

TRANSFORMING THE CITY'S MANUFACTURING LANDSCAPE

By Adam Friedman

Imagine that it's a hot, steamy Sunday morning. You're in bed looking out the window at a hazy, grey sky. You hear the low, constant rumble of trucks crossing the Hudson, laden with everything the city needs to survive.

You get up and drag yourself into your kitchen. You put a frozen bagel in your toaster and a spoonful of instant coffee in your cup. You want to go out to buy a newspaper. But instead you sit in front of your computer to read the Sunday news because nothing is printed any longer in New York.

You have a ticket to the last art gallery in New York, something you've waited months to see. You look in your closet through the newest Wal-Mart mix-and-match separates but nothing inspires.

You're finally ready to venture out but you're limping. There is no excitement, no anticipation of the unexpected, the newness, the edginess that city life once brought.

This is not my beautiful New York!

The smog, fatigue, environmental and cultural degradation just envisioned comes not from an over abundance of manufacturing and industrial uses, but from their absence. Imagine if everything the city needed to survive had to be trucked in—if every inch of our waterfront had been developed into luxury condos and we lost the capacity to barge in materials and the ability to make the comforts and quirky pleasures of urban life here in the city.

There are 7,000 manufacturing companies in New York City. You may not see them or the almost 100,000 people who work for them. But they are here, not only maintaining the basic necessities that every city needs, but adding to the diversity, creativity, allure and energy that is New York's greatest competitive advantage, and helping to maintain New York's sustainability.

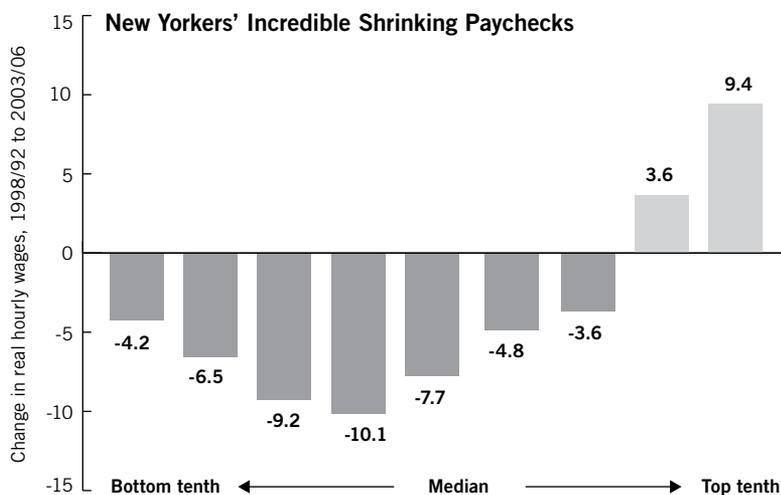
If the city is serious about its commitments to reducing its carbon footprint, to increasing the use of recycled materials and to retrofitting its building stock to reduce energy consumption, then the city needs local manufacturers to create green products and transform its waste into usable resources. Furthermore, if New York is to grow its creative engine, it needs to maintain the diversity of spaces, jobs and people that inspires creativity. If the city is to cut the income disparity that has come to characterize New York's economy and offer more paths into the middle class, it needs to create well-paying manufacturing jobs and offer affordable space for industrial entrepreneurs.

THE INVISIBLE MIDDLE CLASS SECTOR

In the New York City of the 1950s, it was hard *not* to know someone who worked in a factory. There were more than 1 million manufacturing jobs in New York, roughly one of every three workers.¹ While there were factories in every borough, the greatest concentration was in Manhattan where office workers and factory workers crammed the subways together. The one- and two-family neighborhoods of Queens, the Bronx and Brooklyn were built by, and largely for, workers who were making their way from the shop floor to production supervisor to manager.

