

Inside

NYC's Disconnected Youth p. 4
**Who they are, how they got there
and what they need**

The Start of Something Big p. 7
**After years of relative neglect, city
policymakers are beginning to
respond to the problems of
disconnected youth**

Now Hiring p. 10–25
**Seven industries with projected job
growth, modest entry qualifications,
and career opportunities, including:**

- * Health Care
- * Construction
- * Automotive Maintenance
- * Commercial Driving
- * Science & Technology
- * Aviation
- * Manufacturing

Far too many young New Yorkers lack the skills and workplace competencies they need for career-track, family-supporting jobs. But as Baby Boomer retirements create many thousands of openings, great opportunity awaits those who get back on track.

CHANCE OF A LIFETIME

**New York City Faces Rising Numbers of Disconnected Youth and a
Future Workforce Depleted By Baby Boomer Retirements—But
Where These Issues Intersect, An Opportunity Awaits**

A QUIET CRISIS IS BREWING IN THE LOCAL AND NATIONAL ECONOMY, as New York City and the United States as a whole are moving toward the convergence of not one, but two long-developing trends that will challenge the public and private sectors alike.

The first trend is a matter of demographics. By 2010, approximately 64 million workers nationally—four in every ten American workers—will be poised for retirement.¹ Though many of these aging workers are likely to remain at their jobs for years yet, over the next two decades it is a demographic certainty that millions of skilled workers will retire, leaving key sectors of the economy in need of replacements. In New York City, retirements threaten to cause significant employee shortages in more than a half dozen industries, from automotive maintenance and construction to nursing and aviation.

The second trend could prove no less significant for the city's economic future. Increasing numbers of Americans between the ages of 16 and 24 are "disconnected": out of school and out of the workforce, neither employed nor looking for jobs. By 2008, it's estimated that there will be as many as three million of them nationwide; already, close to 200,000 call New York City home, by far the most of any American city.

On their own, both developments pose risks for the city and the country. Together, however, they present an opportunity for stunning progress on some of our thorniest social and economic issues.

This report, more than a year in the making and informed by over 50 interviews with employers, educators, and local and national policymakers, details both the growing problem of disconnected youth in New York City and what it will take to redirect them toward career-track employment and family-supporting incomes. The centerpiece of this study is an in-depth analysis of seven industries in New York that are projected to experience significant demand for new workers in the years ahead, focusing on the educational and skill requirements and personal attributes that employers in those fields demand. The study also discusses what policymakers and other stakeholders can do to better prepare disconnected young New Yorkers for higher education and successful working lives.

These disconnected young people should help comprise the city's future workforce: the medical aides, truck drivers, database administrators and carpenters who will help keep New York running in the decades ahead. But lacking both educational attainment and early attachment to stable, sustained employment, they are at risk of seeing their lives go in a very different direction: lifelong difficulty getting traction in the labor market, periods of dependency on public assistance, and for many, intermittent stretches in the city's prison or homeless shelter systems.

The problem has worsened in recent years. A 2005 study by the Community Service Society of New York found that labor force participation among young men who weren't in school plunged by 8.2 percentage points between 2000 and 2003.² Given the research finding that attachment to the workforce at a young age is the best predictor of long-term labor market success,³ this is a particularly worrisome trend.

The issue is not merely one of numbers, but of skills and workplace competencies that far too many young New Yorkers are failing to acquire. Many of the jobs now being created in the city require more advanced skills and higher educational attainment than the positions of the past. The growing number of disconnected youth indicates a general lack of the skills and education needed to fill these emerging gaps in the workforce. Reversing this last trend—and better preparing all city youth for the labor market—must be the goal of public policy.

If we are able to do this, the benefits will include not only better lives for many thousands of our fellow New Yorkers, but also a new labor supply to fill some of the most important jobs in the local economy. As we discuss in much greater detail later in this report, the New York State Department of Labor projects that a number of industries will be making hundreds of hires every year in New York City; even better, many of these

jobs will be open to young people who achieve a baseline of educational attainment and master skill sets valued by employers:

- The city's construction industry could see as many as 20,000 job openings in the next five years, thanks both to major new development projects and a workforce with an average age of nearly 50.
- In the health care field, thousands of jobs are available now at virtually every level of skill and educational attainment. Many more jobs will be available as aging workers retire: in 2000, nearly 3 in 10 registered nurses and 1 in 3 licensed practical nurses in the five boroughs were 50 or over.
- Nationwide, there is expected to be a shortage of up to 100,000 automotive technicians by the end of the decade, including many in New York.
- The New York State Department of Labor projects that 1,140 motor vehicle operators—such as truck drivers—will be needed in the city each year through 2012 in order to replace departing workers. That would mean nearly 7,000 jobs by 2012.

Some analysts have argued that two factors will work to stave off the prospect of shortages: immigration and delayed retirement. It's true that New York City enjoys something of a comparative advantage against other areas based on its historic ability to attract immigrants from around the world. But the large majority of these newcomers will face the same challenges in acquiring work skills and competencies as will disconnected youth, with the question of English language proficiency adding another hurdle.

As for older workers staying on the job, this may prove to be the case for office workers and high-end professionals. But many of the jobs discussed in this report are too demanding, physically and otherwise, for most people in their 60s and 70s. Without the option of retaining aging workers, employers will have to find replacements. Ray Uhalde, director of the workforce development program at the National Center on Education and the Economy, says the key is "doing the right outreach and getting people linked up with training for skills and standards demanded by employers."

Great opportunity lies obscured by these two potential crises. As aging workers in a number of key industries retire over the next 10 to 15 years, they will leave behind jobs across a wide range of skill and educational requirements. By furnishing disconnected young people with sound core educational and work competencies, and creating opportunities for the specialized training they will need for these positions, we can help put them on a path to fill those jobs and succeed in the 21st century labor market. ♦

KEY FINDINGS

■ New York City is home to approximately 200,000 people between the ages of 16 and 24 who are neither in school nor working. While the city boasts a handful of model programs that effectively work with these disconnected young people to advance their personal, educational and career development, the overall situation is a grim one: it's estimated that fewer than 1 in 10 of these individuals currently receive services aimed at helping them move toward educational or career goals.

■ At the same time, the city is headed, along with the rest of the country, toward a demographic transformation as a large percentage of the workforce nears retirement age. In New York, the aging of the baby boom generation will likely be felt particularly in the key sectors of construction, health care, automotive maintenance and niche manufacturing, among other industries.

■ One factor contributing to the problem of disconnected youth is that the traditional educational approach neither engages at-risk youth to continue their studies nor prepares them for the world of work. Employers are increasingly aligned in their assessments of the skills and attributes needed for success on the job, including basic literacy, numeracy, the ability to communicate and work in teams, and a level of comfort and competence with computer applications. Successful program responses to the crisis will emphasize these skills and competencies in a way that engages young people toward educational and career goals.

■ This report provides a detailed analysis of seven industries that are expected to have significant demand for new employees in the next decade as a result of retirements and other factors and which have relatively low barriers to entry (automotive maintenance, health care, commercial driving, construction, manufacturing, science & technology and aviation).

■ Most of these sectors are open to young people who achieve a baseline of educational attainment and skill sets valued by employers. Within a relatively short period, disconnected city youth can acquire the competencies they will need for remunerative jobs in automobile maintenance, information technology, aviation and other fields.

■ One field that is sure to offer career-track, potentially family-supporting employment in the city is construction. With the unionized workforce approaching an average age of 50, the field is likely to see approximately 20,000 job openings in just the next five years, with the numbers possibly rising from there. Candidates do not need a college degree, but must master both basic educational competencies and, for union jobs, a rigorous apprenticeship—slots for which there is much competition.

■ Perhaps the largest area of job opportunity in the city economy over the next 10 to 20 years is in health care. At virtually every level of skill and educational attainment, from home health aide to registered nurse, thousands of jobs are available now, with more to come as aging workers retire: as of 2000, nearly 3 in 10 registered nurses in New York City were 50 or over, and for licensed practical nurses the figure was closer to 1 in 3. The field also offers well-articulated career ladders and opportunities for advancement, the product of a shared commitment to career development on the part of labor and management.

■ New York's automotive maintenance industry faces an aging workforce and a growing need for workers. In fact, the state Labor Department projects more than 1,000 job openings in the industry for New York City each year between now and 2012. Skilled technicians can earn as much as \$80,000 a year. ❖

New York City's Disconnected Youth

Who they are, how they got there and what they need

THE PROBLEM OF NEW YORK'S DISCONNECTED

youth has received some needed attention of late.⁴ In January 2005, the Community Service Society of New York released a groundbreaking report, "Out of School, Out of Work... Out of Luck?" that raised the profile of this issue and helped spur the City Council to dedicate \$14 million for programs to serve unemployed New Yorkers and disconnected youth. And in late 2005, the New York City Young Adult Task Force, a group of stakeholders from the business, education, government and philanthropic communities, issued a working paper that included specific recommendations for significantly expanding community-based programs for unemployed young adults. The Center's report was informed by both of these papers.

From these and other studies, policymakers and outside experts have some insight into the factors that contribute to youth disconnection. In New York, these include struggling public schools; beleaguered communities that suffer from a dearth of social networks; and the country's most competitive low-wage job market, in which teens contend with a steady flow of immigrants and women transitioning off welfare for jobs that offer relatively little pay, stability or prospect for advancement. We also know what groups are most at risk: high school dropouts, those in the juvenile justice system, unmarried young mothers, and young people who are currently in, or who recently left, the foster care system.⁵

But what has yet to emerge is a common, universal definition of disconnection itself. Some measures only

count those young people who never completed high school; others include high school graduates who, for a variety of reasons, currently are neither working nor enrolled in higher education. Some figures omit the estimated 50,000 New Yorkers between 16 and 24 who aren't in school and aren't working, but are actively looking for work; others include that group. Estimates of the number of disconnected youth in New York City range from 150,000 to 250,000; a solid determination is obviously important in trying to harness resources and secure commitments from the various stakeholders.

