



Success (Tops) 2015



Talent Opportunity Success (Tops) 2015

*Proposal to
Lilly Endowment Inc.*

*From the
Community Foundation of Greater Fort Wayne*

February 2009

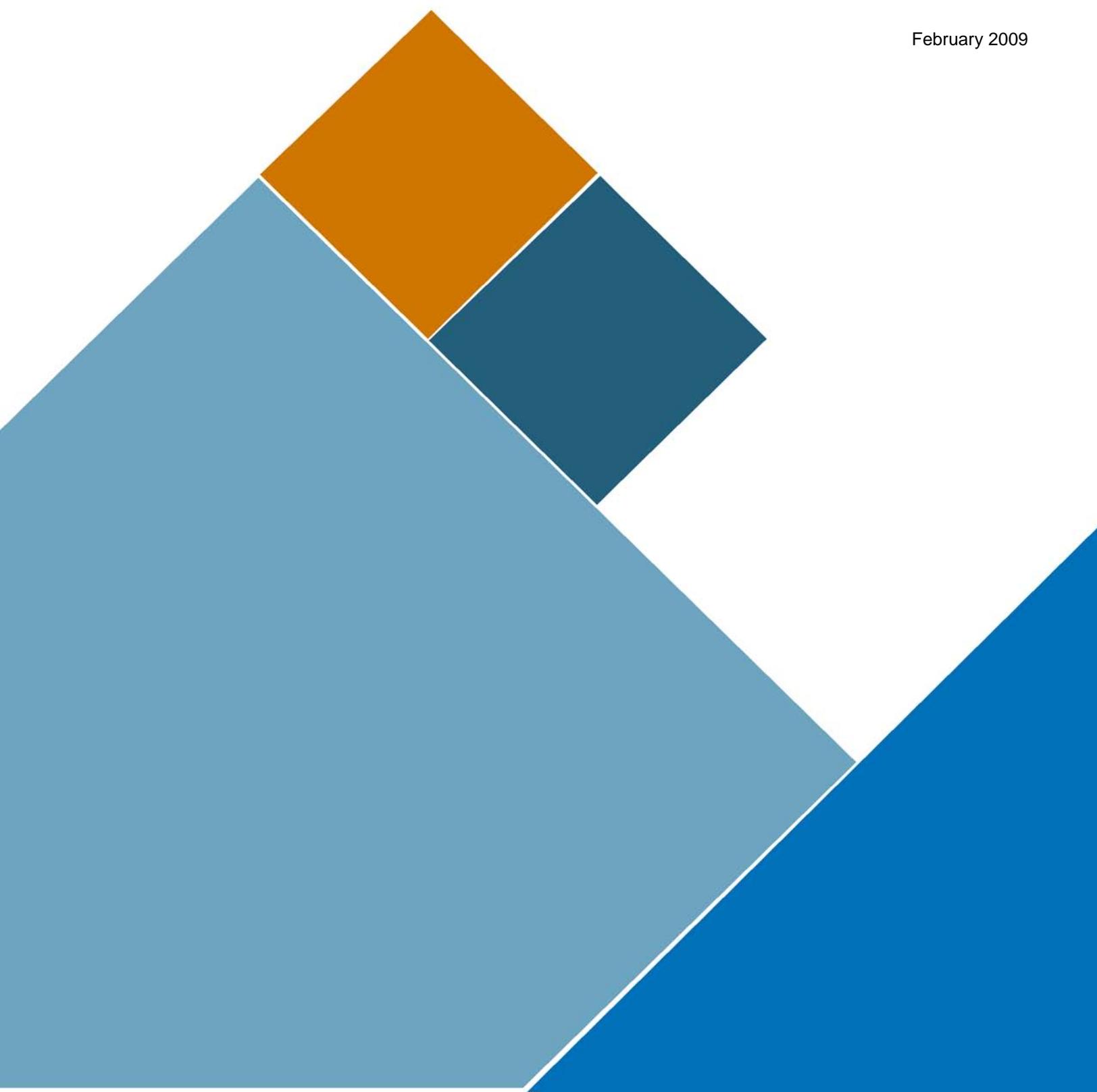


Table of Contents

Executive Summary	3
Introduction	9
Northeast Indiana at a Glance	9
The Economic Challenge Facing Northeast Indiana	10
The Compelling Opportunity – the Defense/Aerospace Industry	12
Talent Opportunity Success (TOPS) 2015 Plan	15
Strategy 1: Retraining the Adult Workforce for 21st Century Advanced Manufacturing Skills.....	15
Strategy 2: Enhancing the Ivy Tech Advanced Manufacturing Program.....	17
Strategy 3: Increasing the Pipeline of Regionally Developed Engineering Talent: Building Capacity in Higher Education	19
Strategy 4: Preparing K-12 Students for a Knowledge-Based Economy	22
Communications Campaign	24
Measuring the Success	24
Governance and Oversight.....	26
TOPS 2015 Budget Summary	29
Appendices	
Appendix A: Budget	
Appendix B: Talent Opportunity Success (TOPS) 2015 Logic Model	
Appendix C: Key Personnel	

Executive Summary

Northeast Indiana has experienced a persistent and steady decline in per-capita personal income, relative to the nation for more than two decades, and, more recently, also relative to the State of Indiana. Stabilizing and then reversing this trend is the objective of Talent Opportunity Success (TOPS) 2015. TOPS 2015 is designed to accelerate regional initiatives to transform and expand the availability of highly skilled workers, technicians, and graduate-level talent for the region. The success of TOPS 2015 is critical to the economic viability of the region, its role as a critical component of the economy of the State of Indiana, and the quality of life of its citizens.

There are many factors which can be identified as contributing to the region's personal income decline. A primary cause has been the dramatic transformation occurring in the manufacturing sector allowing more to be produced with fewer workers with increased productivity through the application of technology. Second, professional, scientific and technical jobs in our region have grown at a slower rate compared with many metropolitan areas across the United States. In addition, fewer publicly-held companies maintain their headquarters in the region.

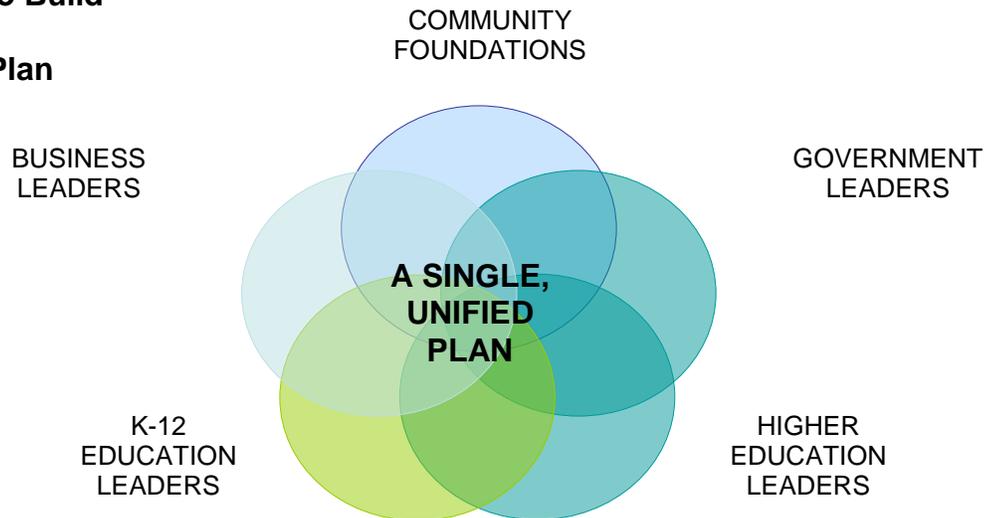
Retaining, and then expanding, the higher-compensated jobs remaining within the region presents a compelling opportunity which TOPS 2015 is designed to address. To focus its efforts, TOPS 2015 has identified two industry segments within the region (the defense/aerospace sector and advanced manufacturing) as providing compelling opportunities for near-term impact. Even in this difficult economy, the defense/aerospace sector of the region continues to grow and has identified the potential availability of 4,000 new and replacement high technology jobs for the region during the next five years.

New and experienced engineering talent in a variety of disciplines will be necessary. In addition, strong technical skills for advanced manufacturing will be essential. Companies looking for locations to expand and grow are driven by the needs for a high quality talent pool for research, development, and production activities. Not only are these skills critical to the current needs of defense/aerospace contractors, they are also in high demand by other regional employers requiring advanced manufacturing skills.

The TOPS 2015 project has strong community support, is aligned with existing economic development efforts, and is designed to be financially self-sufficient beyond the three year term of this proposal.

Community Support – This proposal is the result of an **unprecedented collaboration** between leadership from many sectors of the community. Business, economic development and government leaders, the northeast Indiana community foundations, and representatives from K-12 and higher educational systems all came together to produce a single, unified plan.

**Collaborating To Build
the
TOPS 2015 Plan**



Alignment with Economic Development Efforts – The TOPS 2015 proposal was prepared by and with key economic development leaders in the region. The project not only aligns with their efforts; it is, in fact, **a key cornerstone upon which our economic development efforts are built.**

Financially Sustainable – A grant from Lilly Endowment would materially accelerate the ability of the northeast Indiana region to implement the TOPS 2015 project. This project is designed, however, to trigger a **realignment of existing resources** allowing TOPS 2015 to be self-sustaining. In supporting the launch of certified STEM (Science, Technology, Engineering, and Math) New Tech High Schools, for example, the TOPS 2015 program would provide for a portion of the start-up costs, but all operational costs to sustain the operation of New Tech High Schools will be provided by a realignment of existing school district resources.

Northeast Indiana and the Economic Challenges We Face

Northeast Indiana is an eleven county region encompassing 743,026 residents, which is 11.7% of the total state population. Manufacturing is the dominant industry sector in northeast Indiana with just under 25% of all jobs falling into this category. In the last twenty-five years, the United States, and indeed the world, has gradually shifted from an industrial-based economy to a knowledge-based economy. Because of the traditionally very high concentration of employment in manufacturing in northeast Indiana, this shift has impacted this region more dramatically than many sections of the United States. In 1973, per capita personal income in northeast Indiana was 99% of the national level, falling to 81% by 2006. More recently, our region has fallen behind the state. In 1996, per capita personal income in northeast Indiana was on a par with the state but had fallen to 92.5% of Indiana's per capita income by 2006.