Manufacturing is far less visible today in New York City. The drop in manufacturing employment and growth of other sectors has reduced the profile and relative importance of manufacturing. The geography of manufacturing has changed, with both market forces and numerous zoning changes pushing manufacturing out of view. Today, manufacturing jobs are primarily held by people of color, who make up 69 percent of the city's manufacturing workers, and immigrants, who account for 66 percent.² If there is any doubt of the veracity of

those statistics, one need only observe the Greenpoint Avenue or 36th Street subway stations in Brooklyn at 7 a.m. on a weekday; streams of Latino and African-American workers come through these stations, heading to their manufacturing jobs nearby. The relocation of jobs to the outer boroughs, the shift in demographics, and the drop in employment, have combined to reduce the sector's visibility.



Source: One City, One Future (2008) National Employment Law Project, New York Jobs With Justice and The Pratt Center for Community Development. Analysis of data by the Fiscal Policy Institute

The experience of physical work, of making a tangible product, and of being in industrial neighborhoods is now fairly limited among New York City's population. Yet there are 100,000 manufacturing jobs, 120,000 jobs in other industrial sectors such as transportation, warehousing and utilities. And there are another 200,000 jobs in construction and wholesaling—a full sixth of the city's private employment.

These hundreds of thousands of industrial jobs are pathways to the middle class for many families, particularly for people who lack educational credentials. Manufacturing jobs pay \$52,000 on average—49 percent to 121 percent more than the average retail and restaurant jobs.³ Yet 34 percent of the manufacturing workforce does not have

a high school degree.⁴ Study after study rightly points to the drop in manufacturing employment as one of the root causes of New York's growing income disparity and the shrinkage of the middle class. In addition, manufacturing provided an economic ladder that helped immigrants and low-income families climb into the middle class. And these studies have fueled the argument that the city must do more to preserve—and even grow—this sector.⁵

MANUFACTURING AND THE ECONOMY IN NEW YORK

As 2008 drew to a close, New York and many other urban areas around the country and the world experienced the volatility of an economy driven mainly by the financial sector. By early estimates, New York has already suffered more than other cities because of our dependence on financial services. It is extraordinarily ironic that the city is now suffering because it has ignored the cardinal rule of financial management: Diversify. Don't put your savings in any one investment. Urban economies are no different.

Across the country, there is growing public support for rebuilding our manufacturing base. It is a core component of the emerging federal economic policy that investment in energy efficiency and renewable energy should be used to not only improve the country's basic competitiveness, but stimulate business and job growth in the industries that make the hundreds of component parts for renewable energy systems.

The green energy sector is only one area with the potential to generate production jobs. Cities throughout the United States whose economies were built on manufacturing are developing strategies for their industrial sectors. For example, Chicago and Los Angeles have emphasized the retention and attraction of manufacturing as a key economic strategy for economic diversification. But local production is not only a means to economic diversity; it holds environmental, cultural and social benefits to a city.

HIGH-VALUE MANUFACTURING IN NEW YORK

In January 2003, Mayor Michael R. Bloomberg spoke about the high cost of doing business in New York City. “If New York City is a business, it isn’t Wal-Mart... It’s a high-end product, maybe even a luxury product. New York offers tremendous value, but only for those companies able to capitalize on it.”

Some interpreted the mayor’s remarks to mean that New York was only for the rich and therefore city policy could disregard the middle class and their business and employment needs. But there is another interpretation that reflects what is already happening on the ground in our city and offers a chance to build upon our unique local advantages.

The truth is New York City will always provide a high-cost business environment. However, businesses in all sectors can adapt to New York’s high costs by producing high value-added goods and services to provide middle-class and decent entry-level jobs. This strategy is as true for manufacturing as it is for the arts, legal and financial services and other sectors of the economy. In manufacturing, value-added represents the difference between the cost of raw materials and the value of the final good due to how the materials have been transformed (for example, pieces of wood and metal worth a couple of hundred dollars are worth tens of thousands when they are made into a Steinway Piano). The good part is that high value-added businesses generally lead to higher wages because the workers are the ones adding a good share of that value to the end product.