As Table 1 shows, non-whites dominate the ranks of disconnected New York City youth: Hispanics and African-Americans combine to account for roughly 70 percent of the total. The Community Service Society report also makes several other findings about this population:⁷

- There is a slightly higher percentage of foreign-born individuals among the city's disconnected youth than its overall population of 16- to 24-year-olds.
- More than a third of disconnected young women (34 percent) were living at home with a child; this was true of only 6 percent of their male counterparts.
- About half of all disconnected youth are not the heads of their households. 61 percent of the men and 44 percent of the women reside with at least one parent or other older relative.
- Similarly, about half of all disconnected young New Yorkers have not completed high school or

TABLE 1: NEW YORK CITY DISCONNECTED YOUTH BY RACE AND ETHNICITY⁶ (2000)

	MALES	FEMALES
Non-Hispanic White	10,258 (16.2 percent)	14,806 (19.0 percent)
Non-Hispanic Black	20,136 (31.8 percent)	20,573 (26.4 percent)
Hispanic (all)	26,658 (42.1 percent)	32,808 (42.1 percent)
Asian	3,673 (5.8 percent)	6,234 (8.0 percent)
Other	2,596 (4.1 percent)	3,507 (4.5 percent)
Total	63,321	77,928

Source: Community Service Society of New York, January 2005

earned a GED, including 52 percent of the men and 48 percent of the women.

- More than two-thirds of both male and female disconnected young people are poor or near-poor, living in households that earn less than twice the federal poverty standard.

These distinctions are crucial to the task of tailoring services to discrete groups within the larger population of disconnected youth. It stands to reason that a 16-year-old high school dropout who reads at a fifth-

grade level and is in foster care should be served differently than a 21-year-old high school graduate who is caring for two young children, or a 19-year-old non-English speaker. Disconnected youth are not an undifferentiated gray mass; they have a broad range of skill and education levels, come from diverse ethnic and racial backgrounds, and often face different personal barriers to education and employment. Getting a better handle on these sub-groups within the whole will be key to crafting programs that truly address the needs of these New Yorkers. ♦

From Basics to Business

Toward a work-focused skills framework for disconnected and at-risk youth

IN CONSIDERING HOW TO RE-ROUTE YOUNG PEOPLE

who are neither in school nor working, it is important to keep in mind that what many disconnected young people experienced in their initial journeys through the halls of public education—particularly the emphasis on rote learning and, more recently, increasing orientation toward standardized testing—may help explain why they were neither engaged to continue in school nor prepared to compete for jobs. Thus, the approach to bring these young people back to the classroom and re-engage them in learning needs to address why they were so eager to leave in the first place. Equally important is the emerging consensus that what public schools teach needs to be updated to become more relevant to the world of work. As public officials and other stakeholders look to build systems that facilitate educational attainment and personal and career development, perhaps their most important task is to find ways both to impart skills and competencies that will serve at-risk and disconnected youth in the world beyond school, and to do so in a way that actively and effectively engages young people.

Numerous observers have given voice to similar concerns in recent years, notably Bill Gates in his keynote speech at the spring 2005 National Governors Association conference. “Training the workforce of tomorrow with the high schools of today is like trying to teach kids about today’s computers on a 50-year-old mainframe,” the billionaire Microsoft founder stated. “It’s the wrong tool for the times.”⁸ Gates’ prescription, and the guiding principle of his education philanthropy, is focus on “the new three Rs”—rigor (challenging every student with demanding coursework), relevance (making sure that schoolwork clearly relates to students’ lives and their career goals) and relationships (connecting students to caring adults who can serve as guides, role models and confidantes in their personal and career development).

The approach Gates champions considers the problem of how to educate young people from the perspective of what broad skill sets their future employers will expect of them. About a decade ago, researchers Richard J. Murnane and Frank Levy considered the same question in a highly influential book titled *Teaching the New Basic Skills*. Murnane and Levy argued that students must be taught both “hard” skills, such as literacy and math, and “soft” skills, including teamwork and the ability to communicate clearly, as well as basic computer competency.

To gauge what the current skill needs were, the researchers looked closely at a number of successful companies in different fields, including Ford Motor Company and Northwestern Mutual Life. They found commonalities between how these companies changed their practices to better compete, and how schools might do the same. By following those practices, and ensuring that graduates possess the needed competencies, high schools might recapture much of the “lost meaning,” in labor market terms, of the diploma.

The authors write, “Along with the characteristics that employers have always sought in new workers—reliability, a positive attitude, and a willingness to work hard—the employee-recruiting and work practices in firms paying high wages show the growing importance of a new set of skills.” Murnane and Levy grouped these new skills into three main categories:

- The “hard” skills: basic mathematics, problem-solving and reading abilities at levels much higher than many high school graduates now attain;
- The “soft” skills: the ability to work in groups and to make effective oral and written presentations—skills many schools do not teach;

- The ability to use personal computers to carry out simple tasks like word processing.⁹

Our thinking here is similar. Just as Murnane and Levy sought to address the problem of an educational system that seemed dangerously disconnected from the demands of the workplace, our task now is to try to determine how both the school system and the “second-chance system” of workforce development and related services can impart what we might call the “New” New Basic Skills. After speaking with dozens of managers and workers from the industries covered below, as well as local and national experts on education and workforce development, we found that there are a number of crucial skill sets and competencies that disconnected youth absolutely can attain and that will prepare them well for both higher education and career-track employment.

While post-secondary education might not be a necessity across the board, some fundamental educational attainment most certainly is needed. Those in the workforce without at least a high school degree condemn themselves to chronic economic insecurity at the low end of the labor market. In relatively good times, such as the late 1990s, an

“Training the workforce of tomorrow with the high schools of today,” says Microsoft founder Bill Gates, “is like trying to teach kids about today’s computers on a 50-year-old mainframe. It’s the wrong tool for the times.” Gates urges greater emphasis on “the new three Rs”—rigor, relevance and relationships.

expanding economy will create job opportunities for waiters and waitresses, cashiers, hotel workers and sanitation staff—but these same jobs are invariably most at risk in the downturns that follow. And, absent an unforeseeable shift in the basic premises of our society, wages for those positions will never reach a level at which one could support a family.

High school completion is necessary for anyone who wants a fighting chance in an increasingly knowledge-based economy. And in New York City, a distressingly high percentage of students in the public schools are leaving before earning their diplomas. For the class of 2004, the most recent year for which statistics are available, only 54.3 percent of city students graduated within four years, 16.3 percent of the freshmen who had entered four years earlier had dropped out, and the remaining 29.3 percent were returning for a fifth year of high school, and these rates represented improvement over those of previous graduating classes.¹⁰

In addition to at least a high school diploma or equivalency, employers in the fields discussed in this report set

out a strikingly similar list of attributes they need from their workers. “When we look at disconnected youth, we’re looking at a population that needs to be prepared for the world of work,” notes Rebecca Lurie, director of a union-supported job training center in Long Island City run by the Consortium for Worker Education. “The skills can be tailored to specific industries, but some of it is really generic.”

We define the “‘New’ New Basic Skills” as:

- **Basic (or higher) educational attainment.** Completion of high school or an equivalent sequence of study implies that graduates have achieved at least a foundational level of knowledge and competency in the essential requirements of the day-to-day world: literacy, math and problem solving.
- **Communication skills.** With a small handful of exceptions, today’s job opportunities require workers to speak, read and write clearly in English. Whether you’re a licensed practical nurse explaining a patient’s case history at a shift change, or an auto mechanic filling out paperwork for a customer’s insurance company, the ability to read, listen and express oneself well is critical.

- **Workplace competencies.** Sometimes called “soft skills,” this encompasses the basics: show up on time; be respectful toward customers, co-workers and supervisors; dress and act appropriately.

- **Teamwork.** Given the increasing specialization in almost every workplace, the ability to collaborate, communicate, and work in a complementary fashion is more important than ever.

- **“Learning to Learn.”** As technology plays a more important role in fields from construction to health care, workers must accept and even embrace the notion that their jobs will entail ongoing education—whether at work, in a classroom or at home. Smart employers will wholeheartedly support this; many already do.

Both youth development and education approaches should incorporate these principles in both engaging young people and prepping them for stable, family-supporting careers. ❖

The Start of Something Big?

After years of relative neglect, New York City's educational and youth development systems are beginning to respond to the problem of disconnected youth

THE CHALLENGE OF DISCONNECTED YOUTH IN

New York City is by no means a new one. More than 20 years ago, the policy group Interface¹¹ raised this issue in hopes of attracting attention and resources from policymakers. But the problem has acquired new urgency as the numbers have risen, city leaders have emphasized secondary school reform, and large segments of the workforce approach retirement age.

The unfortunate reality is that resources to serve disconnected young New Yorkers are dwarfed by the need; for instance, the city Department of Youth and Community Development has only \$8.9 million for its latest Request for Proposals to serve "out-of-school youth." The New York City Young Adult Task Force recently reported that less than 10,000 disconnected city youth—"a meager five to eight percent of the young adults who could benefit from career development

To this end, Learning to Work services include job readiness and career counseling, as well as paid and unpaid internships. Through contracts with the city's Department of Education, community-based organizations are engaging private businesses, museums and cultural organizations, social service providers and government agencies to create 2,000 of these internships.

"In the first semester of implementation over 3,000 students were reconnected to Transfer Schools and Young Adult Borough Centers," says JoEllen Lynch, executive director of the Department of Education's Office of Multiple Pathways to Graduation. "It's early in the implementation, but we are encouraged by the number of graduates and students completing the LTW internship seminars."

Learning to Work explicitly seeks to link academic attainment—specifically, high school completion—with

Resources to serve disconnected young New Yorkers are dwarfed by the magnitude of the need. One policy group recently reported that only five to eight percent of the city's disconnected youth were served through public or private funds in 2002.

strategies and employer connections"¹²—received needed services through public or private funds in 2002, the most recent year for which numbers are available.

Though the public sector can't—and shouldn't—do it all, the city's newly launched Learning to Work (LTW) initiative indicates a growing commitment on the part of city leaders to serving disconnected youth. (Other subsequent actions, including the pledge described on page 15 to dedicate \$45 million to a new high school focused on preparing students for careers in the construction industry, support this idea.) Less than one year of Learning to Work is far too little time to make an evaluation of the program, though most early indications are encouraging.

First announced by Mayor Michael Bloomberg in his January 2005 "State of the City" speech, Learning to Work was up and running by September. It aims to provide city high school students who are over-age, under-credited, and otherwise at risk of dropping out with multiple pathways to graduation and successful transitions to post-secondary educational and career opportunities.

preparation for the workforce. In its first year, the program is expected to serve over 2,600 city high school students at 15 centers throughout the five boroughs. With programs totaling \$14 million annually, Learning to Work is the largest single new investment for over-age, under-credited youth in the nation.

