

Northeast Ohio Regional Business Plan Brookings Institution



FUND FOR OUR
ECONOMIC FUTURE

**Prepared by the Fund for Our Economic Future
with input from partners in Advance Northeast Ohio**

APRIL 2011

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SUMMARY

INTRODUCTION



ortheast Ohio is an economic region in transition, poised for major economic growth and industry transformation. Globalization and the rise of the knowledge economy create new conditions for success. Northeast Ohio's legacy as a leader in the industrial economy endows it with many robust underlying assets on which to build in this new environment. The region—after a prolonged period of severe economic dislocation—is demonstrating significant momentum and progress toward revitalization.

Driving this momentum are new collaborations and innovative leadership in the civic and private sectors that build our ability to think, plan and act like a region. This regional effort engages business leadership, elected officials, foundations, research institutions and higher education institutions—as well as broad-based citizen involvement.

Thinking like a region requires a broad cross-section of stakeholders to agree on the economic competitiveness agenda that they will strive to address together, as a region. More than 80 partners in our 16-county region have united behind that agenda, called Advance Northeast Ohio. Launched in 2007, the agenda has been used to frame strategic plans and actions to revitalize our region's economy by focusing planning and actions in four priority areas:

- ◆ Business Growth
- ◆ Talent Development
- ◆ Inclusion
- ◆ Government Collaboration & Efficiency

The regional thinking that developed Advance Northeast Ohio reflects the diversity of Northeast Ohio. Unlike many regions with one dominant metropolitan, Northeast Ohio benefits from the presence of three of the nation's 100 largest metro areas, Akron, Cleveland and Youngstown; two other smaller metropolitan areas, Canton and Mansfield; and numerous micropolitan communities. No more than 60 miles separate any of the major metropolitans. They share not only labor, capital, and supply markets, but also a common legacy of steel, rubber, chemicals, and automotive assembly. On their own, each of the Northeast Ohio's diverse communities would struggle to transition to the next economy. But together, when we think, plan and act like a region, Northeast Ohio has the capacity to build a globally-connected, first-tier economic region that creates opportunity and prosperity for our 4.1 million residents.

Advance Northeast Ohio defines the region's economic vision—to be the most vibrant regional economy in the country – and its economic priorities. The next step in building an effective region is putting a plan together that identifies the strategies and tactics that can be deployed to address those priorities and achieve that vision. Over the last decade, Northeast Ohio has had significant success planning like a region and translating those plans into action. For example, a regional plan to increase venture-backed entrepreneurship began early in this century and has helped generate more than \$1.4 billion in new venture investments.

The purpose of this Regional Business Plan is to increase coordination among the region's evolving economic competitiveness strategies, align those regional strategies with local place-based strategies that are essential to economic revitalization, and to put a spotlight on one new regional strategy that strikes at the core of our region's economic history and our future—helping existing Northeast Ohio manufacturers transition to new high-growth opportunities. Partners in Advance Northeast Ohio intend to use this plan to encourage investors in our region's future—local, state and federal—to align their efforts to support these integrated strategies.

This Regional Business Plan captures how, together, the region is building off of a rich history of past collaborations to implement a deliberate, strategic approach that aligns and leverages its assets to transition the region into a first-tier, globally-connected, knowledge-based economy.

A key principle of this plan is that the strengths that made Northeast Ohio a leader in the last century's industrial economy are being redeployed as we move into the next economy. Deep historical experience and recent innovations in precision manufacturing, material science, and chemical/mechanical engineering are being applied to emerging knowledge-based clusters that promise a new generation of economic growth. These clusters include bioscience/healthcare—with an emphasis on cardiovascular, medical imaging and medical devices; advanced energy and cleantech; and advanced materials. Moreover, the skills embodied in the region's sizable manufacturing workforce show high potential for transitioning into emerging cluster-based occupations. Many more industrial firms not already in these clusters have strong prospects for transitioning into them, further strengthening the clusters.

This plan includes a detailed description of PRISM, a new initiative to support existing Northeast Ohio manufacturers' transition to new high-growth opportunities. PRISM builds off of actions taken to implement regional plans to strengthen our region's innovation assets, connect those assets to growing industry clusters, and to foster more venture-backed high-growth companies in those industries.

Indeed, our region has been acting on the various elements of this business plan for more than a decade. Over that time Northeast Ohio has dramatically improved its ability to act like a region. Those regional actions have resulted in:

- ◆ More than 40 growing companies attracted to the region with more than \$150 million in payroll.
- ◆ More than \$1.4 billion invested in nearly 200 early stage growth companies.
- ◆ Nearly \$500 million in state investments in the region's innovation and commercialization assets.

This Regional Business Plan will strengthen our ability to take collective actions to revitalize our region's economy. A key to the success of our regional actions will be building a new federal partnership that will result in national policies and programs aligned with strategies and tactics that make up this plan. The federal government already is a major investor in Northeast Ohio's economic future; we look forward to working with federal officials to help them strengthen the returns on those investments by coordinating them with our regional plan. Such a partnership will pay dividends for both our region and the nation's economy. Northeast Ohio and much of the Midwest are home to both innovation and manufacturing assets that could be at the forefront of a resurgent national economy. ◆

WHERE WE STAND: A MARKET ANALYSIS AND ENVIRONMENTAL SCAN



regional economy is an unusually complex “business” operating in an equally complex environment and global marketplace. Therefore, developing a business plan to improve a local economy’s performance entails first understanding the context and components of the economy, and the systems through which they interact to productively deploy assets. With the Great Recession serving as a major “reset” for economic activity, these considerations are especially important to ensure that the fundamental assets and development strategies of metro economies are attuned to new post-recession dynamics.

In this regard, the Brookings Institution, other leading economists and key federal leaders have projected a vision for the rebuilt American economy that is **export-oriented, lower-carbon and innovation-fueled** as well as, hopefully, **opportunity rich**. This direction for the “next” economy derives from national imperatives, economic realities and global trends and revolves around these dimensions:

- ◆ *Exports*, measured as a share of the economy, will continue to grow based on rising global demand and relatively low dollar values, and their expansion arguably presents the only solution for reducing the nation’s foreign debt while also driving growth in jobs, productivity, wages, skills and general American living standards
- ◆ *Low-carbon solutions*—reflected eventually in a region’s carbon footprint—will continue to spread, driven by climate change concerns, “greener” consumer preferences, growing world energy consumption needs, and the advance of low-carbon policies and regulations. The resulting future boom predicted in the global green economy would ramp-up green-oriented jobs and investment in the U.S.

- ◆ *Innovation*—manifested by new products, services, and business models—has always been critical to economic growth and competitiveness and will likely become even more imperative. Other nations now challenge long-standing U.S. leadership on key indicators like worldwide shares of domestic R&D spending, new patents, and science and engineering degree holders, and publications
- ◆ *Opportunity rich*—providing pathways for economic advancement to all.

Our region’s leaders are not *Pollyannaish* about the challenges faced. Like other regions in the Great Lakes, Northeast Ohio, in the years after World War II, generated huge reserves of wealth by exploiting competitive advantages in the production of steel, rubber products, chemicals and coatings, automobile parts, and other industrial components.

And like other industrial regions, Northeast Ohio has seen these competitive advantages wither under the relentless pressure of global competition. These pressures are not new. The industrial production of steel in the United States peaked in the late 1960s. Akron began losing its production of rubber tires in the 1970s. The 1980s saw continued contraction of the region’s manufacturing employment base. Indeed, the region became a national poster child for post-industrial challenges.

Given the depth of this transition, the region’s largest metropolitan areas—Cleveland, Akron and Youngstown—have seen significant relative declines in their productivity, as measured by gross metropolitan product per worker. The region’s productivity grew at less than half the national rate between 2002 and 2008. At the same time, the region’s overall employment declined by 1.4%.

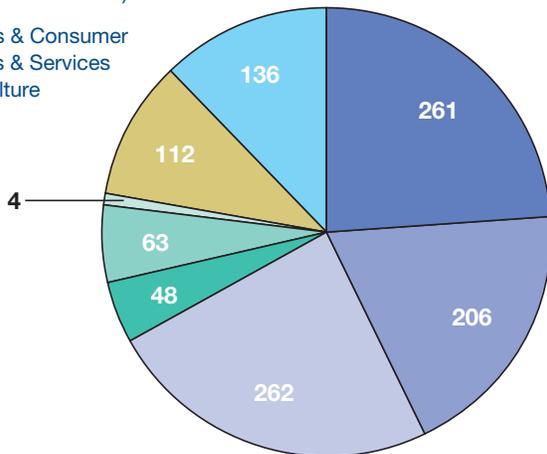
FIGURE 1: NORTHEAST OHIO GROWTH IN VENTURE CAPITAL

The \$1.1 billion of venture capital invested in the last five years has created thousands of jobs, with thousands more projected.

EQUITY INVESTMENTS BY SECTOR

(\$ Millions 2005-2009)

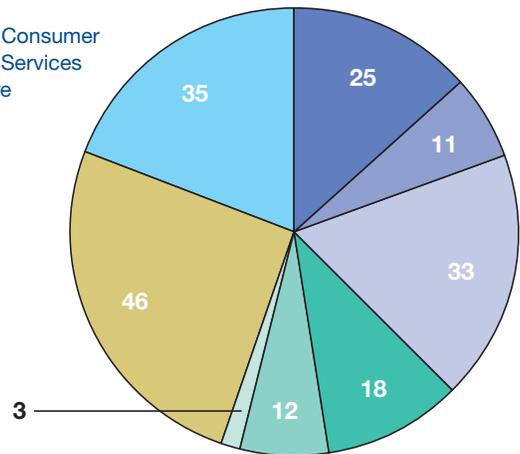
Business & Consumer Products & Services & Agriculture



NUMBER OF COMPANIES BY SECTOR

(2005-2009)

Business & Consumer Products & Services & Agriculture



HEALTHCARE

- Healthcare Services, Healthcare IT & Other
- Biopharmaceuticals
- Medical Devices & Equipment

CLEANTECH

- Advanced Specialty Materials & Chemicals
- Energy
- Environmental

INFORMATION TECHNOLOGY

- BUSINESS & CONSUMER PRODUCTS & SERVICES & AGRICULTURE

Cleveland (a 2.8% decline) and Youngstown (a 5.6% decline) were among the metros hardest hit with job losses during that period. Akron posted positive job growth of 4.6%, but this rate was still below the national average.

Moreover, comprehensive government services developed during a period of prosperity now saddle the region with multiple government entities, hefty public overheads in payrolls and pensions, and stubbornly high tax rates.

