The historic core of Barcelona has a mix of traditional and innovative designs, including Antoni Gaudi's circa-1907 multifamily housing project Casa Milà.

Change of Climate

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Emerging trends in five European cities suggest what could be ahead for the U.S. development environment.

In the past, Europe has offered early clues to a number of coming trends for the United States, including historic regeneration, brownfield redevelopment, and transit-oriented development, among others. So it is no surprise that the much-discussed recent tipping point in the U.S. sustainability agenda also had its counterpart in Europe and, if anything, was reached there first as well.

London's congestion-charge zone, which involves an £8 ($16) fee per day for private automobile travel within the central city, was expanded earlier this year to include the Victorian-era suburban neighborhoods around Harrod's department store.

What is not so certain yet is what the new agenda will mean for development practice in the years to come in terms of additional regulatory burdens, market constraints, and opportunities. Uncertainty, even more than any specific regulatory burden, creates risk and cost—the bêtes noires of development.

That mix of recognition and uncertainty is palpable in Europe. The ULI–PriceWaterhouseCoopers *Emerging Trends in Real Estate Europe 2007* report noted that "the responses this year, to both our survey and interviews, indicate that environmental issues have moved sharply up the agenda. EU [European Union] sustainability legislation is starting to register with those we surveyed. . . . The more longsighted are trying to puzzle out what a green agenda might mean for the marketplace."

It is always worth bearing in mind that major differences exist between the European and U.S. development environments. Europe's population is not burgeoning, and in many areas it is actually shrinking. Its geography and older settlement patterns form a natural limit to American-style sprawl, and its political culture generally—though not always—leans more toward state regulatory action, with more limitations on property rights.

At the same time, there are plenty of parallels to be found in Europe, both in market trends and in the debate over public policy. The following five European cities—and the trends already emerging there—could presage what is in store for the U.S. market.

London: Pricing constraints on automobile travel. Though London is already a relatively walkable, transit-oriented city, it has been fighting increasing traffic congestion and the ills that go with it—smog, stress, delays, and lowered productivity. The new climate change agenda is adding to the pressure to take action. In 2003, in part to shift the incentive to transit use, London Mayor Ken Livingstone initiated a congestion charge—a £5 ($10) fee per day for private automobile travel within the central city. Initially very controversial—especially among London businesses, which feared a resulting economic decline—the charge has slowly won broader approval. The statistics are starting to show a measurably positive effect on congestion (down about 25 percent) and air pollution (down about 15 percent).

Meanwhile, the feared economic harm apparently has not materialized: one study showed an initial drop of about 7 percent in retail sales, while another has since showed that the effect on London's overall economy has been "broadly neutral." In fact, the popularity of the congestion charge seems to be stronger than ever. Earlier this year, the charge was raised to £8 ($16) and the congestion zone was expanded to include Kensington, Chelsea, and other Victorian-era suburbs.

Other European cities have already implemented a congestion charge, including Stockholm and Oslo, and similar action is being considered for other U.K. cities like Edinburgh. However, the first U.S. attempt to enact a similar program was declared all but dead in mid-July after state legislators failed to act on New York City Mayor Michael Bloomberg's plan to charge tolls of $8 for cars and $21 for trucks entering Manhattan's most heavily traveled business district.

Other constraints on automobile travel seem to be the wave of the future. Rome has strict emissions stan-

Copenhagen has taken steps to combat sprawl. Parking spaces have been removed from the inner-city area, transit use and transit-oriented development are encouraged, and the central city has been made a pedestrian- and bicycle-friendly zone.

dards for all vehicles allowed into its urban core; Copenhagen has a fuel surcharge that adds costs to automobile travel in the vicinity of the Danish capital. Many European cities prohibit automobile travel altogether in sections of their historic core.

Copenhagen: New restrictions on sprawl and "out-of-town" development. The European Environment Agency released a study in Copenhagen last December titled *Urban Sprawl in Europe: The Ignored Challenge*. Though European land use patterns hardly constitute sprawl by U.S. standards, the report makes clear that low-density, out-of-town development is increasing and impairing the EU's ability to meet climate change targets. In fact, the number of cars added to EU roads each year is four times higher than the number of new babies, and the average number of miles traveled is projected to rise 40 percent over 1995 levels by 2030.

