

21st century jobs

By Richard A. Cobert



Breakaway Ltd. One of more than a dozen interactive technology firms in Baltimore County, applies video game technology to military and healthcare training and simulations.

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Predicting the future of the workplace in Baltimore County initiates considerable debate. Creating debate, communication, and discussion about the future of work in Baltimore County are the reasons this article focuses on this subject and addresses these new challenges.

Employment in America has undergone extensive transformation in the 20th century. If this article had been written in 1905, the three largest job clusters in the country would have been farmhand, laborer, and domestic worker. Advances in technology and a better-educated workforce have created jobs unimaginable a century ago.

Similar transformations lie ahead. What are the opportunities, the job sectors, and the skills required for workers in this new century? By analyzing labor, demographic and economic trends, we highlight the fastest growing industries and outline job titles expected to grow in our region.

Additionally, information is presented on changes occurring in the county that will dramatically affect the local labor market. For those entering the job market for the first time and for those considering new careers, these facts provide ideas to help explore career options. Economic development professionals may utilize this data to validate these workforce changes in their respective communities, and inspire their schools, community organizations, and government to prepare for the turbulence and new opportunities.

THE AGE BOOM

Baltimore County, typical of other suburban communities, experienced extensive growth in population in the late twentieth century. The World War II generation moved to the area, and the birth of the "baby-boom" generation effectively doubled the population of the previous generation. Today, the first boomer is 59 years old. Over the next 20 years, the age of the county population will rise dramatically. The generation following the boomers will be approximately half their size. Susan Mitchell described the share of population in her 1998 book *American Generations*:

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|----------------------------------|-------|
| • Millennial, aged 4-21 | 26.0% |
| • Generation X, aged 22-33 | 16.4% |
| • Baby Boom, aged 34-52 | 28.8% |
| • Swing, aged 53-65 | 11.2% |
| • World War II, aged 66 or older | 12.0% |

Baltimore County's population aging suggests that the smaller generations that immediately follow the baby boom will find an abundance of work opportunities in virtually every field. However, the natural course of economics and business is to compete for scarce resources. As the experienced working population retires and contracts, businesses will merge and consolidate in order to maintain economic and market strength. By increasing produc-

IDENTIFYING THE CHALLENGES IN BALTIMORE COUNTY, MARYLAND

The emerging job market presents new opportunities and uncertainty for every community. This article examines and compares national workforce history and trends with those of Baltimore County, Maryland. Understanding the fundamentals from both a national and local perspective assists in educating the community on the emerging industry sectors and skills necessary for future jobs. By accomplishing this, economic development organizations can determine if their communities are taking appropriate action to prepare for imminent workforce volatility.

tivity through newer technologies, these companies will need fewer workers. The community may experience some job loss complemented by the decreasing working population.

Baltimore's printing industry provides an excellent example of new technology eliminating jobs. The advancements in personal computers and printers since the 1980's have allowed businesses to publish in-house their newsletters, leaflets, flyers, menus, and other items previously contracted to local printers. Many print shops closed or merged, but some businesses added staff for their in-house publishing and websites. Thus, a print shop that employed 10 people in Baltimore County closed, but a local small business added one or two new positions to its administrative staff.