Nevertheless, prosperity and Northeast Ohio will emerge from the strengths accumulated during its industrial era:

The Region Has Strong Assets from Which to Build Innovative Companies

Northeast Ohio's industrial past provides a strong base for an innovation-driven future. Large corporate research facilities run by global giants such as Sherwin-Williams Corp. and Goodyear Tire & Rubber Co. are joined by world-class medical research centers, including the Cleveland Clinic and University Hospitals, the only NASA Research Center north of the Mason Dixon Line, and several

world-class university research centers. Over the period 1997 to 2006, the demand for a highly skilled and technical workforce grew by 1.2% in the Akron metro and by 1.7% in the Youngstown Metro. Over the same period, the region generated a higher level of patenting activity—as measured by average patents per 10,000 workers—than the nation as a whole. From 1998 to 2006, private levels of R&D investment significantly exceeded the national average in the Akron metro. Finally, we see the growth of the region's innovation economy in expanded venture capital investment. While the region's venture capital investment compared to the size of its economy is still below national levels, the Northeast Ohio region attracts venture capital at a rate higher than the state and has seen promising growth in this important area. After attracting limited venture resources through the 1990s, the region attracted \$1.1 billion in venture from 2004-2009 (see Figure 1). Continued investments by the state's Third Frontier¹ economic development program underscore the importance of Northeast Ohio as a growing hotspot of innovation within the state. These investments are objectively selected by national panels of experts and the region has attracted more than \$400 million in Third Frontier investments, about half of the amount awarded by the state. (See Figures 2 and 3.)

The Region Also Enjoys Solid Engagements with Export Markets

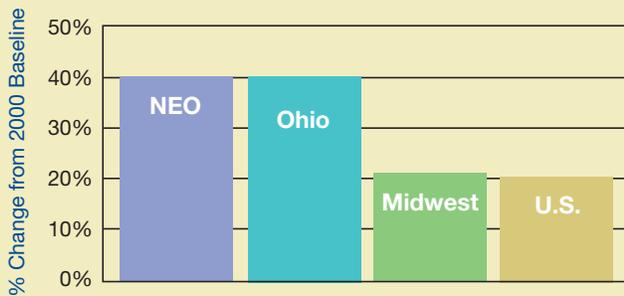
All three Northeast Ohio metros ranked in the top 30 of the largest US metros for the overall export share of their metro economies. Youngstown, in particular, boasts an export intensity of 19%—the fourth highest nationally. In Cleveland and Akron, exports account for 14.2% and 13.2%, respectively, of gross metropolitan product. Reflecting its industrial heritage, the region’s exports concentrate in goods, not services. This export mix creates an opportunity for the region to leverage its strength in foreign product markets to expand exports in services.

The Region Has Strengths in the Emerging “Green Economy”

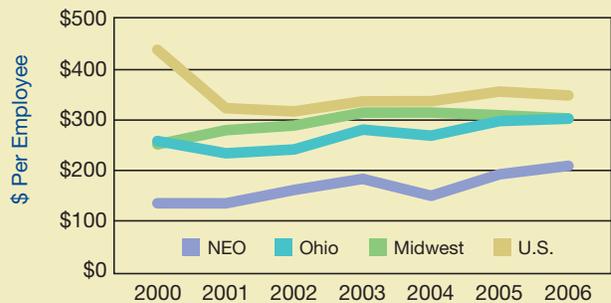
As an analysis from the National Governors Association has shown, Ohio has a very strong concentration of green business activities in advanced materials, energy efficiency, and energy storage. All of these business segments are strongly represented within the Northeast Ohio region. A new report from Team NEO demonstrates how the region’s industrial past can serve as the base for the development of new businesses in “cleantech”: advanced energy, pollution controls and energy efficiency. These sectors represent 7.5% of the gross regional product. (See Figure 4 next page.)

**FIGURE 2:
NORTHEAST OHIO GROWTH IN RESEARCH**

Increase in Academic Research Expenditures (%): 2000-2006



Per Capita Academic Research Expenditures (\$ per employee): 2000-2006

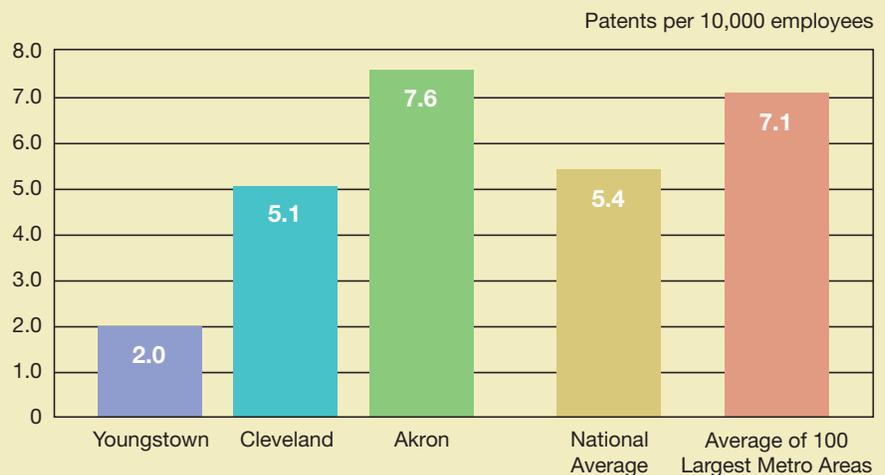


Source: National Science Foundation/Division of Science Resources Statistics, Survey of Research and Development Expenditures at Universities and Colleges, FY 2000-2006

**FIGURE 3:
NORTHEAST OHIO
PATENT ACTIVITY 2007**

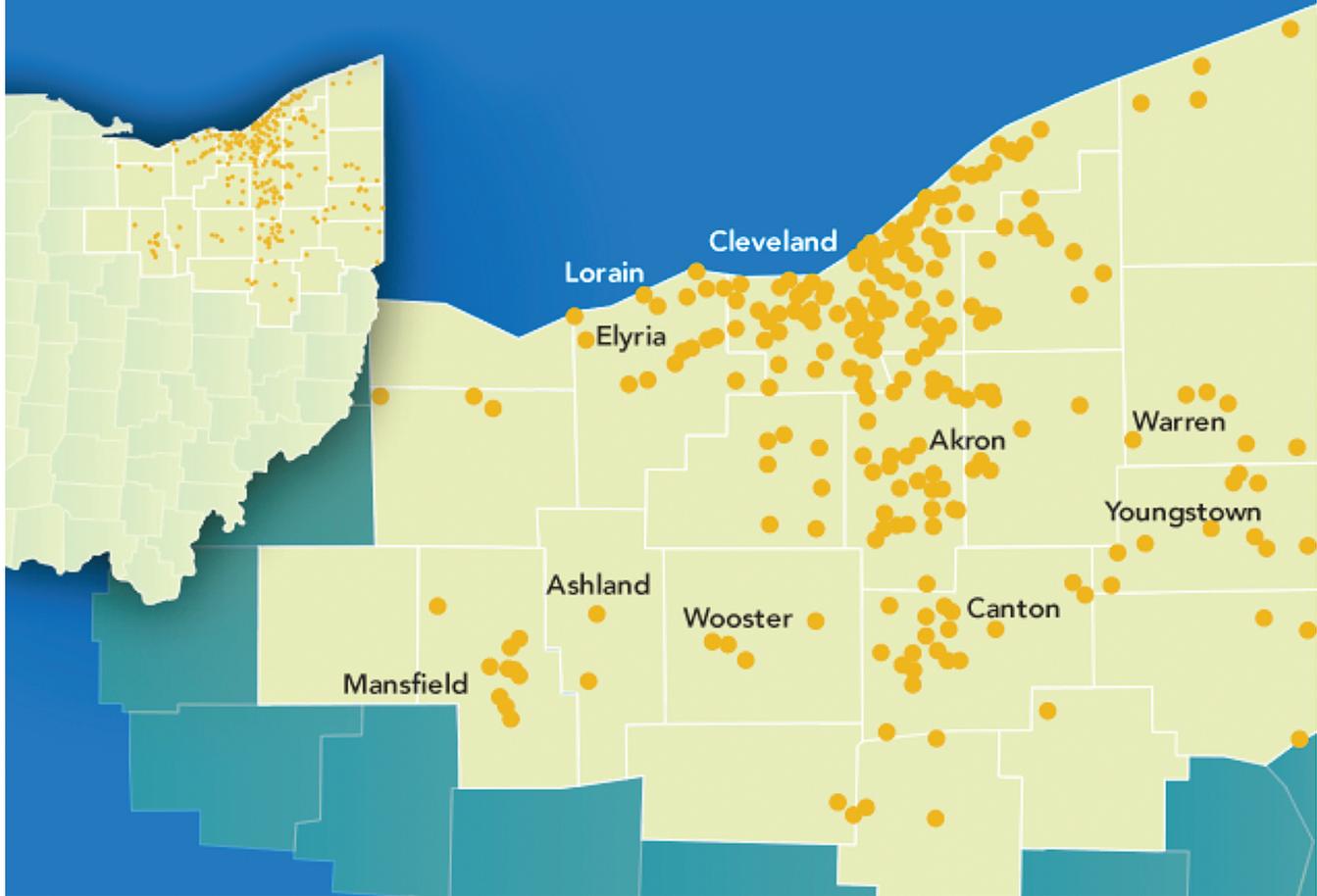
In general, patenting activity is a good predictor of commercialization and the commercialization of innovation, or the process of bringing knowledge to market, is the crucial driver of innovation.

Akron ranks higher than both the national average and the average of the 100 largest metro areas



1 Launched in 2002, the Third Frontier is a \$2.3 billion program by the State of Ohio focused on creating new technology-based products, companies, industries and jobs. The state is committed to the program through at least 2015.

**FIGURE 4:
SNAPSHOT OF THE NORTHEAST OHIO
ADVANCED ENERGY INDUSTRY CLUSTER**



To transform the regional economy toward more innovation, exports, and low-carbon solutions, regional leaders will need to expand collaborations to overcome the legacies of its industrial past that slow transformation. The region's leaders will need to coordinate and focus their investment strategies in order to overcome these challenges:

A Shrinking Middle-Age Population and Educational Attainment Rates Below the National Average

To build the next era of prosperity, the region will have to overcome some daunting demographic dynamics. The regional median age for Northeast Ohio is 39.3 years, with all three metros having populations among the 20 oldest nationally. Most worrisome, the region is losing population among a key demographic group, 25- to 44-year-old adults. Many of these workers are mobile, and they are attracted to areas with more dynamic economies.

Research shows that this indicator has a significant effect on the growth of a region's productivity. The region is losing these younger workers (25-44) at a rate roughly twice the rate of the state.