New York’s manufacturers are the best in their industries. They have to be in order to survive. It is not cost-effective to manufacture low-value goods like staplers in a high-cost environment like New York City. In the diamond industry, New York jewelers cut only the largest stones and send the small diamonds to be cut abroad—who has time for a small diamond? New York apparel manufacturers work with the city’s designers to produce samples or couture that retails for \$5,000 and more. The *schmatte* business is gone but the fashion business still thrives.

High-value means several things. First, workers' skills in transforming raw materials into finished goods—typically learned on the job over many years—lead to high wages. Second, proximity makes direct face-to-face communications between customers, their design resources and the manufacturer possible. Proximity makes “quick turn” production possible—a good business model in a town that does not have time to add the word “around” to the phrase. Proximity is also freshness—nobody wants a croissant that has been sitting on a truck for more than one hour, two at the most. Third, high-value is design, care, craft or culture, which can include technology but is not necessarily high technology, as anyone who has purchased Der Dau boots, a Ferrara metal chair or a Scrapile wood table knows.⁶

The density, diversity and wealth of New York's marketplace create a natural incubator for high value-added businesses. But this does not mean local manufacturers serve only the New York market. The base may be here but they also export to niche markets throughout the country which in themselves may not be large enough to support an industry. For example, New York food manufacturers (which tend to be specialty producers nurtured by local immigrant markets) export \$1.6 billion worth of locally manufactured foods (about 34 percent of total sales).⁷

The transformation of the New York City manufacturing sector into a smaller but very high-value added set of businesses may offer lessons for the city's handling of the financial services sector. The loss of larger manufacturing operations that made relatively low-design, commodity products like staplers (Swingline), electrical switches (Eagle) and pots and pans (Farberware) was largely inevitable. They no longer had a business reason for being in New York. Proximity to the market and design talent did not justify the cost of a New York location.

THE ENVIRONMENTAL NEED FOR MANUFACTURING

The notion that a healthy manufacturing sector is necessary to promote New York's environmental well-being may at first seem counterintuitive. Buried in our conception of manufacturing are

images of dark factories belching smoke and pouring hazardous waste into our waterways while workers are abused below the heels of greedy bosses.

While the toxic remains of manufacturing's past continue to contaminate brownfields around the city, today's manufacturers are fundamentally different. The smokestacks that manufacturers previously needed to generate their own power are gone, replaced by modern utilities or their own renewable energy supply.⁸ Government regulation has largely forced manufacturers to clean up. Low-road companies moved abroad to low-wage areas, which also tend to have minimal environmental protections.

Now, a new business model and culture based on sustainable business principles is emerging. This business model is often described as having a "triple bottom line" that measures not only profit but the environmental and social impact of the business. A sustainable manufacturer seeks to reduce waste not only because it reduces the costs of materials and disposal, but because it also consumes less of our planet's resources and will help the manufacturers expand their markets to consumers concerned about the environment.

In the Brooklyn Navy Yard (an industrial park owned by the city), IceStone takes recycled glass and makes it into granite-like slab material that can be used as kitchen and bathroom countertops. Five years ago, IceStone employed five people and today it employs 50. "We're going to double in three years" says Peter Strugatz, IceStone's Co-CEO. "The crazy part of this business has been that we have had to buy our glass from the Midwest and truck it in. Local glass is collected, co-mingled, broken and mixed with rotting organics, which mixes the colors and makes it almost worthless for commercial uses." To create a source of local glass for both the company and for other manufacturers, IceStone recently created IceGlass, which is attempting to establish a glass processing facility that will create glass of higher value that is color-sorted, cleaned and crushed. This glass would be made available for high-value products that can be reused.

Elsewhere in the Yard, a biodiesel company is setting up a factory to collect waste cooking oil and grease from restaurants in the City. The

waste will be reprocessed so it can fuel diesel engines. Another company is building a solar and wind powered streetlamp and designing extremely energy efficient light bulbs.

