CENTER FOR EDUCATION AND CAREER INNOVATION Demand and Supply Analysis: Works Council Region 8

PHASE 1 – NOVEMBER 2014

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STRATEGIES FOR REGIONAL DEVELOPMENT

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Project Overview

Project Overview

INTRODUCTION

The Center for Education and Career Innovation commissioned an analysis of regional labor market demand and talent supply in Indiana. This is the report of that analysis and a presentation of the data.

The purpose of the report is to provide information to the state's eleven Works Councils to help them understand the characteristics of employment demand by key economic sectors in their regions and their regional capacity of supply to meet that demand. The report shows data on the scale of demand, or job openings, by key occupational areas tied to the sectors. The report also shows data on educational credential production at the secondary and postsecondary level. These supply-side data provide a comprehensive picture of the scale and type of program completions from major educational institutions within a region.

These data are intended to support a discussion among members of the Councils and their regional partners. Council members and their partners should use local knowledge to describe, embellish, and understand the data in their context. For example, industry groups and businesses will be able to help describe and provide insights on the skills in demand in the economy. For their part, educators will be able to help describe the nature of educational programs and the outcomes.

Our hope is that these discussions, with the data, will help the Councils plan and identify priorities in their regions. If needed, CECI may be able to offer technical assistance to help each region interpret and form its own conclusions and recommendations from the data.

Project Overview

INTRODUCTION, Cont.

There are three major sections to the report. The first section describes demand for talent in the regional economy. The second section describes the production of credentials, or degrees, in career and technical education secondary systems as well as postsecondary colleges and universities. The final section of the report presents side-by-side data on the demand in key sectors and occupations with data on the supply of talent from secondary and postsecondary institutions. This side-by-side look at the alignment between demand and supply is a quantitative approach to display what others have remarked on anecdotally that it is hard for employers to fill open jobs and find the right skill sets to match requirements.

Like all data reports, this one includes a number of caveats:

All demand-side data are a combination of forecasts for job openings and real-time job postings in each occupational group. While these are some of the best and most readily available data in the market, they are not comprehensive and readers should not take them as exact measures of demand. That is, they are good measures of the scale of demand but may not capture all sources and variances of demand in the economy. Whenever possible, we have noted these qualifications in the narrative.

For their part, the supply-side data obtained from state and federal sources also contain some anomalies. For example, in secondary CTE there is variation between state-level organization and accounting of the data and district level use of the data. That may lead to some differences in program identification and categorization. Nonetheless, the data as a whole accurately reflect overall program emphasis and concentration in a region. Whenever possible, we have noted where possible anomalies in the data may occur.

Project Overview

INTRODUCTION, Cont.

Finally, the labor market is complex and there are many ways students and workers gain skills and find jobs. Our approach focuses on the path to skill attainment and employment that involves the secondary and postsecondary educational system. These are the systems upon which the Works Councils have been asked to focus. They also are the biggest areas of public investment and produce the largest numbers of talent supply for a region. However, there are other sources of skill and talent development that feed the labor market, such as apprenticeships and non-academic professional development and industry training programs. Our report does not attempt to quantify these other sources of talent development, in part because these sources lack standardized and comparable data. So, while this analysis neither fully captures the complexity of the labor market nor all the different sources of talent supply, it focuses on those sources most relevant to the policy focus of the Works Councils and arguably provide the biggest supply of talent to a region.

The Center for Education and Career Innovation commissioned FutureWorks, a national firm focused on research and policy development, to compile the data and lead the research for this report. CECI and FutureWorks would like to acknowledge the contributions of the Works Councils and the feedback, observations and assistance they gave in earlier iterations of these data. We would also like to acknowledge the assistance, cooperation and collaboration in providing data and advice from the following organizations: Indiana Department of Education, Office of Career and Technical Education; Indiana Commission for Higher Education; Indiana Department of Workforce Development; Ivy Tech Community College, Department of Institutional Research; Indiana Economic Development Corporation; Indiana Association of Career and Technical Education Directors; Central Indiana Corporate Partnership and Bio-Crossroads, Conexus, and TechPoint; and, regional workforce and economic development organizations across the state.

SECTION 1

Overview of Demand

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Overview of Demand

SECTION OVERVIEW

This section presents labor market demand estimates for major occupational groups in the regional economy. These data help give a picture of demand for key occupational groups that are important to business, individuals and the regional economy.

The demand data on occupational groups are organized first by those tied to targeted industry sectors in the regional economy (see next page for list of targeted sectors). A second additional list of all "other" occupational groups, some of them with substantial demand and some emerging in the economy, are presented after the occupational groups organized by targeted industry sector.

The data are presented in tables that include estimates of demand, earning potential, number of total jobs, and education typically required for each occupational group. The Works Council and its partners can use these data elements to identify priority occupational groups, answering questions such as:

- *which occupational groups are most important to current and future wealth creation in the economy,*
- *which have substantial demand,*
- *which have career earning potential, and*
- *what kind of education is required.*

Overview of Demand

TARGETED REGIONAL INDUSTRY SECTOR LIST

Industry sector targets identified in the region include:

- Healthcare,
- Manufacturing,
- Engineering and IT,
- Education (teaching related), and
- Administrative.

Occupations not closely tied to these industry targets are included in “Other” occupation group tables.

Overview of Demand

WHAT'S INCLUDED IN THE DEMAND DATA

Counties in the region include Owen, Monroe Brown, Greene, Daviess, Martin, Lawrence, Orange.

Data on 96 occupational groups organized by regional industry clusters.

Data elements include:

- Demand 2013. Regional job openings due to growth, retirements, and job postings.
- Average Hourly Wage 2012. Occupational group wages in the region.
- Total Jobs 2013. Total number of jobs in the regional economy.
- Postsecondary Education Required 2012. National proportion of the occupation that requires some type of postsecondary education (some college, two-year degree, four-year degree, or higher).

Definitions and technical notes describing the data are in the page following the tables.

Overview of Demand

HEALTHCARE				
Occupational Group	**Demand 2013**	**Average Hourly Wage 2012**	**Total Jobs in Economy 2013**	**Postsecondary Education Required 2012**
Health Diagnosing and Treating Practitioners	530	$38.22	3,733	99%
Health Technologists and Technicians	306	$17.93	2,892	81%
Nursing, Psychiatric, and Home Health Aides	201	$10.07	2,065	49%
Other Healthcare Support Occupations	90	$13.06	1,219	70%
Occupational Therapy and Physical Therapist Assistants and Aides	36	$17.23	120	89%
Other Healthcare Practitioners and Technical Occupations	18	$25.58	222	87%

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Overview of Demand

MANUFACTURING				
Occupational Group	Demand 2013	Average Hourly Wage 2012	Total Jobs in Economy 2013	Postsecondary Education Required 2012
Sales Representatives, Wholesale and Manufacturing	278	$26.65	737	79%
Other Installation, Maintenance, and Repair Occupations	215	$17.38	2,752	44%
Other Production Occupations	147	$14.48	2,840	34%
Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	101	$16.42	1,250	38%
Metal Workers and Plastic Workers	92	$17.60	1,663	34%
Electrical and Electronic Equipment Mechanics, Installers, and Repairers	86	$19.91	440	67%
Assemblers and Fabricators	60	$14.22	2,459	33%
Supervisors of Production Workers	49	$24.35	691	51%
Food Processing Workers	43	$12.13	852	26%
Plant and System Operators	26	$19.64	305	56%

Overview of Demand

MANUFACTURING (continued)				
Occupational Group	Demand 2013	Average Hourly Wage 2012	Total Jobs in Economy 2013	Postsecondary Education Required 2012
Textile, Apparel, and Furnishings Workers	26	$10.85	529	23%
Supervisors of Installation, Maintenance, and Repair Workers	23	$28.70	394	58%
Woodworkers	20	$12.45	646	28%

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Overview of Demand

ENGINEERING AND IT				
Occupational Group	Demand 2013	Average Hourly Wage 2012	Total Jobs in Economy 2013	Postsecondary Education Required 2012
Computer Occupations	702	$28.42	2,365	94%
Engineers	259	$38.47	1,740	96%
Drafters, Engineering Technicians, and Mapping Technicians	84	$25.18	1,145	77%
Life, Physical, and Social Science Technicians	78	$15.53	1,539	79%
Life Scientists	48	$44.78	356	100%
Physical Scientists	34	$32.26	499	100%
Social Scientists and Related Workers	27	$28.78	230	100%
Mathematical Science Occupations	10	$40.04	55	96%
Architects, Surveyors, and Cartographers	9	$21.83	177	99%

Overview of Demand

EDUCATION (TEACHING RELATED)				
Occupational Group	Demand 2013	Average Hourly Wage 2012	Total Jobs in Economy 2013	Postsecondary Education Required 2012
Postsecondary Teachers	188	$27.31	3,846	100%
Preschool, Primary, Secondary, and Special Education School Teachers	76	$23.41	2,824	97%
Other Education, Training, and Library Occupations	59	$11.53	1,441	73%
Other Teachers and Instructors	53	$12.66	1,293	87%
Librarians, Curators, and Archivists	29	$19.72	406	85%

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Overview of Demand

ADMINISTRATIVE				
Occupational Group	**Demand 2013**	**Average Hourly Wage 2012**	**Total Jobs in Economy 2013**	**Postsecondary Education Required 2012**
Information and Record Clerks	394	$13.91	3,693	68%
Secretaries and Administrative Assistants	228	$15.60	3,292	68%
Other Office and Administrative Support Workers	224	$13.15	4,342	66%
Material Recording, Scheduling, Dispatching, and Distributing Workers	171	$14.56	3,443	49%
Financial Clerks	169	$15.11	3,097	66%
Supervisors of Office and Administrative Support Workers	64	$23.05	813	74%

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Overview of Demand

OTHER OCCUPATIONAL GROUPS				
Occupational Group	Demand 2013	Average Hourly Wage 2012	Total Jobs in Economy 2013	Postsecondary Education Required 2012
Motor Vehicle Operators	686	$15.15	3,559	35%
Retail Sales Workers	548	$10.13	7,247	54%
Other Management Occupations	513	$28.15	3,239	84%
Food and Beverage Serving Workers	418	$9.06	7,403	43%
Business Operations Specialists	396	$29.53	3,027	87%
Supervisors of Sales Workers	296	$17.57	1,683	65%
Building Cleaning and Pest Control Workers	232	$10.90	4,362	27%
Other Personal Care and Service Workers	208	$8.83	2,801	57%
Supervisors of Food Preparation and Serving Workers	200	$14.44	978	50%
Construction Trades Workers	186	$18.89	5,148	32%
Material Moving Workers	180	$12.76	3,683	28%
Cooks and Food Preparation Workers	178	$9.60	3,209	28%
Operations Specialties Managers	177	$42.54	961	86%

Overview of Demand: Other

OTHER OCCUPATIONAL GROUPS				
Occupational Group	**Demand 2013**	**Average Hourly Wage 2012**	**Total Jobs in Economy 2013**	**Postsecondary Education Required 2012**
Counselors, Social Workers, and Other Community and Social Service Specialists	160	$21.14	1,770	90%
Art and Design Workers	146	$15.66	517	87%
Financial Specialists	135	$27.75	1,369	92%
Advertising, Marketing, Promotions, Public Relations, and Sales Managers	130	$38.57	333	92%
Sales Representatives, Services	123	$22.44	1,109	84%
Media and Communication Workers	91	$23.76	785	93%
Personal Appearance Workers	82	$10.54	566	45%
Other Protective Service Workers	81	$11.74	958	58%
Entertainers and Performers, Sports and Related Workers	68	$22.41	581	86%
Other Food Preparation and Serving Related Workers	67	$8.99	1,185	30%
Top Executives	66	$49.07	1,177	83%
Other Sales and Related Workers	65	$14.91	577	73%
Grounds Maintenance Workers	57	$12.00	1,159	25%

Overview of Demand: Other

OTHER OCCUPATIONAL GROUPS				
Occupational Group	Demand 2013	Average Hourly Wage 2012	Total Jobs in Economy 2013	Postsecondary Education Required 2012
Entertainment Attendants and Related Workers	39	$9.18	445	60%
Supervisors of Construction and Extraction Workers	38	$24.33	584	44%
Law Enforcement Workers	35	$19.52	906	79%
Supervisors of Personal Care and Service Workers	26	$14.29	238	66%
Animal Care and Service Workers	25	$9.55	193	54%

DEFINITIONS AND TECHNICAL NOTES

The occupational groups in the tables are a category of worker and profession identified as part of the Standard Occupational Classification (SOC) system at the 3-digit level used by federal statistical agencies. A list of the occupations that make up the 3-digit SOC occupations can be found at http://www.bls.gov/oes/current/oes_stru.htm.