As a result, the quality of life and standard of living historically enjoyed by the residents of northeast Indiana is slipping from our grasp. If northeast Indiana is to be successful in achieving its goal of reversing the decline in relative personal income, it must do so by increasing the relative wages and salaries of its resident employees. To accomplish this objective, we must upgrade the quality of the jobs available to our residents. To be successful in upgrading job quality, we must successfully make the shift to a regional economy anchored by globally competitive employers that fully embrace the emerging knowledge-based new economy – supporting and embracing that segment of the economy that is marked by growth, innovation, life-long learning, and global competitiveness.

During the past two years, northeast Indiana has been moving forward with a collaborative effort to bring many regional players together, focusing upon developing a set of initiatives intended to support the competitive needs of six industry clusters. Although in the first stages of its implementation the defense/aerospace industry will be among the most significant beneficiaries of TOPS 2015, many of the project's initiatives will have positive impacts across the other targeted industry clusters.

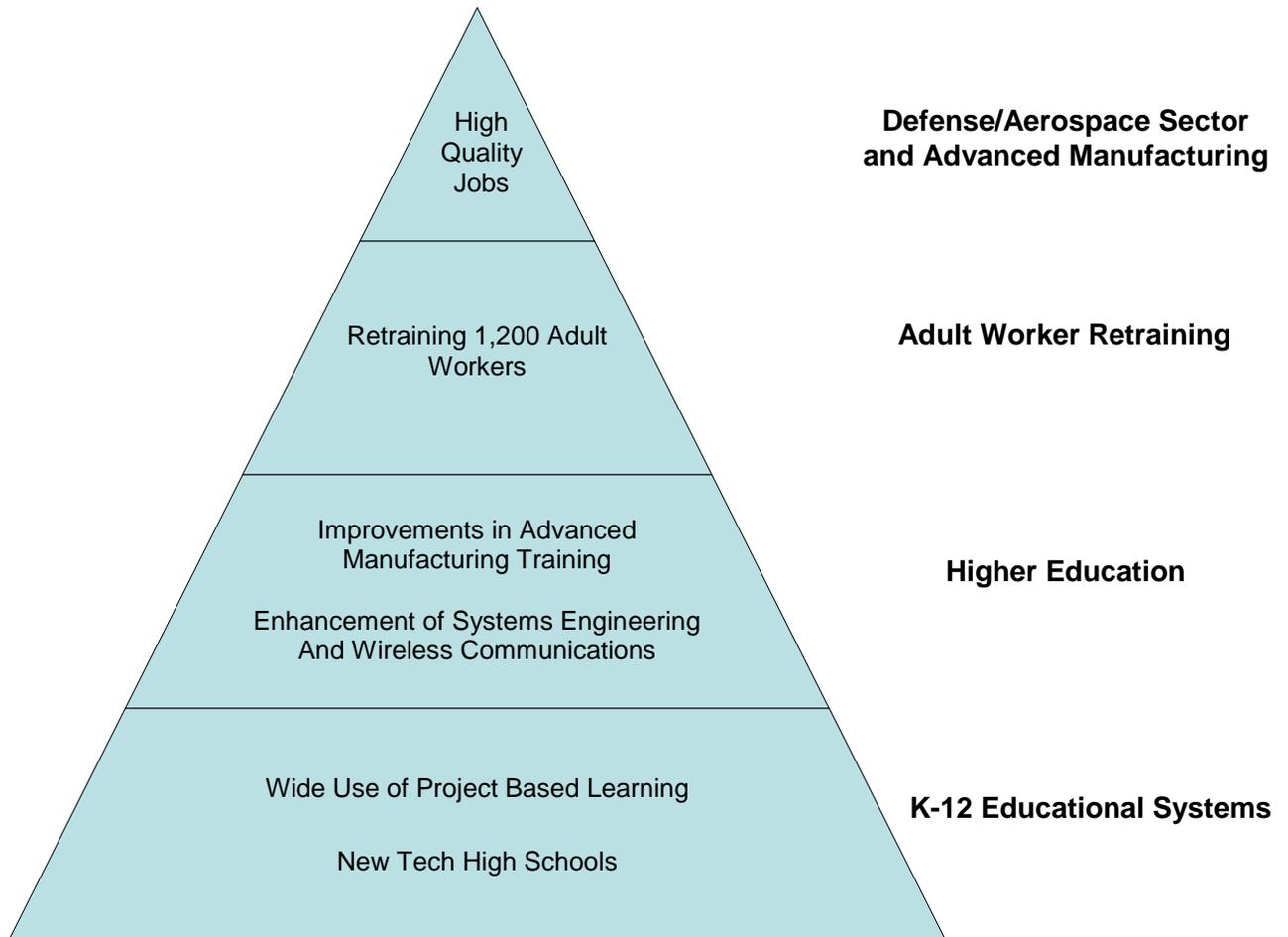
Northeast Indiana is home to over 160 defense/aerospace prime suppliers and contractors. These companies are on a growth curve expecting to add over 4,000 new and replacement workers in the next five years. This work is very technical, requiring systems and software engineers, managers, technicians, and other highly trained and educated workers.



The question is not whether these companies will grow, but whether they will find the talent required to meet the demand and grow right here in northeast Indiana. For northeast Indiana, this is the compelling opportunity which must be seized. We must do so with purpose and a plan.

TOPS 2015 is Our Plan

To prepare for this significant opportunity, TOPS 2015 proposes a continuum of specific and parallel strategies designed to expand the "talent pipeline" available to support high quality jobs in the northeast Indiana region.



Strategy 1: Retraining the Adult Workforce for 21st Century Advanced Manufacturing Skills

The region's most immediate need is targeted retraining of the adult workforce which is being led by WorkOne Northeast. The immediate goal of Strategy 1 is to expand this retraining to upgrade the skills of not less than an additional 1,200 adult workers within the first three years of the project. This additional retraining is intended to match the currently-identified needs of defense/aerospace companies and other advanced manufacturing firms. To ensure success in this skill development effort, northeast Indiana will utilize a three part skill development strategy.

First, workers with the requisite foundation skills in the areas of math and language will be identified through the use of WorkKeys and other skill assessment activities. Then, WorkOne Northeast will work with employers to customize training programs tailored to

their needs. WorkOne and appropriate education partners (including Ivy Tech) will develop new technical training programs that instruct workers in specific skill sets critical to those employers. Such higher level training activities will include both on-the-job training activities and certification/degree programs.

Strategy 2: Enhancing the Ivy Tech Advanced Manufacturing Program

In 2006, the Northeast Indiana Workforce Investment Board teamed with Ivy Tech Community College – Northeast to create the Center for Excellence in Advanced Manufacturing. In order to maintain relevancy and to enhance the scope and capacity of the Advanced Manufacturing Program, TOPS 2015 will upgrade the equipment upon which students are trained. Providing these students with state-of-the-art skills requires exposure to state-of-the-art equipment that is being used today by many northeast Indiana companies.

Strategy 3: Increasing the Pipeline of Regionally Developed Engineering Talent by Building Capacity in Higher Education

A key strategy in this initiative is to increase the capacity of the industry-related higher education engineering programs at Indiana University-Purdue University Fort Wayne (IPFW). Specifically, this will include enhancing the Systems Engineering Program, the Wireless Communications Program, and adding Computer Simulation-Based Laboratories. The goal of Strategy 3 is to expand engineering-related programs at IPFW in partnership with the defense/aerospace employers in northeast Indiana.

Strategy 4: Preparing Students for a Knowledge-Based Economy

Whether it's engineering or advanced manufacturing, students must have a strong background in science and mathematics. The goal of Strategy 4 is prepare students for a knowledge-based economy by increasing achievement in STEM-related courses.

TOPS 2015 will achieve this by implementing project-based learning models with an emphasis on STEM-related fields, including supporting the launch of certified STEM New Tech High Schools in Northeast Indiana.

Communications Campaign

To be successful, the TOPS 2015 program must promote, instill and sustain a widespread attitude of motivation across the entire spectrum of workers and students throughout the region – an individual motivation for each person to upgrade their respective work-related skills. This means a willingness – *no, a burning desire* – to continuously seek personal improvement. Competitive individuals make competitive workforces, and competitive workforces make for economically competitive regions.

Measurements of Success

Each of the strategies in TOPS 2015 contains measures of success that can be used to observe progress towards stated goals. The ability of the TOPS 2015 initiative to address the talent shortages which have been previously identified in northeast Indiana will also be measured through an annual survey of key employers, including defense/aerospace employers.

Governance and Oversight

The Northeast Indiana Foundation (NIF) will have primary responsibility for the day-to-day oversight and management of TOPS 2015. There will be two key staff members at NIF who will coordinate various aspects of the program.

Final responsibility for the success of the TOPS 2015 program will rest with Community Partnerships Incorporated (CPI), a supporting organization of the Community Foundation of Greater Fort Wayne. CPI will be chaired by Reed Silliman, formerly the managing partner of the Fort Wayne office of the law firm of Baker & Daniels.

CPI will be responsible for reporting requirements, both to Lilly Endowment and other stakeholders. Fiduciary oversight for the project will rest with CPI and will be composed of two parts: ensuring that funds are properly spent with adequate internal controls, and ensuring that all spending is consistent with the charitable purpose of the project.

Budget

The projected budget for TOPS 2015 is \$20 million. Of this amount, it is requested that \$12.878 million be disbursed to Community Partnerships Inc., \$4.5 million to Indiana University-Purdue University at Fort Wayne, and \$2.622 million to Ivy Tech, Fort Wayne.

Conclusion

The TOPS 2015 collaborators firmly believe that northeast Indiana has begun a transformational journey to address our talent needs. To be truly transformational, and sustainable over the long term, TOPS 2015 has been designed to stimulate both the means to supply more highly trained workers within the region and the demand of that workforce for more training, different education, better opportunities and the higher compensation that these characteristics generate.

