintenance and expansion, metropolitan regions are looking to new and innovative financing systems. Public authorities use their tax-free status to attract private dollars through bond issuances, sales and lease-back arrangements. New user fees, such as congestion pricing or high-occupancy-vehicle lanes on toll roads, link charges to those who benefit the most from new investments, creating new revenue streams. And value capture models, such as tax increment financing, allow increases in land values to finance infrastructure investments.

The federal government is advancing instruments such as TIFIA, the Transportation Infrastructure Innovation Act, to stimulate the development of these projects. However, megalopolitan areas have a critical role to play in this emerging system. They provide a vital link between state and federal government and local jurisdictions, which in many cases have the last word over land use decisions. These regional areas transcend political boundaries and capture the true economic and social geography of their communities. And they have the size, capacity and expertise to undertake complex planning strategies. ■

**ARMANDO CARBONELL** is senior fellow and co-chair of the Lincoln Institute's Department of Planning and Development. Contact: acarbonell@lincolninst.edu. **ROBERT D. YARO** is president of the Regional Plan Association in New York City. Contact: yaro@rpa.org.

### REFERENCES

- Faludi, Andreas, ed. 2002. *European spatial planning*. Cambridge, MA: Lincoln Institute of Land Policy.
- Lincoln Institute of Land Policy and Regional Plan Association. 2004. *Toward an American spatial development perspective*. Policy Roundtable Report. September.
- University of Pennsylvania School of Design. 2004. *Planning for America in a global economy: 2004-2005*. City Planning Studio Report. Spring.