The report advises that policy changes should "supplement the logic of the market" and address the demand side of the real estate market rather than the supply side. It calls for a policy strategy with four elements:

▷ changes in land use policy to make urban centers more economically attractive relative to out-of-town areas;

▷ use of "structural funds" (EU grants) for specific inner-city projects;

▷ monitoring and compliance with new EU laws on emission controls, which will bring their own incentives and disincentives; and

▷ new financing of plans to address sprawl and environmental quality.

The new EU laws on emission limits are expected to be increasingly significant drivers of housing policy in years to come. In January 2005, the EU adopted a cap-and-trade emission trading scheme, the world's first and so far only mandatory carbon trading program. All 27 member states now enforce the scheme, which deals primarily with large emitters such as power plants. But as the costs percolate through the economy, they can be expected to add more disincentives for sprawling, carbon-wasting development patterns.

For its part, Copenhagen continues its own innovative actions to combat sprawl. The city has taken steps to make the central city a pedestrian- and bicycle-friendly zone for families as well as young singles. The city recently implemented a "safe routes to school" program to ensure that each area school can be reached by a network of safe, walkable, and bike-friendly paths. As in London, car use is discouraged: in the decade before 1995, more than 600 parking spaces were removed from the inner-city area. Instead, transit use and transit-oriented development are encouraged. For example, a recent planning policy limits new development to within six-tenths of a mile (1 km) of a transit station.

Berlin: Tough new energy codes for buildings, plus incentives. It has not escaped the attention of EU regulators that buildings account for over 40 percent of total energy use, and for a similar percentage of carbon emissions. Moreover, new construction accounts for only a small share of total buildings—perhaps a few percent each year—so raising the energy efficiency of the other

98 percent of buildings is becoming a priority. The European Commission issued the Energy Performance for Buildings Directive in 2002, requiring member states to set minimum energy performance requirements for new and refurbished older buildings. All buildings are also required to have a certificate of energy performance when constructed, sold, or rented.

Berlin has some of the toughest new energy codes. The new Energy Saving Ordinance (EnEV) sets strict minimum energy-efficiency standards for new buildings and refurbished older buildings. Since 2002, certificates for energy use—called energy passports—have been required for all new and substantially refurbished buildings. The new ordinance sets out an innovative "holistic calculation method" that takes into account the impact of whole systems like delivery and transport.

In June, the Berlin Legislators' Forum called for even tougher standards as part of a commitment to move toward low- and zero-carbon-emitting homes, and for procurement of only the highest-performance buildings for government use. It also called on the Group of Eight (G8), the world's top industrialized nations, to step up their efforts to raise the thermal efficiency of their existing housing stock, which the forum says will constitute about three-quarters of homes in G8 countries in 2050.

Berlin is implementing its own innovations to address climate change, too. For instance, the city, partnering with its quasi-independent Berlin Energy Agency (BEA), operates a building retrofit program that has zero cost for building owners. Under the Energy Saving Partnership program, energy systems contractors like Siemens and Honeywell develop proposals for group retrofits that are then project-managed by the BEA. The companies finance the entire cost of the retrofits, then are paid back by the building owners from their energy savings. The payments are designed to be lower than the savings—meaning that building owners not only pay nothing, but also actually save money beginning with the first day of operation.

Other incentives and voluntary approaches are also available. The voluntary Passivhaus program, originally developed in Darmstadt, sets a high standard for insulation efficiency so participating structures will require almost no additional space heat in winter and thereby achieve considerable savings on heating costs. A wide range of other retrofit subsidies are available to building owners. In fact, within Germany overall, a staggering 4,000 subsidy programs are available to upgrade energy efficiency.

Barcelona: New economic vitality for the historic core. European city cores continue to experience an economic renaissance, fueled by a combination of funding for targeted historic renovations, smart management, and the increasing popularity of urban lifestyles. In Barcelona, planners have taken a diverse toolkit

Berlin has some of the toughest energy codes for new and refurbished older buildings. The reconstructed Reichstag building combines a number of green building innovations, including off-site energy generation using biofuels. The structure reportedly has reduced its carbon emissions by 94 percent relative to comparable buildings.

The Guggenheim Museum in Bilbao, designed by Frank Gehry, offers an example of the types of catalytic projects that seem to be losing their luster amid growing criticism that they actually contribute little to local identity or to sustainable urban regeneration.

approach, which includes, among other policies:

▷ prohibition of out-of-town development;
▷ tax incentives and grants to refurbish properties;
▷ compulsory purchase and renovation of blighted properties;
▷ targeted reuse of historic buildings as key structures such as schools and libraries;
▷ brownfield regeneration that stipulates innovative mixed-use projects; and
▷ targeted catalytic projects to spur wider regeneration.