At this point, Learning to Work services are delivered through two models: Young Adult Borough Centers (YABC) and Transfer Schools. The YABC model is designed to serve students who are behind in their schoolwork and trying to balance academics and work or parenting responsibilities, providing options for more flexible scheduling, including evening classes, GED programs and support services. Through the Learning to Work initiative, the Department opened nine new YABCs in fall 2005, bringing the citywide number to 18. The Transfer Schools model offers over-age and under-credited students at risk of dropping out a smaller, academically-rigorous learning environment that is complemented with the Learning to Work menu of programs and support services.❖

BUILDING AN INTEGRATED SYSTEM IN PORTLAND, OREGON

On the surface, the differences between New York City, with its population of over 8 million, and Portland, Oregon, a city with well fewer than a tenth as many residents, might seem to far outweigh the similarities. But disconnected youth is one problem the two communities share, and the Big Apple could learn a lot from the thoughtful approach Portland has taken to leverage resources from both the education and workforce systems in addressing the issue.

Portland boasts a comprehensive “second-chance” system of alternative schools serving dropouts and at-risk youth. This system serves 3,000 of the city’s total 48,000 public school students, and city officials have moved to further leverage its resources by co-locating WIA-funded youth workforce services with those schools and related programs. The Portland public school system has written contracts with alternative schools and programs that require high outcomes and stringent reporting around student attendance and retention, behavior and academic accomplishments. Importantly, youth service vendors share resources as well as a commitment to providing multiple points of entry into the system, with four providers staffing the city’s Youth Opportunity Center. The providers have joined forces in a coalition that has facilitated shared curricula and collaborative programming; this comprehensive partnership has led not only to better outcomes, but also to stronger advocacy against budget cuts.

“Our resource sharing and efforts to work in genuine partnership with the district have been effective in serving disconnected youth,” says Andrew Mason, executive director of Open Meadow Alternative School. Mason observes that the task of integrating Portland’s system is “hard work,” and that partners continue to compete for resources, but there is a shared commitment to working together.

This is in part because Portland has made a considerable investment in its system, providing incentives to work together. It’s estimated that the cost of two of the city’s two best-known programs, Portland YouthBuilders and Open Meadow Alternative School, averages between \$5,000 and \$11,000 per student per year, depending upon the specifics of the program. Federal funds cover just over a quarter of this; the rest is allocated through city and state resources and private foundation funding.

Open Meadow in particular has emerged as a national model, serving 700 students aged 10 to 24 in eight programs, including its alternative schools. Post-secondary planning and preparation is an area of par-

ticular emphasis: all graduating students must participate in career-track employment or take at least one college class before receiving a degree. There are four students applying for every space available at Open Meadow, and those that are not accepted are referred to other programs within the coalition. The school’s outcomes seem to justify the investment: of Open Meadow’s 29 high school graduates in 2005, 60 percent completed a community college class while still in high school, and 100 percent completed an internship, held a job or finished a college class before graduation.

City and state leadership has played a key role as well. The Portland Workforce Investment Board has set out a five-year plan that will require contractors to commit to collaborative resource development, sharing of best practices and demanding case management requirements as well as developing articulated credit programs with post-secondary schools; this will allow participants to earn high school and college credit simultaneously. The state has helped by establishing a strong policy framework that sets out a broad statutory definition of alternative programming. Under Oregon law, school districts are required to maintain flexible learning options and notify parents and students of what services are available.

The Portland commitment to young people at risk of becoming disconnected doesn’t end with a high school diploma. Portland Community College (PCC) has worked with service providers and local workforce development leaders, as well as 39 area high schools, to develop programs that allow participants to earn high school and college credit simultaneously through a program called PCC Dual Credit. During the 2004-05 school year, 1,796 students participated in the program and earned a total of 12,642 credits.¹³ Working in small groups that allow for individualized attention, students begin with a series of intensive college preparatory courses to bring their basic academic skills and study practices up to college level. With academic and personal counseling and support from dedicated staff, students then move on to customized career pathways of coursework leading to an associate’s degree.

What Portland has accomplished again illustrates the need for cross-sector collaboration to really address the educational and occupational deficiencies of disconnected and at-risk young people; neither the school system nor the providers alone could match what has been achieved in partnership. ❖

CONNECTING YOUTH TO CAREERS AT SOUTH BROOKLYN COMMUNITY HIGH SCHOOL

Given the multiplicity of causes for youth disconnection, it seems clear that schools alone aren't likely to keep city youth in the classroom and pointed toward career-track employment and self-sufficiency. But it's equally certain that the educational system—for the knowledge it imparts, the credentials it bestows, and the personal maturity it helps develop—is the key to youth finding long-term personal and economic success. Increasingly, those looking to solve the riddle of youth disconnection are turning to a "schools-plus" model.

New York City is home to one of the best: the South Brooklyn Community High School (SBCHS). This partnership between the Department of Education and Good Shepherd Services, a nonprofit youth development and social service agency, utilizes a holistic educational/developmental approach that has helped turn things around for hundreds of city teens.

ing practice. Job skills, particularly familiarity with computers and other technology of importance in the workplace, employment readiness skills, and most recently, internships to provide employment experience, are other areas of focus.

A well-considered support system, informed by Good Shepherd's many years of experience working with at-risk students, buttresses this strategy: Six Advocate Counselors, one for every 25 students, work one-on-one with students to address life challenges from health care and substance abuse to finding child care arrangements for students' children or younger siblings. Peer and community support groups are available as well. The school principal and the Good Shepherd Services Director work in equal partnership to sustain a quality environment for academic, civic and social development of the students and to address issues as they arise and ensure seamless delivery of services.

South Brooklyn Community High School has achieved striking success since expanding in September 2002. Its Regents exam pass rate is higher than that of most city high schools, and the school boasts a 68 percent graduation rate. But these results don't come cheaply: staff estimates that total costs per student approach \$5,000 per year.

SBCHS is the outgrowth of a decades-old program Good Shepherd had run for chronic truants at Brooklyn's John Jay High School. Thanks to support from a New Century High School grant, the agency was able to develop a partnership with the Department of Education to expand the small school. SBCHS now can serve up to 150 students in need of a more personalized learning experience who meet eligibility criteria for enrollment in SBCHS: they have missed more than 35 days of school, dropped out or been excessively truant and have at least six credits already accrued. SBCHS has rolling admission with four cycles per year in a 12-month program, so there is no waiting list, and students can accumulate credits more quickly.

The educational approach at SBCHS is grounded in two core principles: literacy across curriculum, and integration of youth development both in and out of the classroom. Ongoing professional development—of both the instructional staff and the Good Shepherd Services support staff—focuses on literacy, with all faculty members trained to teach reading comprehension and writ-

Since its expansion in September 2002, SBCHS has recorded striking successes: the percentage of its students who pass the statewide Regents exam is higher than most New York City high schools, and students on average doubled their credits from the year before enrolling at the school. The result of these impressive gains is a graduation rate of 68 percent, which equals the average rate for New York City's traditional public high schools. Of the graduates, virtually all had specific plans for employment, college attendance or both.

Such results don't come cheaply, however. Program staffers estimate that total costs per student come close to \$5,000 per year—above and beyond the Department of Education per-pupil contribution. Good Shepherd's relationships with private funders and the foundation community have helped sustain the program since its earliest iteration in 1980. Moving forward, the agency hopes to secure more government funding, though this is likely to be a challenge given the general budgetary context. ❖

Now Hiring

Seven major sectors in the city economy are all but certain both to need workers and offer upward mobility in the years to come

HERE'S A MATCH MADE IN PUBLIC POLICY HEAVEN:

a population in need of training, work, and life direction, and a passel of crucial jobs that are about to open up. Given both the rising level of attention and engagement around the problem of disconnected youth, and the increasing awareness on the part of employers and public officials that we're likely to face a major challenge in finding adequately skilled workers in a number of fields, the time has never been better to marry these two issues.

In the industry profiles, we present data from state and federal agencies to quantify the dimensions

factors, including employment projections from the New York State Department of Labor for the period from 2002 to 2012; news stories and local and national policy reports over the past several years about fields in which employers have been hard-pressed to find adequate numbers of appropriately skilled workers; and extensive interviewing with employers, public officials and observers of the local and national economy.

This report does not discuss a number of industries projected to see employment growth and in which jobs are all but certain to be available for low-

Positions in the sectors profiled here offer young New Yorkers viable chances to advance toward secure employment and, in many cases, sufficiently high wages to support families. Even better, most don't require years of specialized training, and almost all of them can't be outsourced: a car mechanic, registered nurse or carpenter in India won't do New Yorkers much good.

of opportunity in seven key city industries and discuss what New York City employers in those fields are actually looking for in the workers they bring on. The list is representative, not exhaustive: our intention is to illustrate the range of occupations and career tracks we believe will be open to those city youth who demonstrate the skills and competencies employers demand. Sectors were chosen based on a number of

skilled individuals, such as food service and retail. For many currently disconnected younger New Yorkers, these entry-level positions, with little in the way of skill requirements, will be the place to start in building a track record of employment and learning the ways of the working world. Indeed, to employ the full complement of 200,000 to 250,000 disconnected young New Yorkers would require that the large

TABLE 2: PROJECTED JOB GROWTH IN SELECTED LOW-END SERVICE ECONOMY FIELDS

SOC Code	Job Title	Employment 2002	Projected Employment 2012	Percent Change	Projected Annual Openings 2002-2012		
					Total	New	Replacement
41-2000	Retail Sales Workers*	160,030	164,640	2.9	7,040	460	6,580
35-3000	Food and Beverage Serving Workers	91,350	101,490	11.1	5,520	1,010	4,510
37-2000	Building Cleaning and Pest Control Workers	134,400	142,960	6.4	3,480	850	2,630

*Includes cashiers and retail salespersons

Source: New York State Department of Labor, Employment Projections 2002-2012

THE WORK READINESS CREDENTIAL

While we do not consider entry-level jobs in the balance of this report, there is little doubt of their value in acculturating previously disconnected and at-risk individuals to the world of work, or their instrumentality in preparing those with the motivation and aptitude to move on to more remunerative and exciting careers. And given the high turnover rates and associated costs to businesses connected with these positions, employers share the goal of advocates and workforce service providers of filling these jobs with better-prepared workers. For these reasons, the U.S. Chamber of Commerce partnered with the standards-based educational improvement initiative Equipped for the Future and five states—including New York—and the District of Columbia to develop and support the Work Readiness Credential initiative.

