Region 5 Works Council
Pre-Preliminary Evaulation of Career and Technical Education Opportunities
November 1, 2013

Note

Region 5 is composed of nine counties in Central Indiana: Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan and Shelby. Collectively they are deep, active and dynamic in the employers, sectors and clusters which provide present and future employment opportunities and to whom CTE programming does and might articulate; and they are numerous, distributed and diverse in the CTE programming that currently is and might be available to their students and citizens.

The first meeting of the Region 5 Works Council was scheduled for Monday, October 28, 2013. The members of the Council reviewed a selection of CTE program data and had constructive and robust but only first view discussion concerning employer need, CTE programming and the connections or lack of connections between them.

This report is submitted Friday, November 1, 2013. It is, of necessity, built from a very preliminary view of CTE; at best a glancing consideration of regional employment information; and a brief consideration of issues of alignment and articulation.

We have begun the process of getting our collective minds around the data and the issues; we have begun to know what we don't know and what we need to know. We see strong potential for a system more relevant to the vast range of regional employer need and opportunity, more purposeful to the existing and potential base of CTE providers and programming, and more valuable to the students and citizens who are and should be the beneficiaries of the effort.

Much is possible, but we have only just begun.

CTE Pathways in Region 5

[Please develop a comprehensive list of CTE clusters and pathways offered at high schools and/or CTE centers in your region. A regional map with CTE locations would also be helpful. The Works Council needs to convey what pathways (and corresponding enrollments) are prevalent in the region.]

The Council has not yet heard from the CTE and related programming providers. The attachment – "Indiana Career and Technical Education Pathways, Region 5 High School Courses" – lays out student participation in the state approved CTE courses funded by state (or federal) resources and organized by state recognized pathways; there may be other courses that high schools are offering that respond to perceived opportunity or demand from regional employers, but if so they have not been presented yet to the Council.

The attachment is not represented as exhaustive in scope or complete in depth of relevant courses in Region 5. It also does not include connections to post-secondary CTE opportunities or even dual credit offerings. The data will be supplemented over the Council's next meetings to provide a full view of the high school and post-secondary courses and pathways, with relevant alignment to employer opportunities in the Region's current and contemplated sectors, industries and clusters.

The Council will utilize this and other available data as a beginning point in its examination of actual available pathways, usage, gaps and overlaps, if any, with employer need, and actual region-wide and sector/cluster/pathway-specific evaluation results.

A second attachment contains the DOE general guidelines for CTE Pathways, including an explanation of state definitions, including wage and demand definitions, and an indication of the assessments required in various of the pathways. The Council will examine the various sources of data on demand and wage levels as part of its analysis of pathways in the Region.

CTE Articulation to Postsecondary Opportunities

[Please consider the dual credit data provided by the State in conjunction with existing workforce partnership plans to consider how well aligned existing pathways are with postsecondary CTE programs.]

The Council's review of data available so far does not approach an ability to test the alignment of existing CTE pathways to postsecondary CTE programming and then on to employment opportunities. It may be a bit of an overstatement, further review will tell and there likely are places where it is tight, but thus far the segments of the system (student perception looking up through the system to opportunities; employers looking down through the system to potential hires; and the delivery system itself) seem ad hoc more than organized and happenstance more than intentional. That is not a criticism of the people who deliver CTE and related programming; it is a perspective on the system in which they labor.

Such concerns aside, the range of dual credit results from available data suggests the following, all for the school year 2011-2012, recognizing that the data provided and reviewed, while reflecting a wide range of dual credit courses, is preliminary and likely incomplete. If other data suggests roughly 100,000 students in some form of CTE in 2011-12,

- Across the region, 4,484 of such students took a course and received some form of dual credit for it;
- Of those, 2,102 were concentrators, i.e., they took and received dual credit for more than one course;
- 245 of the 4,484 students who passed a dual credit course also passed a certification or other assessment;
- While the available data here is so limited as to suggest it is incomplete, what data is available indicates that 21 students who earned dual credits went on to placements in post-secondary education or related opportunities, while 1,170 of the students went on to placement in the workforce, although not necessarily in the same sector or cluster as addressed by the dual credit courses.

In sum, less than 5% of all CTE students gained any dual credit; just over 2% did so in more than one course; and (the smaller the number the more subject it is to verification, but) barely 0.2% of such students passed an assessment or certification enabling proof of progress to competency relevant to potential employment in the sector or cluster opportunity addressed by the CTE course.

The potential for gains in results is obvious.

Data Issues

The Council's preliminary review of available data suggests these hazy conclusions, subject to challenge:

- The data system itself needs to be reviewed to ensure it is collecting and making available for analysis relevant and actionable information on an adequately real-time basis. For example, the tracking does not flow through to confirmation of a student's placement in employment as in or outside the sector or cluster to which the student's CTE work pointed; the student's ultimate result may be wholly unrelated to the student's CTE efforts.

- The data system seems to be program-centric, not student-centric, thus not capturing all students who might be but are not participating; who might participate but fall away in the process. The data as reported reflects success results, not all results, precluding clear view of the efficiency of the offerings in attracting students to and moving them through to course and placement success.

