

Road to Renaissance: A Collaborative Strategy for Regional Economic Growth

Preliminary Findings
June 2006



new economy strategies



making the complex simple

Preliminary Findings: Summary

- **Core Industry Competencies & Strengths:** The Greater Detroit Region is endowed with a strong and broad industrial base, and related and supporting industries that can drive future economic development.
- **Productivity and Employment:** The region is facing a difficult public policy conundrum. While productivity is forecasted to grow, many of the clusters and industries analyzed are expected to have negative employment growth.
- **Diversification of Existing Assets:** While the Greater Detroit Region has been primarily dependent on the automotive and manufacturing sectors, it now is necessary to pursue emerging opportunities and refocus its supporting industries.
- **The Innovation Engine:** The Greater Detroit Region has a strong history of automotive and manufacturing innovation, which remains true today with high quality patents and patenting level, and a strong federal and private R&D base.
- **Innovation and Entrepreneurial Climate:** While there are opportunities for starting and growing new businesses in the Greater Detroit Region, leaders must work to change and support the entrepreneurial culture and improve the internal negative image of the region's innovation and business environment.

Preliminary Findings: Core Industry Competencies and Strengths Summary

- Employment in the Advanced Automotive cluster is nearly 8 times more concentrated than U.S. average in Macomb, Oakland and Wayne Counties. Advanced Manufacturing, Management & Professional Services, Scientific & Technical Consulting are also strong.
- Competitive industries in the three counties are fairly diverse. They include Management of Companies, Scientific R&D Services, Amusement and Recreation Services, Newspaper, Periodicals, Book and Directory Publishing, and Wired Telecommunications.
- Smaller industries with a competitive U.S. position include Securities & Commodity Exchanges, Painting and Adhesive Manufacturing, and Magnetic and Optical Media.
- Advanced Automotive and Management, Scientific and Technology Consulting Services have a greater employment concentration in Washtenaw County than the U.S. average. Life Sciences is slightly above the U.S. average.
- Washtenaw County's largest employer and strongest competitive industry is General Medical and Surgical Hospitals. Other high scoring industries include Scientific R&D Services, and Architectural, Engineering and Related Services.
- Smaller industries in Washtenaw County with a competitive advantage include Other Chemical Products and Manufacturing, Other Schools and Instruction, Data Processing and Hosting, and Securities and Commodity Exchanges.

Preliminary Findings: Productivity and Employment Summary

- For Macomb, Oakland and Wayne counties: the key competitive industries did better than their industry nationwide in terms of employment growth from 1999-2004. However, the relative advantage gained in the last five years is predicted to be offset by slower employment growth in the next five years.
- Across the ten clusters analyzed, gross regional product is expected to grow. This is an indication that companies will continue to make productivity improvements that will generate wealth for the region.
- Advanced Automotive is the largest cluster in the region closely followed by Life Sciences. Life Sciences and Information Technology are the only identified industry clusters that are forecasted to grow in regional employment over the next five years.
- The other analyzed clusters are predicted to lose employment. This is a critical near-term issue for the local workforce. For example, the Advanced Automotive cluster shed 17% of its employment between 1999-2004. Employment is forecasted to decline 2.6% over the 2005-2010 time period. The Advanced Manufacturing cluster shed 26% of its employment between 1999-2004.
- Specialized Design Services (part of the Advanced Manufacturing Cluster) is predicted to grow its employment base 3.1% over the next five years, which was estimated to have 2,324 jobs in 2004.

Preliminary Findings Productivity and Employment and its Impact on Skills and Workforce

- Further analysis is underway around skills, competencies, general workforce issues and the nature of talent development throughout the region.
- From our work with the US Department of Labor's Employment and Training Administration – the \$16 billion public workforce system – we have been intensively engaged to address the alignment of workforce and economic interests at the state and regional levels. Michigan has three grants underway that seek to pilot new approaches and solutions under the WIRED Initiative.
- We will examine the core, supportive, and transformative skills and competencies necessary for Greater Detroit to compete in a number of emerging occupations as well as the evolution of legacy jobs based on technical applications. Based on DOL Bureau of Labor Statistics, US Departments of Commerce and Education as well as the National Science Foundation – we will seek to identify and link opportunities with occupational skills that are market driven and anticipatory for future growth in the region.