The Work Readiness Credential provides a common, national standard certifying to employers that those who bear the credential can meet the demands of entry-level work and learn on the job. The project partners conducted hundreds of interviews with employers, entry-level workers themselves, and their managers to decide what skills the Work Readiness Credential should address. They ultimately determined that bearers of the credential would need to demonstrate mastery of four basic job-related categories: communication, interpersonal, decision-making and lifelong learning skills. Individuals with this set of competencies are prepared to carry out the tasks of entry-level work, including how to learn, solve problems and work well with others. The idea is that employers can hire credential bearers secure in the knowledge that he or she has the skills to succeed in entry-level work.

Applicants for the credential will take the test via an online assessment expected to last no more than two and a half hours. The Workforce1 Career Centers in Brooklyn and the Bronx are expected to offer the test by summer 2006, with system-wide availability soon to follow. The U.S. Chamber's Center for Workforce Preparedness is working to market the credential to employers, citing benefits such as lower recruitment costs and turnover, higher productivity and lower on-the-job training costs.

majority at least begin their working careers in these jobs. (To the extent that public sector efforts help connect young people to these positions, provision should be made to connect them with information and opportunities around more viable career options.) We do not discuss them in detail here, however, because with a few exceptions, they don't offer real career opportunities.

By contrast, positions in the sectors profiled below will afford disconnected youth with skills to succeed, viable chances to advance toward secure employment and, in many cases, family-supporting wages. For the most part, they don't require advanced educational attainment or years of preparation. By their nature, almost all of them can't be outsourced or off-shored: a car mechanic, registered nurse or carpenter based in India can't do work in New York City. And we know there will be need, based on employment projections.

It's worth noting that in several of the profiled industries, the job openings projected are not a result of overall growth within the field, but rather the retirement of older workers currently on the job. In the charts that accompany each of the industry profiles below, we capture this distinction by differentiating between "new" annual openings and "replacement" openings.

Finally, to give a sense of the age distribution in each of these fields, the charts that follow include the percentage of workers in New York who are above age 40 and age 50 in each job title. This information comes from the Equal Employment Opportunity study of the 2000 Census. Given the continued aging of the skilled workforce locally and nationally, it's likely that older workers are even more concentrated within these fields than the data here suggest—and that this trend, and the opportunity to route young New Yorkers into the careers, will endure for years to come. ❖

Health Care

INDUSTRY TRENDS

- Already the largest industry in New York City, the health care sector is poised for explosive growth across virtually all job titles in decades to come.
- In New York City, nearly 20,000 new health care job openings are expected through 2012.
- Health care is a highly unionized sector generally characterized by labor-management cooperation and collaboration; as such, it's a field rich with training opportunities and well-established career ladders.
- Aging workforce and anticipated higher demand for services will make nursing an especially job-rich field.

The health care field is packed with job titles slated for major growth over the next decade and beyond. Three of the nine job titles projected for the largest net growth in the city between 2002-2012 are in the health care field (registered nurse, personal/home care aide,

home health aide)¹⁴, as are the top three fastest-growing job titles (medical assistant, physician assistant, physical therapist assistant)¹⁵. A 2005 article in *Crain's New York Business* notes that Montefiore Medical Center, for example, was urgently looking to hire "physician assistants, pharmacists, dieticians, pediatric social workers and technicians in radiology, cardiology and more."¹⁶

Nursing shortages, an off-and-on problem since the 1950s, are now endemic across the country and show no sign of easing up for years, perhaps decades to come, thanks to the combination of aging workers, difficulties retaining younger nurses, and persistent complaints about workplace conditions and practices. A July 2002 report published by the U.S. Department of Health and Human Services projects a cumulative nationwide shortage of 29 percent—over 800,000 nurses—by 2020. The same report indicates that New York will be among the states hit hardest by shortages, with gaps between nursing supply and demand rising from

TABLE 3: PROJECTED HEALTH CARE INDUSTRY JOB GROWTH IN NEW YORK CITY, SELECTED CATEGORIES AND JOB TITLES: 2002 - 2012

SOC Code	Job Title	Employment 2002	Projected Employment 2012	Percent Change	Projected Annual Openings 2002-2012			Median hourly wages, Nov. 2004	Percent over age 40***	Percent over age 50***
					Total	New	Replacement			
29-0000	Health Care Practitioners and Technical Occupations	184,870	221,200	20.0	7,190	3,680	3,510	N/a	N/a	N/a
31-0000	Health Care Support Occupations	121,940	151,530	24.3	4,760	2,960	1,800	N/a	N/a	N/a
29-1111	Registered Nurses	72,980	89,940	23.2	3,230	1,700	1,530	\$29.23	65.6	29.3
29-2061	Licensed Practical and Licensed Vocational Nurses	16,540	18,820	13.8	590	230	360	\$17.19	63.1	32.8
29-1071	Physician Assistants	2,460	3,580	45.5	150	110	40	\$34.50	39.2	14.1
31-1000	Nursing, Psychiatric and Home Health Aides	93,900	114,520	22.0	3,290	2,060	1,230	\$9-\$15	64.2*	34.1*
31-9092	Medical Assistants	8,620	12,700	47.3	570	410	160	\$12.62	45.5**	20.9**

* Age breakdown for 31-1010, Nursing, Psychiatric and Home Health Aides

** Age breakdown for 31-909X, Medical Assistants and Other Health Care Support Operations

*** As of 2000 Census

Sources: New York State Department of Labor, *Employment Projections 2002 - 2012*; U.S. Census 2000 Equal Employment Opportunity Survey (Older Workers, 2000); Federal Bureau of Labor Statistics (*State Occupational Employment and Wage Estimates, November 2004*)

11 percent in 2000 (the baseline year for the comparison) to 23.6 percent by 2020.¹⁷

The good news is that the City University of New York, Local 1199/SEIU and other major institutional actors are now focused on training qualified nurses as rapidly as possible, and that everyone who satisfactorily completes such training is all but assured of employment for as long as they want it. The bad news is that New York City has a significantly larger share of registered nurses who are over the age of 50 (29.3 percent) than the U.S. as a whole (25.4 percent). This is in part because up to half the nurses who start work in hospital care settings within the city leave their jobs within two years, according to 1199. Howard Berliner, a researcher at Milano The New School for Management and Urban Policy who tracks nursing shortages and their causes, believes this is the result of a mismatch between the expectations of young nurses and the reality of their highly demanding jobs. “I think it’s a little bit harder here. Every hospital is a teaching hospital, [and] the level of technical sophistication [demanded] is greater,” Berliner notes. “As a result, in New York you have mandatory overtime, requiring younger nurses to work in the least desirable shifts.”

While nursing is the highest-profile area of need, the aging of the population will also spur demand for medical assistants, who work with doctors’ offices to perform routine administrative and clinical tasks, and physician assistants, who examine, diagnose and treat patients under direct supervision from a doctor. Medical assistant jobs commonly do not require college degrees, though the U.S. Department of Labor’s Occupational Outlook Handbook notes that medical assistants with “formal training or experience, particularly those with certification”¹⁸ will have an advantage in competing for jobs. Physician assistant training is more advanced, with candidates generally hav-

ing completed at least two years of college before applying to programs, which themselves last up to two years.

Personal and home health aide positions are also projected to spike in New York in coming years, with job growth nearing 40 percent. These jobs pay considerably less than more advanced positions in an institutional setting, and the conditions of the work, including insufficient training and low compensation, render career ladders virtually nonexistent and push annual turnover rates near 100 percent.

SKILL NEEDS

- This field offers job opportunities at virtually every level of skill and educational attainment, from patient care associates and retail or sanitation jobs in an institutional context to physician assistants and registered nurses, who generally must have college degrees.
- See Table 4 below for the different skill needs of various positions.
- In addition to the necessary credentials, “bed-side manner” is an important consideration for all jobs in this field—patience, compassion and dedication are among the personal characteristics employers look for.

Groups such as 1199 are developing programs to reduce the turnover rate among registered nurses by improving career ladder opportunities for home health aides. Patience, “people skills” and reliability are the key attributes for these jobs.

Other openings in health care range from dental assistant to paramedic, pharmacy technician to respiratory therapist. None of these job titles generally require more than an associate’s degree, and local colleges offer training for all of them. ❖

TABLE 4: SELECTED HEALTH JOB TITLES, WITH WAGE PARAMETERS AND EDUCATION LEVEL NEEDS

Job Title	Starting Yearly Wages, 2003	Experienced Yearly Wages, 2003	Education & Training
Medical Assistants	\$24,090	\$32,640	On-the-job training
Physician Assistants	\$56,410	\$79,080	Associate’s degree
Home Health Aides	\$14,830	\$20,100	Short-term on-the-job training
Registered Nurses	\$50,140	\$74,440	Associate’s degree
Licensed Practical and Licensed Vocational Nurses	\$29,210	\$41,110	Post-secondary vocational award

SOURCE: Workforce Strategy Center, 2004

Construction

INDUSTRY TRENDS

- Construction employment in the city remains well off the highs seen in the late 1990s, but major employment growth is projected for both new jobs and replacements for older workers headed toward retirement.
- In New York City, more than 4,000 annual job openings are expected in the construction industry through 2012.
- With major projects on the drawing board or underway across the city, construction should present tremendous opportunities in coming years.
- An aging unionized workforce all but ensures that jobs will be plentiful for years to come, even after the current wave of development is completed.

The city's construction industry is likely to present a plethora of relatively well-paying job opportunities for New York residents in the years ahead, thanks to a series of major development projects that are getting ready to break ground as well as thousands of workers nearing retirement.

Economic development projects slated to get underway in the next few years include expansion of the Jacob K. Javits Convention Center, Lower Manhattan redevelopment, construction of the Second Avenue Subway, development of Manhattan's far West Side and new stadiums for the Nets, Yankees and Mets. Mayor Bloomberg

has stated that these and other projects could create hundreds of thousands of new positions in the field, and has convened a high-profile Commission on Construction Opportunity to ensure a future construction workforce that's as diverse as it is well-trained (See page 15).