To attract these green manufacturers and to set an example for others, the Yard itself is greening its operations. New buildings are built to the Leadership in Energy and Environmental Design (LEED) standards promulgated by the U. S. Green Building Council to assess the sustainability of a building. The Yard is also installing solar and wind generators and looking for other ways to reduce waste and energy consumption to reduce its total carbon footprint. Finally, the Yard is developing approximately 1 million sq. ft. of new industrial space.

There are a variety of forces driving the growth of local green manufacturing and creating opportunities for a healthy green manufacturing sector. One of the most important factors is increasing and unstable energy costs. The other is the absolute imperative to reduce carbon emissions, which may soon be embedded in American law. These factors are combining to increase transportation costs relative to other cost factors. Historically, transportation costs have fallen continuously as people harnessed water and wind, then coal and rail, and then oil and diesel to move goods.⁹ The consumption of increasingly scarce and expensive fossil fuels and the almost unfettered release of carbon into the air are coming to an end, and that will lead to changes in transportation patterns and costs.

Shifts in public policy can also spur growth in manufacturing. Governments at all levels are increasingly supporting business practices that hold manufacturers responsible not only for the production but also for the disposal of a product—a product's "life cycle."¹⁰ For example, this past year the New York City Council passed legislation that will require manufacturers of electronic equipment such as computers, printers and cell phones to develop programs to retrieve and recycle their customers' electronic waste. The European Union is already developing pilot programs and standards for the recovery and recycling of such "e-waste." This may lead not only to product redesign to facilitate disassembly and reuse, but may impact how manufacturers choose a location for their businesses. In the past, manufacturers only had to factor in the cost of transporting a

product to the consumer. Now, there may be the cost of a return trip. These forces are pushing the “point of production” to coincide with the “point of consumption.”

THE CHALLENGES TO NEW YORK'S MANUFACTURING SECTOR

Study after study concludes that space is the primary challenge to retaining and growing the city's manufacturing sector.¹¹ The real estate challenge is really three interrelated problems: insufficient space for the number of industries that want to be in New York City; unstable real estate conditions fostered by antiquated zoning; and a mismatch between the needs of small companies and the space which was built for larger traditional manufacturers.

There are about 250 million square feet of industrial space in New York City, which seems like a lot. But the areas zoned for manufacturing in New York must also accommodate a variety of other extremely land-consuming uses essential to the basic operations of the city. This includes the city's airports, subway yards, utilities, oil and gas storage tanks, as well as the warehouses that keep our food and other essentials in close reach. While the vacancy rate for industrial space is not tracked as carefully as it is for residential and office space, there is abundant anecdotal evidence: There is no vacant space at the Brooklyn Navy Yard and the industrial parks each report vacancy rates under 5 percent. Over the past 5 years, the city has rezoned approximately 20 million square feet of space and an additional 12 million are in the pipeline to be rezoned from manufacturing to other uses. Approximately 20 percent of the city's industrial land will have been rezoned within a few years.¹²

Even in those areas zoned for manufacturing, the current Zoning Resolution permits other non-industrial uses that can price out manufacturing. Manufacturing is a high-value added activity because a manufacturer's major investments are in labor and equipment. They have little money left over to pay for land, which means manufacturers pay low rents relative to other uses, leaving them vulnerable to displacement.

Offices, hotels and most types of big box superstores are permitted as-of-right in manufacturing zones. As a result, there are now at least 52 hotels in industrial areas including twelve in the city's industrial parks, areas that the city has designated to be preserved for industrial uses. The city is pushing to encourage development of supermarkets in manufacturing areas which could become the anchors for new retail clusters. The city definitely needs more supermarkets, just not in its manufacturing areas.

The result is not only direct displacement, but real estate speculation by the property owners which undermines investment by the tenants: If a property owner thinks he can attract a developer offering to buy his land for an office, hotel or superstore, the owner will set his asking price accordingly. Real estate speculation makes manufacturers question the future of their locations as an industrial neighborhood and that uncertainty discourages reinvestment, thereby triggering a downward spiral.