The demand data for each occupational group includes the following variables:

- Demand 2013. Demand is a calculation of projected annual job openings (Bureau of Labor Statistics) and real-time job postings (Burning Glass Labor Insight) for occupations in the Economic Growth Region (EGR).
- Average Hourly Wage 2012. This the average hourly wage for the occupation in the EGR from the U.S. Bureau of Labor Statistics.
- Total Jobs 2013. This is the total number of jobs in the region in 2013 from the U.S. Bureau of Labor Statistics using data from the Quarterly Census on Employment and Wages (QCEW).
- Postsecondary Education Required 2012. This is a national proportion of the occupation that requires some type of postsecondary education (some college, two-year degree, four-year degree, or higher) in 2012 from the U.S. Bureau of Labor Statistics.

FutureWorks included data on all 3-digit occupations tied to the targeted industry cluster in the tables. In the "Other Occupations" tables, FutureWorks only included data on those 3-digit occupations that had a Total Demand 2013 that was greater than 25 jobs.

SECTION 2

Overview of Supply

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STRATEGIES FOR REGIONAL DEVELOPMENT

Overview of Supply

SECTION OVERVIEW

In this section, we present data on enrollments and outcomes of educational institutions. The focus is on: secondary Career and Technical Education (CTE) districts, and on postsecondary institutions at the sub-baccalaureate and baccalaureate levels. In general, these comprise the core of the talent supply pipeline (see chart below) and are the major sources of talent development for individual who will enter the labor market.

Secondary CTE Data: Secondary CTE data are presented for enrollments and concentrators in charts and tables. The charts and tables are organized by the CTE Districts assigned to the region. We follow the definitions and terms used by DOE and DWD and their conventions used to collect the data (see terminology page)." All data is supplied by DWD.

First we present CTE data on 'graduating seniors who are concentrators in a CTE pathway.' This gives a sense of the completions and total output of CTE systems in the regions. Then, as supplemental information, we present information on the total enrollments and completions for CTE programs in districts. This gives a sense of the scale of CTE programming in the regions. Together these provide a picture of the scale and output of CTE programming.

All the data are presented for the Works Council region. In some cases the secondary CTE districts span regional boundaries. If that occurs, we have included these districts in multiple regions. While this introduces some duplication among regions, it may also represent potential sources of talent within a region. Showing the potential breadth of talent supply in the region is the intention of the analysis.

It is important to note that the data include CTE courses offered at the career centers (dedicated CTE facilities) and CTE courses offered in other high schools within the CTE districts. This will have a significant impact on the total enrollments and concentrators reported for a CTE district.

Overview of Supply

SECTION OVERVIEW, Cont.

Postsecondary Education: Postsecondary education outcome data are shown for Indiana colleges and the major academic credentials awarded: short-term certificates, certificates between one- and two-years of study, associate, Bachelor's and Master's degrees. All postsecondary data are from the federal Integrated Postsecondary Education Data System (IPEDS).

Assessing the contributions of colleges and universities to the talent supply is complex. In part, that is because many colleges serve regional, statewide, national and international markets. We have made the following decisions about which colleges to include in our analysis:

- All colleges and universities located in a region are included in the analysis of the regional supply of talent;
- State flagship institutions (Purdue, Indiana University) and an additional group of colleges that are either large or have a clear statewide and national focus are reported separately from any region because it is not possible to accurately allocate the potential supply of talent from those institutions to a specific region.
- Vincennes University and Rose-Hulman Institute of Technology are included for each region because of their contributions to the talent supply in each region.

These criteria mean that some postsecondary credentials from some colleges are over-represented or under-represented in a given region. However, we believe the general approach offers the Works Councils a reasonable picture of the supply of talent in or available to their region from Indiana colleges and universities.

Overview of Supply

TALENT SUPPLY PIPELINE – The very large majority of new employees and re-skilled workers enter careers and employment through educational institutions at the secondary and postsecondary levels.

Overview of Supply

WHAT'S INCLUDED IN THE TALENT SUPPLY DATA

Counties in the region include: Owen, Monroe, Brown, Greene, Daviess, Martin, Lawrence, Orange.

CTE Districts: 36. Hoosier Hills Career Center, 40. North Lawrence Career Center, 43. Twin Rivers CTE Area, 44. Lost River Career Cooperative.

Public and Private Colleges:

- *Indiana University- Bloomington*
- *Ivy Tech Community College-Bloomington Area*
- *Rose-Hulman Institute of Technology*
- *Vincennes University*

IMPORTANT EDUCATION TERMINOLOGY

A number of definitions of commonly used educational terminology will help the Works Council understand the data presented in this section. The terminology includes:

Secondary Career and Technical Education:

-Secondary CTE *Enrollment*: Any student who takes a CTE course.

-Secondary CTE *Concentrator*: Any student who has completed at least 6 credits of coursework in a CTE pathway.

-Secondary CTE *Pathway*: A group of courses related to a technology or occupational field that is approved by the US Department of Education and also by states and: An occupation labeled as High Wage and Moderate/High Demand in Indiana, or 2) An occupation within the eight emerging career areas identified in the Indiana Strategic Skills Initiative, or 3) An occupation approved by the Indiana Department of Education.

Postsecondary Education:

-Post Secondary *Certificate Less than One Year of Study*): An academic certificate of less than 30 credits.

-Post Secondary *Certificate of One to Two Years Study*): An academic certificate of more than 30 credits but less than an Associate Degree.

Associate Degree: An academic degree of approximately 60 to 68 credits of coursework.

SECTION 2A

Overview of Graduating CTE Seniors by Pathway

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Overview of Graduating Seniors with a CTE Concentration in a Pathway

GRADUATING SENIORS WITH A CTE CONCENTRATION

In the following table and charts we describe CTE senior concentrators in the Works Council region. In a subsequent section, we will describe the alignment of these graduating senior concentrators by pathway with demand in the regional labor market.

DWD identifies 'would be seniors' as students who are preparing to graduate at the end of an academic year. These are students who will graduate and then enter employment, postsecondary education, or some other status.

Senior concentrators are students in their final year of high school who have a concentration in a CTE pathway. A senior concentrator will almost always be counted in one pathway. The most important purpose of the data is to describe the pathways in which graduating students are concentrating and the relative scale of their choices. Therefore, we focus on the concentrations of seniors as measures of institutional outcomes. In aggregate, graduating senior concentrators represent the annual total CTE output of the districts, region, and the state's CTE system. This is a measure of the supply of talent into the labor market.

DOE and DWD identify about 50 pathways in several occupational clusters for concentrators. The next page shows the current configuration of clusters and their respective pathways.

Use in the supply demand analysis: Because these data are for 2013, records of employment or entry into postsecondary data are not yet available. Our use of the data intend to display the numbers of students in a pathway (or cluster) who are completing twelfth grade and graduating.

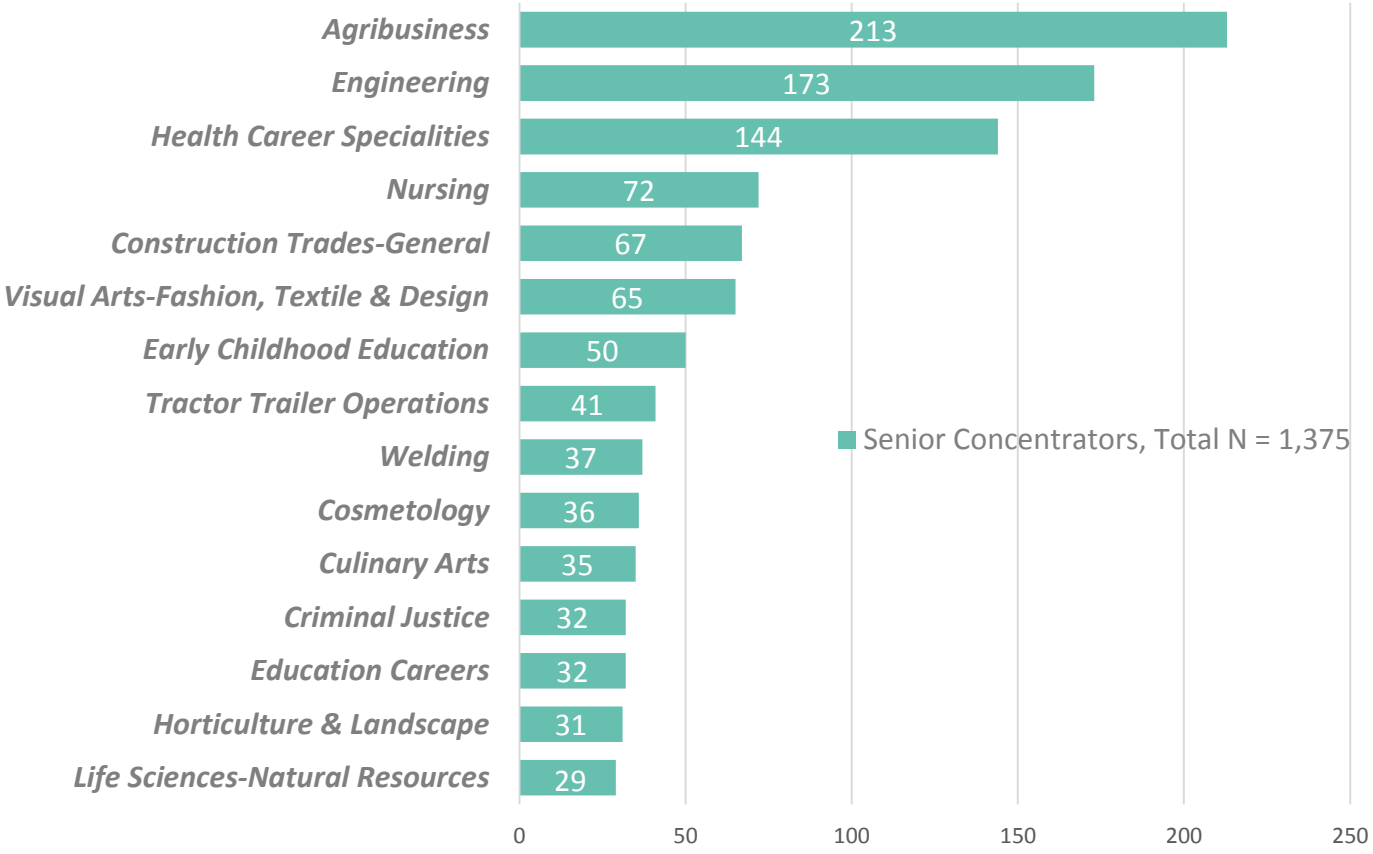
Note: These data include CTE courses offered at the CTE career centers (dedicated CTE facilities) and comprehensive high schools within the respective CTE districts. This will have an impact on the total numbers of enrollments and concentrators reported for each CTE district.