The current economic conditions narrow the window of opportunity for the near-term success of our project, particularly through capturing the current opportunities for higher-compensated jobs available in the defense/aerospace sector. With the support of Lilly Endowment, we can materially accelerate the project and enable the region to capture this compelling opportunity. In our judgment, nothing could be more critical to our efforts to improve the quality of life in our region.

On behalf of the Community Foundation of Greater Fort Wayne and many regional partners throughout northeast Indiana, we are pleased to present our plan: the Talent Opportunity Success 2015 project.

Talent Opportunity Success (TOPS) 2015

Introduction

TOPS 2015 is designed to accelerate regional initiatives to transform and expand the availability of highly skilled workers, technicians, and graduate-level talent for northeast Indiana. Our goal is to raise the relative personal income in northeast Indiana by creating, preparing, and providing a more competitive, higher-compensated workforce. Our near-term goal is to demonstrate the effectiveness of the program by meeting the demand identified by the defense/aerospace sector for 4,000 high-technology job openings during the next five years. Our longer-term goal is the sustainability of the program.

New and experienced engineering talent in a variety of disciplines as well as strong technical skills for advanced manufacturing are essential to the economic viability of the region. Companies looking for locations to expand and grow are driven by the need for a high quality talent pool to conduct research, development, and production activities.

The efforts of the K-12 school systems, community foundations, institutions of higher education, WorkOne Northeast, and other partners will be aligned to significantly increase instruction in science and math at all educational levels. These partners have combined to create a truly transformational project, which will take our educational efforts to the next level and provide a more competitive, higher-compensated workforce.



Northeast Indiana at a Glance

Northeast Indiana is an eleven county region¹ encompassing 743,026 residents (July, 2007), comprising 11.7% of the total state population. The region contains just fewer than 4,375 square miles (12.2% of Indiana’s total land area). As of December, 2008, 341,561 of the region’s residents were employed (11.6% of the statewide total).

Manufacturing is the dominant industry sector in northeast Indiana with just under 25% of all jobs falling into this category.

The most recent unemployment rate for northeast Indiana (December, 2008) is 9.5%. This compares with a statewide rate of 8.1% and a national rate of 7.1% for the same month. Of the eleven Indiana workforce regions, northeast Indiana had the

¹ Counties included in the region are Adams, Allen, DeKalb, Grant, Huntington, LaGrange, Noble, Steuben, Wabash, Wells, and Whitley.

second highest unemployment rate, exceeded only by the South Bend-Elkhart region. The unemployment rate for central Indiana was 6.8%, nearly three percentage points lower than in our region.

In December 2008 northeast Indiana had 17,482 more unemployed residents than it did in December 2007 according to the monthly unemployment statistics. Certainly the pain of this recession is being felt all across Indiana and the nation. However, in December 2007 the eleven counties of northeast Indiana contained 13.0% of all unemployed Hoosiers. In just one year this had grown to 13.8%.

Over the past two years, between December of 2006 and December of 2008, northeast Indiana employment dropped by 5.4% while the decline over the same period for central Indiana was only 2.9%. The decline for the remainder of Indiana excluding the northeast section was 4.1% over the same period.



The region's average wage and personal income is significantly lower than the state and national average. The trend continues to decline. In 2007, the average annual wage in northeast Indiana for all “covered” employment² was \$34,779. This was 92.7% of the statewide average annual wage and 78.2% of the national average annual wage. Per capita personal income in northeast Indiana in 2006 (the most recent data available) was \$29,860. This was 92.5% of the statewide per capita personal income and 81.3% of the national per capita number.

The Economic Challenge Facing Northeast Indiana

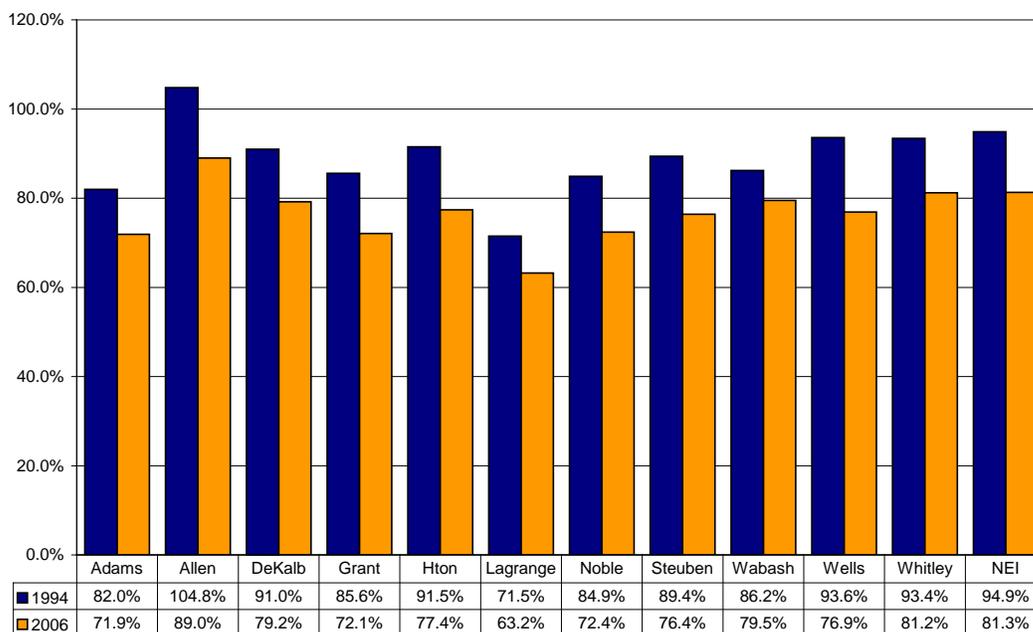
Northeast Indiana has historically enjoyed a high level of per capita personal income, comparing favorably with both the state of Indiana and the nation. A very strong manufacturing sector was the driver of the regional economy. This industrial base brought considerable net wealth into the area as durable goods were exported beyond the boundaries of northeast Indiana.

This position of economic strength began to dissipate in the late 1970s. The United States, and indeed the world, was gradually shifting from an industrial-based economy to a knowledge-based economy. This shift has changed the economic realities of not only northeast Indiana, but also the entire Great Lakes region of this country. However, because of the traditionally high concentration of manufacturing employment in the region, the shift impacts northeast Indiana even more dramatically. In 1973, manufacturing represented just over 40% of all jobs in northeast Indiana compared with 24.1% nationally. Even today, the region’s employment is still more than twice as concentrated in manufacturing as is found nationally.

One of the most tangible results of this decline has been the inability of northeast Indiana wages to keep pace with national and, more recently, state trends. Two factors are particularly noteworthy in understanding this failure to keep pace. One is a general loss of earning power across nearly all job categories. As the region’s gross domestic product has grown more slowly than the state or national level, the engine that drives the regional economy is relatively less robust. Overall slower wage growth is a critical result.

² “Covered” employment includes all jobs subject to unemployment insurance coverage.

**NORTHEAST INDIANA PER CAPITA PERSONAL INCOME
RELATIVE TO THE UNITED STATES**



The second factor has been our loss of jobs in higher-paying employment categories. Northeast Indiana has been losing jobs in sectors of its economy that offer some of the highest average annual wages. Certainly, the loss of headquarters of publicly-held companies in the region has contributed significantly to this loss.

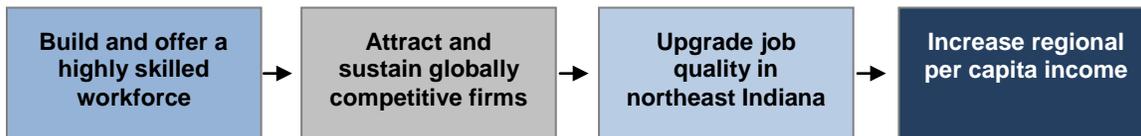
In addition this loss has resulted from the tremendous changes occurring in manufacturing. Too frequently, when an employee loses a job in one of the higher-wage manufacturing categories, he or she ultimately finds the next job in a category far down the wage continuum, drastically impacting the standard of living for that household. Only when job skills match the skill demands of higher wage jobs can this worker hope to land new employment in those categories of work with comparable wages.



The region must arrest the decline in per capita personal income relative to the nation. The quality of life and standard of living historically enjoyed by the residents of northeast Indiana is slipping from our grasp. Increasing per capita personal income has, in fact, become the primary objective of economic and community development leaders throughout northeast Indiana.

If northeast Indiana is to be successful in achieving its goals, it must do so by increasing the relative wages and salaries of its resident employees. To accomplish that objective, we must upgrade the quality of the jobs available to our residents. To be successful in upgrading job quality, we must successfully make the shift to a regional economy anchored by globally competitive employers that fully embrace the emerging knowledge-based new economy, an economy that is marked by growth, innovation, and a competitive spirit.

Strategic Goal



The best means to attract, sustain, and expand employment opportunities is to be able to offer a workforce that has the specific educational and skill qualifications employers are seeking. The region’s broader economic development strategy focuses on industry clusters which blend that forward-looking approach with the realities of regional assets and opportunities. During the past year, northeast Indiana has been moving forward with a collaborative effort to bring many regional players together. Those efforts focus on developing a set of initiatives intended to support the competitive needs of six industry clusters that have the strongest potential for future growth in northeast Indiana³.



TOPS 2015 focuses on one of the six clusters, the defense/aerospace industry cluster. We believe this cluster offers the best opportunity for providing a significant number of quality jobs during the first three years of the project. While this project focuses on one cluster, which promises the quickest return on our investment, the initiatives being implemented will have a positive impact across the other targeted industry clusters. **Nothing contributes more to long-term success than near-term results.**

The Compelling Opportunity – the Defense/Aerospace Industry

While northeast Indiana is widely recognized for its expertise in auto-related manufacturing and assembly, it is less known for a robust and growing sector of the economy, namely, the defense/aerospace industry. Our region is home to over 160 defense/aerospace prime contractors and suppliers. In fact, between 2005 and 2006, over 22% of the prime contracts, based on dollar volume, awarded by the Department of Defense (DOD) to Indiana companies were awarded to northeast Indiana firms.

Not only are these companies performing high-technology-based manufacturing, but these companies are also on the cutting edge of research and development in a growing segment of defense/aerospace requirements, capturing a significant share of all contracts awarded for electronic and software-based network communications. For example, in 2006, northeast Indiana companies landed 41% of all DOD contracts for all non-airborne radio equipment awarded nationally.