Allowing the remaining manufacturing zones to be destabilized or converted could have disastrous consequences both for neighborhoods and citywide. Industrial areas tend to be walk-to-work communities where local residents are also local workers—particularly in Sunset Park, Chinatown, North Brooklyn and the South Bronx. Converting manufacturing space to retail replaces well-paying jobs with low-wage, often part-time jobs. In the long run this process takes wealth out of the adjacent residential communities undermining the residential quality of life as well. And the mode of development is hardly sustainable—big box stores increase traffic and consume large areas of land for surface parking, a situation in part required by a zoning resolution that has parking requirements developed when the Studebaker and Packard still roamed our roads.

On the most basic level, New York needs cement plants, barge ports, food warehouses and other essential logistical support services to keep functioning. Above that, it needs bakeries, coffee roasters, apparel manufacturers, woodworkers, and glassblowers to keep it inspiring.

WHAT NEW YORK CITY SHOULD DO

In 1961, New York City enacted its current Zoning Resolution. Gas cost 31 cents per gallon¹³ and John Glenn had not yet orbited the earth. It would be four years before the New York World's Fair would open, nine years before the first Earth Day and 16 years before Ed Koch would be elected Mayor.

An awful lot has happened since then that was not foreseen, changing many of the fundamental assumptions underneath our zoning. In 1961, there were no superstores, front and back office operations were located together and oil companies gave away glasses, steak knives and cash prizes to lure people into buying more gas. Smoke and other harmful emissions poured out of factories. Building highways was seen by some as the way to bring New York City back from a decade of population decline.

The Zoning Resolution was based on defining and separating incompatible uses to keep the then-noxious manufacturers from pushing into residential and other commercial areas. The underlying economics and environmental standards were such that residents and other businesses needed protection from manufacturing but manufacturing did not need protection from other commercial uses which today can push them out. The Resolution took such an extreme stance toward use separation that it sought to minimize the pattern of mixed land uses that then existed—and in some cases, existed comfortably—in many communities.

The City's Zoning Resolution reflects a bygone era. New zoning tools should be added to create balanced mixed uses districts which would allow a variety of uses to coexist but not drive out any one use and tip a community toward homogeneity. This will benefit not only the sectors related to the "creative economy" but the growing freelance sector, many of whose members work at home.

Another principle is the need to preserve diversity of space because we are entering a period of dramatic transformation with unpredictable twists and turns. The next big growth sectors will probably reflect the need to adapt to a low-carbon economy. In the beginning of human

society, energy came from people and animals. Then we harnessed the resources of our environment, particularly those that were carbon-based, starting with coal but rapidly changing to petroleum and natural gas. Now we need to develop clean energy sources, retrofit buildings and change some of the fundamentals of our society's operating systems. It's time for Society 3.0. But after that, who knows?

The city we envision should be bursting with creativity and entrepreneurial energy so that whatever the challenge and opportunity, New York City has both the intellectual capacity and the industrial infrastructure to capitalize on it. It must keep its edginess and diversity and continually improve its environmental standards to attract and stimulate generations of entrepreneurs.

GROWING A GREEN SECTOR

The most obvious opportunities for growth are driven by our transition to a low-carbon economy. The Bloomberg Administration has articulated an extraordinarily ambitious vision for a more environmentally-friendly city through PlaNYC. The investment anticipated by that effort in everything from the retrofit of buildings to renewable energy generation to mass transit could be leveraged to stimulate a cutting-edge green industrial sector that creates living wage jobs.

First, the city should strengthen the supply chains that will provide the materials and goods for the projects stimulated by that investment. For example, it should identify the products and materials that go into retrofitted buildings, from energy efficient windows, doors and lighting fixtures, to motion sensors and smart meters. Then it should look at the local industrial base to identify how much of that could be locally made and provide the technology, engineering assistance and space local manufacturers need to compete for this work.