Overview of Pathways and Clusters

CTE Cluster	CTE Pathway - Focus
Agriculture	Agribusiness
	Horticulture & Landscape
	Life Sciences-Animal Science
	Life Sciences-Food Science
	Life Sciences-Natural Resources
	Life Sciences
Architecture & Construction	Facilities-Building and Facilities Management
	Facilities-Facility Maintenance
	Facilities-Facilities Management
	Construction Trades-General
	Construction Trades-Electrical
	Construction Trades-Heavy Equipment
	Construction Trades-HVAC
	Drafting and Design-Architectural
	Drafting and Design-Mechanical
Arts, AV Technology and Communication	Visual Arts-Photography
	Visual Arts-Fashion, Textile & Design
	Visual Arts-Visual Communication
	Web & Digital Communication-Media
	Web & Digital Communication-Radio/TV
Business and Marketing	Business Administration-Accounting
	Business Administration-Management
	Business Administration-Entrepreneurship
	Business Administration-Hospitality
	Business Administration-Marketing
	Business Administration-Sports/Entertainment
Education and Training	Early Childhood Education
	Education Careers
Health Science	Biomedical
	Biotechnology
	Dental
	Dietetics & Nutrition Science
	Health Career Specialties
	Nursing
	Veterinary
Hospitality & Human Services	Cosmetology
	Culinary Arts
	Hospitality Management
	Human & Social Services
Information Technology	PC Networking & Support-Networking
	PC Networking & Support-PC Support
	PC Programming
Manufacturing & Logistics	Advanced Manufacturing
	Electronics
	Engineering
	Logistics & Supply Chain Management
	Machine Tool
	Welding
Public Safety	Criminal Justice
	EMT/Paramedic
	Fire & Rescue
Transportation	Automotive Collision Repair
	Automotive Technology
	Aviation
	Diesel Services Technology
	Recreation & Mobile Equipment
	Tractor Trailer Operations

Overview of Graduating Senior Concentrators

REGION 8, TOP 15 CTE CAREER PATHWAYS BY NUMBER OF GRADUATING SENIOR CONCENTRATORS, 2013



*Source: Indiana Department of Workforce Development, Data Provided, 2014. *Chart does not include 'Unspecified Pathway' concentrators.*

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Overview of Graduating Senior Concentrators

REGION 8 CTE GRADUATING SENIOR CONCENTRATORS BY PATHWAY, 2013

Pathway	Seniors	Pathway	Seniors	Pathway	Seniors	Pathway	Seniors
Agribusiness	213	Criminal Justice	32	Automotive Collision Repair	14	Life Sciences	4
Engineering	173	Horticulture & Landscape	31	Business Administration-Management	12	PC Networking & Support-PC Support	4
Health Career Specialties	144	Life Sciences-Natural Resources	29	Hospitality Management	12	Dietetics & Nutrition Science	3
Nursing	72	Automotive Technology	27	Electronics	12	PC Networking & Support-Networking	3
Construction Trades-General	67	Life Sciences-Animal Science	26	Drafting and Design-Architectural	11	Aviation	3
Visual Arts-Fashion, Textile & Design	65	Machine Tool	23	Dental	11	Diesel Services Technology	2
Early Childhood Education	50	EMT/Paramedic	19	Human & Social Services	11	Business Administration-Hospitality	1
Tractor Trailer Operations	41	Facilities-Facilities Management	18	Web & Digital Communication-Radio/TV	8		
Welding	37	Life Sciences-Food Science	16	Veterinary	8		
Cosmetology	36	Web & Digital Communication-Media	16	Advanced Manufacturing	8		
Culinary Arts	35	Business Administration-Accounting	16	Fire & Rescue	7		
Education Careers	32	PC Programming	16	Drafting and Design-Mechanical	6		

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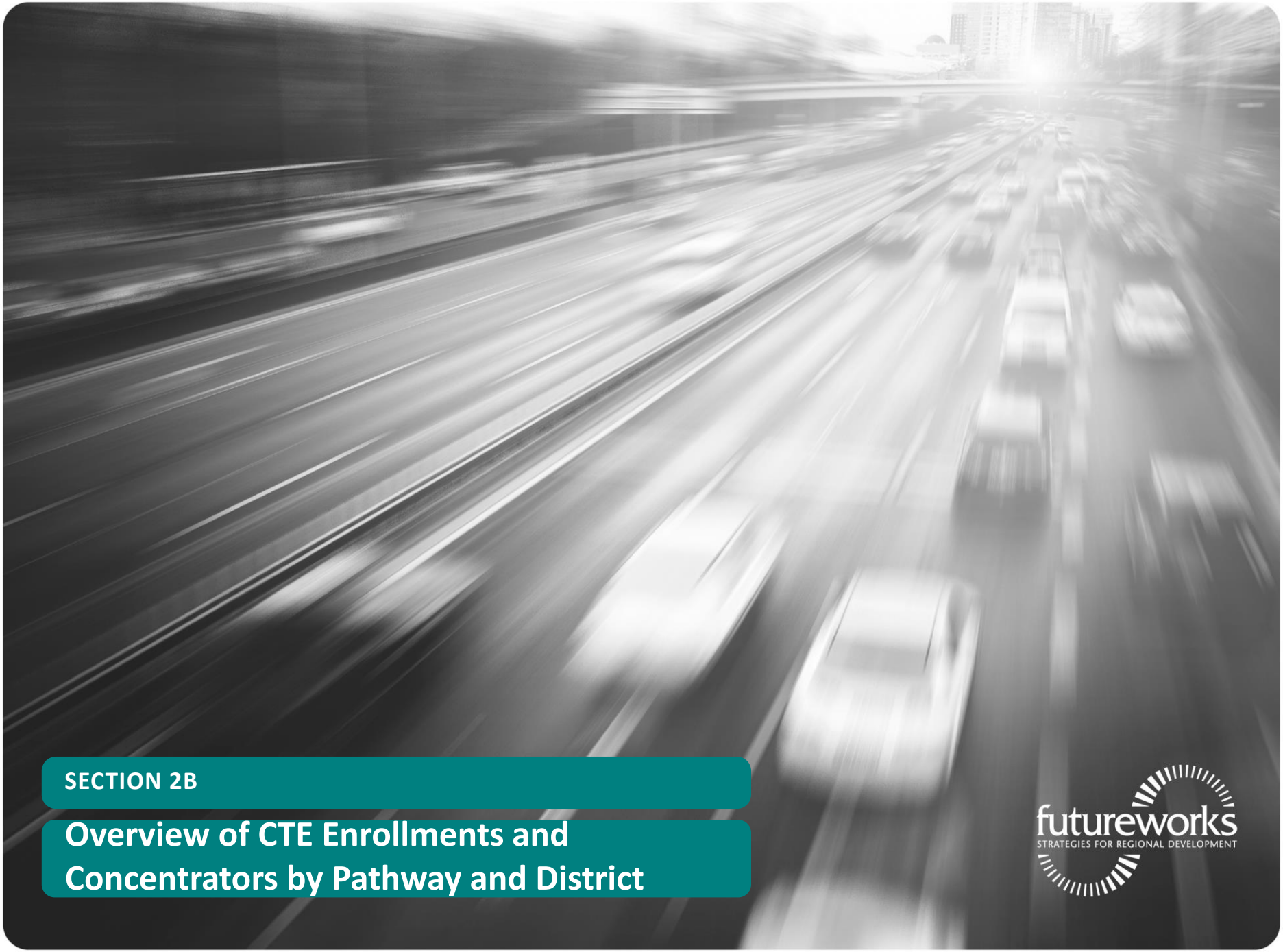
*Source: Indiana Department of Workforce Development, Data Provided, 2014. *Chart does not include 'Unspecified Pathway' concentrators.*



SECTION 2B

Overview of CTE Enrollments and Concentrators by Pathway and District

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Overview of CTE Enrollments and Concentrators

CTE DISTRICT ENROLLMENTS AND CONCENTRATORS

In this section, we describe total enrollments and concentrators in CTE districts and in regions. Although, different in definition that the graduating senior concentrators as an outcome measure, these data do provide an additional view of CTE within Indiana and within regions. The tables here show enrollments and concentrations by pathways in districts and by regions.

DOE and DWD identify an enrollment as a CTE course taken by student. In a CTE district, enrollments present a picture of the overall scale and volume of CTE courses offered and taken by students. Because state and federal funds are distributed to districts based on enrollments, this is an important statistic to gauge the scale of public investment in CTE in districts.

Concentrators are simply students who have taken enough credits in a cluster of CTE courses to qualify as a concentrator. In these tables concentrators are likely to be Juniors and Seniors.

Both enrollments and concentrators, in these data, include duplication (one student may be enrolled in two or more courses and will thus count as two enrollments). In addition, students may be assigned to a concentration simply by virtue of having taken a related group of courses whether or not they had intentions of concentrating in a CTE field. Moreover, the relationship between the number of enrollments and number of concentrators cannot be strictly interpreted as a percentage of concentrators to enrollments.

Note: These data include CTE courses offered at the CTE career centers (dedicated CTE facilities) and comprehensive high schools within the respective CTE districts. This will have an significant impact on the total numbers of enrollments and concentrators reported for each CTE district.