During 2005 and 2006, a total of \$2 billion of prime contracts were awarded by the U.S. Department of Defense (DOD) to major units of six national leaders in research, design, and manufacturing companies located in northeast Indiana:

³ The six industry targets for northeast Indiana are advanced materials, defense, financial services, food processing, medical devices, and transportation/logistics. The targeting of a particular industry for special attention is an implementation of the “cluster-based” approach to economic development first suggested for northeast Indiana in the 2003 *Investing in Our Future* economic development strategy prepared by the Northeast Indiana Corporate Council. This approach was further refined in the 2007 regional strategic plan for economic development: *Building a Twenty-First Century Economy in Northeast Indiana*, which stressed the need to focus on the needs of our targeted industry clusters as identified and the work of Whittaker Associates 2007 *Northeast Indiana Regional Marketing Partnership Target Industry Study*.

- BAE Systems Controls
- General Dynamics
- ITT Communications Systems
- Northrop Grumman
- Raytheon
- Ultra Electronics - USSI

The companies listed above are on a growth curve and have identified the need for over 4,000 new and replacement workers in the next five years.⁴ This work is highly technical, requiring systems and software engineers, managers, technicians, and other highly trained and educated workers. The jobs are well compensated. Engineers “fresh out” of a degree program will demand between \$50,000 and \$70,000 per year with little or no direct work experience.

The growth opportunities in the defense/aerospace sector for northeast Indiana are in complete alignment with the state’s goals for commercial defense development. As Jason Lovell, director of the defense operations within the Indiana Office of Defense Development will attest, northeast Indiana possesses critical technology and educational resources that can benefit the state’s economy and grow its quality of life, both immediately and in the long-term.



The question is not whether these companies will fill these job opportunities, but whether they will find the talent required to meet the demand and grow right here in northeast Indiana. This is the compelling near-term opportunity that must be seized.

Ongoing direct dialog with many defense/aerospace employers in the region verifies that there are identifiable, immediate employment needs and opportunities, as well as mid-term and long-range talent needs. The critical question is how best to recruit, train, and educate the workforce of tomorrow, the raw talent to fill this huge economic opportunity. If the region is able to adequately address the talent needs of this industry, both short- and long-term, then the resulting employment opportunities across multiple advanced manufacturing industry segments are very sustainable. We must do so with purpose and a plan. Talent Opportunity Success 2015 is our plan.

Talent Needs of the Defense/Aerospace Industry in Northeast Indiana – Engineering and Advanced Manufacturing Skills

The northeast Indiana defense/aerospace industry currently employs 4,300 highly skilled individuals. Several thousand additional residents of the region are employed in businesses and activities that directly support this cluster. In order to identify the near-term needs of the defense sector, we conducted a series of in-depth, fact-finding meetings with each of the companies identified above. The primary purpose of these fact-finding sessions was to ascertain the future work skills required from 2009 through 2015.

The ongoing dialog with the defense/aerospace employers has identified specific engineering and advanced manufacturing skill sets that are, and will continue to be, needed. These identified skill sets include:

⁴ Despite the recent economic crisis, numerous news stories describe why defense/aerospace contractors continue to expand their workforce. See, for example, “Military Contractors Expect to Beat Layoff Trend”, *Wall Street Journal*, January 30, 2009, page B3 or *CNN.com*, “13 Companies Hiring This Year”, January 7, 2009.

- Scientific and engineering: systems engineering, both hardware and software; electrical engineering; software engineering; mechanical engineering; mathematics and physics; and materials scientists.
- Advanced manufacturing: both precision mechanical and high level integration electronics.

The systems procured by the DOD have become more complex and interconnected. This trend emphasizes the growing need for employers that compete for DOD contracts to obtain and maintain a staff of individuals qualified in the discipline of systems engineering.

The Demand for Engineering and Advanced Manufacturing Skills in Northeast Indiana Extends Well Beyond the Defense/Aerospace Industry

While the defense/aerospace industry provides a compelling opportunity to frame the needs for advanced educational and technical skills training, northeast Indiana has many other firms for which engineering and advanced manufacturing skills are a critical element of their business. The efforts outlined on the following pages are designed to improve the supply of workers capable of providing these skills to both defense and nondefense regional businesses.



Northeast Indiana is home to one of the nation's highest concentrations of manufacturing activity of any region in the United States. This industry sector will remain an asset for the region only to the extent that employers in this sector continually reinvest in emerging technologies, with a workforce prepared to support the more sophisticated talent needs demanded by those technology advances.

Northeast Indiana must increase the number of skilled workers in the region possessing these critical skill sets. To accomplish this, the region must:

- Better prepare those just entering the workforce (in this case, particularly those lacking any training or education beyond a high school diploma).
- Improve the skill sets of incumbent workers (particularly, but not limited to, those currently working in the defense/aerospace industry).
- Do more to successfully transition workers (in the near term, displaced workers who have skills which are transferable to the defense/aerospace industry).

While northeast Indiana's workforce is known for its strong work ethic, it is also known for its relatively low level of educational attainment. Primary research with regional employers through the strategic skills initiative⁵ revealed that there is a growing concern among employers that their employees do not have the skills required in the modern manufacturing environment, causing companies to lose opportunities for expansion and

⁵ In late 2005, the Indiana Department of Workforce Development launched the strategic skills initiative (SSI) to address Indiana's critical job shortages and to increase opportunities and wages for Hoosier workers. The Northeast Indiana Workforce Investment Board (now known as WorkOne Northeast) actively participated in this process and was ultimately awarded \$1,768,246 to fund six programs over a two-year period. Participation in the SSI was critical in solidifying the partner relationship between the regional economic and workforce development organizations.

growth. Company executives say they struggle to find new employees who possess the requisite skills to meet the qualifications for their jobs. The foundational skills of reading, math, and computing are most often cited, together with higher level skills of critical thinking, the ability to assess and solve problems, the ability to work in teams, and the ability to use new technologies.

The Talent Opportunity Success (TOPS) 2015 Plan

There is a narrow window of opportunity for northeast Indiana to position itself to capture the significant higher-compensated employment potential within the defense/aerospace sector. As stated previously, it is not a question of whether these companies will grow, but whether they will find the talent to grow here in northeast Indiana. To prepare for this significant opportunity, TOPS 2015 proposes a continuum of four specific and parallel strategies designed to expand the "talent pipeline" available to support higher-compensated job opportunities in the region:

- Strategy 1: Retraining the Adult Workforce for 21st Century Advanced Manufacturing Skills
- Strategy 2: Enhancing the Ivy Tech Advanced Manufacturing Program
- Strategy 3: Increasing the Pipeline of Regionally Developed Engineering Talent: Building Capacity in Higher Education
- Strategy 4: Preparing K-12 Students for a Knowledge-Based Economy

A description of each of these proposed strategies follows.

Strategy 1: Retraining the Adult Workforce for 21st Century Advanced Manufacturing Skills

Goal:
Upgrade the skills of not less than 1,200 adult workers to match the needs of defense/aerospace companies and other advanced manufacturing firms.

Efforts to expand the targeted retraining of the adult workforce will be led by WorkOne Northeast (formerly the Northeast Indiana Regional Workforce Board). This agency serves businesses and individuals in the eleven counties comprising Economic Growth Region 3 (EGR-3). To ensure success in this skill development effort, WorkOne Northeast will use a three-part skill development strategy to improve the critical skill sets of a minimum of 400 individuals per year.

First, workers with the requisite foundation skills in the areas of math and language will be identified through the use of WorkKeys and other skill assessment activities. Then, WorkOne Northeast will work with employers including those in the defense/aerospace industry, to customize training programs tailored to their needs. Based on that analysis, WorkOne and appropriate education partners (including Ivy Tech) will develop new technical training programs that instruct workers in specific skill sets critical to those industries. Such higher level training activities will include both on-the-job training activities and certification/degree programs.

This skill development project has two goals:

- 1) To meet the current workforce needs of defense/aerospace employers by increasing the supply of workers with the critical skills and work certifications that are required by these employers.
- 2) To develop a new skill development approach to serving northeast Indiana employers that transforms the regional workforce development system into a truly demand-driven system.

To ensure that not less than 400 workers are identified each year for this series of skill development activities, WorkOne Northeast will develop a catch and referral system that seeks out and identifies workers who are interested and ready for planned skill development activities. This catch and referral system begins with the WorkOne centers located in all eleven counties in the region. Collectively, these centers see 25,000+ job seekers every year and provide a large pool of workers to be considered for planned skill development activities. In addition, the WorkOne Business Services Team is constantly talking with employers in the region, including employers in defense/aerospace businesses. As these conversations continue, additional incumbent workers will be identified who are appropriate for planned skill development activities. And finally, WorkOne Northeast will develop a Web presence that will promote these skill development opportunities, allowing motivated workers to seek and apply for training programs through a Web-based application process.

With the support of Lilly Endowment, WorkOne Northeast and its education partners (primarily Ivy Tech) will be able to significantly accelerate their efforts and begin immediate work on developing new skill development programs in critical skill areas. These activities will be developed and made available within 8 to 12 weeks. With resources from the Lilly Endowment grant, at least 100 workers can be trained every quarter in critical skill development activities.

Sustainability of this component of the project will occur in three ways:

- 1) The new series of skill development activities that are created as part of this project will continue to be available to upgrade worker skills beyond the grant period. This will represent, then, a permanent expansion of the regional capacity to deliver demand-driven training programs that support defense/aerospace and other advanced manufacturing firms.
- 2) WorkOne Northeast receives annual allocations of Workforce Investment Act (WIA) and Trade Adjustment Assistance (TAA) resources. These resources are locally managed training resources and will be made available to support the sustainability of skill development activities developed as part of this project.
- 3) As noted, this project will embed a new skill development approach in northeast Indiana that transforms the regional workforce development system into a truly demand-driven system. This transformation of the workforce development system will enable the region to effectively replicate this approach to other targeted industry sectors in the future.