Second, the city has incredible buying power—\$16 billion of procured goods in fiscal year 2008—a force that could be harnessed to stimulate local companies to reinvest and reposition themselves to capitalize on this opportunity. The city should create a modest 5 percent or 10 percent discretionary price preference for locally manufactured

goods purchased by the city. For example, if a company is bidding on a city contract, will provide a product manufactured in New York along with living-wage jobs and is within 5 percent of the lowest bidder who is providing a product made further away, the city could award the contract using local manufacturers. The preference might sunset after several years to create a temporary transition period to provide companies with a chance to retool and reposition as part of the larger strategy to strengthen supply chains.

Local should not be limited to New York companies, a geopolitical standard, but to products manufactured within a certain number of miles (such as 100 miles or 200 miles) from New York. The rationale for this approach is that it reduces the carbon footprint by reducing trucking, allows companies within a large market to compete but still stimulates local production and the use of local recycled materials.

Fourth, in the end, all businesses have to be green, which will require a tremendous cultural shift within the business community. Routine business behaviors that encourage extravagant packaging ignore the availability of recycled and recyclable materials, use hazardous or carbon-based products when safer alternatives are available have to give way and be replaced by adoption of sustainable business practices.

The city can support this transition by weaving “green strings” and sustainable business practices into its economic development programs.¹⁴ Significant public support for companies should be matched by those companies adopting significant green upgrades. Businesses receiving low interest loans to acquire and construct buildings through the Industrial Development Agency (IDA) should be required to build to LEED standards. Renovations using IDA financing should include major energy conservation measures or renewable energy generation. Companies doing business or receiving more modest benefits from the City should be required to engage in more modest steps, for instance producing and regularly updating an “Environmental Policy Statement” that spells out each company’s plan to improve its operations and environmental compliance.

PROVIDING SPACE FOR GREEN JOBS

It is pointless to invest in green jobs if they have no place to go.

In New York, Mayor Bloomberg took the first steps in 2005 by creating the Industrial Business Zones program which designated 16 areas of the city for industrial development. The strategy was to create “safe havens” in order to stabilize real estate conditions in these areas by declaring the City’s intent to keep them industrial. Unfortunately, the initiative did not include revisions to the Zoning Resolution. In Williamsburg, Gowanus, and Long Island City factories have been redeveloped as hotels, bowling alleys, and large retail. In Flatlands, a 500,000 square foot distribution site on a rail line is being turned into a Home Depot.

The city needs to plug the holes in the Zoning Resolution which currently allows hotels, offices and big box retailers in Manufacturing Zones and to bring it up to date with new city policy. The City should reinforce the Industrial Business Zone designation through Industrial Employment Districts¹⁵, a new zoning that would not allow non-industrial uses in its industrial safe havens. This would stabilize the real estate market in those areas which would lead to reinvestment and job growth. The Department of City Planning has edged in this direction in two small zoning changes in the South Bronx and in Dutch Kills in Queens where it limited hotel and retail uses and offered density bonuses for expansions of manufacturing uses. It is time to make this policy citywide.

Second, the city also needs to use zoning to reinforce its mixed residential/industrial neighborhoods such as Greenpoint and Williamsburg which are exactly the type of creative communities that attract and stimulate new ideas. For years, a special zoning district balanced industrial and residential development, preventing either use from completely displacing the other and preserving the diversity of spaces and uses that underlie creativity. However, the zoning was not effectively enforced during the 1990s and illegal residential conversions proliferated. The city subsequently changed the zoning to allow unrestrained residential conversion and development, leading

to both the loss of diversity and displacement of both manufacturers and artists.

Third, the city should reverse its policy of selling off its industrial properties and should assume long-term management with the goal of creating high quality manufacturing space for job intensive sectors. In the past, the city has either sold off these sites to individual companies (both manufacturers and others) or leased them out with relatively low demands for industrial job creation or allowed them to lie fallow because the city lacked capital funding to renovate.

