



RETROFITTING

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ELLEN DUNHAM-JONES AND JUNE WILLIAMSON

BOB LYNN/ARIS & CRAIG DEMARCO (LA GRANDE ORANGE)



The dearth of good, cheap, undeveloped sites in suburban markets, the escalating number of vacant greyfield properties, and the expansion of mass transit systems into suburban areas are all factoring into a changed American suburban market.

The recession has brought the 50-year expansion of suburban development patterns to a halt. It also is accelerating the trend to retrofit, reinhabit, and “regreen” the rising numbers of dead malls, dying office parks, and other declining suburban properties. While no one likes to see businesses fail, redevelopment of these sites to respond to new suburban demographics, rising transportation costs, and infrastructure investments provides the opportunity to transform the most automobile-dependent landscapes into more sustainable, more urban places. The big development project for the next 50 years likely will be retrofitting suburbia.

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BOB LYNN/ARIS & CRAIG DEMARCO

The transformation of aging and underperforming shopping centers, office parks, and other prototypical large suburban properties into more urban places is exemplified by projects such as La Grande Orange, a reborn strip mall in Phoenix containing locally owned restaurants and shops (above and on pages 38–39).

Some of the changes will be incremental—a change of use here, a new street or building there, much as one sees in the “incremental urbanism” that characterizes the perception of how the world’s great cities evolved over time. However, American suburban development patterns are so highly specialized for single uses that their layouts are resistant to incremental adaptation. Consequently, the most effective redevelopments will be those that retrofit the streets, blocks, and lots to provide a compact, connected, walkable mix of uses and housing types. Unfortunately, projects at this scale often evoke criticism as “instant cities” or “faux urbanism.” The challenge for all involved is to provide settings and buildings that transcend their “instant” status and inspire their communities.

The global urgency of reducing greenhouse gases provides the most time-sensitive imperative for reshaping sprawl development patterns, for converting areas that now foster the largest per-capita carbon footprints into more sustainable, less automobile-dependent places. The transformation of aging and underperforming shopping centers, office parks, garden apartment complexes, and other prototypical large suburban properties into more urban places allows new population growth to be redirected from metropolitan greenfield edges into more central grey-field sites where vehicles-miles traveled (VMT) can be reduced. It also allows for consideration of how redeveloped suburban areas collectively add up to “incremental metropolitanism” at a scale far more

capable of confronting the problems of sprawl than is incremental urbanism.

Many of the retrofits produced to date have in fact been incremental and indicative of both gradual demographic shifts and public efforts to induce change. For instance, the original Levittowns have added not only countless additions to individual houses, but also multiunit housing for seniors as inhabitants have aged. A decade after Boulder, Colorado, revised zoning and setback regulations along suburban arterials, new mixed-use buildings with sidewalk cafés appear cheek by jowl with older carpet-supply stores set behind large parking lots.

Similarly, numerous older retail buildings have been adapted for community-serving purposes. More than a dozen Wal-Mart stores have been converted to churches. La Grande Orange in Phoenix is a reborn strip mall containing locally owned restaurants and shops that have become so popular that La Grande Orange has its own T-shirts and is regularly mentioned as a selling point in real estate ads for the neighborhood. An L-shaped mini-mall was made into the award-winning Camino Nuevo Charter Academy elementary school in Los Angeles. The addition of sidewalks and previous public green space figured into the transformation of a grocery store into a public library in Denton, Texas, and conversion of a Super Kmart into a megachurch in Woodstock, Georgia. Many other vacant big-box stores, malls, and shopping centers have been converted to office space, health care facilities, and civic space—including the headquarters for Hormel Foods, which includes the Spam Museum in a former Kmart in Austin, Minnesota, and the revival of Crestwood Court Mall in St. Louis by artist, theater, and dance groups as ArtSpace. Sometimes, the best approach to a dead retail site is to return it to nature, as in the reconstructed wetland that replaced a failed strip shopping center in Phalen Village, Minnesota, or the proposed park on the site of the Columbus City Center mall in Columbus, Ohio. Countless additional examples of this kind of recycling exist, showing welcome improvements to the physical and social infrastructure.