Educational attainment raises another concern. Education pays: the connection between educational levels and earnings is strong and getting stronger. In 2009 the average earnings of a college graduate were \$53,500. The average earnings of an adult with an associate's degree were \$39,600. The average high school graduate earned \$32,600. A high school dropout earned \$23,600.

About 25%² of the adults in the Northeast Ohio region have a bachelor's or higher degree. That is about three percentage points below the national average. Although the Akron and Cleveland metros have four-year college attainment rates that equaled the national average, Youngstown ranks in the bottom 10 of the hundred largest U.S. metros. The region also lags behind in the percentage of adults

with some college or associate degree. Of adults in the region, 29% have attended some college or earned an associate degree, slightly lower than the national average. Within the region, the Cleveland metro (30.3%) exceeds the national average of 29.6%. The Akron metro is slightly lower at 29.2%, while in the Youngstown metro 27.1% of adults have some college or an associate's degree. (See Figure 5.)

Relatively Low Rates of New Business Formation

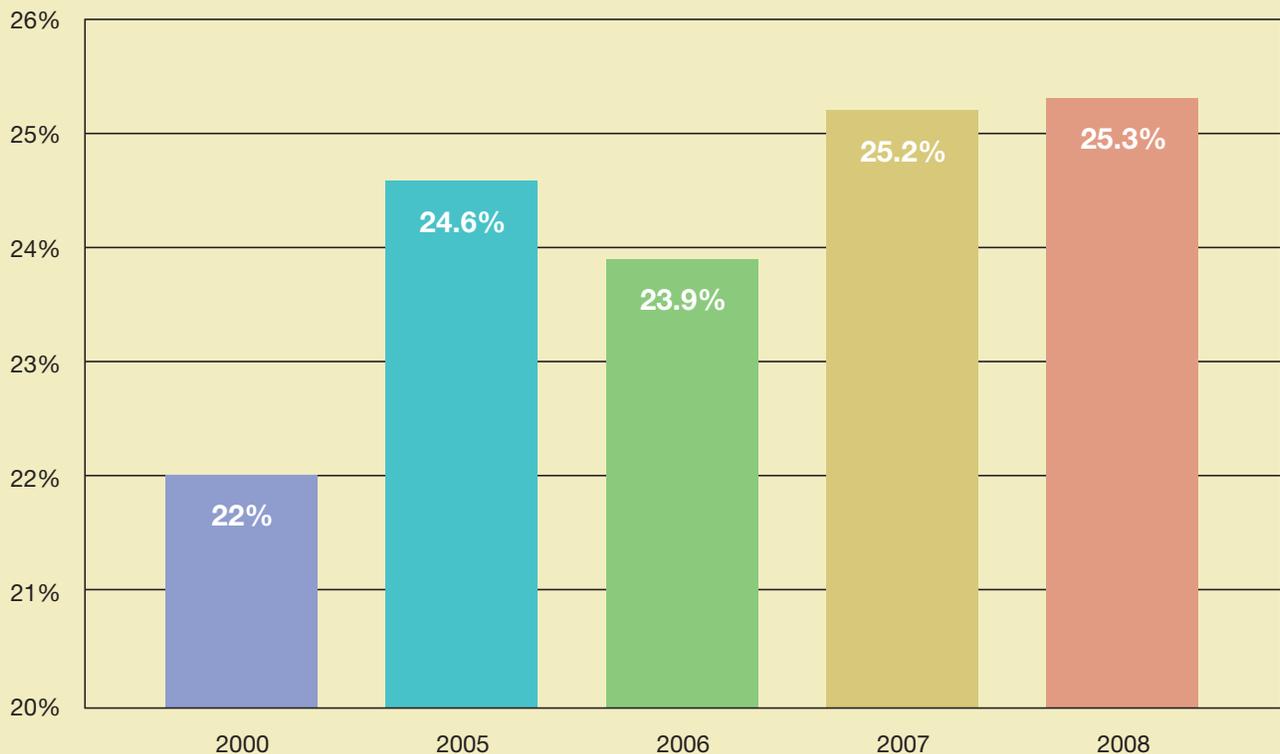
As regional economies move toward higher levels of prosperity, innovative and more efficient companies replace older firms that are less efficient. Average churn is a measure of the total births and deaths of business establishments relative to the total number of firms. A higher churn rate indicates that the economy is on the path to higher productivity.

According to data from Indiana University/Purdue University, from 1999 to 2005 (latest available), the average rate of churn for Northeast Ohio was below the national average, although the Akron metro exceeded that of the state. Across Northeast Ohio, the number of new business starts is lower than the number of business deaths. In other words, Northeast Ohio is not replacing the firms at a high enough rate to compensate for the firms it is losing. In 2008, the ratio of births to deaths range from .85 in Youngstown to .90 in Akron and .96 in Cleveland. In contrast, in healthier metros like Minneapolis and Indianapolis, firm births exceed firm deaths by a significant margin.

Looking beyond company startups, the region has also historically lost Stage 2 businesses (companies with employment of between 10 and 99 employees). These businesses generate a disproportionate number of jobs in the national economy. From 1999-2008, the population of Stage 2 companies declined by 2.1% in Akron; 4.2% in Cleveland; and 7.3% in Youngstown.

FIGURE 5: NORTHEAST OHIO POPULATION WITH COLLEGE AND POST-COLLEGE DEGREES

The percentage of people in Northeast Ohio with college and post-college degrees has steadily increased.



Needed Investments in “Next-Generation” Infrastructure

Regional traffic congestion and commuting times in Northeast Ohio each remain well below national averages, facilitating cost-effective flow of goods, services and labor. While the present transportation network (mostly roads) provides enough current capacity, the community could benefit from more transit options to better limit carbon emissions and satisfy greener commuter preferences in the next economy. In this regard, the overall regional share of workers using public transit to travel to work is only 2.5 percent—just half the national rate, which suggests enormous upside potential. Specifically, only Cleveland at present ranks in the top quintile of the largest 100 U.S. metros for public transportation usage; Akron and Youngstown rank in the middle and bottom quintiles, respectively.

Similarly, of Northeast Ohio’s metros, only Cleveland ranks in the top 20 nationally for the dollar value of exports and imports handled by air-, land-, and seaports. Although Cleveland handled more than \$30 billion in international merchandise in 2008, boosting Northeast Ohio’s exports in the future may require expanding the freight transport capacity of the other two metros as well. The expansion of logistics corridors from the East Coast into the Midwest creates new opportunities for Northeast Ohio, but seizing these opportunities requires close collaboration. A recent report of the Northeast Ohio Trade & Economic Consortium (NEOTEC) underscores that Toledo and Columbus have better developed their logistics infrastructure relative to Northeast Ohio.

Northeast Ohio is extraordinarily well positioned geographically between the Midwest and East Coast markets with easy and proximate access to both. But steps must be taken to build on this advantage. Without more careful planning, Northeast Ohio risks becoming a “no man’s land” between major high-speed rail networks. The Chicago Hub network includes Cleveland, but does not extend eastward. At the same time the Empire Corridor extends to Buffalo, but not further west, and the Keystone Corridor stops in Pittsburgh. Looked at differently, the region is positioned to be a vital nexus between multiple systems if it organizes to capture this opportunity.

Relatively Weak Government Collaboration, Excessive “No-Growth” Sprawl, and a Relatively High Cost of Government

Fragmented governments and state and local policies that foster no-growth sprawl increase the costs of government. The three largest metros in Northeast Ohio have about 1.21 governments per 1,000 residents, which means the region has more governments per capita than most other parts of the country. More importantly, local government spending is continuing to increase at a rapid pace—70% between 1992 and 2007—at a time when the region’s population only increased 1% and inflation was 29%. (See Figures 6-8.)

One of the drivers of that increased government spending is no-growth sprawl. To support a given population base, sprawl creates more miles of roads, water lines and sewers; more extensive service networks from emergency vehicles to school buses; more redundant capital investments in everything from public safety and libraries to schools and community centers; and more fragmented government as municipalities compete for increasingly scarce public investment and jobs. Across Northeast Ohio, the amount of urbanized land over the last 30 years has increased nearly 70% while the region’s population has increased less than 5%.³

Despite differences in urban density, all three Northeast Ohio metros struggle with a notable degree of job sprawl, which can detract from quality of life by requiring large amounts of land consumption, forcing auto-dependence, and reducing job accessibility. Cleveland, which is one of the 20 densest metros in the nation, with 90% of the metro population living in urbanized areas, also has the region’s most job sprawl. Only 16.2% of metro Cleveland’s jobs are within three miles of downtowns, while 45.7% are more than 10 miles away. Youngstown, which is one of the least dense metros in the nation with 67.1%, exhibits similar, worse-than-average, job sprawl patterns. In Akron, where urban density of 81.5% is mid-range compared to other large U.S. metros, job sprawl is slightly better contained relative to the rest of the region, but still more than 30% of Akron jobs are more than 10 miles away from central business districts. ♦

³ Planning and Sharing for Regional Growth, a report issued by the Northeast Ohio Mayors and City Managers Association.