Fourth, the city should manage more of its industrial properties through mission-driven non-profit organizations such as the Brooklyn Navy Yard Development Corporation (BNYDC) and the Greenpoint Manufacturing and Design Center.¹⁶ BNYDC currently manages the 300-acre city-owned industrial park at the site of a former U. S. Navy base. Other city-owned industrial sites could be managed by BNYDC and other independent non-profits like the Greenpoint Manufacturing and Design Center. The success of the BNYDC and GMDC non-profit model is in part their ability to focus on their mission, to allow senior staff to exercise discretion and take risks in developing strategies to advance that mission, and in being able to work directly with the individual tenant companies so that they understand their companies' needs and can help capitalize on opportunities.

Fourth, in addition to transferring management of its industrial properties to these organizations, the city should use them to help address the mismatch between the existing building stock, which was originally developed for large manufacturers, and today's need for smaller industrial spaces. This could be done both through the acquisition of sites such as the recently shuttered Pfizer plant in Brooklyn, or through joint ventures and partnerships with private owners who are willing to maintain industrial properties but lack the resources to renovate and manage the space.

Finally, as part of the Environmental Impact Statement (EIS) process the city should evaluate whether proposed land use change advances or sets back the City's overall sustainability. For example, each barge

that brings material into the city replaces 50 trucks. Continued re-zoning of the waterfront for residential use could undermine the city's ability to implement more environmentally responsible transportation practices.

The question “what keeps New York City attractive?” for people brings us full circle to the need to retain manufacturing to ensure the city's diversity and creative vitality, its environmental well-being, and the employment and entrepreneurial opportunities that are pathways out of poverty.

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Endnotes

- 1 Kagann, Stephen. “New York’s Vanishing Supply Side” *City Journal*. Autumn 1992. <http://www.city-journal.org/article01.php?aid=1514>.
- 2 2006 American Community Survey PUMS via Infoshare.org. For production occupations, 79 percent of workers are people of color and 74 percent are immigrant. For production occupations in manufacturing, 82 percent are people of color and 79 percent are immigrant.
- 3 NYS Dept. of Labor QCEW dataset. Wages are annual average wages for 2007 and are based on total payroll costs, which includes costs of fringe benefits.
- 4 2006 American Community Survey PUMS via Infoshare.org. 38percent of workers in production occupations do not have a high school degree, and 44percent of workers in production occupations in manufacturing industries do not have a high school degree.
- 5 The most recent report is *Reviving the City of Aspiration*, Center For An Urban Future, February 2009.
- 6 This analysis is not to suggest that some standardized products could not be manufactured in New York under the right circumstances such as having relatively low space requirements and using materials coming out of New York’s waste stream.
- 7 *Not Just A Link In the Food Chain*, NYIRN, p 14.
- 8 An extraordinarily ironic role reversal is that today it may be cleaner and cheaper for factories to install their own solar roofs and gas-fired cogeneration systems then to take electricity from the grid.

- 9 Edward Glaeser and Janet Kohlhase estimated that transportation costs dropped 95percent in real terms over the 20th Century because of the truck and highway systems. See "Cities Regions and the Decline of Transportation Costs," July 2003.
- 10 This strategy has already been successfully applied under federal environmental protection law to the use and disposal of hazardous waste.
- 11 *The Little Manufacturer That Could*, NYIRN, 1999; *Protecting and Growing New York City's Industrial Base*, New York City Economic Development Corporation (2005)
- 12 See *Protecting New York Threatened Manufacturing Space* (2008) The Pratt Center.
- 13 U.S. Department of Energy, <http://www.eia.doe.gov/emeu/aer/txt/ptb0524.html>.
- 14 The City already regulates the behavior of its purchasing agents and the companies with which it contracts such as by encouraging them to use minority- and women-owned businesses. Why not green businesses?
- 15 Industrial Employment Districts have been advocated by the Zoning For Jobs Coalition which includes more than 50 community groups, labor unions and economic development organizations.
- 16 The author, Adam Friedman, is a member of the Board of Directors of the Brooklyn Navy Yard Development Corporation.