Outcome Measurement

The number of individuals successfully completing training programs that lead to more highly compensated employment within the region is the ultimate measure of the plan's success. Project outcomes will be measured in the following ways:

- The number of workers who enter education and training programs.
- The number of workers who successfully complete education and training programs (measured by certifications and skill assessments).
- The number of workers who secure gainful employment or improve their employment situation.
- The average wage earned by workers who complete education and training programs.

Budget

The cost of worker retraining will include tuition, books, fees, and other supportive services. This cost is estimated at \$4,000 per worker, or \$4.8 million to train not less than 1,200 adults. WorkOne Northeast would need four additional positions to run this expanded program. Salaries, fringe benefits, and equipment to support the program are estimated at \$711,243 over three years. In addition, overhead expenses are estimated at 4% of the total, or \$220,450. This leaves a total budget request for Strategy 1 of \$5,731,693.

Strategy 2: Enhancing the Ivy Tech Advanced Manufacturing Program

Goal:

Tailor advanced manufacturing-related programs at Ivy Tech to the needs of employers for the acquisition of state-of-the-art equipment

In 2006, the Northeast Indiana Workforce Investment Board teamed with Ivy Tech Community College - Northeast to create the Center for Excellence in Advanced Manufacturing. The core mission of this Center was to provide the residents of this region with access to specialized curricula and training related to emerging occupations in advanced manufacturing that had previously been identified through the strategic skills initiative.⁶ The Indiana Department of Workforce Development granted \$610,000 in strategic skills initiative funds for the establishment of this center to create a regional single point of contact for manufacturing employers.

⁶ *Empowering Innovation in Northeast Indiana – The Northeast Indiana Strategic Skills Initiative Solutions Report* prepared by the Northeast Indiana Workforce Investment Board; Fort Wayne, Indiana; March 3, 2006; pp. 24-28.

Northeast Indiana has already taken this initiative to the next level. Starting in the fall of 2008, Ivy Tech's Advanced Manufacturing Program began offering both a Technical Certificate and an Associate of Applied Science degree with three technical competencies directly oriented toward advanced manufacturing: manufacturing design, production technologies, and manufacturing operations.

To maintain currency and to enhance the scope and capacity of the Advanced Manufacturing program, it is necessary to consistently upgrade the equipment upon which students are trained. Providing these students with state-of-the-art skills requires exposure to state-of-the-art equipment that is being used today by many northeast Indiana companies. The most important assistance that can be provided to the program is to upgrade and expand the range of equipment available.

Equipment is needed in three basic categories:

- 1) Equipment used in Advanced Machining and Programming: Current demand for workers trained on these high-tech machines is significant throughout the region.
- 2) Amatrol Automation Systems: These devices prepare students to pursue positions in companies that are looking to increase productivity by using robots and/or automation.
- 3) Mechatronics Systems: Benefits of these types of machines fall into four main categories, including speed, quality, innovation, and increased efficiency.

This equipment will be initially housed at the Ivy Tech Coliseum campus, but will be moved to the new Regional Technology Center on the north campus when that facility opens in 2010.



The 76,000 square foot Ivy Tech Regional Technology Center is being developed adjacent to the Northeast Indiana Innovation Center and the IPFW campus. This \$26.7 million investment by the Indiana General Assembly represents a major step forward in the role Ivy Tech will be able to play in advancing the skills demanded by manufacturing employers throughout northeast Indiana.

A smaller but critical component of this request will allow the Advanced Manufacturing program to expand training programs with additional emphasis on enterprise system skills and quality assurance programs. It will also facilitate increased distance learning opportunities for selected courses which are important to increase the accessibility of the program throughout the region.

Outcome Measurement

Annual program enrollment in advanced manufacturing programs and related certificates and degrees awarded will be used to measure the performance of this component of the TOPS 2015 initiative.

Budget

Grant funds in the amount of \$2,544,000 will be used to purchase equipment as described above. Also, \$78,000 is requested to upgrade the training programs.

Strategy 3: Increasing the Pipeline of Regionally Developed Engineering Talent: Building Capacity in Higher Education

Goal:

Tailor engineering-related programs at IPFW to the needs of defense/aerospace firms and expand IPFW's capacity to deliver those programs

IPFW initiated a systems engineering program in early 2006 to provide training in modern systems engineering techniques, processes, and management to graduate, senior undergraduate, and continuing education students. This program is the result of a partnership between IPFW, the local defense/aerospace industry, and the Lilly Endowment.

A key strategy in this initiative is to expand this partnership to increase the capacity of the industry-related higher education engineering programs at Indiana University-Purdue University Fort Wayne (IPFW). Specifically, we are proposing to enhance the Systems Engineering program, the Wireless Communications program, and add Computer Simulation-Based Laboratories. The activities in Strategy 3 will tailor engineering-related programs at IPFW to the needs of defense/aerospace employers in northeast Indiana, and expand IPFW's capacity to deliver those programs to a larger number of students.

Enhancing the Systems Engineering Program at IPFW

Systems engineering is a relatively young field, tracing its roots back to the early 1960s. IPFW is in the forefront of educational institutions in helping to transition the educational process from ad-hoc company-based training systems into a university-based educational program. Successful transition of the systems engineering body of knowledge into a traditional educational system will assist in maintaining northeast Indiana's competitive edge in an increasingly global economy.



In addition to articulating their collective needs, the defense/aerospace industry financially supported the systems engineering program with contributions of \$500,000. These funds were, in turn, matched by the Lilly Endowment through the Opportunity for Indiana award to Purdue University. This partnership created an endowed chair to establish a systems engineering program.

"IPFW and the defense industry establishments concentrated in northeast Indiana enjoy a strong and growing relationship. We have worked hard to address the industry's talent needs, especially in areas which are supportive to their development of network-centric command and control communications systems – through enhancing research and teaching in the fields of systems engineering and wireless communications. In turn, this industry has been very supportive of IPFW programs, both financially and in the sharing of expertise. I believe that IPFW has an important role to play in regional economic development and this industry-university relationship is a great example of that role in action." - IPFW Chancellor Michael Wartell

Since the creation of the program in 2006, IPFW has received approval to offer a Master of Science in Engineering (M.S.E.) degree where students have the option of concentrating in mechanical, electrical, computer, or systems engineering. The systems engineering focus is the first in Indiana. The graduate-level coursework is designed to teach a structured approach to producing complex and interdisciplinary products. Students who successfully complete the coursework will be exposed to DOD and commercial product development methodologies and standards.

For IPFW to better meet the systems engineering needs of the local defense/aerospace industry, additional faculty are needed to teach an expanded curriculum, provide technical assistance, and build the university research portfolio. Financial assistance is being requested in this project to fund a second endowed faculty position for this program. These funds would go to the Indiana-Purdue Foundation at Fort Wayne to support the hiring of an associate director of the Center of Excellence in Systems Engineering to be filled by an individual possessing a technical specialty in software engineering/software systems engineering.

The proposed budget for this program also includes the development of a concurrent design laboratory. Integral to the expansion of this program is the acquisition of both hardware and software for a systems engineering, concurrent design laboratory that contains computing, visualization, and design tools. The concurrent design laboratory would be housed on the IPFW campus.

Enhancing the Center of Excellence for Wireless Communications at IPFW

Wireless communications is now crucial to a wide variety of applications in the defense/aerospace sector. As a result, defense/aerospace contractors have a great need for workers with skills in wireless communications. In response, IPFW has taken the lead in Indiana in developing a modern wireless communication teaching laboratory.



Again, the defense/aerospace industry in northeast Indiana both articulated the need and financially supported the program. In this case, the industry contributed \$250,000 annually for five years to create an endowed faculty position and an additional \$250,000 in operational funds for the center.

Under TOPS 2015, IPFW will augment existing university strength in wireless communications, expand class offerings in degree programs with a concentration in this area, and launch a graduate certificate in wireless communication. A related long-term goal is to facilitate the establishment and growth of a national-level wireless communication research and trade conference in Fort Wayne, designed to establish northeast Indiana as a national leader in this fast-growing technical field.

Financial assistance is being requested in this project to fund a second endowed faculty position for this program. These funds would go to the Indiana-Purdue Foundation at Fort Wayne to support the hiring of an associate director of the Center of Excellence in Wireless Communications to be filled by an individual possessing a technical specialty in embedded systems/concurrent systems (VHSIC, or Very High Speed Integrated Circuits). Funding is also requested to acquire equipment for a design and testing laboratory.

Creating Computer Simulation-Based Laboratories at IPFW

As a result of digital computers becoming very powerful, computer simulation of complex systems has become possible. These computer simulations have greatly affected engineering practice. The proliferation of computer simulation software has led to its adoption, in many cases, in engineering laboratories. In order to most effectively train the current and future generations of engineers, our laboratories must contain state-of-the-art equipment. By upgrading the teaching facilities available at IPFW, we can more successfully meet the workforce needs of the defense/aerospace industry.

This need can best be addressed with the creation of a modeling and simulation laboratory. This facility will support modeling and simulation across a range of electrical engineering and systems engineering functions. The laboratory will contain servers, workstations, mass storage units, video displays, and appropriate software.

Outcome Measurement

The goal of all three programs outlined above (the Centers of Excellence in Systems Engineering and for Wireless Communication, and the computer simulation-based laboratories) is to enhance training capabilities in areas of the most critical need to defense/aerospace sector firms. The outcomes include enrollment in targeted areas, as well as certifications, bachelor's degrees, and advanced degrees in the targeted areas.

Budget

The Center of Excellence for Systems Engineering: \$1,500,000 is being requested in this project to fund a second endowed faculty position (associate director) for this program. An additional \$500,000 is being requested to purchase both hardware and software for a systems engineering, concurrent design laboratory.

The Center of Excellence for Wireless Communication: \$1,500,000 is being requested in this project to fund a second endowed faculty position (associate director) for this program. An additional \$500,000 is being requested to purchase both hardware and software for a wireless communications, design, and testing laboratory.

Computer Simulation-Based Laboratories: \$500,000 is being requested to fund the purchase of capital equipment to create the modeling and simulation laboratory.

Because the staffing positions are endowed, earnings from the endowment would provide ongoing support for the positions. Capital items purchased would have a long life, with any replacement purchases funded by IPFW.

