

## Making Way for 'Makers'

New — smaller, nichier — industry is taking over old manufacturing sites.

*By JoAnn Greco*

Manufacturing is alive and well in the U.S. — it just looks different than what we're used to. In place of the behemoths of yore, teeming with thousands of workers, more than 50,000 manufacturers in 2007 employed fewer than 20 people, according to the Brookings Institution. Even more recently, a new trend has emerged: a "maker" society of furniture builders and seamstresses, of software designers and inventors, all eager to slap a "Made in America" label on their products.

These operations typically set up shop in old industrial neighborhoods for a variety of reasons, points out Linda Hausrath, an economic consultant in Oakland. "Typically, as the old heavy manufacturers have disappeared, their factories and warehouses have turned over and become occupied by other industrial uses like, say, construction," she says. "But increasingly there's been a demand from artisans or, in light industry, anyone from metal fabricators to cabinetmakers, who need to go where the space is cheap. These people like the grittiness of edgy, close-in areas."

One thing's for sure: Whether they're engaged in making microchips or microbrews, these companies — known variously as small urban manufacturers or production/distribution/repair — are not likely to be belching fumes or clanging machinery.

"Most people still hear the word 'industry' and think of petroleum or tanning, and the accompanying noxious smells and toxic byproducts," says Laura Spina, Center City planner for the Philadelphia City Planning Commission. "But increasingly we're seeing a lot of smaller uses — the wholesaler who has a retail component or the technology center with some machinery. In many cases, you hardly know they're there."

They may be nearly invisible, but they are making their presence felt. And today's cities are learning to not only accommodate them, but to protect and encourage them. "Like all of America's big cities, we've already lost a lot of these businesses," says Charletta Wilson Jacks, the director of Atlanta's Office of City Planning. "But we're drawing a line in the sand that says we're committed to supporting what remains."

It's not always easy. In San Francisco and the Bay Area overall, tremendous market pressures are in play that lead to questions of how valuable real estate should be used. "There have been lots of fights where industrial lands are being taken over by housing developers," says Hausrath, "and cities have said we need these areas for jobs."

In smaller cities, like Wilmington, North Carolina (pop. 110,000), planning decisions implemented to encourage residential growth at the expense of industry are now being reversed. And in cities like Baltimore and Philadelphia, planners are examining ways to have their cake and eat it too by allowing makers and residents to settle side by side — even in the same building.

"In the old days, you did your manufacturing in one place, your office was somewhere else, and your shop in still another location," says Laurie Feinberg, assistant director of Baltimore's Department of Planning. "Now, all three functions are blending and zoning codes aren't always up to date in acknowledging that."



### **Philadelphia: mixing it up**

Typical of the new manufacturing is NextFab Studio, a design and fabrication studio in South Philadelphia. Harking to the age when the city functioned as the "workshop of the world," this membership-based "gym for innovators" recently relocated to an industrial strip — Washington Avenue — that has long played host to construction wholesalers, storage facilities, and auto body shops.

Its 21,000-square-foot prototyping facility may appear modest and vernacular from the outside, but inside it hums — softly hums — as makers craft everything from steering wheels that can be used by the disabled to amplifiers for audio enthusiasts who want to assemble their own sound systems. When it's time to take a break, members can walk downstairs to a new in-house Mexican cafe with its own street entrance, or head down the block to Kermit's Bake Shoppe, which sells its pies and breads up front, while acting as a large commercial kitchen for other restaurants in the tonier parts of town.

"The places that are coming in to Washington Avenue would have had a harder time before Philadelphia's new zoning code went into effect last year," says Spina. "While these uses could have occurred together before, they would have needed variances."

The revamped code offers two new classifications, Industrial Commercial Mixed Use (ICMX), which accommodates businesses such as Kermit's and NextFab, and Industrial Residential Mixed Use (IRMX), which focuses on live-work arrangements. "This designation hasn't been mapped yet," says Spina of IRMX, but it gives flexibility to small artisans while allowing for the as-of-right reuse of old warehouse buildings. And preserving old industrial buildings, she adds, is as important a goal of the new classification as seeing fewer variances and responding to lifestyle shifts.

As the city proceeds with remapping its 18 zoning districts, ensuring that certain buildings and tracts, such as Washington Avenue, retain their industrial uses will be a priority, Spina says. "It's become a real balancing act to make sure that we don't deplete that industrial stock," she adds. "As factories close or businesses leave, the assumption is that their old buildings will make great lofts."

### **San Francisco: Protecting PDR**

That's exactly what San Francisco has had to deal with. "At some point in the 1990s, in the midst of the first dot-com boom, we realized that industries were not just leaving of their own accord, but they were being pushed out because of housing pressures," says Steve Wertheim, a planner in San Francisco's

planning department. "We had to take a good look at this situation and answer the question: Does it make sense to set aside land for [production/distribution/repair] uses?"

The answer, ultimately, was yes. In 2008 the city released its Eastern Neighborhoods Plan, which split the industrially zoned land in prime neighborhoods — like Mission, South of Market, and Dogpatch — into two: one that would include housing and its requisites (transportation, parks) and one that restricted usage to PDR, with no offices or housing and just a smidgeon of retail.