FIGURE 6: NORTHEAST OHIO PROJECTED DEVELOPMENT BY 2020

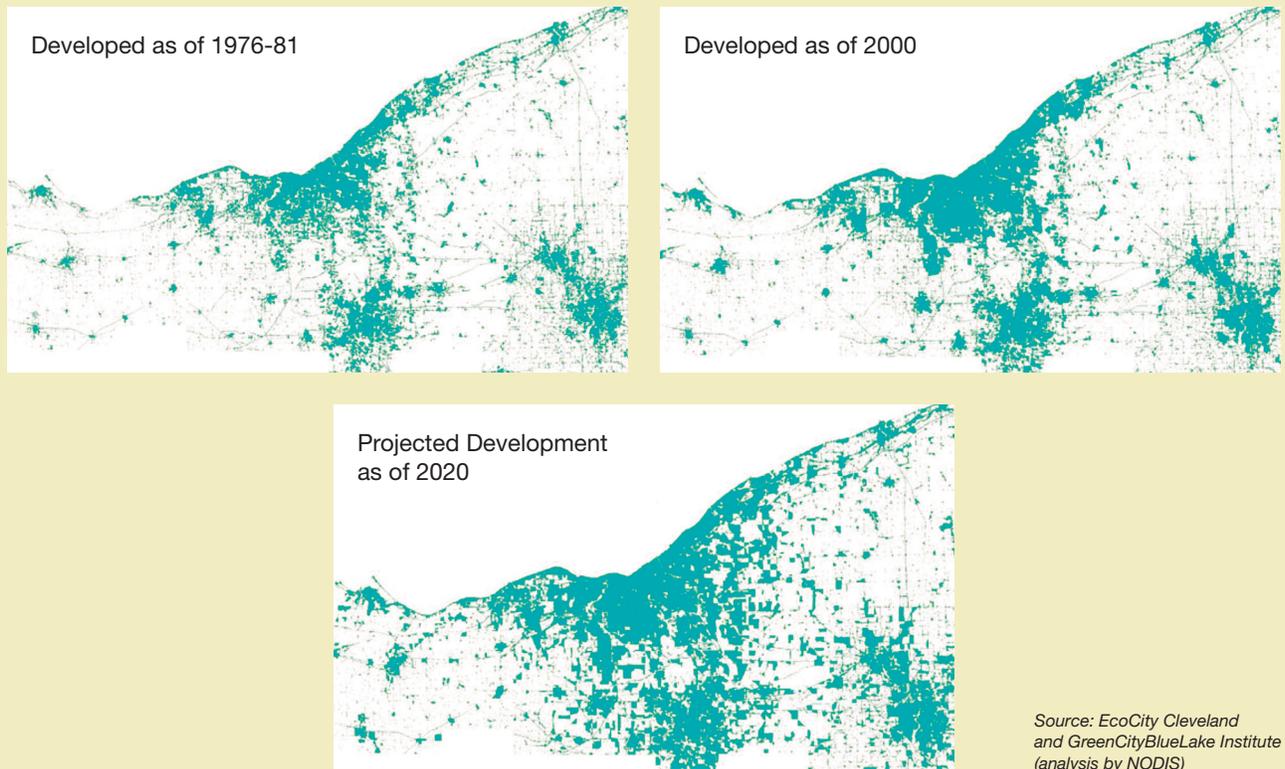
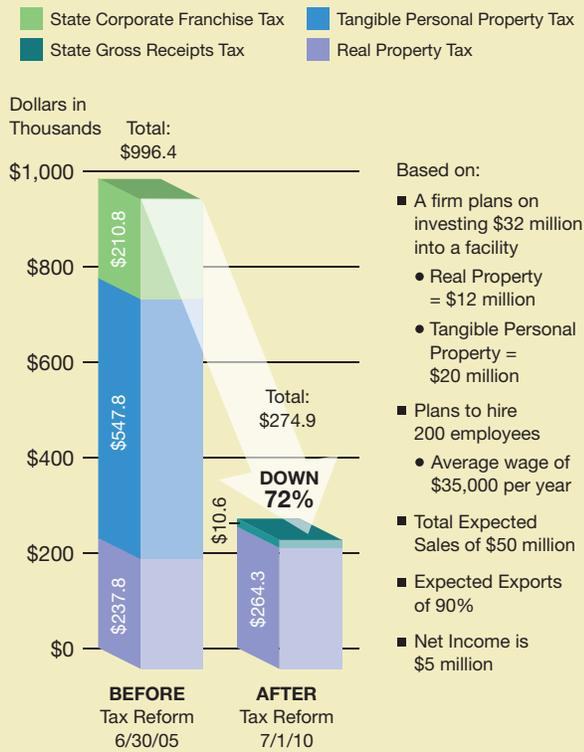


FIGURE 7: IMPROVED OHIO TAX STRUCTURE



Source: Ohio Dept. of Development, Office of Strategic Research

FIGURE 8: RATE OF GROWTH FOR LOCAL GOVERNMENT SPENDING vs. ECONOMIC INDICATORS 1992-2007



MOVING AHEAD: STRATEGIES TO STRENGTHEN NORTHEAST OHIO'S ECONOMIC COMPETITIVENESS



Enhancing a region's performance in the next economy requires interventions that effectively influence the dynamic systems, interactions, and operations that determine the efficiency and productivity of the regional economy.

THE KEY LEVERAGE POINTS ARE:

- ◆ Build and sustain industry and occupational clusters
- ◆ Deploy human capital for maximum results
- ◆ Develop the infrastructure of innovation and entrepreneurship
- ◆ Enhance spatial efficiency
- ◆ Foster effective public and civic institutions
- ◆ Produce effective information resources

An economy is an interconnected system and each of the leverage points is integrally related to the others. The purpose of this effort is to integrate the respective strategies targeted at each leverage point into a systemic approach to achieve our vision of transitioning Northeast Ohio successfully into the next economy. This integrated, systemic approach is deliberately designed to better connect and therefore strengthen existing assets—ranging from older industrial assets to long-standing research institutions to diverse natural assets—across a region that in the old economy was fragmented and disconnected, but in the next economy will be well-connected and collaborative.

LEVERAGE POINT 1

Build and Sustain Industry and Occupational Clusters

RATIONALE

Concentrated economic activity benefits the production of goods and services by reducing transportation costs, enabling shared labor pools and other inputs, facilitating spillovers and exchange, and enhancing innovation. Reflected regionally through the size, input-output relationships and interactions of clusters of related firms, occupations, and/or functions (e.g., headquarters or back office activities), an analysis of regional concentrations can reveal which ones have the most potential for growth and whether their productivity and efficiency could be improved by pursuing particular metro-scaled strategies, such as developing specialized human capital, key infrastructure, or formal and informal networks.

SITUATION

Many of NEO's industries, functions and occupations are concentrated in old, commodity-based industries that represent the historic strengths of the region's economy. These industries include chemicals/coatings, steel, automotive, rubber and finance. Transitioning to a more innovation-driven economy requires leveraging the region's existing strengths and building clusters in emerging industries. Based on research sponsored by NorTech, Team NEO, Battelle

Memorial Institute and others, Northeast Ohio's high-potential, emerging industry clusters are (a) biosciences and health care, (b) advanced manufacturing, (c) cleantech/advanced energy, (d) electronics, including flexible electronic displays, (e) advanced materials, and (f) information and communication technologies.⁴

The six clusters leverage both Northeast Ohio's research strengths based on its nationally recognized research institutions, and its traditional manufacturing strengths. Research being conducted at local institutions particularly supports business formation in biosciences and health care, electronics and advanced materials. Manufacturing strengths in metals, polymers and chemicals are expected to translate well into new business concentrations in advanced manufacturing, cleantech/advanced energy, electronics and advanced materials. For example, the region has six times the average region's presence of companies in the cleantech supply chain.

Workers in Northeast Ohio are heavily concentrated in manufacturing-related industries, with 17% of all workers employed in those industries. While retraining will be part of the Northeast Ohio strategy (discussed under the next leverage point), some of the skill base in current industries is expected to translate well into new industries including cleantech, which now involves more than 130,000 workers in related industries.⁵

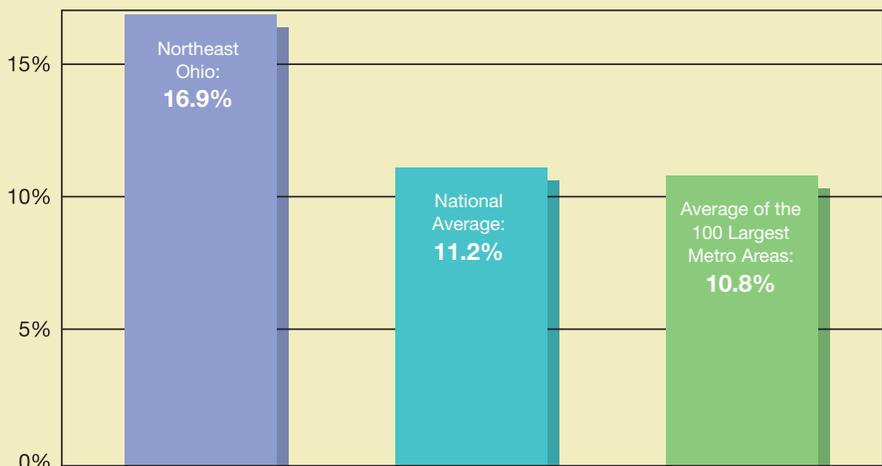
CHALLENGES AND OPPORTUNITIES

Northeast Ohio's success at building large industry clusters in the last economy creates substantial opportunity for economic revitalization in the next economy. While the region has suffered from the relative decline of its existing concentrations which were too heavily dependent on commodity products, there are increasing signs that the region's clusters are prepared to benefit from closer connections with the region's improving innovation infrastructure. For example, in the mid-2000s the State of Ohio partnered with several higher education institutions to enhance research and commercialization efforts tied to the emerging fuel cell industry cluster. This commitment of research resources and the development of commercialization capacity have enabled one of the region's oldest industrial companies, GrafTech, to transfer its experience with graphite from the steel industry into products for the fuel cell sector. Similarly, Timken Co., a global manufacturer of bearings and other products, partnered with the State and Stark State College to connect the region's emerging wind energy industry cluster to research into the next generation of wind turbines.

Both examples are part of a coordinated effort among state and regional stakeholders to align the region's innovation capacity with its historic industrial strengths in advanced materials and manufacturing.

**FIGURE 9:
NORTHEAST OHIO'S
SKILLED MANUFACTURING
WORKFORCE**

In Northeast Ohio, the percentage of civilian people employed within the manufacturing industry is higher than the national average and higher than the average among the 100 largest metro areas.



⁴ 2002 Battelle Memorial Institute study that identified five core areas that provide a foundation for world-class technology-based economic development for Ohio, the 2003 World Class Ohio report done by the Ohio Business Roundtable, the High-Tech Sector in Northeast Ohio by the Cleveland State University's Center for Economic Development in 2007 (and subsequent updates)

⁵ Team NEO's Cleantech Economy analysis done in May 2010.

However, many smaller to mid-sized manufacturers have experienced a significant reduction in their innovation capacity as their customers encouraged them to focus on process innovations to reduce costs, rather than product innovation. Helping more of the region's manufacturers to transition from commodity-based sectors into innovation-driven markets will require significant intervention and strong connections with the region's research institutions, higher education entities and its innovation infrastructure. Indeed, any plan to transition our region's economy requires an effective strategy to transform our manufacturing sector, which represents 20% of the region's \$170 billion economy, into a growth engine. (See Figure 9 on page 11.) The next economy will be export-driven and much of those exports will be manufactured goods. Ohio is a national leader in both manufacturing and exports, and Northeast Ohio makes up more than one fourth of the state's manufacturing output. So the benefit of improving the performance of Northeast Ohio's manufacturing sector is dramatic not just for the region, but also for the country.

**FOCUS AREA:
LEVERAGE INNOVATION
RESOURCES TO GROW MID-SIZED
MANUFACTURING FIRMS**

STRATEGIC INITIATIVE

The Manufacturing Advocacy and Growth Network (MAGNET), based in Northeast Ohio, is developing a new collaborative initiative called Partnership for Regional Innovation Services to Manufacturers (PRISM). The mission of PRISM is to make Northeast Ohio's manufacturing sector a growth engine for the region's economy. MAGNET's strategy is to assist small- to mid-sized manufacturers in using innovation to grow in key markets—with an emphasis on the region's emerging industry clusters.