Strategy 4: Preparing K-12 Students for a Knowledge-Based Economy

Goal:

Significantly increase the number of students who master science and math skills to align human capital requirements with economic development opportunities

The TOPS 2015 project will support the launch of certified New Tech High Schools, with a concentration in STEM-related work, in northeast Indiana, with the first opening in Fort Wayne Community Schools in the fall of 2009.⁷ In addition, we will facilitate project-based STEM curriculum and professional development for non-New Tech schools

New Tech is a high school reform model in which students learn academic content and 21st century workplace skills through project-based collaboration with local business, the community, and each other. The New Tech model is intended as a separate school or as a school-within-a-school characterized by distinct personnel and practices. In the New Tech structure, students work in teams to solve authentic problems posed by their teachers as part of the overall curriculum. Students use one-to-one computer technology and community resources to create solutions to their problems, solutions that are then presented formally to a team of experts for critique.



In this project, \$5 million has been budgeted to support the launch of certified STEM New Tech High Schools, facilitate project based STEM curriculum for all schools, and expand professional development for teachers. While these funds will help these schools and curriculum development in their communities, all operating costs, and any capital expenses above the amount awarded under this project, will be borne by the individual school districts.

A network of New Tech schools is being created in Indiana through the work of the University of Indianapolis Center for Excellence in Leadership and Learning (CELL) and the New Technology Foundation. The education acquired in a New Tech High School program prepares students for lifelong learning, productive citizenship, and personal growth because it is based on authentic and interdisciplinary content. Graduates of New Tech High Schools meet both Indiana high school graduation requirements and requirements for credits from higher education institutions. Our project would combine the New Tech High School concept with an emphasis on STEM-related coursework.

Project based instruction replaces traditional academic content and instruction with projects based on real-world problems that span multiple content areas. Such a way of teaching requires that course content be reorganized to cover all required academic standards and to create instructional activities that place responsibility for learning on the students with support provided by the instructor. Project based instruction is at the heart

⁷ As of February 2009, in addition to the New Tech High School in the Fort Wayne Community School system, New Tech High Schools are under consideration for Adams, Huntington, Lagrange and Whitley counties.

of the New Tech High School model and is worthy of replication in classrooms that are not included in the New Tech sites.

Teachers must be trained to deliver rigorous STEM content in ways that are meaningful for students. Northeast Indiana is rich in high-quality teacher education programs, but the expectations for teachers have changed with the advent of more rigorous course content and more personalized learning experiences for students. The changes we are encouraging require teacher training that increases content knowledge in teachers and utilizes advanced teaching methodologies for instilling that rigorous content knowledge in students.

Project based instruction provides increased opportunities for students to learn rigorous content through authentic experiences. Many students currently sitting in K-12 classrooms will live to see the 22nd century. Their work lives will place them in roles that have yet to be created to solve problems that have yet to be discovered. They must possess 21st century skills of digital-age literacy, critical thinking skills, effective communication, and high productivity if they are to be successful as individuals and community members. For this to occur schools must expand the opportunities for students to take advanced science and mathematics courses despite the continuing dearth of teachers licensed in STEM areas. And those courses must be restructured so that students are able to “apply what they know” to real world circumstances.

For STEM enhancement to be truly systemic, project based instruction must reach more than students enrolled at the New Tech schools and impact all 35,000 secondary high school students in the region. Initial estimates suggest that up to 50% of those students can be reached through project based techniques. With careful crafting of curriculum supported by professional development, project based instruction can be injected throughout the northeast Indiana region, educating the future workforce of the region in the skill sets necessary to occupy more highly-compensated jobs.

Outcome Measurement

TOPS 2015 will encourage the expansion of rigorous and authentic STEM learning experiences for K-12 students to align human capital requirements with economic development opportunities. The end result will be a significant increase in the number of students who master science, technology, engineering, and mathematics skills so that they can successfully complete rigorous post-secondary training.

To measure the success this strategy, the following data will be used (each element disaggregated by race, gender, and other demographics):

- Enrollment in certified STEM New Tech High Schools (goal is 1,000 students before 2012);
- Enrollment in science, technology, engineering, and mathematics courses in grades 9-12;
- Enrollment in advanced placement classes in science, technology, engineering, and mathematics classes in grades 9-12;
- Number of students achieving scores of 3, 4, or 5 on STEM-related advanced placement examinations; and

- Number of teachers receiving professional development in project-based learning, New Tech High School certification, and STEM-related content.

Budget

The total budget for Strategy 4 is \$5 million. This amount will be used for supporting the launch of certified STEM New Tech High Schools, the development of project based curriculum, and professional development.

Communications Campaign

Without question, upgrading our educational and workforce delivery systems is critical to the economic viability of the region and the quality of life of its citizens. To be effective, this effort must be supported by a communications campaign designed to instill and sustain a widespread, optimistic attitude generating motivation across the entire spectrum of students and workers throughout the region – an individual motivation for each person to upgrade their respective work-related skills. This means a willingness – *no, a burning desire* – to continuously seek personal improvement. All segments of the U.S. economy are requiring ever more sophisticated skills from their employees. Businesses will create and retain jobs only in locations with adequately-trained workers in sufficient numbers to meet these demands. As we move from a labor-surplus to a labor-shortage environment, northeast Indiana simply cannot afford to have portions of its labor force that are not driven to make their personal skill levels match employer skill level expectations. *Competitive individuals make competitive workforces and competitive workforces make for economically competitive regions.*

Creating this level of awareness across the entire spectrum of students and workers is also critical to the upgrading, and then the sustaining, of the educational and workforce delivery systems. Creating a **demand** from students (and their parents) and workers for education and training with a recognized link to higher compensation is as critical to driving the transformation of these delivery systems as the economic resources that will be utilized to stimulate the transformation.

Measuring Success

Measuring the success of TOPS 2015 initiative will be assessed at three basic levels. The first level is a series of ongoing performance measures which have previously been identified within the respective segments of the talent pipeline process. These are designed to measure how each component is performing and are summarized below:

- **Strategy 1 – WorkOne Northeast:** The success of our efforts to retrain the adult workforce will be tracked by monitoring the number of workers that enter education and training programs, those that successfully complete education and training programs, the number of workers that secure gainful employment or improve their employment situation, and the average wage earned by workers that complete education and training programs.

- **Strategies 2 and 3 – Ivy Tech and IPFW:** To ensure that we are increasing the pipeline of regionally developed engineering talent at IPFW, as well as advanced manufacturing talent at Ivy Tech, we will track enrollment, as well as certifications, bachelor's degrees, and advanced degrees, in the targeted areas.
- **Strategy 4 – K-12:** We will measure enrollment data in New Tech High Schools, enrollment in STEM-related courses, and scores on STEM-related advanced placement tests. Each element will also be broken out by gender and other demographic measures.

We will also monitor the number of teachers receiving professional development in project-based learning, New Tech High School certification, and STEM-related content.

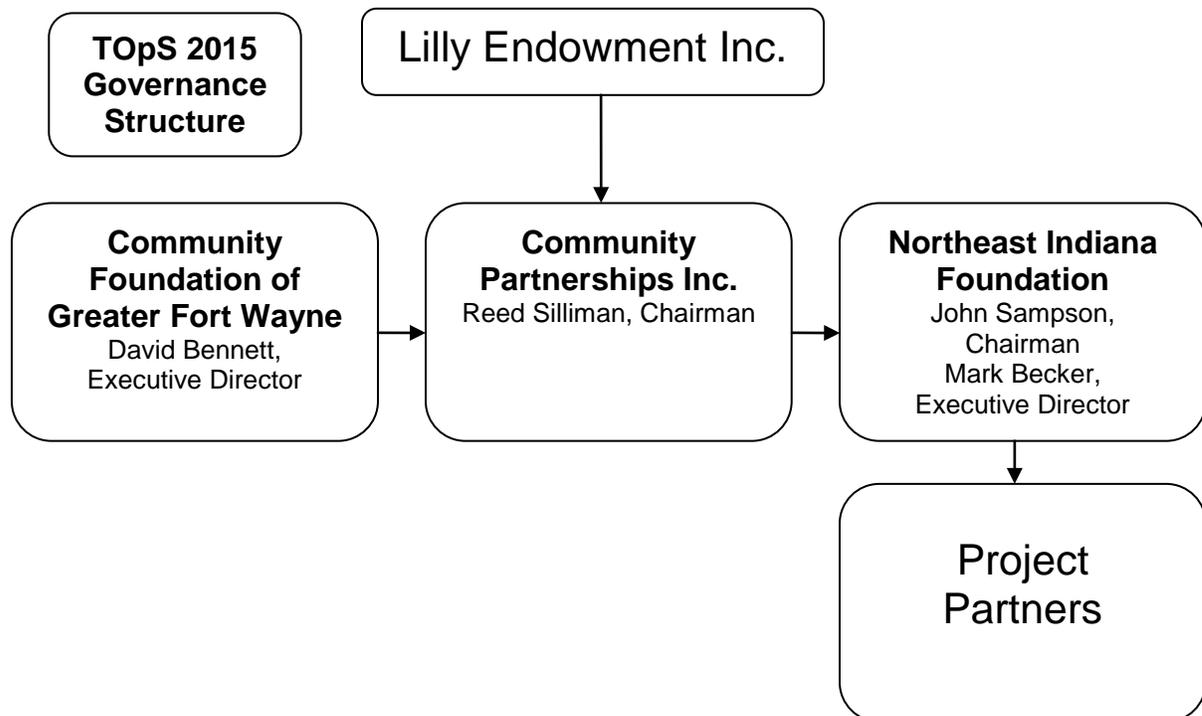
The second level of measurement of success for the TOPS 2015 initiative will be its ability to capture the currently-identified demand for new and replacement employees available to meet the needs of northeast Indiana's defense/aerospace industry. We will annually survey regional firms from this sector to obtain their assessment of the quality and quantity of the regional talent pool and its ability to meet their needs. Specific attention will be placed on engineering and advanced manufacturing positions.