The construction industry offers promise for another reason: the existing workforce—particularly the unionized segment of the industry—is heavily comprised of older workers, including many who are expected to retire in the next decade.

"The industry will grow when the construction increases," says Rebecca Lurie, whose job with the Consortium for Worker Education includes overseeing Construction Skills 2000, a highly regarded pre-apprenticeship program for city teens interested in construction careers. "There will be more opportunities. If there's more work, that means more apprenticeship slots; if there are more slots, [unions] will take in more people."

Opportunities will emerge not just on the worker side, but in management as well: contractors are facing an "aging out" crisis of their own. Louis Coletti, president and CEO of the Building Trades Employers' Association of New York City (BTEANYC), argues that replacing these key functionaries—project managers, cost estimators, and the like—will be even more difficult than to replace aging tradespeople. "On the skilled trades side," Coletti observes, "they already have an institutional mechanism in existence: the apprentice-

TABLE 5: PROJECTED CONSTRUCTION INDUSTRY JOB GROWTH IN NEW YORK CITY, SELECTED CATEGORIES AND JOB TITLES: 2002 - 2012

SOC Code	Job Title	Employment 2002	Projected Employment 2012	Percent Change	Projected Annual Openings 2002 - 2012			Median hourly wages, Nov. 2004	Percent over age 40***	Percent over age 50***
					Total	New	Replacement			
47-1000	Supervisors, Construction and Extraction Workers	12,420	14,100	13.5	380	170	210	\$18.34*	27.1**	60.2**
47-2000	Construction Trades Workers	99,350	117,320	18.1	3,590	1,800	1,790	\$15-\$36	Various**	Various**
47-3000	Helpers, Construction Trades	6,810	7,790	14.4	380	100	280	\$11-\$17	N/a	N/a

*For 47-1011: First-Line Supervisors/Managers of Construction Trades and Extraction Workers

**47-2031: Carpenters: 20.2 percent over 50, 48.9 percent over 40

47-2061: Construction Laborers: 14.7 percent over 50, 38.7 percent over 40

47-2111: Electricians: 21.9 percent over 50, 48.9 percent over 40

47-2150: Pipelayers, Plumbers, Pipefitters, and Steamfitters: 24.4 percent over 50, 52.1 percent over 40

47-207x: Miscellaneous Construction Equipment Operators: 24.6 percent over 50, 50.9 percent over 40

*** As of 2000 Census

Sources: New York State Department of Labor, *Employment Projections 2002 - 2012*; U.S. Census 2000 *Equal Employment Opportunity Survey (Older Workers, 2000)*; Federal Bureau of Labor Statistics (*State Occupational Employment and Wage Estimates, November 2004*)

ship training program.” No such program exists for the contractors.

SKILL NEEDS

- Unions oversee the training and professional development of individuals in the different construction trades. Apprenticeship programs are the mechanisms through which new workers enter the industry.
- Apprenticeship programs are highly competitive; unions commonly look for strong high school transcripts as well as demonstrated personal responsibility and commitment.
- On the contractor and management side, where shortages are equally or more acute, some post-secondary education is needed.

Union apprenticeship slots are highly coveted. Each trade only opens its apprenticeship program every few years and there are generally five to ten applicants for every available position. Those who get in typically earn starting wages above \$13 per hour, with annual increases, and apprentices who successfully complete one of these multi-year programs can earn upwards of \$40,000 as journeymen.

Unions likely will expand their apprenticeship programs to meet the expected higher need for skilled workers, but Lurie cautions that the competition for apprenticeships will remain fierce. “The industry and the unions won’t, and shouldn’t, lower their standards,” she says. In addition to a high school degree (or GED) and an impressive transcript, she catalogs the less quantifiable skills needed for success in this field: “Show up to work on time, have basic reading and math skills, follow directions, be a team player. It’s basic stuff.”

No such mechanism is currently in place to draw new administrators into the industry, which doesn’t even have enough managers to handle the major development projects that are expected to begin construction over the next few years. Several years ago, Coletti’s organization surveyed contractor firms to ask if they would need to add staff, were all the projects to go forward: 90 percent answered in the affirmative. To address the problem, the BTEANYC is working with CUNY to create professional development pathways; strong candidates for these positions almost certainly will need at least an associate’s-degree-level college education.

Coletti sees a great opportunity for his field, as well as a daunting challenge. “This is often a very difficult industry to recruit for because it’s been so cyclical and people don’t want to work in that type of occupation. But as these [development] plans move forward, you can look at 10 to 15 years of steady employment. ❖

MAYOR’S COMMISSION ON CONSTRUCTION OPPORTUNITY

In March 2005, Mayor Bloomberg announced the creation of the Commission on Construction Opportunity in an effort to ensure that groups traditionally under-represented in the city’s construction workforce, including non-whites and women, would have access to the field’s expected job growth in coming years. This 33-member body includes private developers and contractors, city union leaders, local and national government officials, and advocates.

After months of sometimes-contentious meetings and negotiation, the commission announced ten initiatives in October 2005. The most notable was a pledge by the member unions of the city’s Building and Construction Trades Council to reserve at least 40 percent of their apprenticeships for veterans, women, new high school graduates and unemployed adults without high school degrees. The city also committed to investing \$45 million to create a new high school for 1,000 students that will teach “all dimensions of the building trades”¹⁹ in addition to the regular academic curriculum. Meanwhile, CUNY agreed to collaborate with leaders of the construction industry to design and teach a curriculum that prepares students for managerial and administrative careers in the field. All of these efforts are slated to begin by late 2006.

The commission will continue its meetings, both to provide oversight for the implementation of these initiatives and to make additional recommendations, as its members deem necessary. The unique circumstances and strengths of the construction industry distinguish it from other sectors in the New York City economy: with the possible exception of health care, no other field is as well-positioned for an increase in remunerative, career-track jobs. Additionally, few other sectors have the educational infrastructure of union apprenticeship programs (or a new, state-of-the-art, dedicated high school). Nevertheless, the idea of bringing together key stakeholders and dedicating public resources to equitable employment goals could serve as a model for bringing disconnected youth and other disadvantaged workers into other industries that anticipate labor shortages.

Automotive Maintenance

INDUSTRY TRENDS

- The automotive industry faces an aging workforce and a growing need for workers, with an estimated shortage of as many as 100,000 technicians nationally by 2010.
- The shortage is particularly problematic in the New York City area, where new car sales are among the highest in the country.
- In New York City, more than 1,000 job openings are projected in automotive maintenance every year through 2012. Many of these jobs pay a median wage of approximately \$14.75 per hour.

Industry officials estimate that the United States will face a shortage of up to 100,000 automotive technicians by the end of this decade. Part of the problem is that even as America's century-long love affair with the automobile continues, fewer young people are pursuing careers working with cars. Meanwhile, mechanics currently on the job are getting older. And in a field where technology is constantly redefining the position, older mechanics frequently choose retirement rather than scrambling to keep up with all the changes.

The relative scarcity of new blood is cause for both concern, among managers at dealerships and repair

shops, and optimism for anyone looking for a field where young workers can find work and rapidly advance. One sign that both industry leaders and local policymakers are mindful of the need for well-trained younger workers is that new auto maintenance training centers are set to open soon in College Point, Queens, and in Harlem.

As is the case in a number of the fields where worker shortages are already a reality or a looming threat, salary levels aren't the problem. "We're finding that degreed mechanics and technicians getting out of two- and four-year [post-secondary] schools are starting over \$30,000 and get up to \$40-45,000 pretty rapidly," says Bob Roberts, a researcher with Babcox Publications, which publishes several magazines about the automotive industry "That's nationwide, and in big metro areas it can be a lot more. Skilled journeymen can make \$80,000. But kids in high school aren't being told this." A Babcox survey conducted in 2002 found that nearly half of all automotive companies it polled were looking to hire a technician at the time they were contacted; more than half agreed with the statement that "adding a qualified tech(s) would improve my overall shop revenue."

TABLE 6: AUTOMOTIVE INDUSTRY JOB GROWTH IN NEW YORK CITY, SELECTED CATEGORIES AND JOB TITLES: 2002 - 2012

SOC Code	Job Title	Employment 2002	Projected Employment 2012	Percent Change	Projected Annual Openings 2002-2012			Median hourly wages, Nov. 2004	Percent over age 40*	Percent over age 50*
					Total	New	Replacement			
49-3000	Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	23,460	23,910	1.9	650	50	600	N/a	N/a	N/a
49-3021	Automotive Body and Related Repairers	2,210	2,380	7.7	70	20	50	\$14.02	53.2	23.7
49-3023	Automotive Service Technicians and Mechanics	11,580	11,920	2.9	340	30	310	\$15.11	50.6	19.9

*As of 2000 Census

Sources: New York State Department of Labor, *Employment Projections 2002 - 2012*; U.S. Census 2000 Equal Employment Opportunity Survey (*Older Workers, 2000*); Federal Bureau of Labor Statistics (*State Occupational Employment and Wage Estimates, November 2004*)

SKILL NEEDS

- Different industry certifications are necessary for different types of mechanic work—engine, body, paint, etc. Additionally, each major manufacturer has its own certification process and proprietary training.
- More broadly, managers emphasize teamwork, communication skills, comfort with technology, enthusiasm for working with cars, and commitment to lifelong learning in a rapidly changing field.

Outdated perceptions about the nature of jobs in this industry contribute to the pending shortages. Today's successful auto mechanic must be as comfortable using a computer as he is with a wrench, and the job requires a commitment to continuous learning—to keep pace with changing automotive technology—that one would more readily expect from a software

ing work in the industry, and the anticipation of job shortages has led industry heavyweights such as Toyota and Mercedes-Benz to invest considerable resources in programs to train young people interested in auto maintenance careers. While post-secondary training is available—and is proven to improve earning power—managers we spoke with consistently expressed that they look for enthusiasm toward the work first and foremost, especially among entry-level technicians. “When I’m hiring, say an apprentice tech, I’m looking for somebody who’s taken automotive in high school,” says Ralph Montenase of Mercedes Benz Manhattan. “Did they get summer jobs working at auto parts stores or a gas station or service center, or did they work in a restaurant? I’ll kind of shy away from those without work experience.”