Small to medium-sized manufacturers represent an estimated 15% of the manufacturers in the region, but generate more than 45% of the manufacturing sector's \$29 billion in gross regional product.

The manufacturers targeted will be those that have an interest in new manufacturing techniques, products, markets or others changes that will drive growth. MAGNET—which historically has worked

with manufacturers in a fee-for-service model—will adopt a more long-term, relationship-based approach and will provide companies with a full portfolio of services that can meet the business' needs wherever they fall on the innovation continuum. MAGNET will particularly target companies with existing capabilities of interest to the region's emerging industry clusters. For example, Northeast Ohio's large base of plastics manufacturers are of interest to emerging companies developing polymer-based implantable medical devices. Through collaborations with the region's innovation institutions and intermediary organizations charged with growing those clusters, MAGNET will help connect the companies to emerging market opportunities.

PRISM will help these manufacturers identify, access and apply the many resources in public, private and non-profit networks that can support their growth plans. And MAGNET will develop new, complementary in-house competencies that will address several gaps in the network, including market research, partnership development, assessment of growth prospects, and capital fund management and administration.

MAGNET projects that the services provided under the PRISM initiative will generate 3,200 incremental jobs and more than \$470 million in incremental gross regional product within eight years.

**FOCUS AREA:
ACCELERATE GROWTH IN
EMERGING CLUSTERS**

STRATEGIC INITIATIVE

Northeast Ohio has developed a collaborative network of resources and institutions to grow targeted industry clusters through innovation, entrepreneurship and attraction. Local organizations will be encouraged to step up current activities, to coordinate those activities regionally, and to link more actively with sources of research and innovation. In addition to the advanced manufacturing initiative described above, we describe here strategies in three additional clusters. These initiatives are aligned closely with the state's Third Frontier program and are coordinated by regional economic development entities, including JumpStart, NorTech and BioEnterprise.

Bioscience/Health Care: Leverage long-standing regional strengths in health care delivery, medical research and medical devices to create, grow and attract companies serving this sector with an emphasis on locating growing companies in regional corridors (e.g., Cleveland’s Health-Tech Corridor and Akron’s Biomedical Corridor) that strengthen core communities and improve spatial efficiency within the region (see Leverage Point 4 for additional discussion). BioEnterprise (which represents business, health care delivery and research sectors) is leading this initiative in collaboration with Team NEO, JumpStart, the Northeast Ohio Bioscience Consortium, the Austen BioInnovation Institute and other locally-based initiatives. BioEnterprise has set a goal for the region’s bioscience companies to attract \$750 million in growth capital between fiscal 2011 and fiscal 2105 and generate 500 jobs with an average wage of \$57,000.

Energy: NorTech Energy Enterprise is leading a collaborative regional effort to drive growth across all sectors in advanced energy. There are 10 advanced energy sectors in which Northeast Ohio has significant assets: fuel cells, wind, solar, biomass/waste to energy, energy storage, transportation electrification, smart grid, clean coal, nuclear and energy efficiency technologies.

Northeast Ohio has built strong networks to assist the growth of the fuel cell and wind networks.

The Ohio Fuel Cell Coalition, a statewide initiative initially launched with NorTech’s support, is coordinating efforts to expand the fuel cell sector in conjunction with the state’s Third Frontier program. Northeast Ohio’s legacy of power and propulsion innovation has made the region a center for fuel cell innovation. Research and development assets include NASA Glenn Research Center, the North American headquarters of Rolls-Royce Fuel Cell Systems based at Stark State College, and the Great Lakes Energy Institute at Case Western Reserve University.

The Great Lakes Wind Network—formed by WIRE Net – is an industry-based network of manufacturers, suppliers and research organizations. Its mission is to serve the rapidly growing wind industry by growing the supply chain.

NorTech Energy Enterprise is facilitating the development of sector roadmaps that will give a vision and focus to build out four more of the high-potential advanced energy sectors:

- ◆ energy storage
- ◆ smart grid
- ◆ transportation electrification (electric cars)
- ◆ biomass/waste-to-energy

The roadmaps are funded by the Economic Development Administration. The process engages existing business, university, government and funding partners with advanced energy industry leaders to form a vision and facilitate entrepreneurship and coordinated investment in four targeted advanced energy sectors. NorTech also is partnering with Team NEO to attract energy and cleantech companies to the region and with MAGNET to use the roadmaps in advanced energy as market intelligence for the manufacturers that will be involved in the PRISM initiative. In addition, JumpStart is providing early-stage capital and entrepreneurial assistance to entrepreneurs in this sector. The region’s research assets, including the Ohio Agricultural Research & Development Center, NASA and the Great Lakes Energy Institute form the base for generating commercialization opportunities. NorTech Energy Enterprise anticipates the region will attract \$250 million in growth capital, adding 2,000 jobs and \$100 million in payroll over the next five years as a result of expansions in the advanced energy sector.

Flexible Electronics: A regional innovation cluster has emerged around the flexible electronics industry in Northeast Ohio. The cluster is rooted in the world-renowned, breakthrough work of the Liquid Crystal Institute at Kent State University and the globally recognized advances in polymer science by the University of Akron. Today, NorTech’s FlexMatters initiative focuses on accelerating the growth of this small but highly collaborative and vibrant innovation ecosystem. In partnership with cluster members, NorTech completed a strategic roadmap to guide FlexMatters toward becoming a global knowledge center for flexible electronics manufacturing and a leading producer of flexible electronics products sold worldwide. FlexMatters primarily focuses on producing advanced “flex” materials, flexible displays, printed sensors and circuits, flexible photovoltaics, and OLED lighting for consumer, healthcare, military, industrial and advanced energy markets.

LEVERAGE POINT 2

Deploy Human Capital for Maximum Results

RATIONALE

Human capital is the single most important input to economic growth, but leveraging it to improve regional economic performance requires not just producing high levels of educational attainment, but also retaining and deploying talent through alignment with existing and expected employment opportunities. Measuring how well the region's skills and job pools match helps to target employer-driven education, training, and internships, worker attraction and retention efforts, and programs building career ladders and job mobility.

SITUATION

Northeast Ohio's workforce is increasingly more educated, but also is aging and is too heavily concentrated in older, low-growth industries.

According to the Dashboard of Economic Indicators, the percentage of the region's population with a college degree has grown from 22% in 2000 to 25.3% in 2008, yet it continues to be well below the rates of high-growth regions.

About 34% of the region's population is in a professional occupation. Like other Midwestern regions, the median age of the region's population continues to rise (39.3), putting the region in the bottom quartile among the 100 largest metropolitan areas.

Encouragingly, the region still retains a large percentage of its workforce, about 17%, in the manufacturing sector. Relatively speaking, manufacturing workers are relatively high-skilled and have the potential to be transitioned from jobs serving declining markets to those that are serving emerging clusters that are manufacturing dependent, including cleantech and medical devices. However, many of those workers grew up in the automotive and similar sectors that require different skills than the emerging clusters.

The region's educational and talent development systems, including Workforce Investment Boards, were designed to meet the needs of the last economy. The region is beginning to make the

transition to the next economy by connecting our innovation assets, emerging clusters and educational-talent development systems. These interconnections will increase the likelihood that the region will be able to prepare, attract and retain talent required to build a vibrant regional economy.

CHALLENGES AND OPPORTUNITIES

Talent-related challenges in Northeast Ohio are similar to those of other Midwest regions. These challenges involve (a) strengthening educational attainment, (b) preparing, attracting and retaining graduates and skilled workers, particularly in the science and engineering sectors, (c) re-engaging talent in new growth areas, (d) inculcating critical thinking skills throughout the educational system, and (e) revitalizing urban school districts.

The region is home to ample educational resources, including 27 accredited colleges and universities with 209,000 enrolled students. The region's institutions issue about 30,000 post-secondary degrees a year. The region's public K-12 school system is exceptionally fragmented with more than 223 school districts. The performance of those systems varies widely, with the most challenging environments being in the region's core city systems. Because of the fragmented nature of the educational system, developing a regional approach to preparing students for the demands of the next economy has been challenging. Individual communities have shown significant progress in strengthening educational attainment and illustrate opportunities for the rest of the region. A concerted effort to increase high school graduation rates in Stark County has resulted in dramatic transformation. For example one inner-city high school has seen its graduation rate increase from about 60% in 2003 to 83% in 2008. Today, the vast majority of the county's districts graduation rates exceed 95%.

Multiple Workforce Investment Boards also result in fragmented programs for job seekers, workers in transition and growing employers. Eight separate boards serve the Northeast Ohio employment market with a wide variety of strategies and tactics. This fragmentation results in a significant disconnect between those searching for employment and employers' needs for specific occupational skills. For example, members of the Northeast Ohio Health Science & Innovation

Coalition (NOHSIC), a group of health care delivery organizations, estimate that they will have nearly 2,000 unfilled positions over the next three years. There are, however, some signs of improving alignment among the region's growing industry sectors and educational institutions. For example, Stark State is preparing students to be able to make the next generation of fuel cells for Rolls-Royce, which recently announced its plans to expand its Fuel Cells Systems operation in Canton. And the Cleveland-Cuyahoga WIB has adopted a new strategy that targets job training for specific job openings available at growing employers.

**FOCUS AREA:
INCREASE EDUCATIONAL ATTAINMENT
AND RE-ENGAGE TALENT IN NEW
GROWTH OPPORTUNITY AREAS**

STRATEGIC INITIATIVE

The Northeast Ohio Council on Higher Education (NOCHE) is working with the region's chambers of commerce, P-16 councils, universities and other stakeholders to launch the Talent Dividend initiative in conjunction with CEOs for Cities to strengthen educational attainment and re-engagement networks. The initiative will re-engage adults with some college, increase the transfer rate of students from two- to four-year institutions, retain current students for timely completion, and increase college readiness of high school students. Linking these activities with the innovation and entrepreneurship, and manufacturing concentration, functions and occupations strategies will add value by further ensuring that educational attainment and training of adult workers are directed toward emerging growth jobs.