Overview of CTE Enrollments and Concentrators

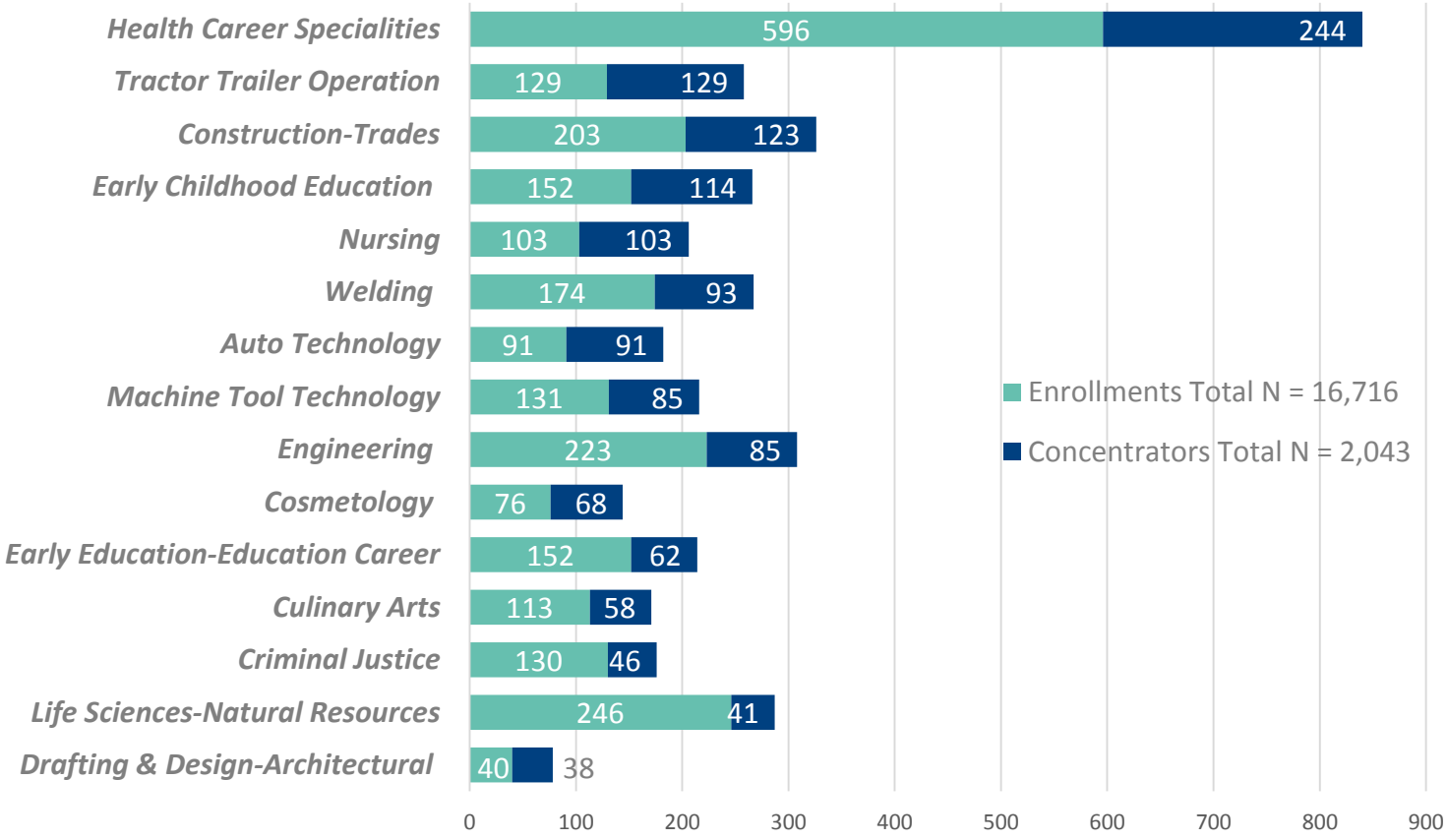
REGION 8 SECONDARY CTE COURSE ENROLLMENTS AND CONCENTRATORS BY DISTRICT, 2013

CTE District	*Total CTE Enrollments*	*Total Enrollments in CTE Pathways*	*Total Concentrators in CTE Pathways*
District #36 - Hoosier Hills Career Center	5501	1599	607
District #43 - Twin Rivers Area Technical Career Center	3740	1003	216
District #40 - North Lawrence Career and Technical Center	1934	859	330
District #44 - Lost River Career Cooperative	1131	528	124

Source: Indiana Department of Workforce Development, Data Provided, 2014.

Overview of CTE Enrollments and Concentrators

REGION 8, TOP 15 SECONDARY CTE CAREER PATHWAYS BY CONCENTRATORS AND ENROLLMENTS, ALL DISTRICTS, 2013



*Source: Indiana Department of Workforce Development, Data Provided, 2014. *Chart does not include 'Unspecified Pathway' enrollments.*

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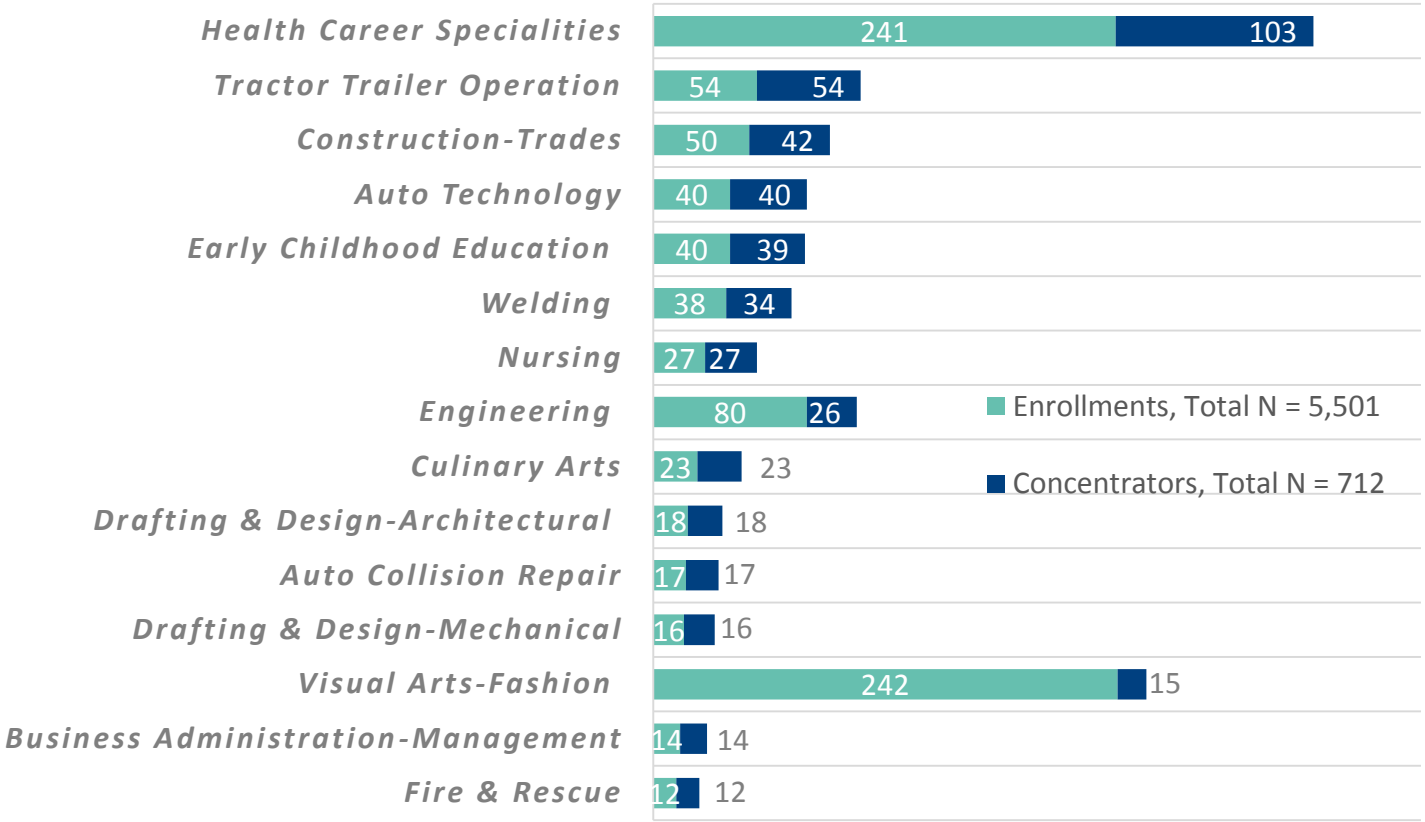
Overview of CTE Enrollments and Concentrators

REGION 8: TOP 15 CTE PATHWAYS BY CONCENTRATORS AND ENROLLMENTS, #36 - HOOSIER HILLS CAREER CENTER, 2013*



*Source: Indiana Department of Workforce Development, Data Provided, 2014. *Chart does not include 'Unspecified Pathway' enrollments or concentrators.*

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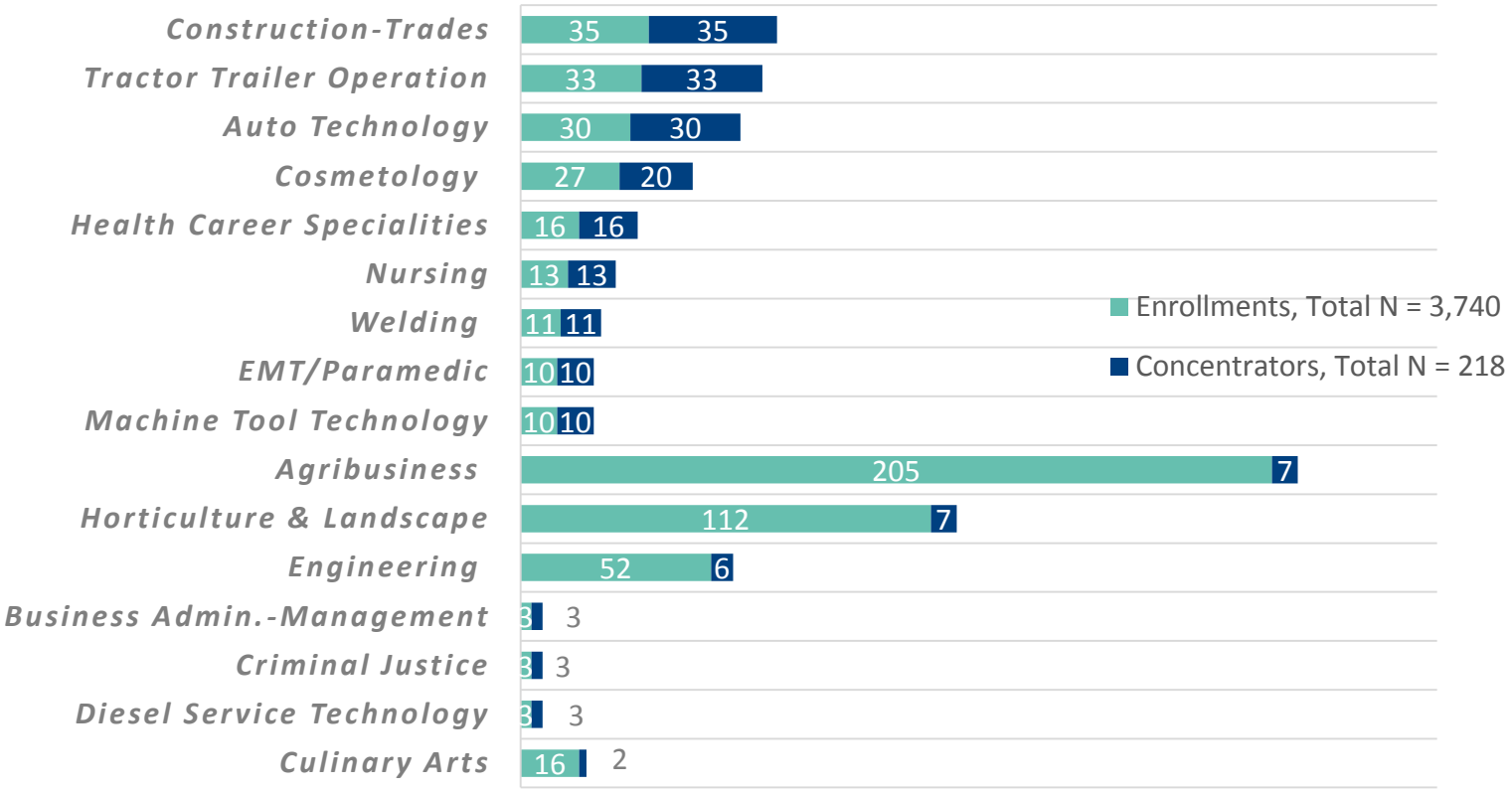
Overview of CTE Enrollments and Concentrators