- There is a sense that the data system currently in effect may be limited to the point of marginal relevance. For example, much of the data seems to concern courses that are tied to funding, so that what is reported as offered is what is funded as opposed to reflecting the full range of offerings.

- There is much data from federal and state sources that address current (although not future) demand; that describe from an economic development and workforce summary perspective available and existing jobs (the Council has not reviewed it to ascertain the accuracy of its fit to the realities of the current employers, sectors and clusters); and that summarize the demographics and economics of the current regional workforce. The Council has not yet probed deeply, but there does not seem to be any available data that directly links the supply of students through the CTE and related pathway programming to the demands of employment opportunities available now and in the future. The ad hoc nature of the data may reflect the ad hoc nature of the system.

Regional Employment Sectors

[Please describe the primary employment sectors in your region.]

The Council's next meetings will address in greater detail the employers, sectors and clusters that drive the bulk of opportunity and create the primary demand for talent in the Region. The Council's view at this preliminary point is created by selectively available data which is useful for first view but evidences the need for an employer-driven, sector/cluster based process to define demand. This process is underway for some sectors/clusters. See "Supporting our Wealth Driving Sectors, Demand for Technical Talent in Central Indiana" and its partner report "Supporting our Wealth Driving Sectors, The Supply of Technical Talent in Central Indiana." It is also a much more mature process for sectors such as the building trades, which have via apprenticeship and other CTE programming enabled clarity as to both demand and pathways to meet it. But overall the Region lacks a complete, active and developing articulation of the sectors. Much is happening, if little is organized and clear.

Here is some of the data indicative of existing governmental perspectives of the Region's employment sectors (the sorting mechanism used in this data is for the most part the SOC codes applied by the federal government):

SOC Code	Description	2011 Jobs	2013 Jobs	Change	% Change	Openings	Median Hourly Wage	Average Hourly Wage
11-0000	Management Occupations	67,005	69,324	2,319	3%	5,715	$32.89	$35.96
13-0000	Business and Financial Operations Occupations	62,572	66,657	4,085	7%	6,781	$27.59	$29.64
15-0000	Computer and Mathematical Occupations	26,245	28,387	2,142	8%	3,238	$32.18	$32.99
17-0000	Architecture and Engineering Occupations	15,448	16,143	695	4%	1,492	$32.59	$33.62
19-0000	Life, Physical, and Social Science Occupations	11,168	11,551	383	3%	1,127	$26.68	$29.26
21-0000	Community and Social Service Occupations	12,899	12,933	34	0%	728	$19.82	$21.30
23-0000	Legal Occupations	9,057	9,265	208	2%	586	$36.14	$38.58
25-0000	Education, Training, and Library Occupations	48,177	48,195	18	0%	2,970	$20.25	$21.26
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	31,269	32,820	1,551	5%	3,298	$16.99	$17.56
29-0000	Healthcare Practitioners and Technical Occupations	64,587	66,757	2,170	3%	5,453	$34.09	$34.67
31-0000	Healthcare Support Occupations	28,963	30,154	1,191	4%	2,389	$13.05	$13.27
33-0000	Protective Service Occupations	20,013	20,492	479	2%	1,783	$18.20	$18.60
35-0000	Food Preparation and Serving Related Occupations	80,106	88,237	8,131	10%	14,513	$9.64	$10.01

37-0000	Building and Grounds Cleaning and Maintenance Occupations	41,268	42,245	977	2%	2,963	$10.47	$11.01
39-0000	Personal Care and Service Occupations	43,368	45,467	2,099	5%	4,542	$10.28	$10.66
41-0000	Sales and Related Occupations	148,864	156,706	7,842	5%	17,289	$15.71	$17.61
43-0000	Office and Administrative Support Occupations	156,160	161,165	5,005	3%	12,914	$15.77	$16.37
45-0000	Farming, Fishing, and Forestry Occupations	2,184	2,291	107	5%	281	$12.16	$12.76
47-0000	Construction and Extraction Occupations	46,073	48,071	1,998	4%	4,495	$20.34	$20.79
49-0000	Installation, Maintenance, and Repair Occupations	39,582	40,741	1,159	3%	3,369	$19.72	$20.33
51-0000	Production Occupations	60,755	64,081	3,326	5%	6,306	$16.14	$17.01
53-0000	Transportation and Material Moving Occupations	87,796	91,524	3,728	4%	8,934	$15.10	$15.69
55-0000	Military occupations	6,630	6,734	104	2%	144	$17.06	$19.65
99-0000	Unclassified Occupations	5,271	5,370	99	2.0%	144	$12.02	$11.92

The national perspective suggests a 16 sector view (this is from the National Association of State Directors of Career and Technical Education Consortium):

Indiana has programmatically begun to address some of these clusters on a statewide basis:

- Agriculture
- Architecture & Construction
- Arts, AV Technology & Communication
- Business & Marketing
- Education & Training
- Health Science
- Hospitality & Human Services
- Information Technology
- Manufacturing
- Public Safety
- Transportation

The report "Demand for Technical Talent in Central Indiana" provides a useful regional perspective and possible roadmap for other sectors. Its focus is on higher wage and stronger economic activity sectors that require technically trained and capable talent, which it defines as follows:

- Manufacturing
- Advanced Manufacturing
- Technology
- Health Care
- Life Sciences
- Alternative Energy
- Transportation and Logistics

The report suggests a lean toward technical skills that command a higher wage, but its analytical content may fit across all sectors useful to CTE pathways.