"No other major city in the U.S. had undertaken such a step at the time," says Wertheim. "Their codes were all permissive, as ours had been. We said, 'we cannot do this any longer; if we're going to have any PDR uses in San Francisco, we have to protect them, otherwise they will always lose out economically.'"

According to the local advocacy organization, SFMade, its 500 member manufacturers employ 4,000 people and are responsible for \$1 billion in direct and indirect economic activity. From the nationally distributed Anchor Brewing to Rickshaw Bagworks, which employs under 50 workers, the total might be a fraction of the 115,000 manufacturing jobs in the Bay Area (including Oakland and its massive port operations — and its own substantial maker community), but it represents an "important cog in our economy," says Wertheim.

"That being said," he adds, "the average company has only eight people — and lots of them are, like, two guys with luthiering degrees from Vassar making beautiful guitars. So these outfits are not going to be the savior of our blue collar workforce. But they do provide many quality jobs, and it's great to see people making things again."

In San Francisco, the sector is growing so quickly that the city has recently turned its focus on how to build more space for the "producers" in the PDR cohort. "Since the low rents means building new PDR space isn't economically viable, we're going to try to leverage the current office market by allowing offices to enter into the PDR districts," Wertheim says. "We're actually relaxing some of the zoning that prohibits that."

Provided that the space is vacant, more than 20,000 square feet, and close to transit, a developer would be able to build office space as long as they set aside one-third of the space to PDR uses, according to Wertheim.

Also in the Bay Area is an outpost of TechShop, a small manufacturing incubator based in Menlo Park. It offers classes, fabrication and prototyping tools, a wood shop, computer and other electronic equipment, and design software to its members. The business, launched in 2006, is interesting because it has a multicity presence, with locations in San Francisco; San Jose, California; Chandler, Arizona; and Pittsburgh, and two more in the works.



### **Atlanta: making accommodations**

Mixing uses seldom goes smoothly. In Atlanta, conflicts arose when existing and long-standing industrial tenants butted heads with new residents. "Residents couldn't understand why those uses — self-storage facilities, junkyards — were allowed in what they saw as a residential area," says Wilson Jacks.

That hasn't stopped the city from looking to expand its industrial base. A 2012 report produced by the Georgia Tech Enterprise Innovation Institute for the planning department and Invest Atlanta, the city's economic development arm, cataloged existing manufacturers and proposed ways to encourage suppliers and other accessory uses to locate near them.

But in one recent case, Wilson Jacks says, when a digital warehousing operation sought to set up in an area that had an industrial heritage, it found itself blocked by an updated mixed use designation. "So we went back and changed the zoning to allow this company to come in," she says. "We were talking about more than 100 jobs — and a substantial amount of college interns. But the community was up in arms. I went to do a site visit and the only noise I heard was the UPS truck backing up.

"The code was too antiquated in protecting against industry," she concludes. "It didn't allow for this kind of new use."

### **Wilmington: correcting mistakes**

Economic development was also the impetus behind the adaptation of a new Urban Mixed-Use (UMX) district in the North Carolina port city of Wilmington last year, according to Glenn Harbeck, AICP, director of planning, development, and transportation. The city rezoned 640 parcels in the district — such as those occupied by a former soda bottling factory, a former automotive repair center, and an auto sales lot — located within the original corporate limits.

As in Atlanta, Harbeck says, "we're returning these properties to their original design intent — putting [them] back into the urban fabric — and trying to get away from segregating uses." But the businesses that the district is looking to attract are ones that "will not be the kinds that generate a lot of traffic or require a lot of heavy transportation infrastructure," he adds.

Harbeck cites as an example the half-dozen or so craft breweries and "nano breweries" that have inquired about relocating to Wilmington — from elsewhere in the state and even as far off as Wisconsin

— in recent months. "We did an assessment of the code to see where in our city they could locate right now, where we would like them to locate, but the code doesn't allow it." The city is also asking how the code needs to be changed, he notes.

Such makers, he says, "want to be where the action is, where the buildings are pulled up to the street, where there is pedestrian traffic, and where they are also allowed to sell their wares on-site."

To accommodate them, planners are proposing yet another designation, "urban industrial," that would promote the use of currently vacant or underutilized older industrial properties. Like UMX, this district would attempt to reverse planning decisions from the 1980s that wound up "hamstringing those old parcels," says Harbeck.

By trying to introduce a more suburban style to old industrial neighborhoods — by requiring front yard setbacks, off-street parking, and landscaping — the city "killed any semblance of business development," he notes. "There were too many restrictions."

In Baltimore, where a new zoning code is still a gleam in its creators' eyes, similar ideas are likely. Several new industrial zoning districts are proposed, including Business Industrial, Office Industrial Park, and Industrial Mixed Use. All offer some mixture of residential, commercial, and industrial uses, and the last encourages the conversion of historic industrial buildings into live-work, office, and light industrial uses.

"These changes are already happening, but only through variances and band-aids," says Feinberg. "There has to be a better way to meet the needs of everybody."