The most notable catalytic project was undoubtedly development undertaken for the 1992 Summer Olympics, which spurred subsequent growth.

At the same time, there is cautionary evidence that catalytic projects do not always work, and some are losing their luster. In nearby Bilbao, a growing number of residents argue that the iconic Guggenheim Museum Bilbao, designed by Frank Gehry, has provided fewer benefits for the broader city than originally claimed. "The point about Bilbao is the fact that visitor numbers have dropped," architecture critic Deyan Sudjic wrote in "Can We Still Believe in Iconic Buildings?" published in the British magazine *Prospect* in June 2005, summing up criticism of the much-hyped "Bilbao effect." "To suggest that this is a case of a city rescued from oblivion by a single miraculous piece of architecture is a travesty. Yet it is a travesty that is accepted without question by countless city boosters from Taiwan and Guadalajara to Edinburgh. Part of the reason, I think, is that it offers a simple solution to a complex problem."

But catalytic projects or not, a multipronged strategy has ensured that historic cores of cities like Barcelona are thriving. Wise managers—both public and private—have recognized the economic potential of their historic resources and the relative efficiency of a leveraged redevelopment.

The news about historic city cores is not all good. Gentrification trends continue, creating sky-high prices and driving out lower-income residents or marginalizing them in low-rent districts. Soaring housing costs are hardly unique to cities, or to Europe. In response, European cities have developed a variety of strategies, including government-owned public housing, housing trusts, and developer setasides. Using a similar combination of elements, Barcelona now maintains 30 to 35 percent of all new housing as affordable stock.

Munich: Second thoughts about high-tech skyscrapers. It is often argued—and often most passionately by visionary architects—that the sustainable future lies in super-dense skyscraper cities glittering with high-tech buildings. Clues of such a trend might well be expected to appear first in Germany, which has often led the world in high-tech architecture. But it seems Munich, at least, is not playing along.

Voters in that city have now passed a restriction on building height at 99 meters—about 325 feet, or 30 stories. That comparatively low elevation is the height of

Munich is one city eschewing high-tech skyscrapers. Voters have passed a building height restriction of 325 feet (99 meters)—about 30 stories—the height of the historic Frauenkirche (shown at left in photo), one of the city's most-loved historic buildings.

the historic Frauenkirche—the Cathedral of Our Blessed Lady—one of Munich's most-loved historic buildings. Other European cities have seen similar restrictions on tall buildings, including Paris, Rome, and Vienna. Even London, widely regarded as friendly to tall buildings, has a strict scheme of restrictions on building height based on view and context.

It is not just urban voters who are second-guessing the high-tech skyscraper. Some analysts are predicting that the EU's new Energy Performance of Buildings Directive (EPBD) will spell the death of the "glass tower" altogether. Prominent building researchers like David Strong, chairman of the EPBD's Implementation Advisory Group, have called into question the sustainable credentials of the curtain-wall glazing and energy-intensive, high-maintenance materials typically featured in such buildings. Other critics point to solar gain, shading, wind effects, and heat island effects caused by the tall buildings. Even Ken Shuttleworth, an architect on Foster and Partners' much-touted green Swiss Re building in London, now argues that such glass towers are likely to become a thing of the past.

Energy performance is not the only concern being raised. There is a growing worry that in the quest for density for density's sake, other critical factors of sustainability will be lost. Prominent U.K. architecture critic Peter Buchanan recently sounded this alarm in the spring/summer 2007 edition of the otherwise skyscraper-friendly *Harvard Design Magazine*. "Sustainability requires not only that we lessen our ecological impacts, but also that we create the urban and cultural frameworks in which we can attain full humanity, in contact with self, others, and nature," Buchanan wrote. "This might be the real reason that the tower seems an anachronism. There may be a few clusters of green towers here and there, but their presence might be limited in the compact and convivial cities of the future."

These and other emerging green trends in Europe suggest increasing levels of top-down regulation of the sort that has always been more evident in Europe than in the United States, and could foreshadow tougher regulation on the way for the United States, too. But a shifting emphasis toward a mix of incentives, pricing decisions, voluntary options, and more targeted regulation can also be seen. That may reflect a growing recognition among policy and business leaders that the looming green challenge is a complex and dynamic one—and the response must be no less dynamic and adaptive. For the changing development climate, the good news is that this may suggest at least as many new opportunities as constraints. **UL**

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