Preliminary Findings: The Innovation Engine Summary

- Macomb, Oakland and Wayne Counties account for 3.7% of U.S. patents, yet the region is only 1.38% of the U.S. population.
- The inventors of Greater Detroit had nearly 3 times as many patents issued as the rest of the state of Michigan
- Greater Detroit has kept pace with U.S patent growth rates and in some instances exceeded the average between 1997-2005.
- The region's top patent performers were concentrated in Advanced Automotive and manufacturing.
- Washtenaw County's top patent performers were again concentrated in Advanced Automotive and manufacturing, and showed good strength in advanced materials.
- Macomb, Oakland and Wayne Counties have a deep pool of innovative companies across Advanced Automotive, Manufacturing and supportive industries such as IT and materials. Wayne State University ranked 22nd in patents produced in the region.
- Washtenaw County's top patenter is the University of Michigan. They are followed by the life sciences firm, Pfizer, which ranked 2nd. The county has considerable depth in adv automotive, manufacturing, materials and medical products.

Preliminary Findings: Innovation Entrepreneurial and Climate Summary

- A regional mindset or perspective challenge: procurement within the vendor-supplier chain especially among Tier 2 firms versus the creation of new products and services for non-supplier, non-automotive opportunities that are outright entrepreneurial.
- Venture capital investment in Macomb, Oakland and Wayne Counties has been higher per capita than the U.S. and Michigan but declining while Washtenaw County has exhibited a strong VC investment flow in the past three years.
- While there is strong VC investment in Advanced Automotive in the three counties, there is little strength in Life Sciences or IT sectors in Macomb, Wayne and Oakland Counties. This is not unexpected given the industry and R&D data. Washtenaw County shows strength in the Life Sciences and IT clusters.
- Early results from the Greater Detroit Region Business and Innovation Survey show clear challenges in the entrepreneurial culture, including a feeling that new businesses are not valued over large companies, the community is risk adverse and entrepreneurs are not treated as full partners by the region's established business leaders.

Preliminary Findings: Forming Hypotheses to Date on the Road to Renaissance

- While data can provide certain levels of knowledge about historical and current elements of economic growth and direction, there are a number of additional inputs that provide anecdotal information and commentary that often does not show up in the data sets.
- From initial interviews, forums with economic development and benchmarking interests, reviews of previous reports from the past 5 years, and additional information about the region from third-party sources, we are beginning to form some hypotheses.
- Instead of selecting specific sectors, we are looking at enablers for increasing the regional capacity for innovation and competitiveness. These enablers are best principles that should be present for Greater Detroit to continue and expand its competitive position globally in the 21st century.

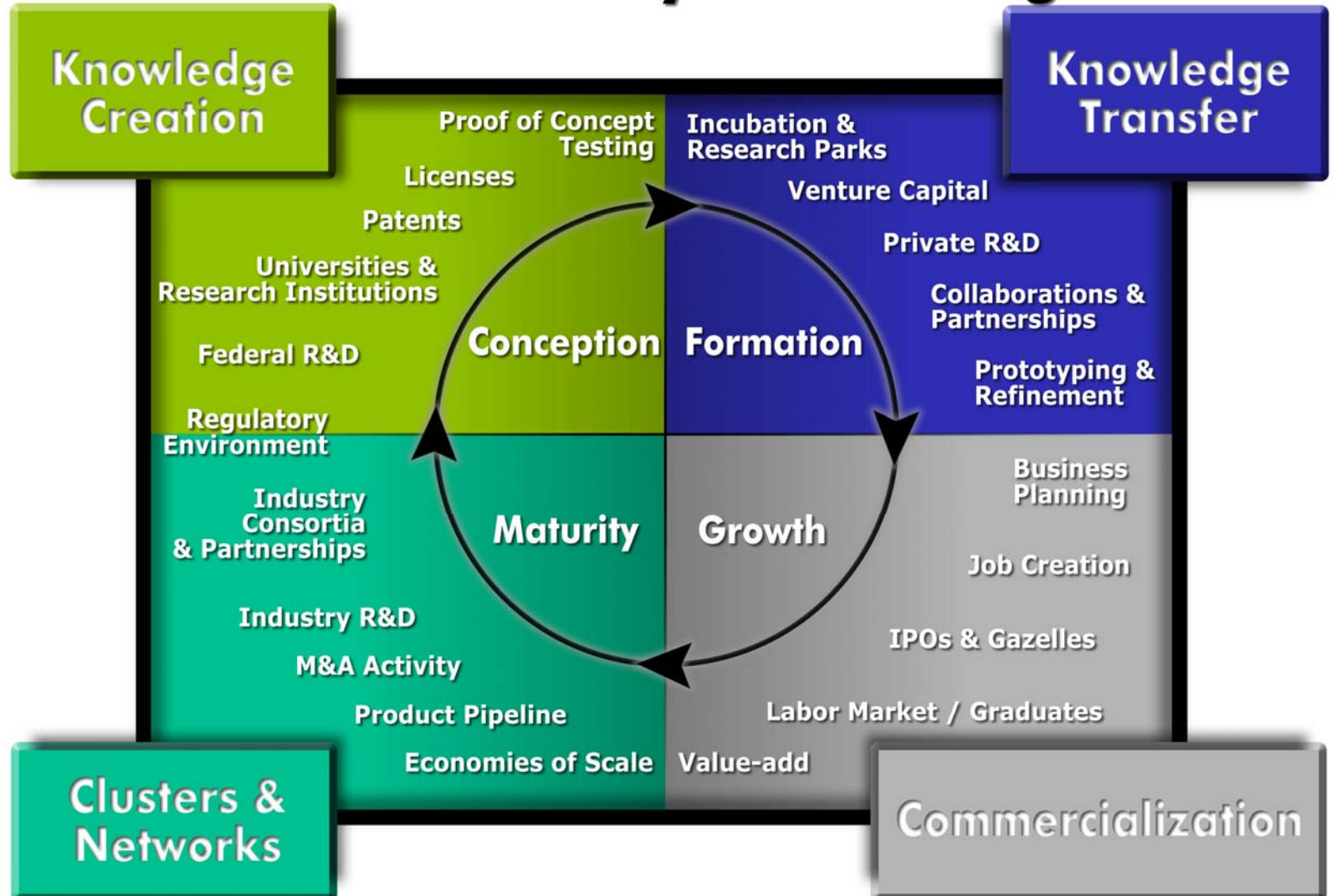
Preliminary Findings: Early Notions and Hypotheses for Discussion