**FOCUS AREA:
CREATE MULTIPLE CAREER PATHWAYS
THAT ENABLE EMPLOYERS TO HAVE
READY ACCESS TO APPROPRIATELY
SKILLED EMPLOYEES**

STRATEGIC INITIATIVE

The region faces a major opportunity to build out pathways and strengthen re-engagement networks among adult workers. The strategy seeks to scale successful programs through replication and policy change. Led by the Fund for Our Economic-Future, the region is developing a network—

“NEO@Work” —that will (a) connect and support workforce development innovators, from within and outside traditional workforce, education, and social service institutions; (b) fund and support a portfolio of the most promising local workforce development initiatives; and (c) advocate for a state/federal policy agenda that fosters workforce innovation and builds public support for continuous learning. Efforts will be coordinated with an Ohio Skills Bank initiative of the Ohio Board of Regents that identifies the expected supply and demand of key occupations and works with employers in critical industries to set priorities and guide efforts of the higher education system. The employer initiatives in Northeast Ohio include health care, information technology and manufacturing, and will further strengthen related strategies under industrial concentrations and innovation and entrepreneurship. As NEO@Work takes shape, its manufacturing-related workforce efforts will be coordinated and aligned with MAGNET's PRISM effort to increase the employment pool for manufacturers transitioning to higher-growth markets.

In addition, Northeast Ohio was the recipient of an inaugural Social Innovation Fund grant from the federal government to implement innovative workforce development programs targeted at the manufacturing and health care sectors. The first projects under NEO@Work are expected to be launched in the second half of 2011.

LEVERAGE POINT 3

**Develop the Infrastructure of
Innovation and Entrepreneurship**

RATIONALE

The ability to innovate has been a longstanding driver of productivity gains, and is a growing priority in economic development policy and practice. Tracking the stages of innovation as it translates to economic growth—from idea to product to commercialization, and from new firm creation to market expansion—may reveal the need to intervene to improve knowledge networks, university-industry partnerships, flows of investment capital for R&D and new ventures, and the general business environment and culture.

SITUATION

Northeast Ohio's economic growth in the last century was fueled by innovation and entrepreneurship. Revitalizing the region's economy will depend, in part, on revitalizing that innovative heritage. A cross-sector regional collaboration has been working to enhance the region's innovation and entrepreneurship capacity since the early 2000s.

The Northeast Ohio region has many research resources—academic and industry-based—that generated about \$2.2 billion R&D spending in 2006. In 2008, Northeast Ohio colleges and universities reported \$493 million in research expenditures. Between 2000 and 2008, these research expenditures grew by 50%, outpacing the remainder of Ohio, the Midwest and the U.S. The overall growth in Northeast Ohio's academic research expenditures indicates that the region is committed to investing in research that will drive future development of innovative technologies. While the increase in R&D spending demonstrates that the region has made significant progress in strengthening its R&D assets, on a per-employee basis the region still lags the national average. Northeast Ohio generated \$248 of R&D per employee in 2008 vs. \$387 for the nation.⁶

While the quantity of research is on the rise, the quality of the region's research institutions is also strong. The University of Akron and Case Western Reserve University are ranked among the top 5 nationally in polymers and bio-engineering education, and research in these areas is strong and growing. The Cleveland Clinic also receives substantial NIH funding for research. NASA Glenn Research Center is the nation's only NASA center north of the Mason-Dixon Line.

Patents are one indication of strong research that can be potentially commercialized by entrepreneurs and existing businesses. In 2007, Akron ranked 25th and Cleveland ranked 44th among the top 100 MSAs in patents per employee.

In order to commercialize research stemming from university and other research institutions, several regional organizations and institutions are working on building stronger connections among the R&D institutions and entrepreneurial networks, and increasing investments in the commercialization of the research. One indication of progress in this area

is seen in the growth of venture capital invested in the region. In the 1990s and early part of this century, the region's entrepreneurs struggled to raise even nominal amounts of venture capital. Over the last five years (2005-09) the region has attracted on average \$220 million annually in venture capital that has been invested in more than 180 companies.

CHALLENGES AND OPPORTUNITIES

To make the successful transition to the next economy, the region will need to both increase its level of research to above the national average and increase the effectiveness of the region's ability to commercialize the ideas and innovations that emerge from that research. Over the past 30 years, Northeast Ohio's steady stream of innovations—ranging from liquid crystal displays to cardiac care—has not translated into sufficient economic growth to replace declines in commodity-based industries.

Northeast Ohio is positioned to reverse that past experience by better connecting an impressive network of organizations that support commercialization and entrepreneurship including (a) organizations that provide early-stage capital and mentoring—JumpStart, BioEnterprise, the Innovation Fund of Lorain County Community College Foundation, North Coast Angel Fund, ArchAngels, North Coast Opportunity Fund of Cuyahoga County, and Glengary Ventures; (b) multiple privately backed and publicly supported incubators, including Akron Global Business Accelerator, GLIDE, Youngstown Business Incubator, MAGNET Manufacturing Incubator, and Braintree Business Development Center; (c) enhanced internal commercialization functions at research institutions such as Cleveland Clinic Innovations, Case Western Reserve University, and the University of Akron; and (d) targeted industry cluster activities by NorTech, MAGNET, BioEnterprise, Wire-Net, Polymer Ohio and others.

This network is particularly focused on leveraging the region's emerging industry clusters discussed earlier. And many of the anchor institutions involved in this network are active in efforts to create more vibrant work-live-learn neighborhoods surrounding their facilities; which is discussed in more detail under the spatial efficiency lever.

Over the last eight years, the state's Third Frontier investments of nearly \$500 million in Northeast Ohio's technology commercialization efforts (including private companies and research institutions) has provided the region with an essential source of capital for commercialization. Much of the Third Frontier investments have gone to the region's universities, which provides them with opportunities to better prepare students, researchers and entrepreneurs to participate in these emerging sectors.

Looking forward, it will be important for the region to leverage the state's Third Frontier investments by attracting greater federally-sponsored and privately funded R&D. As our analysis shows, NEO's research institutions have increased their federally funded research in recent years, but will need to increase this funding more to provide additional fuel for the pipeline leading to commercialization and entrepreneurial spin-offs.

FOCUS AREA: INCREASE PRODUCTIVITY AND VOLUME OF INNOVATION AND ENTREPRENEURIAL RESOURCES

STRATEGIC INITIATIVE

Northeast Ohio is working to leverage, connect and expand R&D, entrepreneurship, technology transfer and commercialization assets to create more innovation-based, early-stage high-growth companies.

NorTech, the region's technology-based economic development organization, is facilitating a coordinated effort to connect the region's innovation assets to support specific, coordinated efforts designed to enhance targeted industry clusters. The region's public and private research institutions are forging regional and super-regional collaborations to attract private and federal support for technology commercialization efforts rooted in the region's historic strengths in biosciences, advanced energy, advanced materials and other promising clusters. Growing the region's innovation capacity is benefiting the region's manufacturing sector, providing what might be considered "old line" companies with opportunities to identify new

products and pursue new markets. The PRISM initiative is designed to accelerate and magnify this trend.

The promise of this concentrated effort can be best seen in the region's bioscience sector—the first industry cluster initially targeted by NorTech several years ago. Those efforts resulted in greater focus on attracting more bioscience research dollars to the region and the creation of BioEnterprise, a health care industry-led effort to grow more bioscience companies in the region. Since July 2002, BioEnterprise has achieved the following results:

- ◆ More than 100 companies created, recruited, and accelerated
- ◆ More than \$1 billion in new funding attracted by these companies
- ◆ More than \$150 million in revenues collected by technology offices
- ◆ More than 450 technology transfer deals concluded with industry partners

The region's efforts to increase its innovation capacity are generating, and will need to increasingly generate:

- ◆ an increase in basic and applied research funding;
- ◆ stronger linkages between universities and other research institutions, and linkages between the institutions and the companies in key clusters;
- ◆ spin-off companies emerging from the research institutions, and licensing revenue that is used to further enhance the region's innovation infrastructure;
- ◆ stronger supply chains serving the growing clusters—including ability to manufacture innovative products (MAGNET's PRISM initiative, discussed further in the DDI portion of this plan)
- ◆ business development resources including mentoring programs and interactive information resources; and
- ◆ diverse sources of early-stage capital, including funding provided by private and public institutions.

6 *The Northeast Ohio High-Tech Economy* research report commissioned by NorTech and issued by the Center for Economic Development at Cleveland State University in 2009.

**FOCUS AREA:
COORDINATE AND CONNECT THE
REGIONAL ENTREPRENEURIAL ECOSYSTEM
TO ATTRACT SUFFICIENT INVESTMENT
CAPITAL TO SUPPORT A GROWING
PORTFOLIO OF EARLY-STAGE,
HIGH-POTENTIAL GROWTH COMPANIES**

STRATEGIC INITIATIVE

Northeast Ohio has developed a comprehensive entrepreneurial ecosystem that supports a portfolio of more than 200 growth companies, primarily in the targeted sectors of bioscience, cleantech, energy, information technology and advanced materials. JumpStart Inc. facilitates and enhances a diverse network of resources, including incubators, angel and seed capital funds, mentorship, and technology transfer and commercialization offices that collaborate to grow the region's portfolio of promising companies.

This initiative has attracted more than \$1.4 billion of investment in more than 200 companies since 2005. Based on estimates from the National Venture Capital Association, that amount of investment translates into more than 40,000 jobs that have been or will be created. The Northeast Ohio Venture Capital Advisory Task Force, comprised of more than 40 investors in the region, has determined that at least \$1.5 billion in private-sector venture capital investment will be needed over the next five years to continue the growth of early-stage companies in the pipeline.⁷ JumpStart has set regional goals for the entrepreneurial sector that include attracting \$750 million in follow-on funding for startup companies by 2016 and adding 2,000 jobs by 2015 to a portfolio of companies formed since 2004.

The network has nurtured several new and spin-off manufacturing concerns in sectors that include clean-tech, advanced energy and advanced materials. These companies highlight the promise of MAGNET's PRISM initiative, referenced earlier and described in more detail in the DDI portion of this plan.

Members of the entrepreneurial network aggressively market the region's portfolio to sources of capital, encouraging them to invest in local companies and to locate offices in Northeast Ohio. Members of the network also collaborate to create new in-region sources of capital, including angel funds, government-sponsored funds, and philanthropic capital.

Because of the decreasing availability of capital nationwide, particularly for early-stage, high-risk entrepreneurs, the region will need to step up its efforts, particularly focused on creating innovative local mechanisms to finance entrepreneurs.

LEVERAGE POINT 4

Enhance Spatial Efficiency

RATIONALE

The location of businesses, suppliers, workers, and consumers within a region—and the infrastructure connecting them—determines the transportation costs between them, and also influences the economic benefits of agglomeration, such as shared labor pools and knowledge spillovers. Such spatial relationships can be measured in terms of density, the geographic matching between jobs and housing, and the transportation times and costs between firms, suppliers and consumers, as well as in the extent of regional segregation and concentration of poverty. Examining issues of spatial efficiency can inform strategies such as affordable housing near employment centers, transit-oriented and mixed-used development, expanded public transit, and denser, more pedestrian-friendly communities

SITUATION

Like much of the Midwest, Northeast Ohio has suffered through more than 30 years of geographic sprawl driven by a mixture of topography, government policies, changing demographics and individual choice. The amount of urbanized land in the region increased by 60% from 1970 to 2000, while the region's population grew less than 4%.