Communications skills—reading comprehension, the ability to write clearly, and a knack for

The relative scarcity of young mechanics is cause for concern at auto dealerships and repair shops, but should be a source of optimism for anyone looking for a career field in need of workers and conducive to quick advancement.

designer. This is potentially very good news for high school students who have a mechanical bent. “The younger people, if they’re well educated and sharp enough, are more computer literate, which is where our business is going,” explains Angelo Kampanis, service manager at Regan Pontiac Buick GMC in Long Island City. “The older people are sometimes harder to train and more reluctant to accept the changes that are coming along.”

Certification, through training groups such as Automotive Youth Education Systems, is key to find-

teamwork—are as important as technical know-how. “We’re looking for team players,” says Joe Robles, president of Knights Collision in Brooklyn. “We’re not making widgets—we’re fixing every brand of car. And we’re doing different repairs on those brands daily. So we rely on the team being strong.” Successful auto technicians frequently enjoy a degree of job security and upward mobility rare in today’s job market. “Most of the people here have been with us over ten years,” Robles notes of his shop, which employs 18 technicians. ❖

FIGURE 1: U.S. AUTO TECHNICIAN SHORTAGE BY THE NUMBERS

- Annual need for new technicians through 2010: 35,000
- Estimated current technician shortage: 37,000
- Federal grant to Automotive Youth Education Systems for technician training program expansion: \$2.2 million
- Annual technician salary in U.S. metro areas: \$30,000-\$60,000
- Amount a master technician can earn in a year: \$70,000
- Total annual value of U.S. vehicle service/repair: \$167 billion

Sources:

USA Today, “Auto repair programs crank up recruitment,” February 15, 2006; U.S. Bureau of Labor Statistics; *Automotive Retailing Today*; *Automotive Aftermarket Industry Association*; *Automotive Youth Education Systems*

Commercial Driving

INDUSTRY TRENDS

- In New York City, there are expected to be 1,140 annual openings for motor vehicle operators (such as truck drivers, school bus drivers and transit drivers) between now and 2012.
- The field has career ladder opportunities for experienced drivers, who can go into management or become owner-operators.
- Commercial driving is a high-turnover field, with drivers seeming to stay in the industry but moving from one driving job to another.

Commercial driving jobs are likely to be in great demand in the years ahead, as commercial firms and public agencies are expected to hire significant numbers of truck drivers, bus drivers and other vehicle operators. This is good news because many of these

trucking companies in particular are “always looking” for new drivers; for other driving employers, the figure is likely higher. “Companies are willing to give entry-level drivers a shot,” Carsten notes, adding that CDT places between 400 and 500 drivers per year.

In the long-haul driving field, lengthy hours, relatively low starting pay and time away from home all contribute to a high “churn” rate. In addition, carriers have been forced to add new drivers as a result of recently passed federal regulations that limit how long drivers can stay on the road without stopping (11 hours) and mandate a period of rest before resuming.

Drivers who obtain a Class A license, which allows them to operate vehicles that tow trailers weighing up to 10,000 pounds, can nearly double their income, earning over \$40,000 per year. Unionized drivers, who comprise about 10 percent of all American truck drivers,

There are typically five to six job offers for every Red Hook on the Road program graduate. While long-haul truck driving offers the greatest earning potential, those who stay on the job as coach or school bus drivers can earn wages as high as \$17 or \$18 an hour after a few years experience.

jobs present a stable career opportunity for young New Yorkers who pass background criteria and earn credentials.

Currently, more than 70,000 commercial drivers in the city do the work of making sure that people and products get where they need to go, working for bus and coach companies, food and beverage wholesalers and distributors, Access-a-Ride vendors, school bus companies and armored car firms, among others. And the field is growing: employment is projected to rise by more than five percent over this decade.

One area in particular where current shortages are already acute and are projected to get much worse is long-haul trucking. Nationally, trucking companies are currently 20,000 drivers short, and experts estimate that the shortage could increase to 100,000 within ten years.²⁰

“The demand for drivers is so great,” says Kim Carsten of Commercial Driver Training (CDT), a school that helps certify and place new drivers into industry jobs. Carsten estimates that 60 percent of

make closer to \$60,000 annually.²¹

Commercial driving does offer career ladder opportunities for those who choose to stay in the field. Eventually, commercial drivers can go into business for themselves as owner-operators or advance in the companies that employ them. “Depending on a person’s skill set, background and education, some of our trainees have moved on to become dispatchers, supervisors, eventually operations manager or facility manager,” notes Julio Perez, director of the Brooklyn-based Commercial Driving License training organization Red Hook on the Road.

SKILL NEEDS

- A specialized driver’s license is often necessary for driving jobs, but varies based on the specific position.
- Maturity, patience and sensitivity are key personal attributes for these jobs, especially if passengers include the elderly or school-children.

With employers constantly on the lookout for drivers, the field presents opportunities for young workers. The formal requirements are modest: the proper license, which varies according to the nature of the job (Commercial Driving License A or B for coach/trucking; 19A for school bus drivers) and generally a background check and drug test. With a few exceptions for higher-sensitivity positions such as armored car security, past criminal history does not disqualify candidates, though it depends on the specifics.

representing the company. It's more than just delivering products and dropping them at the front of the store." A manager at another transportation company points to the need for drivers to be "sensitive to the elderly and infirm, people with disabilities." He adds that often, "Young people don't seem to have that tolerance and patience."

Starting pay for drivers tends to range between \$8 and \$12 per hour. Perez claims that there are typically five to six job offers for every Red Hook on the

A human resources official from Snapple notes that the company looks for its drivers to exhibit good customer service skills: "[They] are representing the company. It's more than just delivering products and dropping them at the front of the store."

Beyond the right kind of license and a relatively clean background, employers value harder-to-quantify personal traits that younger jobseekers, less seasoned in the norms of the working world, must make a greater effort to master. "I'm looking for a person that can read a map well," says one HR manager whose company serves Manhattan, Brooklyn and Queens. An HR staff person from Snapple emphasizes good customer service skills: drivers "are rep-

Road program graduate: "Just between school bus companies and Access-a-Ride, there's great demand." His program offers a four-week course of instruction, at the end of which participants take their licensing test. At that point, he adds, "whether you've been driving a regular car for two years or 20 years, they consider you a rookie." For those who stay on the job in coach or school bus driving, wages can go as high as \$17 or \$18 an hour after a few years experience. ❖

TABLE 7: PROJECTED COMMERCIAL DRIVING INDUSTRY JOB GROWTH IN NEW YORK CITY, SELECTED CATEGORIES AND JOB TITLES: 2002 - 2012

SOC Code	Job Title	Employment 2002	Projected Employment 2012	Percent Change	Projected Annual Openings 2002-2012			Median hourly wages, Nov. 2004	Percent over age 40***	Percent over age 50***
					Total	New	Replacement			
53-3000	Motor Vehicle Operators	71,770	71,560	-0.3	1,140	0	1,140	N/a	N/a	N/a
53-3021	Transit and Intercity Bus Drivers	15,110	15,220	0.7	340	10	330	\$20.14	65.1*	31.3*
53-3022	School Bus Drivers	11,050	10,950	-0.9	240	0	240	\$13.77	65.1*	31.3*
53-3033	Truck Drivers, Light Or Delivery Services	19,730	19,700	-0.2	180	0	180	\$13.09	45.6**	19.3**

*Age breakdown for 53-3020—All Bus Drivers

**Age breakdown for 53-3030—Driver/Sales Workers and Truck Drivers

***As of 2000 Census

Sources: New York State Department of Labor, *Employment Projections 2002 - 2012*; U.S. Census 2000 Equal Employment Opportunity Survey (*Older Workers, 2000*); Federal Bureau of Labor Statistics (*State Occupational Employment and Wage Estimates, November 2004*)

Science & Technology

INDUSTRY TRENDS

- Career ladder pathways are emerging, though an associate's or bachelor's degree will remain necessary for real advancement in the sciences or in information technology (IT).
- For compensation and job projection purposes, there is no real difference between IT jobs with explicitly technology-focused companies, and IT jobs for other employers in non-technology fields.
- In New York City, there are expected to be more than 3,700 annual job openings through 2012 in science and technology fields such as computer support specialists, database administrators and medical lab technicians.

Information technology employment in New York City (and nearly everywhere else) plummeted as the "dot-bomb" detonated in 2001. Since then, however, job growth has resumed, and today five of the city's 24 projected fastest-growing job titles are in the field of IT.²² The science job titles are not growing as quickly in New York, but do represent entry-level access to career-track employment.

Highly skilled workers in math and science fields—researchers, engineers, computer scientists and other technologists—are indispensable to New York City's hopes of robust economic growth in years to come. And while those at the top end of these professions power the bulk of economic activity, their work supports numerous positions—from tech support staff to lab technicians—that require fewer skills. These workers are key to the development of the city's new media and information technology sectors as well as the future of non-technology industries such as finance, education, health care, manufacturing and any other sector that relies upon information and data management.

The IT field is cyclical, but there has been a significant net gain in employment over the past few decades. Industry experts and workforce development professionals expect further growth ahead. For instance, David Margalit, deputy commissioner of the city's Department of Small Business Services, testified before the City Council in May 2005 that the city spent \$1.85 million on training vouchers in a single year for 745 New York job-seekers interested in IT careers.

In addition to IT, many economists believe the

TABLE 8: PROJECTED SCIENCE/IT INDUSTRY JOB GROWTH IN NEW YORK CITY, SELECTED CATEGORIES AND JOB TITLES, 2002 - 2012

SOC Code	Job Title	Employment 2002	Projected Employment 2012	Percent Change	Projected Annual Openings 2002-2012			Median hourly wages, Nov. 2004	Percent over age 40**	Percent over age 50**
					Total	New	Replacement			
15-1000	Computer Specialists	95,120	116,440	22.4	3,490	2,130	1,360	N/a	N/a	N/a
15-1041	Computer Support Specialists	14,950	18,130	21.3	500	320	180	\$22.54	30.7	9.6
15-1061	Database Administrators	4,700	6,200	31.9	200	150	50	\$32.90	34.0	11.4
15-1071	Computer Systems Administrators	7,320	9,230	26.1	270	190	80	\$33.12	25.1	7.8
19-4021	Biological Technicians	950	1,080	13.7	30	10	20	\$16.27	15.2	9.1
29-2012	Medical and Clinical Laboratory Technicians	4,470	4,890	9.4	160	40	120	\$16.94	55.3	29.8
31-9095	Pharmacy Aides	950	1,050	10.5	30	10	20	\$8.90	45.5	20.9*

*for 31-909x: Medical Assistants and Other Health Care Support Occupations

**As of 2000 Census

Sources: New York State Department of Labor, *Employment Projections 2002 - 2012*; U.S. Census 2000 Equal Employment Opportunity Survey (*Older Workers, 2000*); Federal Bureau of Labor Statistics (*State Occupational Employment and Wage Estimates, November 2004*)

biotechnology industry holds significant promise as a job engine for New York. Biotech is expected to be one of the nation's fastest-growing industries in the decades ahead, and New York has many of the ingredients found in traditional biotech hot spots, as the Center for an Urban Future has illustrated in prior publications.²³ As further evidence of the potential for biotech growth, the Bloomberg administration recently announced a major bioscience research park planned for Manhattan's far East Side.