Possible Innovation Capacity-builders along the Road to Renaissance:

- **21st Century Logistics** – where design and advanced manufacturing connect with transportation and delivery into a Global Hub. A coordinated and aligned practice of creating ideas, proof of concept, manufacturing and then delivering SHOULD BE an international competitive strategy.
- **Leveraged Engineering – automotive**, biosciences, and consumer products (from existing capacities to emerging technologies) will require a heightened awareness of engineering skills, competencies, and innovation-impact. Engineering is a foundational asset that the region MUST strengthen through new tactics.
- **Transitioning the Automotive Legacy to Global Future Vehicle and Transportation** - seek to address a fundamental flaw in the region's current approach that engineering and R&D is located in SE Michigan, but the design is now distributed nationally. This is an issue caused by the preponderance of traditional automotive producers as platforms, which have left little room for innovation.
- **Creative Energies** – the urban core as the source for regional creative energies. Detroit's museums, music, sports, and film sectors – the core is now serving as the pool from which the suburbs drink, but go home after an event – rather than view a quid pro quo of mutually accessing and growing common interests.
- **The Entrepreneurial Brand:** Define Greater Detroit's entrepreneurial focus, mechanisms and specific interventions, as well as develop a positive change in perception and esteem of Greater Detroit from within and outside of the region.

The Innovation Lifecycle Assessment

The Innovation Lifecycle: Creating Churn









Defining the Innovation Life Cycle

The following best practices are applied to defined stages of the life cycle to address specific challenges identified at that stage of development.



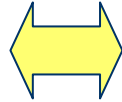



The four inter-related stages that make up the life cycle are defined by different levels of development and activity.

- **Knowledge Creation/Conception Stage** – Involves significant activity in idea generation, research and development, and patent creation. Pre-seed, seed, SBIR and other types of capital are crucial to advancing to next stage.
- **Technology Transfer/Formation Stage** – Typified by business planning, clinical trials, regulatory filings or prototyping and refinement. This is the stage at which a product/process proves its worth. Entrepreneurial services and support structures, investment capital, and partnering are needed to advance to the next stage.
- **Commercialization/Growth Stage** – Where a product/process enters into a commercial market. Companies hire additional personnel, might file for IPO and begin early stage manufacturing and production.
- **Industrialization/Maturity Stage** – Companies begin to perform in a more traditional fashion - analyzing internal business processes for improved efficiency, developing long-term marketing objectives, and most importantly, delivering the product or service to the public. Industry consortiums and partnerships are established. Many are also heavily investing in R&D, and in some cases spinning out new companies.



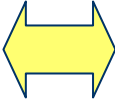
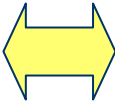


The Innovation Lifecycle: Conception Phase Scorecard

Conception Phase: Knowledge Creation		
Intellectual Capital		Strong history of auto and manuf. innovation; high quality patents; exceptionally strong patenting levels compared to the U.S; some diversification in materials and life sciences, but more is needed
Human Capital		Univ. of Mich. is a top ranked research institution; Wayne State is ranked in the top 75; need to better leverage other local universities
Financial Capital		\$2.2 billion in federal funding in a 10 yr. period, which is respectable but not a national leader; a high amount of private R&D in Advanced auto and manufacturing; percentage share of SBIR proposals and award are decreasing
Critical Mass		Region is anchored by strong university, but lacks private research institutions, centers of excellence and a national research entity
Social Capital		Nearly half of survey respondents stated universities did not contribute to the innovation of their organization indicating poor linkages and outreach; not clear if there are strong relationships among the universities
Physical Infrastructure		Unclear what and how much research space and specialized equipment in the region; forum participants mentioned the need for clean rooms that meet FDA requirements; need a consortium to make research assets known and accessible