SMALL (AND DIVERSIFIED) FLOURISHES IN THE LOCAL ECONOMY

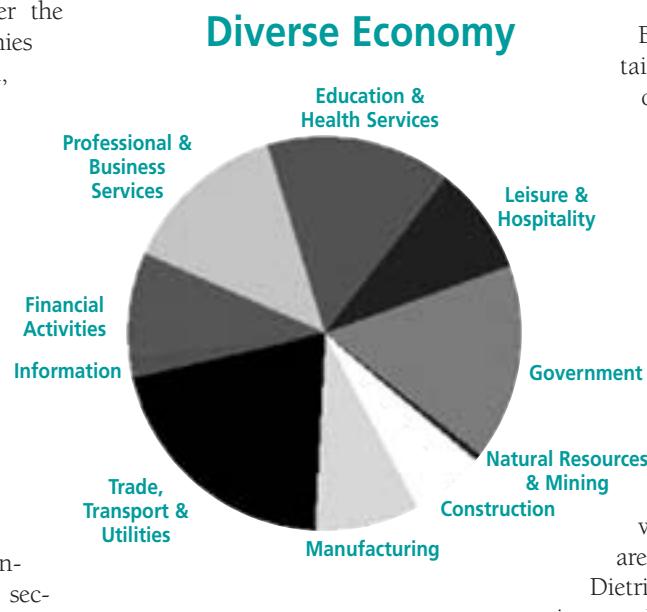
Baltimore has witnessed the demise, merger, or relocation of many larger corporations over the last 20 years. Companies such as Bethlehem Steel, USF&G, Noxell, Alexander & Alexander, Commercial Credit, and Alex Brown & Sons no longer exist. Martin Aircraft became Martin-Marietta and later merged with Lockheed. These companies employed hundreds of workers throughout the region, and were renowned for their corporate philanthropy. In the banking sector, an extreme example of "merger mania" in Baltimore County can be found. Beginning in the mid 1980's, Equitable Bank merged with Maryland National Bank, which became First American Bank, then NationsBank, and is now Bank of America. The author has the checkbooks to prove it.

In the place of these Fortune 500 firms, an increasing number of productive small and medium size companies has emerged. These smaller companies work to retain better control of productivity and resources, adapt rapidly to change, and gain expertise and control of market niches in order to compete with larger firms.

The American Psychological Association recently published information indicating that the county is no exception to this view of organization transfor-

mation. It suggests there will still be large corporations – just fewer of them, as organizations continue to decentralize operations. Kevin Murphy, Ph.D., president of the Society for Industrial-Organizational Psychology, sees organizations continually moving toward today's flatter, more flexible structures with fewer levels of supervision and more wide ranging job descriptions.

Advances in technology will launch new jobs, providing new tools for all businesses that require additional education and training. In addition, an aging population living longer than any preceding generation presents new workforce and societal challenges. The ability to continue to learn throughout a working career is a clear requirement in the new century.



Baltimore County's business diversity is fundamental to long term job growth, and buffers the region from swings in any single industry sector.

Baltimore County contains many examples of this decentralized model. Vulcan-Hart, Signode, and Hobart Corporations all operate as individual business profit centers. All three companies are owned by ITW, a Fortune 200 firm near Chicago. Dietrich Metal Framing operates as one of 28 plants of Dietrich Steel, whose corporate offices are located in Pittsburgh. Dietrich is owned by Worthington Industries, a Fortune 1000 corporation located in Ohio.

BUILDING SKILL SETS

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Producing tomorrow's worker begins with developing student skills. The ability to learn, to retain, and to understand the objective of the lesson allows the student to build a strong academic base. A new job enables the student to gain practical experience applying the learned knowledge to a specific task.

There is a natural evolution in vocational experience. This base of knowledge and experience is the springboard from which advanced instruction and skills are obtained.

First Jobs – Train & Focus

First jobs commence the experience of building work skills. Even basic jobs require you to show up on time, dress appropriately, and complete assigned tasks. The development of personal responsibility and confidence begins in these positions. As skills expand, new work and higher wages provide the incentive to continue to develop.

Vocation – Finding Your Niche

In school, we tend to excel in and enjoy certain fields of study above other subjects. At work, certain tasks capture our interest beyond other duties. These tendencies focus us toward the type of work and career suited to our abilities, interests, and temperament. Education, work, and life experience *combined* provide the *platform of vocation discovery*.

Senior Jobs – Experience & Coach

The need for qualified employees who show up for work, set the example, and have the skills and ability to learn on the job and influence others will include a growing number of senior citizens. Good health, longevity, and the desire to contribute will enable many individuals to continue to work beyond their retirement. Indeed, many workers will have to continue to work to supplement pensions and obtain health insurance as they live longer.

THE "KNOWLEDGE" SOCIETY OR "CREATIVE CLASS"

In the 21st century, unskilled and semi-skilled jobs that produce a living wage will continue to disappear. Jobs, based on knowledge, or skill sets of specific knowledges, will be the key to economic opportunity. A majority of workers will need both formal education and practical experience for the better jobs in this society. Many workers in Baltimore County have embraced this "knowledge

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Investment firms like T. Rowe Price (financial campus pictured) and Legg Mason expand operations to meet growing investor demand.

society;" many more must advance. Recently, the summit on "21st Century Skills for 21st Century Jobs" conducted by the U.S. Office of Personnel Management reiterated that "knowledge is becoming our greatest strategic resource and learning our greatest strategic skill."