REGION 8: TOP 15 CTE PATHWAYS BY CONCENTRATORS AND ENROLLMENTS, #43 - TWIN RIVERS AREA TECHNICAL CAREER CENTER, 2013*



*Source: Indiana Department of Workforce Development, Data Provided, 2014. *Chart does not include 'Unspecified Pathway' enrollments or concentrators.*

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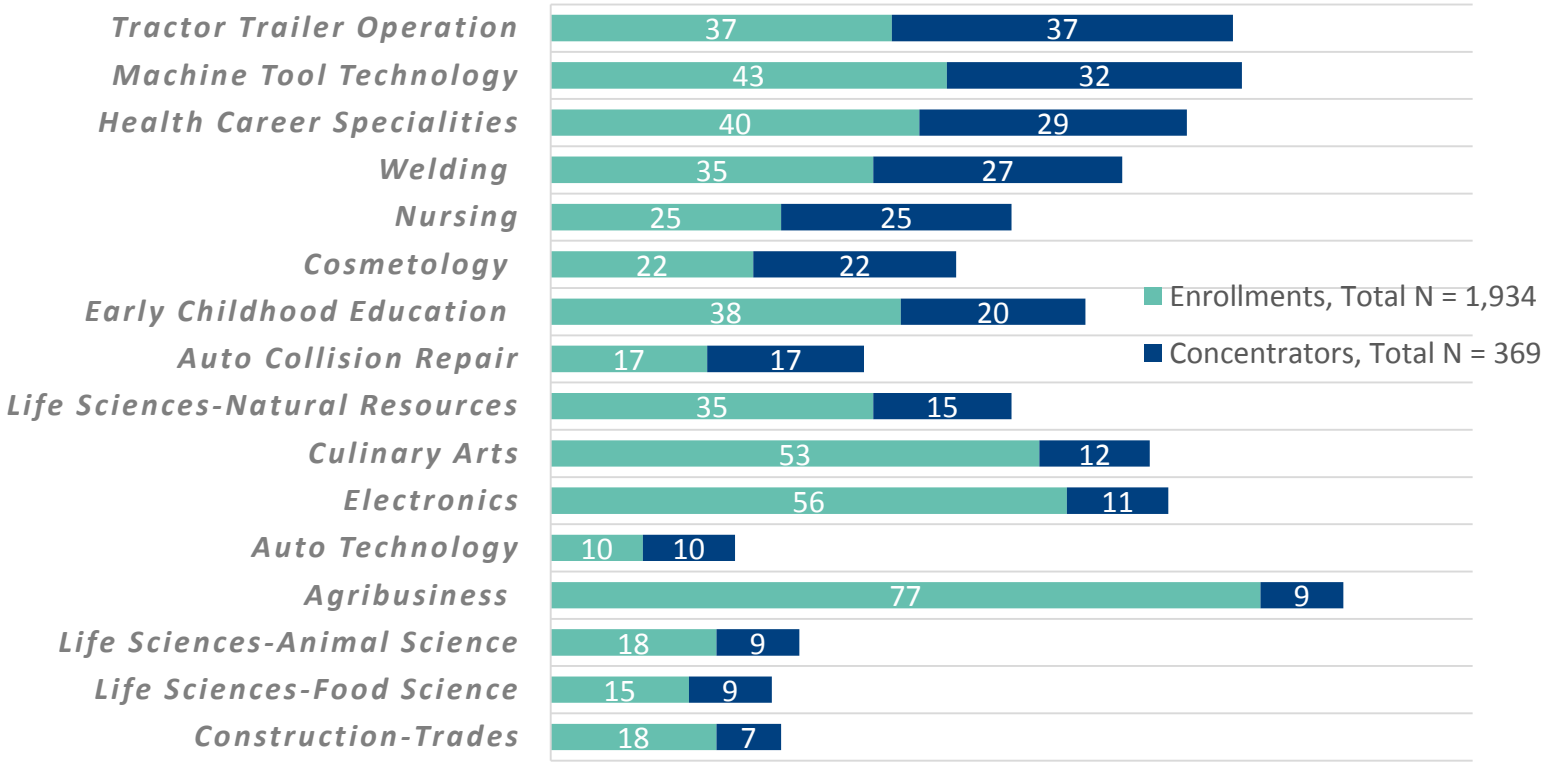
Overview of CTE Enrollments and Concentrators

REGION 8: TOP 15 CTE PATHWAYS BY CONCENTRATORS AND ENROLLMENTS, #40 - NORTH LAWRENCE CAREER CENTER, 2013*



*Source: Indiana Department of Workforce Development, Data Provided, 2014. *Chart does not include 'Unspecified Pathway' enrollments or concentrators.*

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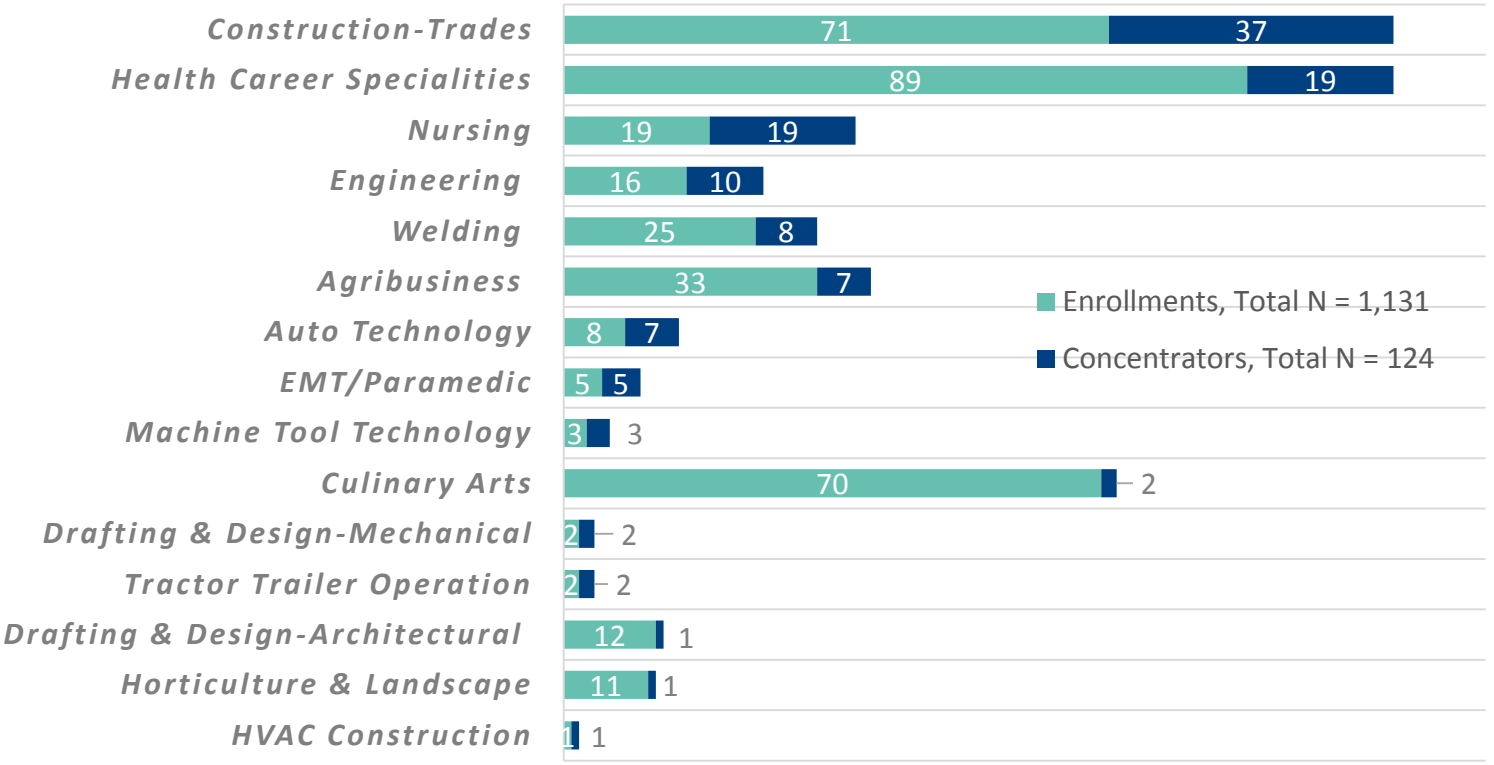
Overview of CTE Enrollments and Concentrators

REGION 8: TOP 15 CTE PATHWAYS BY CONCENTRATORS AND ENROLLMENTS, #44 - LOST RIVER CAREER COOPERATIVE, 2013*



*Source: Indiana Department of Workforce Development, Data Provided, 2014. *Chart does not include 'Unspecified Pathway' enrollments or concentrators.*

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SECTION 2C

Overview of Postsecondary Supply

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Overview of Postsecondary Supply

SECTION OVERVIEW

In this section, we present data on student completions for select public and private postsecondary educational institutions located in the Works Council region. The charts that follow show the number of graduates and type of credentials awarded by certificate and degrees in the top programs of study for the region as a whole and each institution.

The Works Councils can use these data to identify program areas that produce the most graduates, identify the type of credentials being awarded, and compare student output (completions) to regional and statewide demand in the economy.

The following colleges and universities are included in the analysis for this region:

- *Indiana University- Bloomington*
- *Ivy Tech Community College-Bloomington Area*
- *Rose-Hulman Institute of Technology*
- *Vincennes University*

Overview of Postsecondary Supply

SECTION OVERVIEW, Cont.

We have included Rose-Hulman Institute of Technology and Vincennes University as part of the region because they are important sources of technical education and serve students across Indiana. Excluded from the analysis are postsecondary institutions with less than 300 students, all cosmetology, massage, and therapeutic proprietary schools, religious training schools, and any college that is not included in the National Center for Educational Statistics database. The analysis is limited to accredited colleges and universities located within Indiana.