That sprawl has particularly hurt the region's urban cores, which are increasingly disconnected from the population that has dispersed across the region. This disconnect exacerbates the jobs-housing mismatch and drives up costs in the region. Professional workers living in the suburbs extend their commutes and urban residents must do a reverse commute as more businesses follow the residential sprawl. The diffusion of economic wealth over a broader area has contributed to core communities characterized by high poverty rates (above 30%) and inadequate resources to address infrastructure needs. At the same time, expanding wealthier suburban communities have continued to add physical infrastructure.

This sprawl has resulted in living and commuting patterns that don't align with a low-carbon future. In turn it causes higher economic costs, raises the cost of labor and drives up the cost of government. More than 25% of the region's population commutes across county lines for employment. And in some counties, more than half of the residents work outside the county.

The localized nature of planning in Ohio—with power fragmented among thousands of governments and four municipal planning organizations serving Northeast Ohio—clearly contributes to unbalanced growth patterns. To cite just one example, in Medina County alone, planning duties are divided among three cities, seven villages and 17 townships.

Despite these challenges, the region's core communities continue to retain high-quality assets and can be transformed into magnets for talent. Cleveland, for example, ranks first in locational amenities compared to 132 MSAs.⁸ And the region retains some of the country's most productive agricultural and valued environmental assets, including Lake Erie.

CHALLENGES AND OPPORTUNITIES

Northeast Ohio's multiple, distinctive urban cores provide significant opportunities to create vibrant centers of business, social and civic activity. These cores are surrounded by productive agricultural lands and natural assets, including a Great Lake and multiple rivers, which enhance the value of the core communities and sustain vibrant, smaller communities.

The evolution of development patterns in the Midwest has created challenges related to providing adequate resources to strengthen the infrastructure of urban areas and to protect the region's agricultural and natural assets. Development patterns are exacerbated by fragmented government and inadequate regional planning (See "Foster Effective Foster Effective Public and Civic Institutions" for further discussion.)

While this Regional Business Plan and the Advance Northeast Ohio economic competitiveness agenda are both focused on the regional economy they must also address the individual, yet inter-connected,

places that create character and community that are the magnets to investors, residents and workers. Northeast Ohio is working to do just that. This can be achieved by connecting macro (regional planning) and micro (place-based development) strategies. For example, downtown Cleveland has pursued strategies to attract more residents downtown, and over the last decade the number has grown to nearly 10,000 residents (short of the goal of 20,000). By building stronger connections with anchor institutions of innovation (such as Cleveland State University, Case Western Reserve University, University Hospitals, and Cleveland Clinic) and fostering the growth of companies emerging from those institutions, downtown Cleveland will be better positioned to achieve its goal. In October 2010, Living Cities made a significant philanthropic commitment to Cleveland, providing \$2.75 million to physically connect the city's anchor institutions to growing industry clusters, and develop nearby housing redevelopment for workers.

It would be inappropriate to only view Northeast Ohio as a region consisting of urban cores in transition. Development patterns and the overall quality of life in the region are influenced greatly by the region's agricultural sector. Northeast Ohio has an opportunity to leverage one of its distinctive attributes—a rich agricultural community (37% of the region's land mass is in agricultural use) within close proximity to a large population (4.1 million residents)—to enhance the quality of life in rural communities and reduce sprawl. Global trends—including rising transportation costs, increased concerns about carbon emissions, and growing food safety issues—will drive demand for "locally grown" foods and other value-added agricultural products, such as biomass that can be converted to energy. Regional assets include the Ohio Agricultural Research and Development Center and one of the country's most robust local foods networks. As the region improves the value of its agricultural sector, that will discourage the conversion of agricultural land into subdivisions and shopping malls. This opportunity is an example of the integrated nature of the economic development levers and the need to approach economic transition on a systemic level. This opportunity involves building an industry cluster (bio-ag), promotes spatial efficiency, demands appropriate human capital and requires more robust information resources.

7 2009 Venture Capital Report for the Cleveland Plus Region.

8 Regional Dashboard of Economic Indicators

**FOCUS AREA:
ALIGN INFRASTRUCTURE INVESTMENTS
WITH UNDERLYING ECONOMIC
OPPORTUNITIES THROUGH EFFECTIVE
REGIONAL PLANNING**

STRATEGIC INITIATIVE

Coordinate municipal planning organizations (MPOs) and develop mechanisms that increase their ability to share information, align incentives, and coordinate planning aimed at growing the region's economy. Provide opportunities to bring MPOs and other stakeholders together to share information and insights and to develop a coordinated, aligned infrastructure strategy. This strategy will be heavily tied to the information resources strategy.

In 2011, the Northeast Ohio Sustainable Communities Consortium was formed with the support of a \$4.25 million federal grant. The Consortium includes more than 20 governmental entities and 12 counties of Northeast Ohio. The Consortium will work with others to develop an integrated sustainability plan for the region that incorporates housing, transportation, environmental and economic development. This new consortium will build off of the efforts of the Regional Prosperity Initiative (led by the Northeast Ohio Mayors and City Managers Association), which is building support regionally and in the Ohio Legislature for using regional planning and revenue sharing to stimulate economic growth.

**FOCUS AREA:
CATALYZE DEVELOPMENT OF VIBRANT,
MIXED-USE CENTERS OF COMMERCE,
EDUCATION, CULTURE AND RESIDENTIAL
LIVING THAT ARE ANCHORED BY
MEDICAL, EDUCATION AND RESEARCH
INSTITUTIONS, AND LINKED REGIONALLY**

STRATEGIC INITIATIVE

While economies organize around regions, individuals live in neighborhoods. In an innovation-based, low-carbon economy the neighborhoods with a high density of both residents and innovation assets will be most attractive. Northeast Ohio is building neighborhoods and communities that will have a mixture of residential, business, cultural, green space and related infrastructure by coordinat-

ing physical development, industry cluster development and entrepreneurship efforts around key anchor institutions of innovation. For example, in Akron the University Park Alliance is accelerating development of a 50-block area that integrates the University of Akron, residential neighborhoods and prominent downtown anchors into a vibrant neighborhood.

There are several regional innovation hubs planned, and these hubs will be anchored by research- and innovation-related institutions and involve mixed-use, low-carbon space. The Health-Tech Corridor in Cleveland is anchored by the community's health care delivery and research institutions. The corridor, with the assistance of BioEnterprise and Team NEO, is recruiting biomedical companies to the neighborhood to build that industry cluster. Housing developments along the edge of the corridor create a work-live-play environment. The BioInnovation Corridor under development in Akron includes Summa Hospital, Akron General, the University of Akron, the Austen BioInnovation Institute and the neighborhoods surrounding the university as well as downtown. Oberlin, in partnership with its anchor institution Oberlin College, is using a similar strategy to attract and grow companies in the cleantech, advanced energy and locally grown foods sectors. Wooster is leveraging the Ohio Agricultural Research & Development Center to attract and grow ag-bioscience companies with a new industrial/business park. In Youngstown, the Youngstown Business Incubator and Youngstown State University are acting as anchors for entrepreneurial businesses, and attracting new residential developments in the downtown.

**FOCUS AREA:
STRENGTHEN THE REGION'S RURAL
COMMUNITIES AND ASSETS BY
FOSTERING INNOVATION AND FORGING
CONNECTIONS AMONG AGRICULTURAL
MARKETS AND POPULATION CENTERS**

STRATEGIC INITIATIVE

One way to slow the expansion of urbanized land in Northeast Ohio is to increase the value of agricultural property and strengthen the region's overall agricultural sector. To take advantage of the region's strong agricultural assets and strengthen local economies tied to those assets, more than 100

stakeholders have formed a collaboration presently called the Ag Bioscience Industry Cluster initiative. It is led by the Ohio Agricultural Research and Development Center (OARDC), Wayne Economic Development Council and the Ashtabula Growth Partnership.

The stakeholders are exploring how they can connect, inform, and empower thousands of stakeholders tied to the agricultural sector to take actions that:

- ◆ build businesses and wealth
- ◆ promote resilient communities
- ◆ create a healthy, balanced regional ecosystem.

The initiative is in its formative stages, but has identified five high-potential agricultural segments that offer the promise of both business growth and strengthening the region's rural communities:

- ◆ Fresh Produce Production
- ◆ Wineries/Grape Growing
- ◆ Nursery Production
- ◆ Dairy Products and Production
- ◆ Biogas/Biofuels Production and Processing.

LEVERAGE POINT 5

Foster Effective Public and Civic Culture and Institutions

RATIONALE

Government and civil society can enable and enhance private-sector performance by shaping the fundamental dimensions of economic development, including market conditions, human capital development and infrastructure provision. Examining the degree of coordination across the activities of various public, civic and business institutions, the vertical and horizontal fragmentation between different units of local government, and how government engages with and delivers services to citizens and businesses (e.g., e-government) may uncover missed economies of scale, ways to reduce duplicative services or regulations, and opportunities to create a more transparent, engaging and efficient environment for economic activity.

SITUATION

Much of Northeast Ohio's public and civic institutions were designed for a period when the economy was neither global, nor organized around regions. This is evident in the high level of government fragmentation and the lack of regional coordination.

The government fragmentation in Northeast Ohio contributes to rising public spending that far outpaces the region's economic or population growth. According to the 2007 Census of Governments, local spending grew 67% from 1997 to 2007, more than twice the rate of inflation.

The Dashboard of Economic Indicators describes the costs associated with the outdated institutional frameworks as the "Legacy of Place." Several variables make up the Legacy of Place factor, including the number of local governments per 100,000 residents. Northeast Ohio's four MSAs included in the Dashboard all rank in the bottom quartile in the country in that factor.

One result of Ohio's legacy as an industrial powerhouse has been relatively high tax rates for businesses, particularly manufacturing companies. In 2010, the final piece of Ohio's five-year tax reform program was put into place to make the state and Northeast Ohio (home of the majority of the state's manufacturing companies) more competitive. The effective tax rate on new capital investments in Ohio is now 3.6%, which is lower than five other Midwest states' rates, which average 5.7%.

CHALLENGES AND OPPORTUNITIES

Increasingly the region's stakeholders are developing a more collaborative approach to economic revitalization. However, many state and federal policies continue to encourage fragmented approaches to addressing key issues.

