Executive Summary:

Overview

The quality, capability and availability of the workforce are critical factors for the region's economic advancement. Systematic workforce planning is a key element in developing regional capability and capacity. Iowa's Creative Corridor economic development and workforce partners place a priority on the core abilities of workers with the advancing and evolving needs of emerging or growing industry clusters, major employers and emerging new businesses. That process is a targeted focus to gain a greater understanding of the workforce characteristics and needs of key industry clusters in the region. This information enables these organizations, educational institutions and employers to better assist industry clusters, existing regional businesses and prospective businesses in those clusters.

The region has deployed a series of "Skills and Employer Reports," an evolving set of surveys and assessments of the region's industry sectors, occupational categories, projected employment needs, and current supply chain needs within the eastern Iowa Creative Corridor area. Numerous reports have studied the immediate and projected employment needs of a representative cross-section of large and small employers in both the public and private sectors and representative industry clusters. Subsequent studies enlarged, refined and revisited the aspects of earlier studies, while noting progress or lack of it in key areas of employee knowledge, needed skills and recruitment needs across the region.

Working in collaboration with economic development groups and Kirkwood Community College, a follow-up study built on these original study models was commissioned to deepen the understanding of the wider employment and workforce development needs from a detailed understanding of the region's composition and labor characteristics with the 13 primary industry clusters based on key employers in the region and the known cluster interactions among those industries. For these 13 industry clusters, the cluster composition, occupational staffing patterns, the cluster's relative concentration and demand growth were identified and examined.

Key Findings

Industry Clusters

1. In Iowa's Creative Corridor, 13 industry clusters were identified through identification of key employers, known cluster interaction, and supply-demand linkages. The 13 industry clusters included:
    a. Educational Testing and Support Services
    b. Durable Goods
    c. Non-Durable Goods
    d. Food and Food Ingredients
    e. Industrial Bio-technology
    f. Financial Services and Customer Services
    g. Electronics Engineering and Manufacturing
    h. Software and Info Tech Development/Computer Modeling
    i. Energy Generation and Distribution
    j. Renewable Energy and Sustainable Tech Products – Wind Manufacturing
    k. Renewable Energy and Sustainable Tech Products – Solar Components Manufacturing
    l. Medical Devices and Services
    m. Production Advanced Manufacturing Cluster

2. Five of these industry clusters are determined to be foundational to the region. These industry clusters employ a large percentage of the region's workforce and their compounded annual growth rates are relatively stable. An additional five industry clusters are determined to be

'growing' or 'emerging' as characterized by stronger compounded annual growth rates. The Foundational and Emerging or Growing clusters are:

Emerging and Growing

- Food and Food Ingredients
- Industrial Biotechnology
- Financial Services and Customer Services
- Software and IT Development/Computer Modeling and Simulation
- Medical Devices and Services

Foundational

- Durable Goods
- Non-Durable Goods
- Electronics Engineering and Manufacturing
- Educational Testing and Support Services
- Production Advanced Manufacturing

3. Nine of the 13 industry clusters had location quotient's in 2012 that was higher than 1.50 which indicates the region has some level of specialization related to these nine clusters
4. The region's priority industry clusters are: financial services and customer services; electronics engineering and manufacturing; and software and information technology development/computer modeling and simulations. Priority industry clusters were determined based on several factors including:
    a. Existing regional employers in these sectors show new product development and innovation ahead of national trends, based on annual existing industry surveys
    b. Alignment with educational offerings and an established pipeline for graduates in these disciplines
    c. Input from regional economic development organizations on project inquiries from companies and site selection consultants in these domains
    d. Research on forecasted industry growth trends conducted by MBA students at the University of Iowa

Occupational Outlook

5. The Creative Corridor has a rich diversity among the 13 industry clusters as well as within the clusters. The employment levels for the clusters range in size from just over 400 to over 11,000 jobs. Some clusters are dominated by one or a few employers, such as the electronics engineering and manufacturing cluster, and other clusters do not have a single dominant employer, such as the financial services and customer services cluster.

6. Seven of the 13 industry clusters experienced employment growth from 2002 to 2012. Among those seven industry clusters, five clusters had higher growth rates compared to the cluster's growth rate nationally.

7. The software and IT cluster had a very low average establishment size based on the number of employees relative to the other clusters while other industries are dominated by a few large employers. This would reflect that within this cluster a more entrepreneurial establishment exists within the tech cluster. Thus, a greater amount of innovation and flexibility may exist in this cluster environment and may mean that the targeted workforce programs designed to nurture the tech cluster will need to be developed differently than other clusters.

8. The software and IT cluster also had the highest average wages, even among entry-level jobs, but also require the most training and education. There were far fewer entry-level occupations in this cluster that required only a high school education compared to other industry clusters. The projected rate of employment growth in this cluster was also the highest among all 13 industry clusters. The higher wages and employment growth make this a priority cluster to target and accretive to economic development.

9. Among the 538 occupations represented by the 13 industry clusters studied, 102 of them have an estimated employment level of 100 or more in 2012. There are five occupations that have employment levels of 1,000 or higher (customer service representatives, team assemblers, computer software engineers, applications, computer software engineers, systems software, and telemarketers, with management analysts slightly below 1,000)

Workforce Capability

10. There is a significant gap in the skills that exists in the software and IT cluster between the average worker and the needs of entry-level positions. The career ladder for the cluster may need to be extended to include workers from other, less skill/educationally intensive clusters to help workers up-skill into entry-level IT positions.

11. The financial and customer service cluster was characterized by the second-highest paying cluster and had a very gradual increase from the lowest-paying jobs to the highest. The lower requirements for skills and education in the feeder occupations make it an easier cluster for a worker to enter and progress than clusters like Software and IT. Though many of the skills and education are shared, there is a distinct difference between the customer service and financial services occupations. Training and development programs for entry-level workers hoping to progress through the career ladder will need to address this gap with a focus on financial topics like mathematics and accounting.

12. Across the 13 industry clusters, the most common occupations are production occupations with 22.0 percent of the 13 industry cluster jobs in 2012. Another 18.6 percent were in office and administrative support occupations and 11.4 percent were in computer and mathematical occupations. Twenty-one occupations are identified as cross-cluster employment occupations, these are the most common occupations found across all industry clusters. This highlights the variety of skills, education and training required to staff the industries that make up these clusters.

13. Industry clusters where the capability of the region's workforce is not meeting the required level of skill needed by these occupations include production advanced manufacturing, medical devices and services, software and information technology development, financial services and customer service, and industrial bio-technology.

14. The most common experiential and educational needs across the clusters were in mathematics, interacting with computers, and making decisions and problem solving.