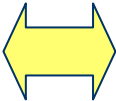


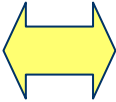

The Innovation Lifecycle: Formation Phase Scorecard

Formation Phase: Knowledge Transfer		
Intellectual Capital		Region has high patenting rates, but many are shelved; no entity to mine the technology; university tech transfer system was identified as needing improvement.
Human Capital		Need for managers with start-up experience was not identified as a barrier; considerable talent and business support services
Financial Capital		Region has more VC investment per capita than the U.S; VC is heavily invested in Advanced Automotive; roundtable and forum participants suggested creating a regional investment fund; Region lacks pre-seed and early stage funding which is consistent with the national trend.
Critical Mass		Strong agreement that a regional entity to support small businesses is needed; an opportunity for larger companies to seed small businesses, and spread technologies to other sectors.
Social Capital		Survey shows challenges in the entrepreneurial culture, including a feeling that new businesses are not valued over large companies, and entrepreneurs are not treated as full partners by established business leaders; an "entitlement mindset exists
Physical Infrastructure		A strong presence of business and tech parks; more than 72 business parks; several incubators, incl. Ann Arbor Spark and Tech Town, but capacity is full; supercomputing capacity at U. of Mich.; telecommunications infrastructure has room for improvement

The Innovation Lifecycle: Growth Phase Scorecard

Growth Phase: Commercialization		
Intellectual Capital		Robust network of customers/buyers, suppliers, competitors and trade/professional associations that serve as the main source of innovation
Human Capital		Region has an exceptionally strong base of engineering across all disciplines and business support service
Financial Capital		Survey respondents were divided in terms of their satisfaction with traditional, venture and angel funding; interviewees highlighted the challenge of matching the right businesses with the right investors
Critical Mass		Home to 10 Inc. 500 companies in 2005; great need to support companies is transitioning from a \$15 million to \$100 million company through international marketing, strategic management, alliances, etc.
Social Capital		A poor image internally and domestically that overshadows opportunities; good image globally; need more networks among entrepreneurs, innovators and investors, and a mechanism for keeping the young talent engaged; survey respondents very dissatisfied with collaboration between business and government and leaders commitment to business growth
Physical Infrastructure		A considerable amount of ready business space; Metro airport and port is seen as an asset; region is not happy with mass transportation system.

The Innovation Lifecycle: Maturity Phase Scorecard

Maturity Phase: Clusters and Networks		
Intellectual Capital		Numerous Fortune 500 companies in the region with large R&D budgets and spectacular patenting rates; Toyota recently announced \$150 million research center
Human Capital		A deep pool of highly educated workers in the fields of engineering, science and management; however, there is a lower percentage of workers with a four year degree, which is perpetuated by a segment of the population that does value higher education
Financial Capital		Companies at this level are able to sustain their growth regionally, nationally and globally; capital that could be expended in spin offs and into the supplier chain is constrained by the current downsizing in the automotive and manufacturing sectors
Critical Mass		Considerable depth across a number of industry clusters including Advanced Automotive, manufacturing, materials, IT, scientific and technology consulting and financial services; trade and professional associations are well established
Social Capital		A large amount of high net worth leaders that can be better engaged in local civic and philanthropic efforts; small business owners do not feel apart of the established, larger company business network.
Physical Infrastructure		A strong infrastructure that is a legacy of the large automotive and manufacturing clusters.

About Detroit Renaissance

Detroit Renaissance is a civic organization comprised of CEOs of Southeast Michigan's largest companies. The organization focuses its efforts on regional economic growth while also addressing the redevelopment of the core city by serving as a *catalyst* for developing plans and strategies, *advocating* for public policies that advance development and *championing* initiatives that accelerate results.

About New Economy Strategies

New Economy Strategies (NES): NES is a strategic implementation firm focused on answering the question 'What do we do on Monday?' We work with community, academic, and entrepreneurial leadership to develop and help implement strategies to support regional development of technology-based economies.

We have a strong focus and proven track record; collectively our team has more than 60 years of experience working on the national, state and regional level. The NES team crafts tailor-made strategies – avoiding the “one size fits all” trap common in economic development - and have established a process for engaging leadership that ensures implementation of recommendations – avoiding the shelf-sitting report epidemic.