A few of the regional sectors are supported by existing efforts. For example, BioCrossroads addresses the life sciences; Conexus addresses advanced manufacturing and logistics; and Techpoint addresses information technology. The Council will explore the means and contents of their various linkages to technical training and career pathways.

As a first step to alignment, local concurrence on the context matters, and these available governmental and intermediary perspectives need to be adjusted to fit the realities and possibilities of the local definition of the contours of the sectors.

The Council has not yet initiated the needed process of listening to the employers themselves across the wide variety of sectors in Central Indiana and working with them to develop sector definitions, education and training needs and employment demand perspectives that can inform an effective rethink of the CTE and related pathways and processes.

There is much, much more for the Council to explore and understand here.

Analysis of Pathway Alignment

What is the degree and magnitude of the workforce challenges faced in the region?

The Region's economy is dynamic and on balance growing. Its primary constraint is talent. That is true when the issue is level of educational attainment, which lags the potential of the region. It is also true when the issue is alignment of educated human capacity to need, which is haphazard at best. And it is true in the systems, including CTE, that educate individuals toward opportunities, which lag the needed focus, efficiency and effectiveness of moving students to successful employees. Individually it may work on occasion; collectively it is a constraint. More aligned, available and effective CTE and related programming is not the only answer to the challenges of the region's talent constraint, but it is one answer.

How well do secondary CTE pathway outcomes align with regional industry needs?

Unclear at best. In the midst of that lack of clarity exists the opportunity for improvement. The complexity, density and pace of sector/cluster activity and change in the region combined with the (relative0 lack of visibility of CTE and related opportunities and the (relatively) thin results they create preclude comfort in confirming alignment. The Council's operating assumption is that alignment must be proven and evidenced by affirmation from the employers themselves. That does not exist on a general basis, and it will only be meaningful on a specific one.

Does the talent pipeline available through CTE match the demand that exists in the region?

The question is asked and needs to be answered as a singular perception: As a general statement, no. There are individual CTE programs that may in circumstances not yet visible to the Council be meeting the demand. But on a collective all-in basis the CTE talent pipeline is not meeting the needs of the region's employers, sectors and clusters.

What innovative CTE curricula (internships, apprenticeships, certifications, etc.) is already happening within the region?

This is a matter yet to be addressed by the Region 5 Council.

What are the next steps that the Works Council needs to take to improve CTE opportunities?

The Region 5 Works Council is still in investigative mode. Its first next steps include the following:

- Listen hard to employers and intermediaries in the region to understand the demand side of the opportunity. Work to understand how they organize themselves, so the sectors and clusters addressed match organically the perspectives and self-interests of the employers themselves. Stretch that understanding to include not only their employment needs today but how those needs will mutate in the future.

- In addition to the core content needs of employers in each self-defined sector and cluster, look for and define cross-sector and cross-cluster needs common to all or to enough to form a critical mass for attention. Such results might include (not exhaustively):
    - The baseline knowledge and skills that are needed for success across sectors;
    - The aptitudes and attitudes and other dimensions that are required across sectors, including but not limited to the developing clarity that there is a large degree of convergence toward multi-disciplinary capability that individuals will need to succeed in an environment where technology is driving cross-functional work to rise as a need and opportunity;
    - The value-added capabilities that may match cross-sector/cluster needs but also will prepare the individual for (and perhaps interest the individual in) personal engagement, for example, for organizational (for-profit and not-for-profit) entrepreneurship;
    - The personal ability to be an active participant, with counseling as appropriate, in the individual's own educational path toward career and life, i.e., to own the process and drive it.
- Listen hard and to and get a clear view of the existing and potential CTE and related offerings, as perceived and provided by the CTE and related providers themselves. First impressions lead to a conclusion that there is much about CTE opportunities existing today that employers (and the Council) do not know and there is an eagerness in those who manage CTE and related programming to evaluate, improve and even break the mold on existing programs and practices to align them to the needs of employers and the opportunities for students. The first step in that effort is to get clarity as to the programs themselves. As with the employers, this will take individual and granular listening and thinking, linked to the sector/cluster needs and opportunities.
- Once demand and supply are understood and can be seen clearly, the foundation exists for examining what adjustments, improvements, alignments, creations and other work needs to be done to achieve a system that – sector by sector, pathway by pathway – creates the content, transparency and reliability that drive successful results: the employers' ability to look back down the pathway with confidence that if individuals succeeds in moving through it they will be fully prepared for success in employment in the sector; the students' ability to look up through the pathway and see clearly (and be enticed to aspire to) the opportunities the sector affords once the pathway is mastered; and the providers' comfort that the offerings provided meet the needs of the employers and drive the success of the students in employment.
- These strategic considerations need to be understood and aligned before issues of process and resources are addressed.