However, retrofitting’s greater potential goes well beyond incremental adaptive use or renovation. Through urbanization of larger suburban properties with a denser, walkable, synergistic mix of uses and housing types, more significant reductions in carbon emissions,



A former mini-mall in Los Angeles (below) has been converted into the Camino Nuevo Charter Academy elementary school (left).



gains in social capital and public health, and changes to systemic growth patterns can be achieved.

Mixed-use new urbanist greyfield retrofits routinely achieve projections of 25 to 30 percent internal trip capture rates, and substantially higher performance has been measured in recent studies. Belmar, a dead mall retrofit in Lakewood, Colorado, tripled density on its 100-acre (40-ha) site but did not require a single new traffic signal on surrounding streets. Such capturing of internal trips is dependent on achieving the critical mass associated with instant cities, not with incremental changes to the suburban pattern.

The most dramatic and prevalent retrofits tend to be on dead mall sites—retrofits such as Belmar; Mizner Park in Boca Raton, Florida; and Santana Row in San Jose, California. Each replaced a typical low-rise shopping mall surrounded by parking lots with a more or less interconnected, walkable street grid, lushly planted public spaces, and ground-level retail space topped by two to eight stories of offices and residences. In Denver alone, eight of the region's 13 malls have undergone or announced plans for retrofitting. There are also, however, significant retrofits on the

land adjacent to thriving malls. The retrofit of Downtown Kendall/Dadeland outside Miami incorporates a mall (the Dadeland Mall) and new 20-plus-story residential towers, as does Perimeter Place adjacent to Perimeter Center Mall in Atlanta. Both are examples of how 30-year-old edge cities, even *bête noire* Tysons Corner, in northern Virginia, outside Washington, D.C., are being repositioned by infilling and urbanizing.

Suburban office and industrial parks are also being retrofitted. The parking lots of an Edward Durrell Stone–designed office park of ten-story buildings in Hyattsville, Maryland, have been infilled with a new main street and a mix of uses to become University Town Center. The owners of a low-rise industrial park in Westwood, Massachusetts, are taking advantage of its location on a commuter rail line to redevelop it as Westwood Station, a four- to five-story live/work/shop transit-oriented development (TOD) and the largest suburban development project ever in Massachusetts. Golf courses, car dealerships, park-and-ride lots, garden apartment complexes, residential subdivisions, and entire commercial strip corridors are being retrofitted in ways that integrate rather than

In Lakewood, Colorado, a retrofit of a dead low-rise shopping mall surrounded by parking lots resulted in Belmar, an area with an interconnected, walkable street grid and ground-level retail space topped by offices and residences.



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isolate uses and regenerate underperforming asphalt into urban neighborhoods.

What has been driving all this? Several factors: shrinking percentages of households with children and a growing market for multiunit housing in the suburbs, an aging population, continued suburban job growth, regional growth patterns that have given leapfrogged suburban areas a new centrality, higher gasoline prices that have made closer-in living more attractive, and local smart growth policies and transit investments that are limiting sprawl and redirecting growth to existing infrastructure. The dearth of good, cheap, undeveloped sites in suburban markets, the escalating number of vacant greyfield properties, and the expansion of mass transit systems into suburban areas are all factoring into a changed American suburban market.

Collectively, these market forces and policies are enabling implementation of the principal benefit of projects like these: the retrofitting of the underlying layout of the streets, blocks, and lots so as to change unhealthy suburban patterns and behaviors into more sustainable ones. Incremental infill within as-of-right zoning in most suburban municipalities is simply not a feasible path toward achieving diversification or densification.