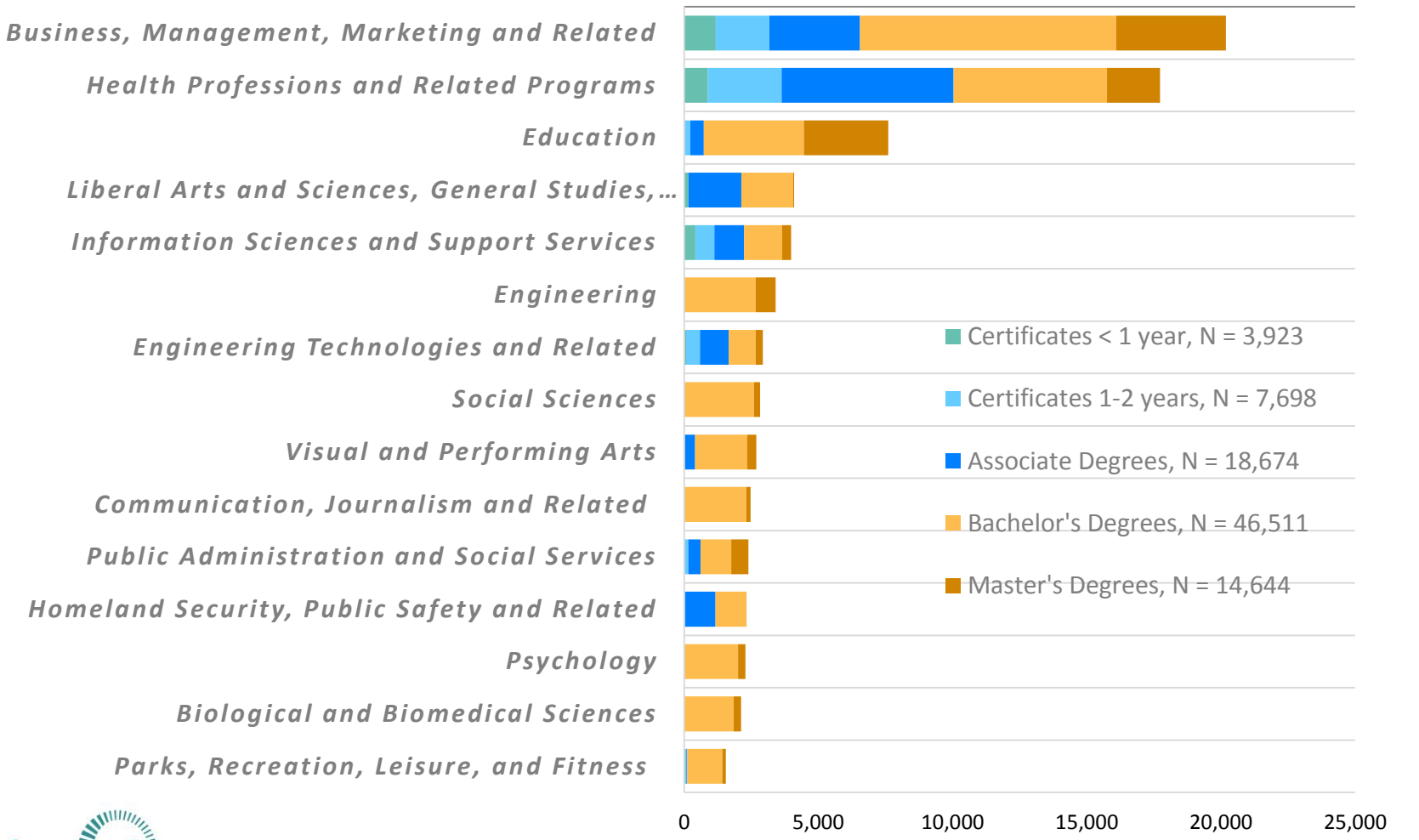
The data in the charts show the total graduates, or student completions, from these institutions by field of study. The field of study is federally defined by the *Classification of Instructional Programs* coding system used for U.S. colleges that disperse student financial aid.

Our sample includes 90 Indiana public and private colleges and universities that enroll just over 450,000 students. These institutions awarded 91,540 credentials in 2013. They ranged from short term academic certificates to master's degrees. As comparison for the region, the first two charts in this section includes total completers in the top 15 programs of study for all 93 public and private postsecondary institutions in Indiana.

Colleges and universities award a variety of credentials to students and workers in the Indiana workforce. We show data on academic, credit bearing credentials including certificates representing less than one full year of study (about 30 credits or less); certificates representing between one- and two-years of study (between 30 and about 48 credits); associate degrees, bachelor's degrees, and master's degrees. We do not include professional development and skills training certificates, non-credit programs, or industry-based certifications. Even though these programs can be important sources of talent, their data sources are not consistent and vary in terms of access, which make their use beyond the scope of this project.

Overview of Postsecondary Supply

TOP 15 PROGRAMS OF STUDY, ALL 90 INDIANA POSTSECONDARY INSTITUTIONS, BY TOTAL CREDENTIALS AWARDED, 2013



Source: National Center for Education Statistics, IPEDS, 2014.

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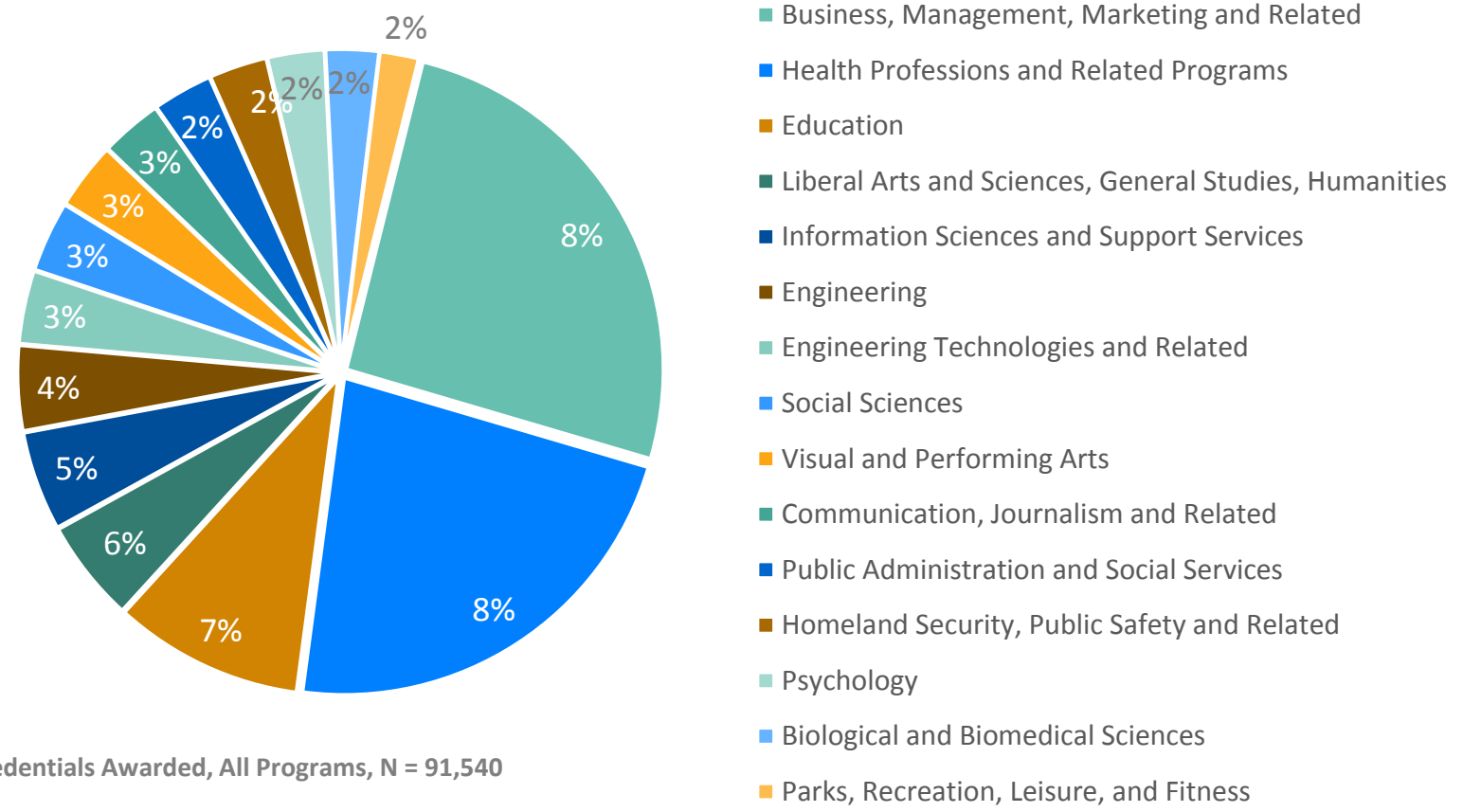
STRATEGIES FOR REGIONAL DEVELOPMENT

Overview of Postsecondary Supply

TOP 15 PROGRAMS OF STUDY, ALL 90 INDIANA POSTSECONDARY INSTITUTIONS, AWARDS IN FIELDS AS PERCENTAGES OF ALL CREDENTIALS AWARDED, 2013



Total Credentials Awarded, All Programs, N = 91,540

Source: National Center for Education Statistics, IPEDS, 2014.

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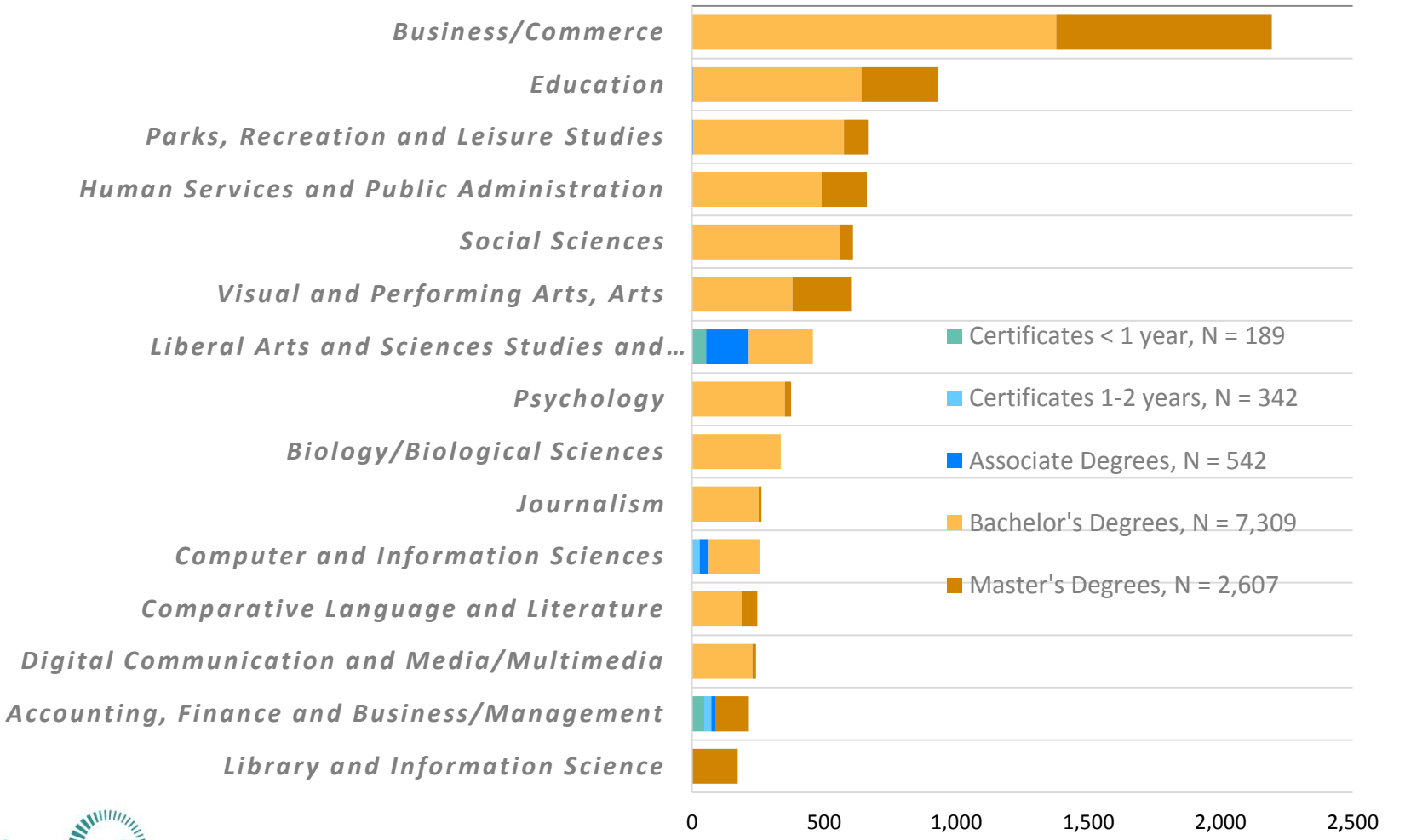
STRATEGIES FOR REGIONAL DEVELOPMENT

Overview of Postsecondary Supply

TOP 15 PROGRAMS OF STUDY, ALL REGION 8 POSTSECONDARY INSTITUTIONS, BY TOTAL CREDENTIALS AWARDED, 2013



Source: National Center for Education Statistics, IPEDS, 2014.