SKILL NEEDS

- IT employers are looking for both hard skills and soft skills.
- Laboratory technician and support jobs require short-term training as well as attention to detail and aptitude for teamwork.

Dr. Eva Cramer, associate vice president for scientific affairs at SUNY Downstate Medical Center in Brooklyn, notes that the career pathway in biotech "starts with people who don't even have a GED."

aspirations of advancement in the field, but not for entry-level positions. "The first thing that kids fall down on is soft skills," Bernstein says. "They get disqualified before they're even in the door because of mistakes on the résumé, or they don't know how to conduct an interview, or they have weak English skills."

Bernstein's colleague Michele Valdes, NYSIA's director of workforce development, says that employers are looking for a combination of hard skills, soft skills and understanding of business needs—and that hands-on experience is perhaps the most important consideration. "No employer wants to have someone running their network who has not has their hands on a server," she said in testimony before the New York City Council's Committee on Technology. In the category of soft skills, Valdes stressed the importance of communications and teamwork, noting that "employers expect their IT staff to be technically proficient but they also need them to have the ability to convey ideas to non-technical staff."

Programs have sprung up across the CUNY sys-

"The first thing that kids fall down on is soft skills," says Bruce Bernstein, president of the New York Software Industry Association. "They get disqualified before they're even in the door because of mistakes on the résumé, or they don't know how to conduct an interview, or they have weak English skills."

Programs within the CUNY system offer contextualized learning for those interested in the field, including a course at Medgar Evers College that prepares job-seekers for pharmacy support and billing jobs while completing GED work. Hunter College offers a training sequence for lab technicians that includes one month of in-class training followed by a three-month internship. Upon completing the course, Cramer observes, "You're very marketable for a job."

While those without post-secondary education do face limits on their career mobility, Cramer notes that "within the field of lab work, [there are] a lot of gradations of technicians and you can rise and oversee other technicians or become an expert and run a certain procedure."

Bruce Bernstein, president of the New York Software Industry Association (NYSIA), describes a similar situation in the information technology sector: college education is necessary for anyone with

tem and among dozens of proprietary schools to train workers for IT jobs and careers. One program with particular focus on non-college-educated young people is Technology Service Corps (TSC), a project of the technology nonprofit NPowerNY. Dedicated to training "young people who represent an untapped pool of talent that can meet IT staffing needs of local nonprofits," TSC has trained over one hundred young New Yorkers, the vast majority with no education beyond a high school degree or GED, since 2002; well over half have gone on to IT careers. The 12-week curriculum emphasizes both technical skills and the competencies we have discussed throughout this report: professionalism, problem-solving, communication, and teamwork, and culminates in a four-week internship. TSC program manager Christine Stearn says, "They've got the talent and the smarts; it's just about engaging them and providing the 'on ramp.'" ❖

Aviation

INDUSTRY TRENDS

- Aviation employment has been level or declining for years, but a rapidly aging workforce and industry disinvestment in training technicians and other workers is likely to result in a scramble for workers in a range of positions.
- In New York City, economists expect roughly 400 annual job openings in the aviation industry between now and 2012.

While nearly every airline has struggled financially in recent years, aviation industry experts forecast significant increases in both passenger and cargo traffic in the next decade, a trend that will likely lead to additional job opportunities. In New York City, the explosive growth of JetBlue, a low-cost carrier based at John F. Kennedy (JFK) International Airport in Queens, presents a major opportunity for additional job growth in this sector.

In the decade ahead, industry experts foresee possible shortages in pilots, air traffic controllers and maintenance technicians—all of which pay decent salaries. While it's unclear whether New York City will have as many of these openings as other parts of the country, individuals trained at aviation schools in the five boroughs will have marketable skills if they are willing to relocate. Currently, the aviation sector employs over 50,000 New Yorkers in positions ranging from maintenance technicians and pilots to freight for-

warders and airplane cleaners.²⁴

Pay for aviation careers is reasonably good—workers across all sub-fields average between \$40,000 and \$50,000—and aviation doesn't generally suffer from the negative public perceptions that arguably influence shortages in several of the other sectors discussed in this report.

The recent emergence of low-cost carriers like JetBlue has pushed airlines to cut costs wherever possible, including in the workforce. Mario Cotumaccio, assistant principal at the nationally renowned Aviation High School in Queens and a 20-year veteran of the aviation industry, believes that the downward pressure on fares "has had the effect of a reduced workforce within the industry." As the competitive environment stabilizes, however, employment will increase—particularly as the many older workers in the field begin to retire in large numbers. "I don't see much happening as far as employment opportunities for the next four to five years," Cotumaccio says. "Then they'll all be struggling and scrambling for workers."

SKILL NEEDS

- Aviation mechanics require technical training. The two major industry certifications are A&P Powerplant and FAA Air Frame. Some entry-level positions are open to individuals in the process of getting certified.
- Pilots, air traffic controllers and other more

TABLE 9: PROJECTED AVIATION INDUSTRY JOB GROWTH IN NEW YORK CITY, SELECTED CATEGORIES AND JOB TITLES: 2002 - 2012

SOC Code	Job Title	Employment 2002	Projected Employment 2012	Percent Change	Projected Annual Openings 2002-2012			Median hourly wages, Nov. 2004	Percent over age 40**	Percent over age 50**
					Total	New	Replacement			
49-3011	Aircraft Mechanics and Service Technicians	1,990	1,980	-0.5	50	0	50	\$23.98	42.7	22.8
53-2000	Air Transportation Workers	5,810	6,010	3.4	170	20	150	N/a	N/a	N/a
53-2011	Airline Pilots, Co-pilots and Flight Engineers	5,260	5,510	4.8	170	30	140	N/a	58.7	26.9*

*for 53-2010 Aircraft Pilots and Flight Engineers

**As of 2000 Census

Sources: New York State Department of Labor, *Employment Projections 2002 - 2012*; U.S. Census 2000 Equal Employment Opportunity Survey (*Older Workers, 2000*); Federal Bureau of Labor Statistics (*State Occupational Employment and Wage Estimates, November 2004*)

advanced, higher-paid workers must meet rigorous federal standards. Schools such as Aviation High School and Vaughn College of Aeronautics—both located in Queens—can put candidates on the path toward these prestigious and rewarding careers.

- Once employed within the industry in virtually any capacity, workers who prove their dependability can advance quickly.

Aviation, unlike many other sectors, has several points of entry. As always, college education is helpful in any career track, and necessary for some positions and most management jobs. But there are many other opportunities for entry and even advancement if someone is dedicated and flexible.

JetBlue only began flying in 2000, but already employs more than 4,000 New Yorkers at John F. Kennedy International airport. With work now under-

from any position," Lee says. "Management and supervisor, or even president of the company. I've seen it. If you have the skills to come in and take over your position, then you can rise."

Flexibility is pivotal for those aspiring to aviation maintenance careers as well. Sharon DeVivo, vice president for institutional relations and marketing at Vaughn College of Aeronautics, notes that many aviation maintenance jobs are leaving New York City, and not likely to return. Even so, those who earn industry credentials and demonstrate skill at the work are all but certain to find jobs for as long as they want them—they just might not find them in the five boroughs. "The talk is that JFK will probably never be the big maintenance hub it was," says DeVivo. "Students who get those jobs will have to move—to San Francisco, Indianapolis, Toronto, Costa Rica...more and more, they outsource [the work]." Many less intensive maintenance jobs, she adds, including work done on run-

JetBlue requires a high school diploma or GED for every position, but looks for better-educated workers to fill more advanced positions. In addition to their academic attainment, hiring officials have found that these individuals are better able both to make decisions on their own and to work in teams.

way on a new \$875 million terminal at JFK that will allow JetBlue to double the number of flights it operates from the airport, the low-cost carrier plans to continue its aggressive hiring. "We call ourselves New York's hometown airline," says Dean Melonas, JetBlue's director of recruitment, noting that no other major carrier is headquartered in the city. "We have 8,000 crew members [a generic title for every JetBlue worker] now and plan to hire an additional 2,000 every year for the foreseeable future." Melonas adds that JetBlue requires a high school diploma or GED for every position, and that the company seeks out individuals with higher educational attainment levels, "not just because of the course work but the ability to make decisions on your own and work in teams...those are skills that JetBlue looks for."

Morris Lee of the Council for Airport Opportunity, a placement organization for JFK and LaGuardia airports, notes that a GED is necessary for even the most menial of airport jobs, such as baggage handler. But once hired, he says, workers have almost unlimited opportunities to advance—so long as they're flexible, attentive to detail, and conscious of the need to do tasks quickly in an "on-time" industry. "You can move up

ways and small repair, will remain in New York. And many aviation maintenance students find positions outside of the field, with major local employers like the Long Island Railroad, Metropolitan Transit Authority and Con Edison frequently hiring Vaughn-trained technicians.