Thirdly, as stated previously in this proposal, the primary goal of TOPS 2015 is to stabilize and then reverse the region's decline in per capita income growth relative to both the state and the nation. To measure the broad effectiveness of TOPS 2015, we will annually measure the number of positions filled by regional defense/aerospace employers and compare the wage levels of these hires with the annual average wage for all jobs in northeast Indiana. Because so many unrelated and, in many cases, uncontrollable variables impact the region's overall per annual capita income number, it is our belief that the method described above is a more accurate measure of success of TOPS 2015 than simply making an annual comparison of regional and national per capita incomes.

Governance and Oversight

This proposal requests that funding be provided from Lilly Endowment to Community Partnerships Incorporated (CPI), a supporting organization of the Community Foundation of Greater Fort Wayne. Governance of CPI is provided by a seven-person board, four of whom are appointed by the Community Foundation⁸. The CPI board will be chaired by Reed Silliman, formerly the managing partner of the Fort Wayne office of Baker & Daniels.

CPI was created by the Community Foundation in 1994 to serve as the vehicle for overseeing projects of special significance to our area. It has provided oversight to several local projects, including *Everybody Reads*, Allen County’s project under Lilly Endowment’s Community Alliances to Promote Education.



As detailed under “Funding and Program Management”, CPI will provide fiduciary oversight for the project as well as fulfilling reporting responsibilities to Lilly Endowment.

Daily management of the TOPS 2015 initiatives will be provided by the Northeast Indiana Foundation (NIF). The NIF is organized as a supporting organization to the Northeast Indiana Regional Partnership to fulfill charitable activities supporting regional economic development. In addition to daily oversight and management of TOPS 2015, the Northeast Indiana Foundation (NIF) will play a key role in advising CPI regarding program performance objectives and fiduciary matters.

⁸ CPI is a Type I supporting organization under IRS regulations.

Talent Opportunity Success (TOPS) 2015

The NIF will position key staff members and consultants to assure that the operational features of the TOPS 2015 strategies are coordinated with other regional initiatives and effectively implemented through consistent communications and strong collaborations with regional project partners.

The Executive Director of the NIF, Mark Becker, provides overall management and strategic guidance to the NIF. He is directly accountable to the NIF Board of Directors for effective implementation and coordination of regional programs. Due to the broad oversight responsibilities of the executive director, only a portion of this position is devoted to the TOPS 2015 project and only partial funding is requested for direct support to the project within this proposal.

A full time Director of TOPS 2015 will be employed by the NIF to oversee implementation of all aspects of the program. This individual will have strong leadership skills and demonstrated experience managing major business or public projects. Reporting to the executive director of the NIF, the director will work closely with regional project partners from key organizations of higher education, K-12, and industry leaders from defense/aerospace and advanced manufacturing companies.

The focus of the director position will be to coordinate and advance collaborations between regional partners and ensure that the overall TOPS 2015 programs and initiatives are implemented as planned and designed. It is well understood that these initiatives must coordinate with existing programs at the state, regional and local level to assure that maximum benefit is leveraged from previously launched programs such as CONEXUS to assure that resources are complementary and not duplicated. This position will assure appropriate plans, resources, reporting, and accountability systems are in place to implement project details and achieve targeted outcomes.

Funding and Program Management

The TOPS 2015 program management and oversight component is designed to ensure compliance with reporting, fiduciary, and governance responsibilities.

For those components of the program, other than projects at IPFW and Ivy Tech, funding will flow from CPI to participating organizations. The Northeast Indiana Foundation will provide funding recommendations to the board of the CPI, and all disbursements must be approved by the CPI board. Ongoing disbursements to project partners will be contingent upon program performance, proper spending, and timely reporting by each organization.

The reporting responsibilities will include both financial and programmatic reports. These reports will be provided by CPI, based in part on information submitted by the Northeast Indiana Foundation and project partners. It is expected that reports will be made not only to Lilly Endowment, but also as regional progress updates throughout the communities of northeast Indiana.

Fiduciary oversight for the project will rest with CPI. This responsibility is composed of two parts; ensuring that funds are properly spent with adequate internal controls, and ensuring that all spending is consistent with the charitable goals of the project. It is expected that the NIF will play a key role in advising CPI regarding program performance objectives and fiduciary matters.

Budget

The three-year cost for governance and management is \$845,873 (which includes both salaries and fringe benefits). The communications campaign has been budgeted at \$750,000. In addition, \$200,000 has been allocated for the collection and dissemination of data measuring the success of the program. Finally, a contingency fund of \$350,434 (about 1.75% of the budget) has been included.

The total budget for governance and management, the communications campaign, measuring success and the contingency fund, then, is \$2,146,307.

TOpS 2015 Budget Summary

The overall budget for TOpS 2015 is \$20 million. Major components are as follows (note that a full budget is included in the appendix):

- A total of \$5.7 million has been budgeted for worker retraining. This amount will be used to retrain at least 1,200 adult workers in highly skilled areas, generally in advanced manufacturing.
- The amount to be used to enhance programs of higher education at IPFW and Ivy Tech is \$7.122 million, to support capital purchases at both institutions and two endowed professorships at IPFW.
- The K-12 portion is budgeted at \$5 million. This will be used to support the launch of certified STEM New Tech High Schools, develop project based instruction, and professional development.
- The amount budgeted for governance and management is \$845,873.
- The communications campaign is budgeted at \$750,000.
- Funding to collect data on project outcomes, which will measure our success, is \$200,000.
- Approximately \$350,434 (1.5% of the total budget) has been established as a contingency fund.

Of these amounts, it is requested that the funds allocated to IPFW and Ivy Tech (\$7.122 million) be disbursed directly to those institutions. The remaining amount (\$12.878 million) would be disbursed to CPI. Project partners would receive either semiannual or annual disbursements.

Because CPI is a supporting organization of the Community Foundation of Greater Fort Wayne, it is not subject to public support test calculations.

Appendix A: Budget

Revenues			
1	Lilly Endowment	20,000,000	
	<i>Total Revenues</i>		20,000,000
Budget			
<u>Strategy 1: Adult Workforce Retraining</u>			
2	Retrain Not Less Than 1,200 Adult Workers	5,731,693	
	<i>Total Strategy 1</i>		5,731,693
<u>Strategy 2: Upgrade Talent Pool in Advanced Manufacturing</u>			
3	Ivy Tech Capital Upgrades and Program Enhancements	2,622,000	
	<i>Total Strategy 2</i>		2,622,000
<u>Strategy 3: Enhanced Higher Education</u>			
4	Capital Upgrades – Creation and Upgrade of Labs	1,500,000	
5	Systems Engineering Staff – Endowed Faculty	1,500,000	
6	Wireless Communication Staff – Endowed Faculty	1,500,000	
	<i>Total Strategy 3</i>		4,500,000
<u>Strategy 4: Enhance STEM Education K-12 Level</u>			
7	STEM New Tech High Schools, Project Based Learning, Professional Development	5,000,000	
	<i>Total Strategy 4</i>		5,000,000
<u>Governance, Measurement & Other</u>			
8	Governance & Management	845,873	
9	Communications Campaign	750,000	
10	Measuring Success	200,000	
11	Contingency	350,434	
	<i>Total Governance, Management and Other</i>		2,146,307
	Total Budget		20,000,000
Disbursement of Lilly Endowment Grant			
	IPFW	4,500,000	
	Ivy Tech	2,622,000	
	Community Partnerships Inc. (CPI)	12,878,000	
	Total Disbursements		20,000,000

Appendix B: Talent Opportunity Success (TOPS) 2015 Logic Model

Goal: Raise relative personal income in northeast Indiana by creating, preparing, and providing a workforce that will fill at least 4,000 job openings in the Defense/Aerospace industry

Activities	Outputs	Outcomes	Impact	Program Measurement	Long-Term Indicators
Adult workers are retrained in Advanced Manufacturing	Retrain at least 1,200 workers over three years	Adult workers are more successful in finding quality jobs	Unemployment and underemployment of adult workers is reduced	Post-training employment and wages	Increase in Science, Technology, Engineering, and Math Degrees Awarded Increase in Advanced Manufacturing Certificates and Degrees Awarded Increase in number of employees in Defense/ Aerospace Cluster Increase average wage relative to U.S. Increase per capita income relative to U.S.
IPFW enhances Systems Engineering and Wireless Technology programs	More students receive degrees in needed skills areas	Students are capable of performing skills in needed areas	Northeast Indiana students can get good jobs that pay well	Enrollment statistics; degrees awarded	
Ivy Tech enhances Advanced Manufacturing	More students are trained in Advanced Manufacturing skills	Students are capable of performing skills in needed areas	Northeast Indiana students can get good jobs that pay well	Enrollment statistics; degrees awarded	
Support launch of certified New Tech High Schools in Northeast Indiana	Projected enrollment of 1,000 students	More students receive high-quality STEM education	Students are prepared for rigorous college STEM curriculum	Grades 9-12 Enrollment in STEM-related courses and Advanced Placement classes	
Create and implement project-based instruction in STEM areas	Project-based instruction more fully utilized at all schools			Scores on Advanced Placement tests	

Adult Worker Retraining	Higher Education	K-12 Education
-------------------------	------------------	----------------

Appendix C: Key Personnel

Mark D. Becker
Executive Director
Northeast Indiana Foundation

Mark D. Becker serves as Executive Director of the Northeast Indiana Foundation, and also as Director of Regional Development for the Northeast Indiana Regional Partnership. Prior to his current position, Becker served as Deputy Mayor of the City of Fort Wayne from 2005-2008, and Director of the Division of Community Development for the City of Fort Wayne from 2001-2005.

Becker's previous experience includes serving as Executive Vice President for Strategic and Economic Development for the Greater Greenville Chamber of Commerce in Greenville, South Carolina; Vice President of Economic Development for the Greater Fort Wayne Chamber of Commerce; Manager of Community Development/East and Principal, Business Development for Northern Indiana Public Service Company (NIPSCO); Director of Economic Development for the City of Fort Wayne; President of the Logansport Economic Development Foundation; and, Executive Director of the Logansport/Cass County Planning Department.

Becker received a Bachelor's Degree in Urban Planning from the University of Cincinnati in 1977 and has served on the board of directors of numerous community organizations.

David Bennett
Executive Director
Community Foundation of Greater Fort Wayne

David Bennett received his Bachelor's Degree in Economics from Williams College, and a Masters in Public Affairs from Princeton University.