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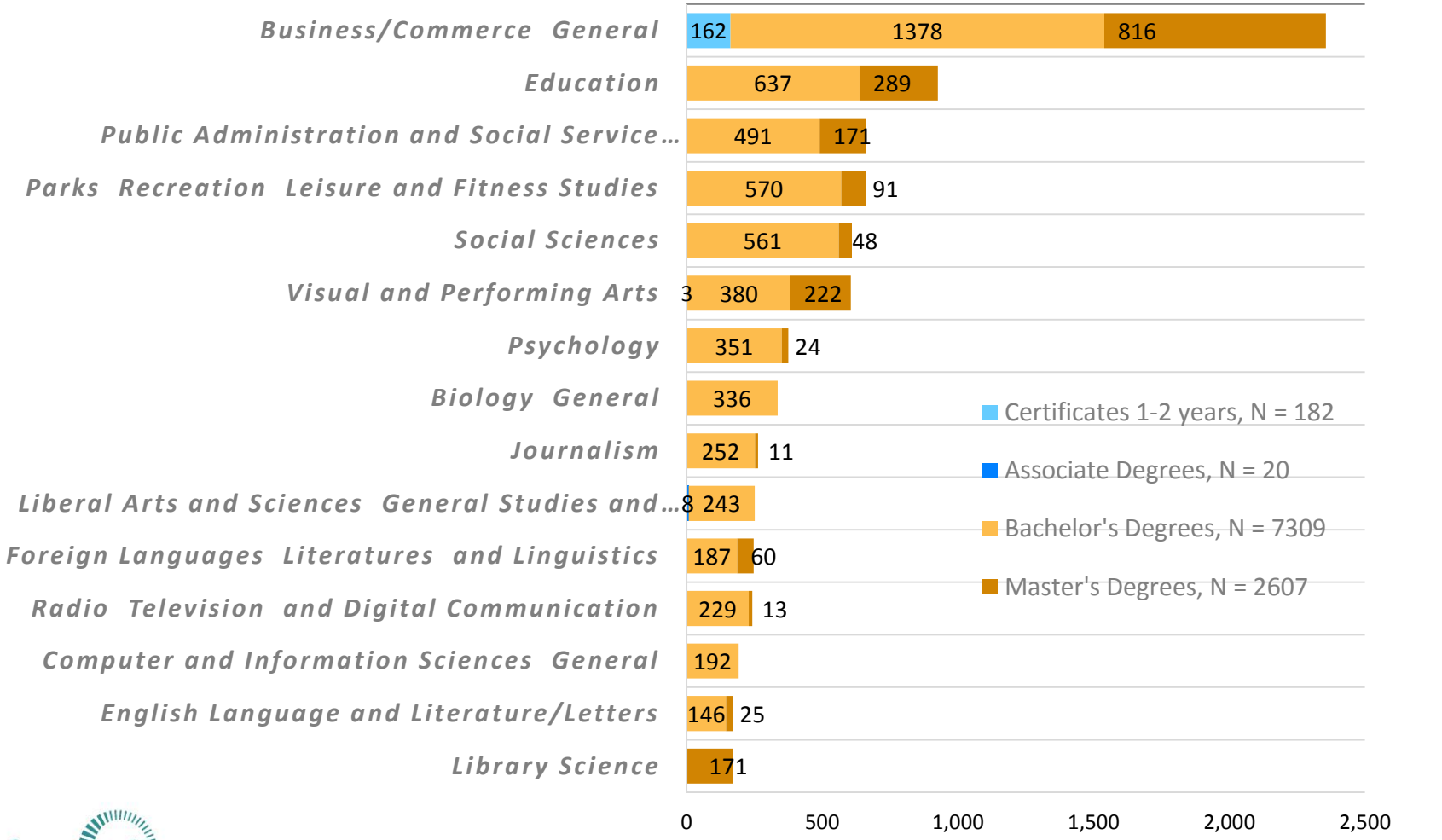
STRATEGIES FOR REGIONAL DEVELOPMENT

Overview of Postsecondary Supply

TOP 15 PROGRAMS OF STUDY, INDIANA UNIVERSITY- BLOOMINGTON, BY TOTAL CREDENTIALS AWARDED, 2013



Source: National Center for Education Statistics, IPEDS, 2014.

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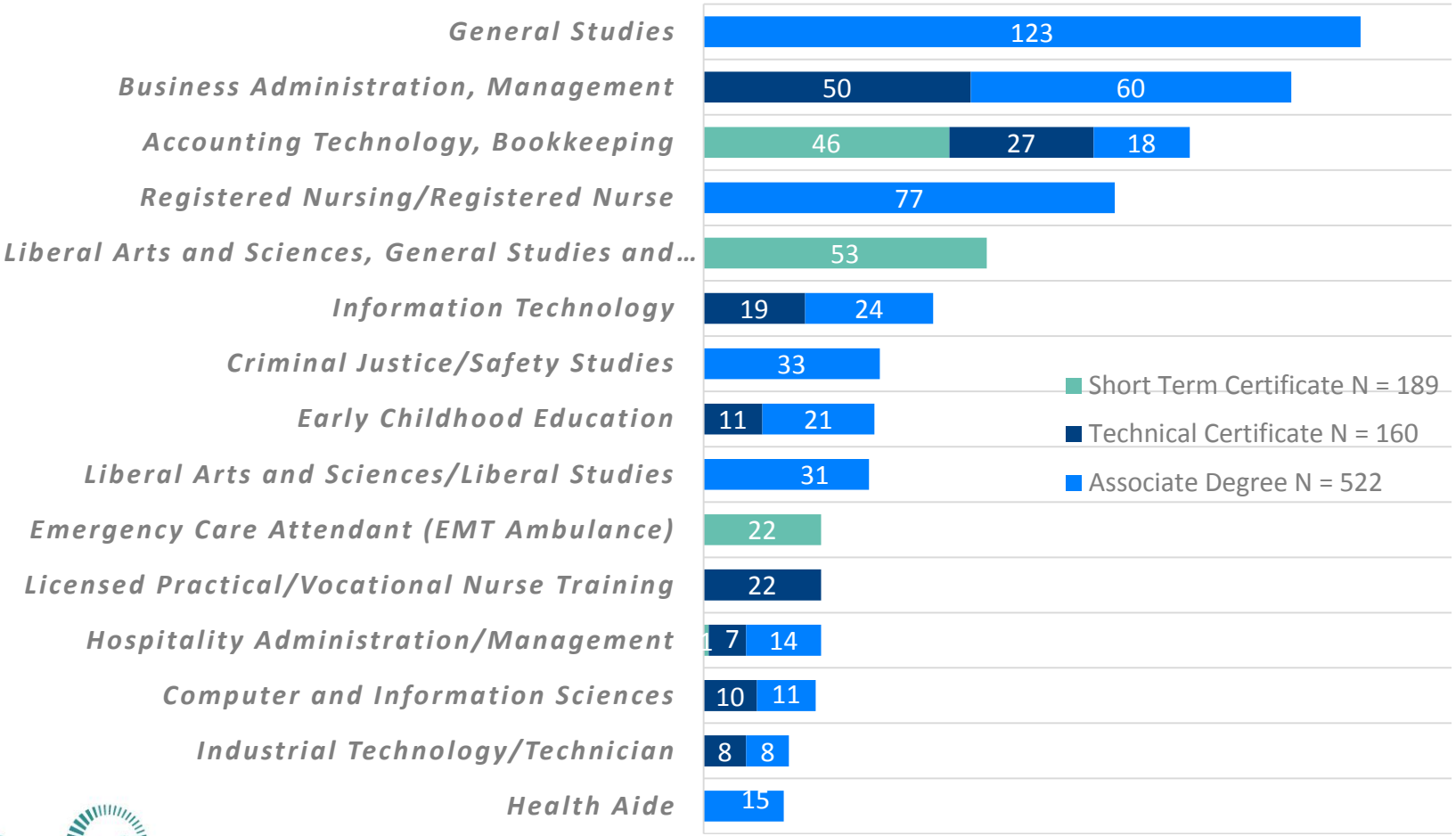
STRATEGIES FOR REGIONAL DEVELOPMENT

Overview of Postsecondary Supply

TOP 15 PROGRAMS OF STUDY, IVY TECH COMMUNITY COLLEGE, BLOOMINGTON, BY TOTAL CREDENTIALS AWARDED, 2012-2013



Source: Ivy Tech Community College, Data Provided, 2014.