THE SERVICE SECTOR – HOME OF THE HOT INDUSTRIES

People entering the job market for the first time or looking at a career change must look at where the jobs are today, and where they will be in the years to come. According to the book *Best Jobs for the 21st Century* by Ron Krannich, these fields are expected to see a higher average growth rate throughout the next decade:

Healthcare

- Positions in administration, nursing, physical health, dentistry, and mental health.

Technology

- Biotechnology, Engineering, and Information Technology

Business & Professional Services

- Financial Services (Banking, Securities, Accounting, Insurance), Human Resources, Law, Communications, Public Relations, Sales and Marketing, Food Services

Public Service

- Social Services, Education, Federal, State & Local Government

Baltimore was recently listed in "The Top 20 Boom Towns in America" in *Business 2.0 Magazine*. Specific growth by 2008 in its list of designated "Hot Professions" included:

- Data Communication Analysts – 57%
- Information Systems Analysts – 30%
- Lawyers – 10%

The Bureau of Labor Statistics (BLS), according to *Money Magazine*, projects the U.S. economy will add 21.3 million jobs by 2012, a 15 percent increase. Service-providing industries are expected to account for approximately 20.8 million of the 21.6 million new wage and salary jobs generated over the 2002-12 period. Job growth in the education, health, professional, and business service industries is expected to exceed 30 percent. High job growth is anticipated in information, transportation and warehousing, and the leisure and hospitality industries. Additionally, private educational services will grow by 28.7 percent and add 759,000 new jobs through 2012.

The ten fastest-growing occupations in the BLS study include medical assistants, network systems and data communications analysts, and physician assistants. Manufacturing jobs are expected to decline by 1 percent. This is better than the recent 8.9 percent decline from 1992 to 2002, perhaps indicating that we are near the end of the three decade downturn in manufacturing jobs and can look forward to more stability in this sector.

The Maryland Department of Business and Economic Development and the Baltimore County Department of Economic Development have targeted marketing efforts in the biopharmaceutical, technology, high-value manufacturing, and other industry sectors where the county holds competitive strengths. Initiatives from the county's Executive Advisory Board on Higher Education and Chambers of Commerce focus on improving interaction and communication among business, government, and higher education.

JOBS NECESSARY TO THE COMMUNITY

Today's expectation of the secondary education system is preparation for college. This single-mindedness causes us to sometimes fail to recognize the opportunities in choosing another direction. As the economy moves from manufacturing to services, the trade professions will remain a stronghold for job creation, training, and ownership. Often overlooked in the past as the "vo-techs," and not carrying the social cachet title of "attorney" or "software engineer," positions in the trades require technical skills and practical experience in order to gain mastery. To be a carpenter, electrician, HVAC mechanic or plumber, education focuses primarily in on-the-job training. Today, even more technical and computer skills are required.

Mittal Steel, the successor company to



Williams Scotsman World Headquarters in White Marsh is the latest Baltimore County firm to be traded on the NASDAQ.

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INDUSTRY AND TRADE PROFESSIONS -



Mittal Steel USA applies new manufacturing technology to classic steel production methods in its Sparrows Point cold roll mill.

International Steel Group and Bethlehem Steel at Sparrows Point, provides such an example. The cold-rolled steel mill relies heavily on computer-based automation, a clean environment, and workers who combine computer knowledge with classic steel production models. Unlike their predecessors who typically were responsible for single tasks in the mill production process, today's steel workers must be able to run the machines and repair them when necessary.

GM Powertrain in White Marsh is one of GM's newest facilities, and an acknowledged "benchmark" facility for transmission assembly. Operating in a scrupulously clean environment, employees and managers work in a team effort. The nearby Community College of Baltimore County (CCBC) provides on-site and classroom instruction in the facility. Examples include: Team Skills classes - Coaching, Relationships, and Values, and the Apprenticeship Program. GM is working with CCBC on a new course - Skill Centers Plans - an on-site UAW skills training center using a CCBC teacher.