The larger, denser, and more urban the redevelopment, the greater the ability of its designers to change the existing development pattern and do the following:

- ▷ reduce vehicle-miles traveled and improve public health by creating a transit-served or transit-ready mix of uses in a walkable street pattern connected to adjacent uses;

- ▷ reduce land consumption and per-capita costs of public investment by absorbing growth that, without alternatives, would expand in sprawl and edgeless cities;
- ▷ increase the feasibility and efficiency of transit;
- ▷ increase local interconnectivity;
- ▷ add permeable surfaces and green space;
- ▷ add public and civic space;
- ▷ increase choice in housing type and affordability;
- ▷ increase diversification of the tax base; and
- ▷ establish an urban node within a polycentric region.

The key design challenge in altering the suburban settlement structure is internal and external integration of the parts over time and over multiple parcels. Research has yet to uncover built examples of connected culs-de-sac—a longstanding holy grail of suburban reform—or other perfectly seamless transitions between properties. But designers are producing innovative adaptations to zoning and subdivision regulations to overcome suburban fragmentation.

For example, Michael Gamble and Jude LeBlanc, professors at the Georgia Institute of Technology, have proposed trading the right to build liner buildings within the front setback along arterials for giving up half the width of a new street on the side setback as a means to gradually establish a finer-grained street and pedestrian network on suburban superblocks. Similarly, Elizabeth Plater-Zyberk, a partner in the Miami-based town planning firm Duany Plater-Zyberk & Co., and Victor Dover and Joseph Kohl, partners in the urban design firm Dover Kohl & Partners in Coral Gables, Florida, have developed a strategy for linking open spaces within a walkable street grid through the superblocks

of Downtown Kendall/Dadeland's 324 acres (131 ha). Working for Miami-Dade County on new zoning across numerous parcels, they devised a system of anchor points at the corners of property boundaries to which each owner's mandated 15 percent of open space had to connect. Their suggested, rather than mandated, shapes of public space have been substantially followed by property owners and are far more appropriately sized to the development as a whole than a series of uncoordinated 15 percent bits would have been.

Internal integration of parts is indeed far easier to control on single-parcel sites—especially sites of 30 acres (12 ha) or more. Projects as small as 15 acres (6 ha), such as San Diego's Uptown District on the site of a former Sears store, can transform the character of suburban areas and generate local input concerning further changes. But larger parcels can more easily justify the inclusion of public space, decked parking, and a fine-grained street network on suburban superblocks. Large sites are also more likely than small ones to be able and/or required to include housing for a mix of incomes.

This has not been universally achieved—witness the exclusively high-end residences at Santana Row or exclusively lower-end apartments at CityCenter Englewood in Englewood, Colorado—but projects like Mizner Park, Belmar, and Addison Circle in Addison, Texas, provide a range of housing types, tenures, and costs. While they do not contain the social and physical diversity of incremental cities, the degree of internal integration, diversification, and densification of these instant cities deserves commendation.

Large, single-parcel projects also foster integration external to the property. By forcing municipalities to address rezoning and use tax-increment financing to provide infrastructure upgrades for the new density, larger projects are gradually reforming the regulations and financing practices that otherwise continue to favor sprawl. Large projects in particular increase a municipality's experience with mixed uses, mixed incomes, shared parking, form-based codes, context-sensitive street standards, transfers of development rights, and other regulations that encourage urban development patterns. As a result, one successful retrofit tends to breed another.

At the same time, the financing community is gaining experience with evaluating mixed-use public/

private deals. Gradually, the financial performances of large projects are providing the predictable metrics that lenders require to offer the most competitive rates not only to conventional suburban development, but also to urbanizing redevelopment, increasing the feasibility of including affordable housing. Evidence of the magnitude of change in the rules of the game is that big players have now stepped onto the field. Mall owner General Growth Properties added high-end housing to its mall in Natick, Massachusetts, and was retrofitting the Cottonwood Mall outside Salt Lake City to serve as a town center before problems with commercial mortgage-backed securities loans forced it into bankruptcy.

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By 2005, recognition of the changed market led many of the country's high-production single-family-home residential builders to start "urban" divisions offering lofts, yoga studios, and billiards lounges. Not surprisingly, these divisions have been the best performers while the rest of the housing market has tanked.