For example, the state Department of Economic Development (ODOD) treats Northeast Ohio as three separate geographic districts. In addition, the ODOD district boundaries are not aligned with the district boundaries recognized by other state agencies such as the Department of Transportation. And the state's multiple workforce development district boundaries do not align with the district boundaries of the multiple municipal planning organizations. Clearly, there is a need for state agencies to collaboratively establish consistent and expanded regional boundaries.

The civic infrastructure in Northeast Ohio has dramatically realigned over the last decade, and this realignment has strengthened the region's ability to deliver entrepreneurial services, attract growing companies to the region, and assist the growth of minority-owned enterprises.

Philanthropy in the region is organized, through the Fund for Our Economic Future, to support regional economic revitalization. Regional organizations are in place to strengthen the region's ability to address key levers of economic growth, including:

- ◆ Innovation—NorTech, JumpStart and BioEnterprise
- ◆ Industry cluster development—NorTech, MAGNET, and BioEnterprise
- ◆ Human capital—Northeast Ohio Council on Higher Education
- ◆ Business attraction and regional branding—Team NEO/Cleveland Plus
- ◆ Minority business development—Minority Business Accelerator 2.5+

As a result of this regional, collaborative approach more than \$10 million a year is now invested each year to strengthen the region's economic competitiveness.

These investments have resulted in outcomes that include:

- ◆ Attracting 41 new companies with more than \$135 million in annual payroll and 3,5100 new jobs
- ◆ Securing nearly \$500 million in state investments for innovation and commercialization projects
- ◆ Raising more than \$150 million in venture capital annually to support high-growth companies, establishing Northeast Ohio as a leading destination for bioscience venture capital
- ◆ Assisting 17 minority-owned enterprises with more than 30 deals and added 250 new jobs and generated \$131.6 million in new revenue
- ◆ Accelerating 115 efficiency projects from 674 government entities and their partners through two rounds of a government collaboration grants program

In priority areas where there currently are no regional organizations, collaborations are forming to strengthen the region. The Regional Prosperity Initiative, a collaboration led by the Northeast Ohio Mayors and City Managers, is addressing issues related to spatial efficiency. In addition, an alliance of local leadership programs collaborates to ingrain regional concepts into the next generation of leaders.

Led by the Cleveland Plus Marketing Alliance, collaborating businesses and organizations aim at communicating a clear, consistent narrative of the region's progress to a more vibrant regional economy, and engaging more residents in the effort to strengthen the region's economic competitiveness.

**FOCUS AREA:
INCREASE REGIONAL IDENTITY TO
STRENGTHEN CIVIC LEADERSHIP
CAPACITY AND NETWORKS,
ENHANCING THE REGION'S
ECONOMIC COMPETITIVENESS**

STRATEGIC INITIATIVE

To successfully make the transition to the next economy, Northeast Ohio needs to align and connect all of its assets behind a shared vision for the region's future. As the Council on Competitiveness recently pointed out in its recent "Collaborate" report, such alignment of regional stakeholders is very challenging because there are no regional institutions that can direct such an effort. The Council captures the regional challenge as "unnatural acts among non-consenting adults." Led by the Fund for Our Economic Future, the region has developed the Advance Northeast Ohio agenda to serve as an organizing framework for the initiatives that are incorporated into this plan.

Advance Northeast Ohio is a collaboration of more than 80 partners from the public, private and civic sectors that together strengthen our ability to think, plan and act effectively as a region.

STRATEGIC INITIATIVE

Through Cleveland Plus, the region's business and philanthropic stakeholders support a communications campaign to build regional identity. Cleveland Plus promotes the region internationally, and within the region reinforces the message of regional strengths and economic promise.

STRATEGIC INITIATIVE

Several initiatives are underway in the state and Northeast Ohio to reduce the redundancy and lower the cost of local government. Those efforts include (a) EfficientGovNow, a local government collaboration competition that has awarded grants to seven government collaborations that will generate more than \$5 million in annual savings and accelerated more than 100 collaborations; (b) 21st Century Government Initiative in Stark County; (c) Cuyahoga County reform that is leading to an executive form of county government; and (d) Greater Ohio's Restoring Prosperity agenda that is recommending policy changes to promote the state's metropolitan areas. The urgency of these efforts increased in early 2011 when Ohio Gov. John Kasich proposed cutting state assistance to local governments by 50%.

Local government officials and business leaders, convened by the Fund for Our Economic Future and the Center for Public Administration & Public Policy are collaborating to identify ways that they can work together to foster more efficient, effective local government.

STRATEGIC INITIATIVE

In late 2010, Northeast Ohio launched the "Civic Commons," a regional, nonprofit social enterprise, which is building a civic engagement utility that serves the growing engagement needs of civic leaders/institutions through fee-based engagement services and the growing desire of citizens to be engaged and empowered on key civic decisions. The Civic Commons is a robust engagement platform that combines social media, social networking, visualizations, and gaming components, complemented by more traditional means of media and civic engagement (e.g. newspapers, radio, public meetings, grassroots organizing).

For the 4.1 million individuals living in Northeast Ohio, the Civic Commons is an opportunity to participate in conversations about issues that deeply impact their lives. For the roughly 20,000 for-profit and non-profit businesses "of size" in our region, the Civic Commons provides the possibility of meaningful engagement services to inform their products or causes. And for the region, the Civic Commons offers the means by which its citizenry can become actively engaged in decision making, problem solving and regional ownership.

The Civic Commons is currently funded by a \$3 million, two-year grant from the John S. and James L. Knight Foundation as well as \$600,000 from the Fund for Our Economic Future (the bulk of which was targeted for second round of the EfficientGovNow program in the first half of 2010). The Civic Commons expects to generate revenue in at least two ways: through the sale of its services to civic leaders and institutions and through sponsorships from community/media enterprises.

LEVERAGE POINT 6

Produce Information Resources

RATIONALE

Well-developed and deployed information tools can enhance economic performance by boosting productivity, reducing transaction costs and risks, and influencing consumer preferences—all of which can also help to expand markets, particularly to underserved urban areas. Identifying specific market and government inefficiencies flowing from information imperfections, and then providing targeted, quality, accessible information resources could reduce transaction costs, enhance exchange and inclusion, and, thereby improve the efficiency of labor and capital markets, the productivity of clusters, and the rate of innovation.

SITUATION

Northeast Ohio's economy, both on a local and a regional level, is extensively evaluated and analyzed.

Sources of demographic and economic data for the region include the Northern Ohio Data & Information Service and the Center for Economic Development, both at Cleveland State University; Team NEO; the Dashboard of Economic Indicators; the Center for Community Solutions; Lorain County Public Services Institute; and many others.

Data and research from these sources is regularly used to guide the region's industry cluster strategies, evaluate the effectiveness of its innovation infrastructure, inform efforts to strengthen the region's human capital development efforts, and make the case for more collaborative, efficient local government.

Much of the region's information resources related to infrastructure planning and demographics are as fragmented as the region's governments and planning agencies.

CHALLENGES AND OPPORTUNITIES

In an economy driven by innovation, information resources can no longer be static or one dimensional, and Northeast Ohio is well positioned to provide the necessary kinds of dynamic and multi-faceted resources. Despite some recent reductions in financial support for regional research operations, the region has numerous institutions with the capacity to develop and distribute a variety of information resources. Northeast Ohio has a dedicated broadband network—OneCommunity—that enables data used by governments, health care providers, educators and nonprofits to be shared across the region. For example, the region's hospitals have used OneCommunity to implement a shared electronic medical records system that extends from small rural hospitals to large research institutions to community-based clinics. Increasingly, the state of Ohio is collecting data and deploying it so educators can alter their services to address the needs of growing employers.

A clearly identified challenge is the lack of information resources available to align and coordinate infrastructure development with economic development strategies, particularly on the regional level. This is a result, in part, of a single region having four metropolitan planning organizations.

FOCUS AREA: DELIVER TIMELY RELEVANT DATA TO STAKEHOLDERS, RESIDENTS AND BUSINESSES TO IMPROVE THEIR ABILITY TO MAKE INVESTMENT AND CAREER DECISIONS

STRATEGIC INITIATIVE

OneCommunity provides a broadband fiber network that connects health providers, governments, educational institutions and other nonprofits. The dedicated connections increase the ability of these organizations to both share and develop new information resources.

STRATEGIC INITIATIVE

The region is developing a number of innovative online information resources that foster regional connections and collaborations to support key economic development strategies. JumpStart's Idea Crossing is an online database and social networking tool that connects entrepreneurs, investors and service providers. LocalFoodSystems.org connects diverse stakeholders in the region's ag-biosciences industry, and NeoIntern.net connects employers to intern candidates.

STRATEGIC INITIATIVE

The Fund for Our Economic Future and other regional stakeholders use the Dashboard of Economic Indicators to measure the region's economic progress. ♦

SUMMARY

Northeast Ohio's rich diversity and its strong economic and civic assets—many of which date back to its earlier heyday as an engine of innovation and industry—position the region for growth in the next economy. As this plan highlights, Northeast Ohio is neither a one-industry region, nor is its destiny determined by one community or one type of community. Together the diverse assets of the region's five metropolitan areas, as well as the assets rooted in the region's strong agricultural sector, provide Northeast Ohio the opportunity to reclaim its legacy as one of the most vibrant regions in the country.

Northeast Ohio's plan to transition to the next economy is rooted in its resilient assets, including a large manufacturing sector, diverse industrial base, multiple core cities, and natural environment. The plan connects those assets to growing industry clusters emerging from the region's resurgent innovation assets and its revitalized entrepreneurial culture in ways that foster new opportunities—in terms of markets, products and employment. The plan demands a more collaborative, integrated approach from civic institutions—what the Council on Competitiveness describes as the ability to act effectively as a region. Deliberate, coordinated implementation of the strategies summarized in this plan (some

well under way and generating promising early results, and others in the formative stages) will strengthen Northeast Ohio's capacity to make the transition to the next economy and generate jobs, elevate incomes and create more economic opportunities for all residents.

The region has benefited enormously from federal investments into various aspects of the program; we simply would not have come this far without such interventions. However, potential exists to dramatically improve the efficacy of both existing and new federal investments through more integrated and aligned federal action. Federal agencies—both in Washington and in the field—could be more fully aligned with each other and with the broad base of civic leadership pursuing the regional business plan. Too often, well-intentioned policies and programs are undermined by the fragmented nature of historical federal/regional relationships.

We invite the federal government to explicitly recognize its role in the regional economic system and join civic leadership in developing and pursuing a shared strategy. In so doing, the government will not only spur the transformation of the Northeast Ohio economy, but forge a new, more effective model to maximize the nation's global economic competitiveness. ♦