In *The Millionaire Next Door* by Thomas J. Stanley, the author highlights the trades as one of the leading job categories for building wealth in the United States. Trade expertise or owning a business often brings high income to the owner who can manage and train workers. A "software engineer" rarely puts the call from their auto mechanic or homebuilder on hold.

BUSINESS OWNERSHIP –

THE AMERICAN ENTREPRENEUR

Missing from the lists of jobs and careers is the title of owner. Ownership represents potentially the greatest opportunity available in this country. In America, we have the right to own – to build, develop, create, grow, and profit. Defining owner income is as varied as the careers mentioned above. Owners of small businesses can make very small incomes, but reap exceptional privileges in tax and other benefits, as well as the privilege of owning their enterprise. Owners of larger corporations can annually receive incomes and benefits in the millions. Moreover, the business entity provides job creation for communities, and an investment shelter for the owner or shareholders as the business grows.

Not everyone is cut out to be an owner. The risks and difficulties in managing, hiring, financing, and building businesses are well known and intimidating. Some individuals prefer to remain part of the team, rather than own the team.

HISTORY REVEALS PATHS FOR THE FUTURE

No one knows exactly what the future will hold for job creation in the county. A study of its history does provide interesting parallels. If we look back one century, one such path is revealed.

In December 1903, Wilbur & Orville Wright flew their first motorized airplane. Most people viewed this flight as a novelty. Five years later, Orville Wright demonstrated his updated airplane to the military at College Park Airfield in Maryland. The plane crashed, and the co-pilot was killed.

More people now saw air travel as a risk instead of a novelty.

A man named Glenn L. Martin saw beyond the novelty and the risks. He saw opportunity and teamed up with Wright Aviation. In 1929, he opened his own factory in Middle River, Maryland. Farmers, laborers, and domestic workers transformed to become mechanics, engineers, and pilots. Martin employed over 50,000 people during World War II. New housing was constructed. Machine shops, subcontractors, retail services and housing boomed, and a strong new community was created.

The revelation from the Glenn Martin example is that the new job-creating device already exists. The innovator will discover and improve the product. Our society must create the demand for the product, and the workforce to build it. In the Washington-Baltimore region, government and industry are “spinning-off” a variety of tasks and “privatizing” divisions. Outsourcing contracts for project staffing, consulting, and vendors offers many opportunities. The business environment in Baltimore County must nurture such innovation and experimentation. Behold, a new enterprise is born.

What is the future? Who will be the next Glenn Martin? Baltimore County businesses today range in scope from software development, computer gaming, medical technology, defense, and finance to retail, professional services, and building and utility construction. Advances in products, equipment, and technology will impact each group, through the continuing process of “creative destruction.” We are a nation of “tinkerers,” always experimenting to improve products and methods.

One example of creative destruction that benefits everyone is a safe supply of drinking water and effective treatment of waste. It is acknowledged that the Baltimore region must rebuild its aging water and sewer system over the next two decades. Government will contract with private companies to create a newer system to meet the demands of citizens and industry. The contractors will construct the new system to include state-of-the-art materials, construction methods, and computer technology. Companies involved in the projects will initiate hir-

ing. Innovations to the old system will upgrade the fundamental services government is expected to provide to the community.

Baltimore County workers of tomorrow will earn their living innovating products that don’t exist today. Companies like Breakaway Games began by developing video games for entertainment. Game-based learning is the latest innovation for this cutting edge industry. This technology led to contracts with the U.S. military to provide games for virtual training of military defense exercises. The health care profession is also turning to computer games for training. A game called *Code Orange* helps doctors learn to manage mass casualty incidents.

Economic development professionals may recognize a growing industry that barely existed 25 years ago – economic development. Utilize these vignettes to create local comparisons to national societal and workforce trends. Target goals for new strategies and programs to educate students, businesses, community organizations, and non-profits. Prepare for the emerging new society and its opportunities and challenges.

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Baltimore County government must continue to engage with the community, educational institutions, and with industry to facilitate action. The three steps the county can utilize as a guide to innovation are to communicate, focus, and implement. The new rules are that simple, and that complicated.