On the one hand, the urban divisions of K. Hovnanian Homes, KB Homes, and Toll Brothers, along with compact urban retail formats by Wal-Mart, Target, and Home Depot, are a promising indication that even the big guns are recognizing both the market for and the benefits of urbanism. The impact could be enormous if the new divisions perform well enough to shift these companies' focus away from spreading unwalkable, single-use suburban formats across the country. Combining affordability with urbanism in new construction, whether in new developments or redevelopments, has been difficult, and the expertise of these companies in providing affordable products should be welcomed. On the other hand, their highly repetitive and uninspiring "instant architecture"—a problem they are not alone in creating—is less welcome.

One way to enhance the character and diversity of retrofits is to take advantage of the unique opportunities for adaptive use in redevelopment. Although most aging low-rise suburban buildings lack the systems or construction quality to merit restoration, the most distinctive retrofits tend to creatively retain at least some buildings. Surrey Central City outside Vancouver, British Columbia, revived a mall by grafting a new five-story galleria of university classrooms on top. The multistory department store buildings of several dead mall retrofits have been converted to housing, offices, and city halls.

As counters to “instant architecture,” these legacies contribute a sense of history, diversity, affordability, and a reduction of waste. The resulting quirks contribute enormously to the creativity and quality of the place

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making. They can also insert a cool factor to suburban places. Upper Rock in Rockville, Maryland, and Cloud 9 Sky Flats in Minnetonka, Minnesota, incorporate modern loft conversions of suburban office buildings.

Bit by bit, beneath the static image of uniform tract houses, many suburbs are undergoing significant physical, social, and cultural change—not all of it positive. For the first time in history, suburban municipalities now house more people living in poverty than central cities do. Maps showing recent mortgage foreclosures concentrated in the newer outermost suburbs indicate the likelihood of further decentralization of poverty and an ever-shifting terrain.

On the physical side, several aging garden apartment complexes have been retrofitted and entire post-World War II subdivisions in suburban Washington, D.C., and Atlanta have been bought up house by house. One subdivision in Atlanta even self-organized and put itself up for sale for redevelopment. New transit systems, infrastructure improvements, programs to fund planning studies, regulations allowing

accessory dwelling units, and new overlay zoning district designations are providing further incentives for suburban urbanization.

But all this has not been happening everywhere. It has been happening at specific nodes and along specific corridors, generally where the transportation infrastructure—usually with some improvements—can support it. The outer rings of new exurban expansion continue to be low density overall, but the densified retrofits and countless revitalized small-town main streets are joining the edge cities as increasingly significant suburban activity centers. Arthur C. Nelson of the University of Utah estimates that 2.8 million acres (1.1 million ha) of greyfields will become available in the next 15 years. If only one quarter is redeveloped into mixed-use centers, it has the potential to supply half the housing required by 2030. As a result, the regional pattern emerging and likely to become more prominent is increasingly polycentric.

While development has indeed been decentralizing away from central cities, it also has been recentralizing around new and existing suburban centers—and becoming more sustainable in the process. More bottom up than top down, these new instant cities are demonstrations of an incremental metropolitanism. While it is fair to fault instant cities when their replication of incremental urbanism is unsatisfying, the more relevant issue today is how well each contributes to retrofitting the larger systems of sprawl.

One of the first steps is to recognize the inefficiencies of sprawl development. Most lower-priced houses are at the outer edges, but come with higher transportation costs that increasingly wipe out the savings gained. Jobs and retail space are located along arterials, but typically with little transit access. Thoroughfares designed for high-speed travel between centers have become so lined with uses that they do not work well for either access or mobility. Everything is designed in isolated pods. Even larger retrofits run the risk of becoming stand-alone fragments unless their urban structure integrates them into both local networks and larger sustainable systems. Only as nodes of a polycentric metropolis can they contribute to regional efficiencies in transit and other civil infrastructure, per-capita land and energy conservation, shorter commute dis-

tances, lower housing and transportation costs, a jobs/housing balance, and specialized labor agglomeration.