Bennett began his career as a Certified Public Accountant with the firm of Ernst & Young. From 1988 to 1995, he served as the President of the Taxpayers Research Association, which, at the time, was the largest taxpayer advocacy group in the State of Indiana.

Bennett joined the Community Foundation of Greater Fort Wayne as Executive Director in 1995. He currently serves on the Community Foundation Committee of the Indiana Grantmakers Alliance, and teaches a foundation finance course for the Council on Foundations.

Carl N. Drummond, Ph.D.
Associate Vice Chancellor for Research and External Support
Indiana University-Purdue University Fort Wayne

Carl N. Drummond received a Ph.D. in Geology from the University of Michigan in 1994 and has been a member of the IPFW faculty since that time. For his contributions to the fields of quantitative stratigraphy and paleoclimatology, Drummond was elected Fellow of the Geological Society of America in 2000 and was the recipient of the James Lee Wilson award for outstanding achievement in sedimentary geology by a young scientist by the Society for Sedimentary Geology in 1998.

Two of Drummond's 34 professional publications have been selected for outstanding paper awards: "Strategic Planning for Research Administration" by the Journal of Research Administration of the Society for Research Administration International in 2004, and "Facies Successions in Peritidal Carbonate Sequences" by the Journal of Sedimentary Geology of the Society for Sedimentary Geology in 1998. In 1999, Drummond was appointed editor of the Journal of Geoscience Education and now serves as associate editor of the American Journal of Undergraduate Research. Since establishing the Office of Research and External Support at IPFW in 2002, total grants and contracts have grown by 144%, while the number of awards from external sources has grown by 40%.

Mark A. Keen, Ph.D.
Chancellor
Ivy Tech Community College - Northeast

Dr. Mark Keen was named Chancellor at Ivy Tech Community College - Northeast in January 2006. Prior to his appointment as Chancellor, Dr. Keen served the region in a variety of positions, over a span of more than 22 years, including Dean of Academic Affairs for nearly 12 years. Before becoming the academic dean, Dr. Keen was the Technology Division Chairperson for five years, the Automated Manufacturing Program Chairperson for three years, a full time Electronics program faculty member, and an adjunct instructor with Ivy Tech.

Dr. Keen is an Indiana native born in Muncie, Indiana and raised primarily in Jay County. Dr. Keen is an advocate and practitioner of lifelong learning. He has an Associate's Degree in Electronics Engineering, a Bachelor's Degree in Automated Manufacturing, a Master's Degree in Business Management, and a Ph.D. in Higher Education Administration from Indiana State University.

As a citizen of the community, Dr. Keen is involved in numerous boards and committees including the Greater Fort Wayne Chamber of Commerce Workforce Advisory Council, Community Action of Northeast Indiana where he serves as board president, Junior Achievement, Downtown Rotary Club of Fort Wayne, Allen County Community Corrections, Blue Jacket, Inc., Indiana Regional Educational Center for Community Policing (RECCP), and the Northeast Indiana Corporate Council, among others. Dr. Keen's research interests are primarily related to workforce development and the emerging workforce.

Kathleen Randolph
President/CEO
Partners for Workforce Solutions, Inc.

Kathleen Randolph is president and CEO of Partners for Workforce Solutions, Inc. and is the Northeast Indiana workforce Regional Operator. Since 2005, Kathleen and Partners for Workforce Solutions have led the way for Indiana regions in changing methods for delivering employment and training services through the WorkOne Centers.

Kathleen developed the Work Ethic certification program, subsequently adopted by the State of Indiana. As an expert in youth development, Kathleen is co-author of youth development resources and curricula published and distributed nationally by Community Partnerships Inc. She has implemented federal demonstration projects such as Life Long Learning Accounts and Career Advancement Accounts, and under the President's Community and Faith-based Initiative, established a capacity building project for grassroots organizations that was recognized by the US Department of Labor as a national best practice. She has served on regional and statewide commissions and boards in workforce, economic, and community development throughout her career. Prior to joining Partners, Kathleen was an independent consultant providing strategic planning, program development services, and project management to private foundations.

Kathleen holds a Bachelors degree in Human Resources Development, is a certified Youth Development Professional, and a certified facilitator and trainer.

Wendy Y. Robinson, Ed.D.
Superintendent
Fort Wayne Community Schools

Dr. Robinson began her career with the Fort Wayne Community Schools in 1973 as a third grade teacher. During her 35-year career in education, she served as a classroom teacher, assistant principal, principal and central office administrator. She was appointed to the position of Superintendent of Fort Wayne Community Schools in July 2003 after an eight-year assignment as Deputy Superintendent. A graduate of Fort Wayne's Central High School, Dr. Robinson was awarded her undergraduate and advanced degrees from DePauw University, Greencastle, IN, Indiana University, Bloomington, IN, Indiana University-Purdue University Fort Wayne and Ball State University, Muncie, IN.

Dr. Robinson is an active member of the community and has formed partnerships with local agencies and businesses to increase educational opportunities. She serves on numerous boards including the Fort Wayne Economic Alliance, Junior Achievement, Parkview Hospital and Manchester College, among others. In August of 2005, she was jointly appointed to serve on the Indiana Education Roundtable by Governor Mitch Daniels and State Superintendent Dr. Suellen Reed. She is currently the president of Indiana Urban Schools Association, an organization that supports legislation and provides services and programs that recognize the needs of urban schools.

Dr. Robinson is a tireless advocate of public education and has worked closely with many national organizations, including the Broad and Wallace foundations. Under her leadership, Fort Wayne Community Schools has received millions of dollars in grants and training opportunities from the well-known foundations. She is recognized as an

expert on improving urban education and is frequently asked to speak at conferences hosted by organizations such as the National Conference of State Legislators, American Association of School Administrators and the Urban Superintendent's Association of America.

John R. Sampson
President/CEO
Northeast Indiana Regional Partnership
and
Chairman
Northeast Indiana Foundation

John R. Sampson serves as President/CEO for the Northeast Indiana Regional Partnership, where he is responsible for leading the startup and operations of the Regional Partnership in proactive economic development attraction on behalf of the eleven county local economic development organizations of northeast Indiana.

Previously, Sampson served as the Vice President for External Affairs, and American Electric Power (AEP) President-Indiana and Michigan with responsibility for public policy advocacy and interaction with external stakeholders including legislators, regulators, government officials, customers, and business and community leaders. Prior to his work in Indiana, Sampson served as Site Vice President and Plant Manager of the Donald C. Cook Nuclear Plant, in Bridgman, Michigan. During that time, he was elected vice president for Indiana Michigan Power, a wholly owned subsidiary of AEP. Sampson joined AEP in 1985, serving as the Operations Production Supervisor, Safety and Assessment Superintendent, Operations Superintendent, and Assistant Plant Manager for Technical Support.

Prior to service with AEP, Sampson was the Maintenance Production Manager at the Washington Nuclear Project No. 2, operated by the Washington Public Power Supply System.

A graduate of the U.S. Naval Academy, Sampson holds a Bachelor of Science degree in aerospace engineering and has licensed as a senior reactor operator for the Washington Nuclear Project and the Cook Nuclear Plant. During his naval service, he qualified as engineer in the Naval Reactors program. Sampson completed the AEP management development program at Ohio State University and the Senior Nuclear Plant Management course of instruction at the Institute of Nuclear Power Operations.

N. Reed Silliman
Partner, Baker & Daniels
Chair, Community Partnerships, Inc.

N. Reed Silliman is a partner in the firm of Baker & Daniels. He earned his Bachelor's Degree from Hanover College, and graduate magna cum laude from the University of Louisville law school.

Mr. Silliman is a member of the Allen County, Indiana State and American Bar Associations and the American Health Lawyers Association. He has represented public and private companies in buying and selling businesses and business segments, creating joint ventures and strategic alliances, and structuring tiered entities. He is a

member of Phi Kappa Phi and Order of the Coif, and he has been named as one of the *Best Lawyers in America*.

Mr. Silliman serves as a director of DuCharme McMillen & Associates, the McMillen Foundation and the Northeast Indiana Corporate Council. He is a past director of Northern Indiana Fuel & Light Company, Inc. and Leadership Fort Wayne, and a past director and President of Mad Anthony's, Inc.

In the TOPS 2015 project, Mr. Silliman will serve as the chair of Community Partnerships, Inc.

Michael A. Wartell, Ph.D.
Chancellor
Indiana University-Purdue University Fort Wayne

Academician and scientist, Michael A. Wartell was appointed Chancellor of Indiana University-Purdue University Fort Wayne (IPFW) in July, 1994. During the previous year, Wartell served as Vice Chancellor for Academic Affairs and Professor of Chemistry at IPFW.

Dr. Wartell received a Bachelor's Degree in Chemistry from the University of New Mexico, and an M.S. and Ph.D. in Physical Chemistry from Yale University.

Dr. Wartell currently serves on the U.S. Army Science Board, working on such subjects as chemical warfare, manpower and logistics, and decontamination. Wartell has also served on the Defense Science Board from 1998-2005, and as Chair of the defense Intelligence Agency Science and Technology Advisory Board from 1987-2005. Wartell was a member of the Board of Visitors of the Defense Systems Management College from 1984-1988, and he has served as a consultant to government agencies and defense contractors. Wartell is the author or coauthor of five textbooks, laboratory manuals, and study guides, as well as numerous scholarly papers.

Between 1989 and 1993, Dr. Wartell served as Department Manager for Sandia Laboratories in Albuquerque, New Mexico. His responsibilities included development and management of educational outreach and special technologies programs. Wartell served as Provost and Vice President for Academic Affairs at Humboldt State University, Arcata, California, from 1984-1989, and Dean of the College of Letters and Sciences and Professor of Chemistry at James Madison University, Harrisonburg, Virginia, from 1979-1984.

Dr. Wartell serves as a member of the board of directors of numerous community organizations, including the Greater Fort Wayne Chamber of Commerce, the Northeast Indiana Corporate Council, the Northeast Indiana Public Safety Academy, Leadership Fort Wayne, Junior Achievement, the Urban League, Boy Scouts, Northeast Indiana Innovation Center, and the Fort Wayne Philharmonic. Wartell is also a member of numerous honorary societies and recipient of major research grants and academic awards.