Two of the positions expected to experience shortages in the years ahead—pilots and air traffic controllers—have relatively demanding skill requirements. Federal regulations govern who can work in both fields; piloting careers require major investments of time, training and acquired experience. Air traffic controllers have a somewhat easier path to employment: graduates of Federal Aviation Administration (FAA)-approved post-secondary training institutions who meet the government's requirements regarding age, work experience and education—at least a bachelor's degree—are likely to find work. Over the next decade, the FAA plans to hire and train 12,500 controllers nationwide to replace the many current controllers who will be reaching the mandatory retirement age of 56.²⁵ The FAA expects about 70 of the 760 controllers working in the New York area to retire over the next three years. Controllers can eventually earn as much as \$200,000. ❖

Manufacturing

INDUSTRY TRENDS

- The primary workforce problem in manufacturing isn't one of shortages, but rather of a skills mismatch, as the National Association of Manufacturers and other groups have pointed out.
- An aging workforce will necessitate finding replacement workers, even as the field shrinks overall. In some specialties, such as tool and die machinery, employers are already scrambling to find workers as incumbents age out.
- Immigration has repeatedly replenished the manufacturing workforce in the past, but with an increasing focus on teamwork and communication, language and acculturation issues are growing in importance.
- In New York City, government economists expect more than 1,000 job overall openings per year in the fields of printing, food manufacturing and apparel manufacturing between now and 2012.

Though further contraction in New York City's once-booming manufacturing sector is likely, the industry still employs roughly 112,000 people within the five boroughs and niche businesses are likely to thrive well into the 21st century. Finding appropriate skilled workers—and upgrading the skills of existing employees—will be important if the city is to retain a significant share of the industry and cultivate grow-

ing specialty firms. The sector currently employs many older workers who are likely to retire shortly: more than 30 percent of line workers and supervisors/managers are over 50 while 6 in 10 of them are 40 or older.

The sector's workforce problems differ from those of more widely discussed fields like construction and health care in two very important respects. First, nursing jobs are reasonably similar in terms of work responsibilities, skill requirements and compensation from one workplace to the next and across geographical boundaries. Manufacturing, however, is more of a "meta-sector," with astonishing diversity even within one area. New York City alone has substantial employment within apparel, graphic design, food processing, light goods production and other sub-fields.

For young people considering careers in this sector, the second and more important consideration is that the manufacturing positions that survive in an age of global competition will be fundamentally different from the low-skilled jobs of the last century. With unskilled labor far cheaper elsewhere, manufacturers in the U.S.—and especially those in New York City—increasingly will need to compete on a basis of high quality and high technology. Accordingly, their workforce needs increasingly will focus on skilled employees who are comfortable with high-tech applications. As the National Association of

TABLE 10: PROJECTED MANUFACTURING INDUSTRY JOB GROWTH IN NEW YORK CITY, SELECTED CATEGORIES AND JOB TITLES: 2002 - 2012

SOC Code	Job Title	Employment 2002	Projected Employment 2012	Percent Change	Projected Annual Openings 2002-2012			Median hourly wages, Nov. 2004	Percent over age 40***	Percent over age 50***
					Total	New	Replacement			
51-3000	Food Processing Workers	9,790	8,920	-8.9	220	0	220	\$8-\$15	N/a	N/a
51-5000	Printing Workers	8,430	7,030	-16.6	200	0	200	\$11-\$18	Various*	Various*
51-6000	Textile, Apparel and Furnishings	44,500	37,970	-14.7	780	0	780	\$11-\$18	Various**	Various**

*Among Job Printers (SOC 51-5021), 26 percent were 50 or older, and 51 percent were 40 or older. For Printing Machine Operators (51-5023), the figures were 28 and 51 percent respectively.

**Among Pressers, Textile, Garment and Related Materials (51-6021), 28 percent were 50 or older, and 52 percent 40 or older. For Sewing Machine Operators (51-6031), the figures were 32 and 62 percent respectively.

***As of 2000 Census

Sources: New York State Department of Labor, *Employment Projections 2002 - 2012*; U.S. Census 2000 *Equal Employment Opportunity Survey (Older Workers, 2000)*; Federal Bureau of Labor Statistics (*State Occupational Employment and Wage Estimates, November 2004*)

Manufacturers (NAM) put it in a 2003 report: “[W]hat manufacturing is facing is not a lack of employees, but a shortfall of highly qualified employees with specific educational backgrounds and skills.”²⁶ Younger workers will need those skills—and those that acquire them can reasonably expect to be compensated accordingly.

Even if there were no skills mismatch, the manufacturing workforce would be facing a period of upheaval because of its aging workers. Locally and nationally, the manufacturing workforce features a large number of workers in their 40s and 50s. “Basic fundamental shop-floor math, knowing how to run CNC [Computerized Numerical Controlled] equipment, tool and die work, those are vanishing skills,” says Sara Garretson of the Industrial and Technology Assistance Corporation (ITAC), an economic development organization that provides technical assistance to manufacturing and technology firms in New York City. “[Employers] are looking ahead and seeing that population aging out in the next 5 to 10 years, but there’s still a need for that kind of work.”

New York manufacturers are concerned about the technical and communications skills of their entry-level workforce. “The technology is moving faster than I think the workplace can sometimes keep up with,” says Vicki Keenan, vice president for public affairs of the Association of Graphic Communications.

Part of the problem with manufacturing’s dearth of qualified job candidates is that the ideal workers for the field—educated at least through high school, conversant with technology, competent in all basic skill sets—tend to look elsewhere for careers. “Smart kids are dissuaded from going into manufacturing,” says Bill Canis, executive director of the NAM’s Manufacturing Institute. “High schools don’t guide them in giving them a correct idea that if they wanted to be a technician in manufacturing, they could have a hell of a career. So the kids often shun it.”

The Fiscal Policy Institute (FPI), which released a detailed study of New York City’s apparel sector in August 2003, found the same problem. “Apparel companies are having trouble finding young people with

The current manufacturing workforce includes many nearing retirement age: more than 30 percent of line workers and supervisors are age 50 or older. At the same time, industry surveys consistently find that most manufacturing firms face “a shortfall of highly qualified employees.”

Taken together, these two factors—the graying of the workforce, and the transformation in skills demanded by the field—mean that even though the sector overall is projected to shrink in terms of aggregate employment, New York City manufacturers will need to identify and train thousands of new workers in the years to come.

SKILL NEEDS

- Technology has revolutionized high-end manufacturing of the type that has endured in New York City. Workers entering the field now must be conversant with computers in addition to having other necessary, industry-specific skills.
- Because of the increasing complexity of the tasks, most employers now are looking for high school graduates or those with post-secondary education.

skills they need,” says Sarah Crean, author of FPI’s report and now executive director of the Garment Industry Development Corporation. “The young people who are attracted to these companies are usually very low-skilled; they don’t think they have a lot of other options.”

One problem is that workers with higher skills are hesitant to seek a career in a field they view as unstable—which helps perpetuate the instability of a field starved for workers with more skills. That’s been the experience of Nicholas Sekas, vice-president of Sekas International, a fur and outerwear manufacturer in Manhattan. “All my workers are above the age of 50,” Sekas laments. “There’s no one that is being trained to come and do this anymore. Everybody wants to sit in front of a computer...I’m a fairly young man and I’m looking out ten years into the future, and I’m scared I’ll be out of business.” ❖

Recommendations

As we contemplate how to build institutions and pathways to address the daunting task of preparing disconnected New York City youth for jobs in a changing economy, one overarching theme is clear: the public sector must lead. Given the enormity of the two challenges we have examined in this report, it falls upon city government to convene the involved parties, set an agenda, commit resources (and look to leverage them) and push for action. Leadership will be key within government as well: if we are to implement a coordinated and effective response to these challenges, longstanding walls of turf and authority must come down. Policymakers, business groups, educators and organized labor all have taken small steps on their own to address one or both of these problems. Now is the moment is for them to join their efforts together, toward the following goals:

STRENGTHEN THE ENTITIES THAT SERVE AT-RISK

and disconnected youth—including schools, community-based organizations and the intermediaries that support their development—and help connect them to both public and private employers. Both the “preparatory” system and the employers waiting to hire the young people who emerge from that system must inform and support strategies for effective career and personal development. For schools and other service providers, this means reaching out to businesses and the public sector for insight on what skill sets and personal attributes they most value. For employers, this entails a commitment to helping articulate career pathways through provision of internships, work shadowing experiences, and sustained engagement with the curricula of those providers. For other providers of services, particularly community-based groups, this might include looking to local and national intermediaries with expertise on the issue of disconnected youth for help with best practices and program models. For their part, public sector leaders should continue to support model programs such as the Mayor’s Commission on Construction Opportunity and the Workforce Readiness Credential initiative.

SECURE STEADY, CONSISTENT, DETAILED DATA ON

both disconnected youth and emerging employment opportunities by sector, and use it to guide and shape policy responses. As this report shows, one problem in this field of policy is simply that we lack sufficient and consistent information about disconnected youth. Every year, policymakers should have available the latest numbers on the demographic and geographical

breakdown of this population; what skill levels they possess (and lack); and how various policy interventions are performing as far as producing the desired outcomes of high school completion, job attainment, and, later, post-secondary work and wage gains.

ACTIVATE THE BUSINESS COMMUNITY AND PRIVATE

sector leaders to advocate for resources and inform career-specific training programs. Isolated examples of this kind of commitment are already present on the city policy landscape. A number of Career and Technical Education schools within the city system have spearheaded much closer partnerships with industry actors; Mercedes-Benz and other industry leaders have contributed funding and curriculum assistance to Automotive High School in Greenpoint, as UPS and JetBlue have done with Aviation High School in Queens. Extra-governmental entities like Public Education Needs Civic Involvement in Learning (PENCIL) also have sought to forge closer ties between city employers and the schools, and programs such as “Principal for a Day” have brought value to participants on both sides of the school/work divide. More broadly, the Brooklyn Chamber of Commerce has recently struck an agreement with Good Shepherd Services (whose South Brooklyn Community High School is described on page 9) to help develop at least 40 internships with small businesses and Chamber members.

But examples of the sort of close, ongoing, two-way relationships we need are few and far between. Until more major employers with a presence in the city, as well as neighborhood-based Local Development Corporations, Chambers of Commerce and Business Improvement Districts, institutionalize ties with their local primary and especially secondary schools, the connections will not be sufficient. Given the demonstrated relationships between school attainment, neighborhood stability and the viability of local businesses, these connections are natural and necessary and have tremendous potential to benefit all involved. City and state government should investigate ways to incentivize such relationships; for their part, private sector actors should realize that this effort is far more important to their core mission than simply public relations. With the aging of our society certain to increase the competition for highly skilled workers, “succession planning” for firm- and industry-level workforces will become, for many, a matter of survival. ❖

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