The inclusion of increasingly significant amounts of office space within mixed-use retrofits is particularly important for balancing polycentric growth and reducing VMT. Twinbrook Station in Rockville, Maryland, and Lindbergh City Center in Atlanta are integrating 12- and 14-story corporate office buildings onto the sites of former park-and-ride lots. SkySong in Phoenix and Surrey Central City are building incubator office space for Arizona State University and Simon Fraser University, respectively, on the site of a dead shopping center and a mall's parking lot.

Transit is especially critical in the effort to network nodes into a metropolitan area-wide economy and system. Unfortunately, most potential retrofit sites are not on transit lines. While retrofitting them can still enhance local conditions and reduce automobile dependency, the larger challenge is connecting retrofits to each other to achieve the benefits of a more sustainable metropolis.

There are two principal strategies for "connecting the dots." The first is to extend transit to improve suburban access, encourage even greater differentiation between nodes, and reduce VMT. The planned extension of Metrorail through Tysons Corner is an example of this strategy and reveals the high cost and design difficulties of inserting stations and TODs into an edge city not planned for them. (See "Edge-City Evolution," May, page 46.)

The hope is that densification of enough retrofitted sites will make suburban transit feasible. However, the track record so far indicates that more often transit in the suburbs is what makes densification feasible. In fact, examination of over 80 retrofits reveals that the arrival of a rail system is one of the strongest triggers for large-scale suburban redevelopment. In addition to Washington, D.C., the availability (or construction) of rail transit in Boston, Dallas, Denver, Los Angeles, and Phoenix has stimulated suburban retrofitting at existing and proposed rail stations.

The second strategy for connecting the dots is to retrofit corridors themselves. The general argument is that if commercial strip corridors are made more attractive to and safer for pedestrians, they can better attract redevelopment. Cathedral City, California, converted four blocks of what had become a



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commercial strip corridor back into its downtown by retrofitting it into a multiway boulevard. Palm-lined medians separate the high-speed traffic from slower local traffic and wide sidewalks. Now serving as the town's main street, the retrofitted corridor has attracted upscale hotels, shops, and housing to join the new city hall on a site that would not previously have been considered attractive.

A more incremental approach for retrofitting corridors is being pursued on Columbia Pike by Arlington County, Virginia. A form-based code with fast permitting and the promise of a streetcar are the incentives for its ongoing redevelopment of low-rise supermarkets and strip malls into six- to ten-story mixed-use buildings.

A five-story Galleria of university classrooms was grafted on top of a mall outside Vancouver, British Columbia.

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One of the newest strategies for retrofitting corridors is to expand the network efficiency of the local streets surrounding arterial roads. Virginia's new state law requiring connectivity between subdivisions is intended to allow local roads to handle many more local trips so that the arterials can function more efficiently as the links between metropolitan nodes.

So how well do instant cities and suburban retrofits live up to their sustainable aspirations? Each case is unique and merits consideration of at least the following questions:

- ▷ At metropolitan and regional scales, does the project make it easier for people to have access to jobs, affordable housing, and affordable transportation while simultaneously reducing VMT and carbon footprints? Or is it gentrifying an important remnant of an affordable landscape and/or draining an existing downtown?
- ▷ Are there tangible means, such as transfer of development rights, to link densification at targeted nodes with equally targeted land conservation elsewhere? Or are developers getting a free ride as local communities get overburdened with traffic and displacement, and the region as a whole benefits little?
- ▷ At the local scale, does the settlement have an urban structure that supports interconnectivity, density, transit, and walkability? Has it triggered further redevelopment?
- ▷ Will its design and mix of uses improve with age and endure, or will it remain a fragment of drive-to-walkable "product" with a life span driven by its retail and limited to the fashionability of its scenography?
- ▷ At the building scale, does it offer a variety of housing choices to accommodate a diverse population with varied needs and ideas about public and private space, or are the choices too similar and the expectations of behavior too conformist?