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## Launching a Makers and Manufacturing Cluster in Oakland

*By Margot Lederer Prado*

Localization is popular these days. Consider pop-up retailing, food truck clusters, and co-working hubs used for sharing creative activities. It has also helped make possible the "Made In ... (Anytown, USA)" movement.

Renewed interest in local manufacturing is a recent phenomenon, spurred by rising wages in China and the relative strength of the yuan, the global costs of fuel, increased customized production, and just-in-time delivery of goods. However, "Made in USA" is not a new trend. Too few American residents and workers realize that our nation is the top manufacturing nation in the world, measured by productivity and GDP, according to JPMorgan's Global Manufacturing Purchasing Managers Index.

The maker movement illustrates the "cool" side of manufacturing, one not widely known to the public. In fact, a national campaign is needed to amend public perceptions that manufacturing is dull, unskilled, and poorly paid. Today, manufacturing involves technology and digital literacy and skills that can be learned at two-year colleges plus some on-the-job training. Skilled manufacturing workers earn \$60,000 a year on average. One group that has definitely changed public perception is the Maker Faire, run by the Northern California company Maker Media. It has become a global organization with family-friendly educational and fun expositions of technology-infused creative industrial inventions.

What is needed to grow local maker, do-it-yourself enterprises into profitable, job-generating firms? For starters: supportive land-supply policies (such as Oakland, California's 2005 Industrial Land Policy, which maintains that industrial land is a scarcity in Oakland, thereby supporting industrial land general plan retention policies), appropriate zoning, business-friendly regulation, and local government support.



Recently the city of Oakland launched Oakland Makers, together with partner institutions including Maker Faire, Oakland Museum of California, Laney City College, The Crucible (an industrial arts training center), American Steel Studios, NIMBY (a local DIY industrial workspace), and individual artists and entrepreneurs. The aim is to celebrate and promote the city as an international destination for industrial arts, innovation, and production.

Oakland industrial artists and manufacturers, such as contractors, metal workers and fabricators, industrial designers and artisans, smiths, and food producers, share a century-long history in Oakland.

Makers and traditional manufacturers share similar physical needs for land, space, power, and tolerance for industrial operational attributes. Oakland Makers' activities are based on four principles:

**People:** Increase visibility and recognition of the creativity, innovation, diversity, and productivity of Oakland Makers.

**Place:** Enhance opportunities for establishing space, expanding and modernizing facilities, and influencing local decision makers by engaging in land-use planning.

**Products:** Initiate and promote "Oakland-made" product certification and labeling.

**Prosperity:** Incubate, support, and grow Oakland Maker businesses. Create opportunities for exploration of the creative arts, technical trades, and apprenticeship programs for young adults in manufacturing.

For its part, the city is considering the following planning issues related to makers' needs:

Flexible, industrial-friendly zoning regulations that encourage real estate investment while maintaining affordability, providing buffers from other sensitive land uses, and accommodating "industrial commons" — places to work, meet, share equipment and ideas, eat, and drink.

Spatial requirements, such as the availability of high-ceilinged spaces and facilities that allow the movement and storage of components and materials and have good access to sufficient water flow, power, and broadband.

Transportation access, including proximity to truck-friendly goods movement corridors, working waterfronts, and bike trails, for that "last mile" connection to industrial facilities, which are often found off main transit

routes.

Supportive long-range retention policies in areas with affordable industrial building stock such as West Oakland and the Central Estuary, as well historic industrial and residential districts near the Port, where many of the current industrial artists live, work, and produce.

Oakland continues to struggle with a constrained industrial land footprint of less than 1,800 acres (three percent of the total private industrial land area outside of port and airport land), with such industrially zoned land limited to a narrow swath between the working waterfront (Oakland Estuary), the truck-accessible regional freeway (I-880), and a century-old rail freight corridor. Oakland's land-use policies need to accommodate — and help to maintain affordability — for its creative maker movement.

The need for industrial land protections is critical and will encourage alliances between the creative maker entrepreneurship and scaled-up industrial production. This effort is being rallied by the newly formed national association, the Urban Manufacturing Alliance. Friendly new industry will grow our middle class jobs, spark American ingenuity, and boost our global competitiveness.

*Margot Lederer Prado is senior economic development specialist for the city of Oakland, California. Information is available at [www.oaklandmakers.org](http://www.oaklandmakers.org).*

**Image:** A young woman gets fired up at a Gear Girls welding workshop at The Crucible in West Oakland. The facility also hosted part of the Urban Manufacturing Alliance meeting last year. Photo courtesy The Crucible, [thecrucible.org](http://thecrucible.org).

## Resources

**Images:** Top — OHIO Design takes pride in manufacturing its furniture locally in San Francisco. It's one of 500 members of SFMade, a nonprofit dedicated to supporting small, homegrown industries. Photo by James Chang, [www.jameschang.com](http://www.jameschang.com). Middle — Industrial designer Peter Bressler teaches a class at NextFab Studio, a collaborative workspace and idea incubator in South Philadelphia. Photo courtesy NextFab Studio. Bottom — West Coast Garment Manufacturing, an SFMade member, employs 30 to 40 people who cut and sew several well-known clothing brands. Photo courtesy SFMade.