These questions will be at the heart of local and metropolitan politics as people move beyond debates of sprawl versus smart growth and tackle the thorny specifics of implementing real change. In many respects, the even more difficult assessment is determining how well instant cities and suburban retrofits live up to their urban aspirations. It is easy to compare them to "real" cities and find them lacking the culture, excitement, diversity, conflict, grit, and suffering that coexist in core cities. But this misses the point. Instant cities and suburban retrofits are not core cities. They are urban nodes within a new polycentric metropolis that simultaneously complement the core city's downtown and serve a predominantly suburban population. They are hybrids and reflect aspects of both centeredness and decentralization.

This hybrid nature is revealed in many ways, including the following:

- ▷ suburban parking ratios and urban streetscapes;
- ▷ ambiguous "public" spaces developed in public/private partnerships and privately owned or leased;
- ▷ populations that are more diverse than stereotypical suburbs but less diverse than stereotypical cities;
- ▷ new, single-ownership parcels deliberately masked to look old and multiparceled;
- ▷ urban qualities delivered at suburban costs;
- ▷ transit orientation and automobile dependency; and
- ▷ the appearance of local town centers and reliance on larger networks of users, tenants, funders, and designers.

Hybrid network nodes are neither suburban nor urban. As a result, they are prone to critique from the advocates of both better-understood categories. But are cities and suburbs really so different in the polycentric metropolis? The old dichotomy of suburb versus city as the separation of home and work was always oversimplified. Today, it is further



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The more attractive and pedestrian friendly that commercial strip corridors are made, the more they tend to attract development. The retrofit of four blocks of a commercial strip corridor as a multiway palm-lined median-strip boulevard with wide sidewalks gave a main street to Cathedral City, California, and is credited with helping the site attract hotels, shops, and housing.

complicated by continued metropolitan decentralization, new forces of recentralization, the replication of national retailers throughout, and the extended networks afforded by global communications.

More than 60 percent of U.S. metropolitan office space is now in the suburbs, but many of the same metropolitan regions seeing the most retrofitting in suburban contexts are also seeing population growth in their central cities. Post-World War II suburbs originally built at the edges of the metropolis have been so surpassed by new growth, often losing property value in the process, that they now enjoy relatively central locations. New instant cities exploit those centralities and activate them as metropolitan nodes in a network increasingly reinforced by mass transit. Retrofitting ushers in networked urbanity in which living, working, shopping, and playing are no longer separated—but neither are they entirely conjoined.

The networked urbanity of metropolitanism reinterprets the Aristotelian ideal of the city—living together well—at the larger scale. This bodes well for confronting the challenges of economic and environmental sustainability but is less promising for dealing with entrenched social inequity.

Although instant cities and suburban retrofits are neither as sustainable nor as urban as older established cities, they are more sustainable and more urban than the conditions they have replaced. As such, they have great potential to reshape the metropolis—while encouraging the planting of trees

on former parking lots rather than chopping them down at the metropolitan fringes.

Retrofits also face many challenges, including addressing gentrification, producing architecture that lives up to cultural aspirations, and constructing the infrastructure to support the changes. Communities interested in retrofitting should revise their zoning codes and regulations to support mixed uses and higher densities while seeking means to invest in transit boulevards and public parking garages to stimulate private redevelopment. Similarly, those not familiar with the complexities of mixed-use redevelopment need to expand their skill sets—and their imaginations.

As the country looks ahead to recovery from this recession, it is clear that public/private partnerships at a multitude of scales—national, state, and local—will be needed more than ever to collectively take on the challenges and opportunities to retrofit suburbia. **UL**

ELLEN DUNHAM-JONES is director of the Architecture Program at the Georgia Institute of Technology and **JUNE WILLIAMSON** is associate professor of architecture at the City College of New York/CUNY. (This article has been updated and adapted, with permission, from *Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs*, John Wiley & Sons Inc., 2009.)