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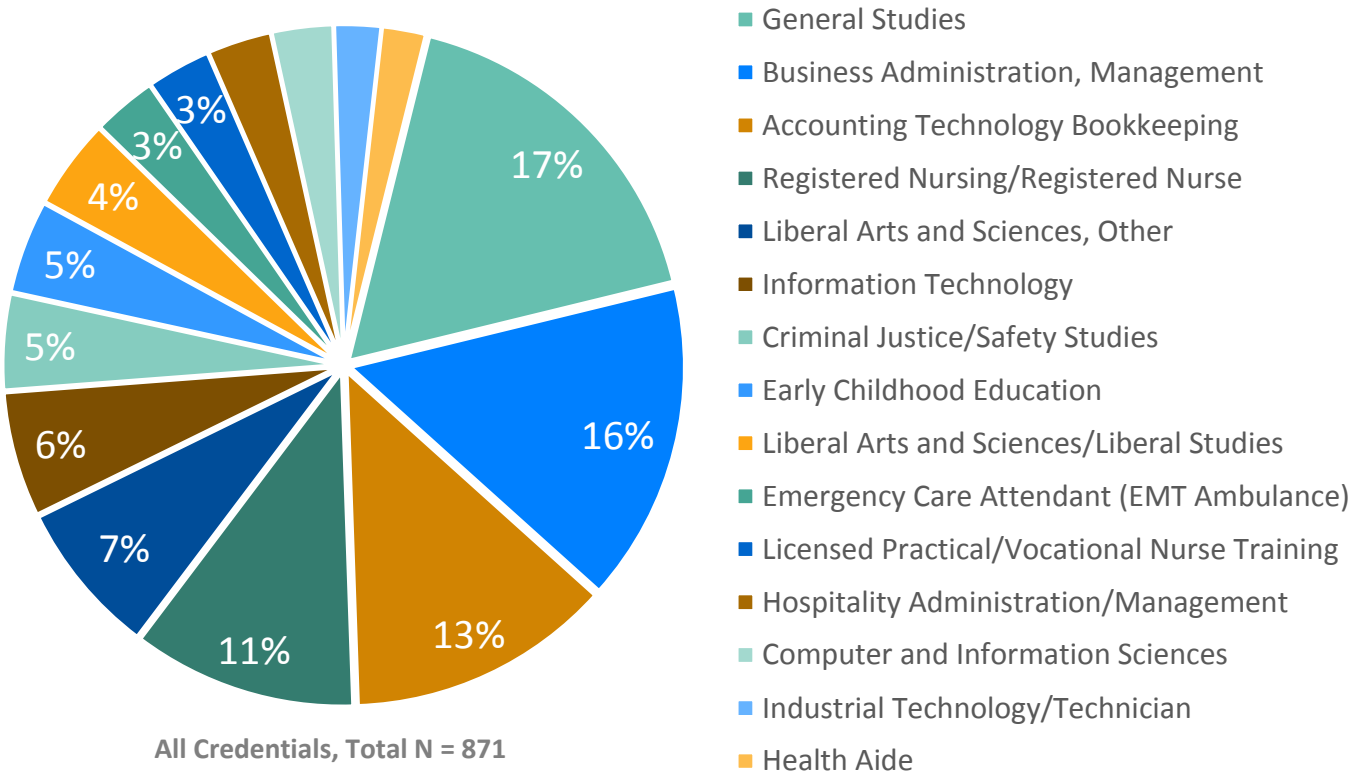
STRATEGIES FOR REGIONAL DEVELOPMENT

Overview of Postsecondary Supply

TOP 15 PROGRAMS OF STUDY, IVY TECH COMMUNITY COLLEGE, BLOOMINGTON, BY TOTAL CREDENTIALS AWARDED, 2012-2013



All Credentials, Total N = 871

Source: Ivy Tech Community College, Data Provided, 2014.

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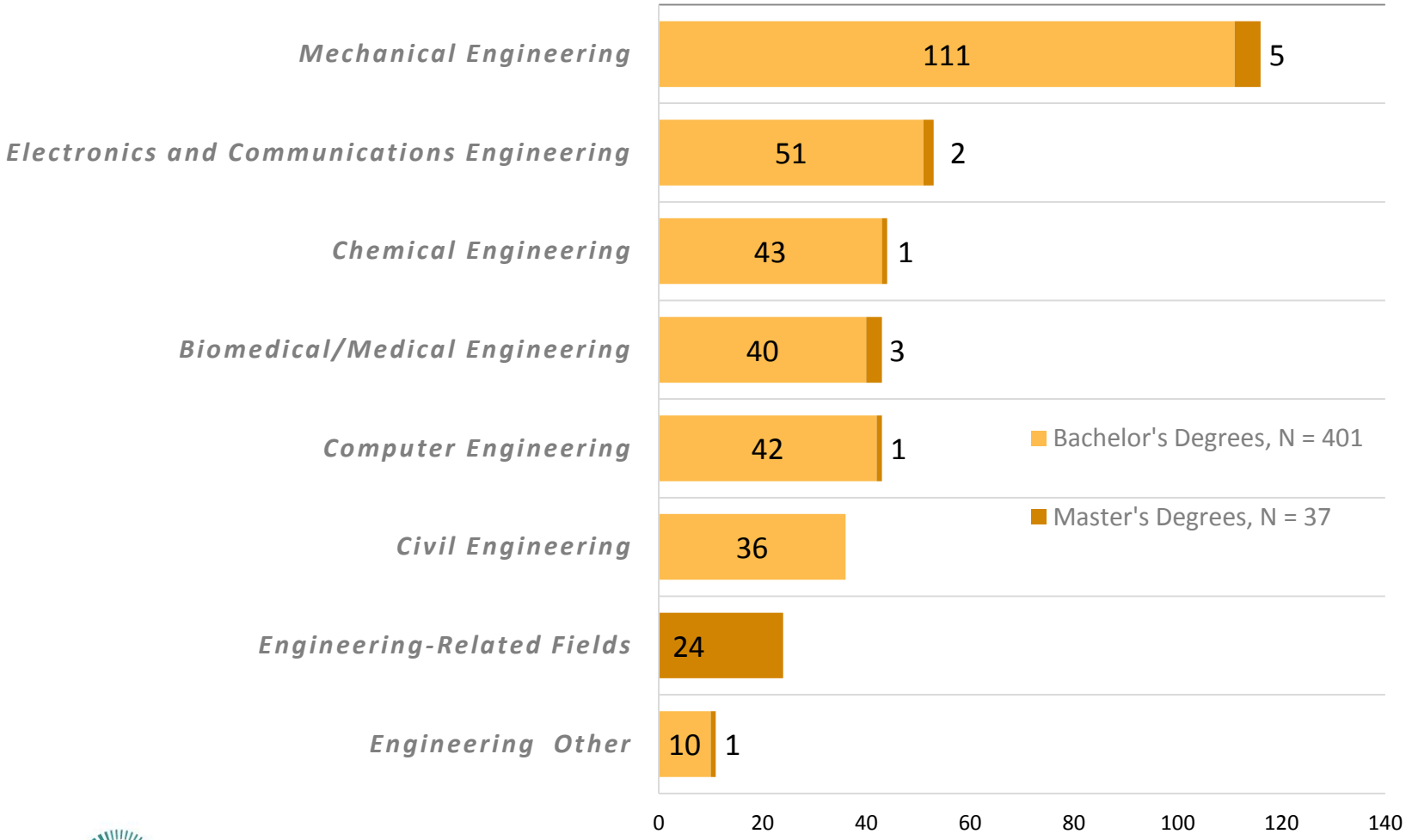
STRATEGIES FOR REGIONAL DEVELOPMENT

Overview of Postsecondary Supply

TOP PROGRAMS OF STUDY, ROSE-HULMAN INSTITUTE OF TECHNOLOGY, BY TOTAL CREDENTIALS AWARDED, 2013



Source: National Center for Education Statistics, IPEDS, 2014.

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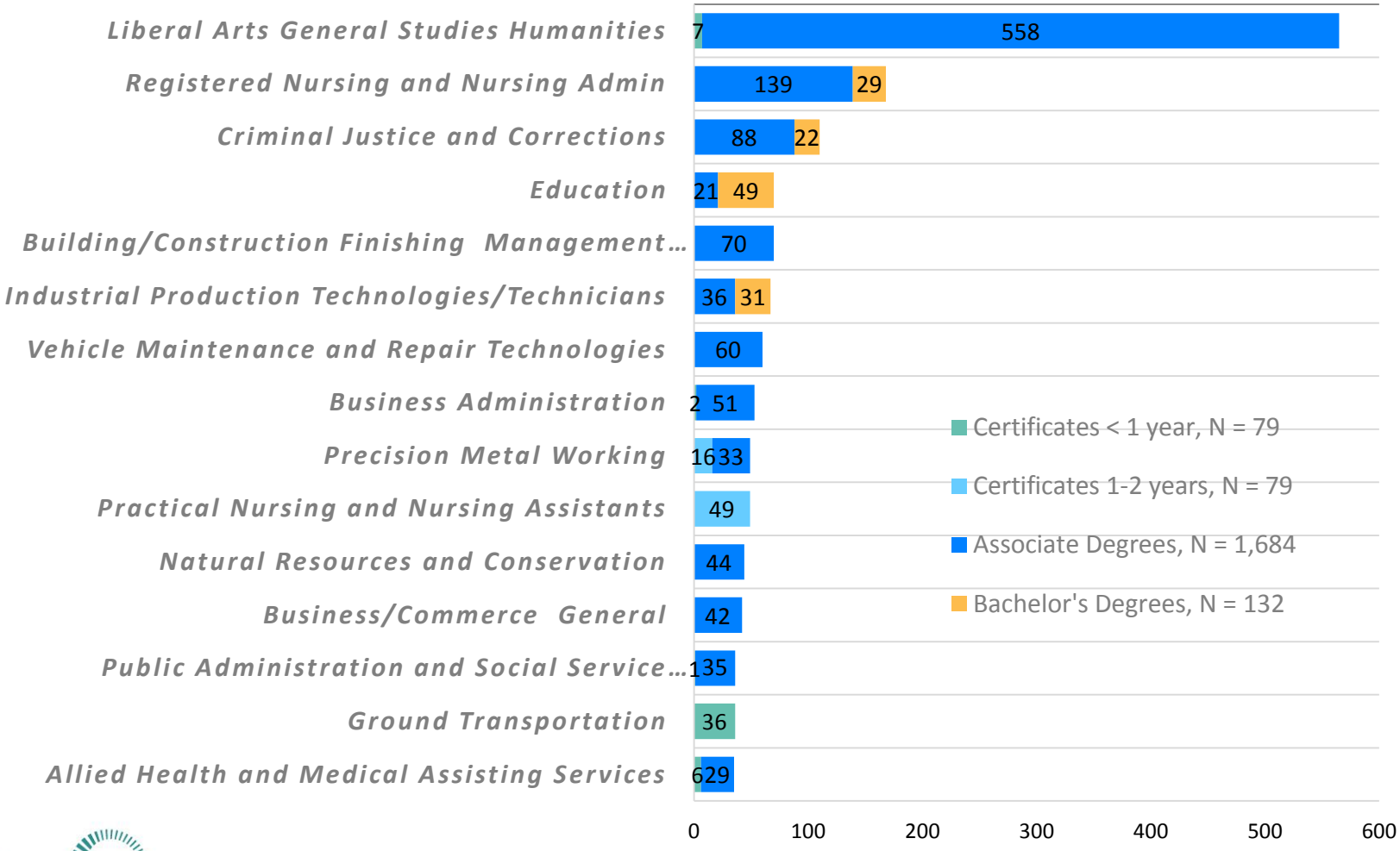
STRATEGIES FOR REGIONAL DEVELOPMENT

Overview of Postsecondary Supply

TOP 15 PROGRAMS OF STUDY, VINCENNES UNIVERSITY, BY TOTAL CREDENTIALS AWARDED, 2013



Source: National Center for Education Statistics, IPEDS, 2014.

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STRATEGIES FOR REGIONAL DEVELOPMENT

Overview of Postsecondary Supply

DEFINITIONS AND TECHNICAL NOTES, POSTSECONDARY INSTITUTIONS

All data on postsecondary credentials are from the U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS) for 2013. Collected for this research in September, 2014.

Regional and statewide data for Ivy Tech Community College are provided by Ivy Tech Community College, Office of Institutional Research for 2012-2013.

For more detailed discussion of the employment patterns of Indiana college graduates and their likelihood of remaining employed in the state after graduation, see reports by the Indiana Business Research Center, Indiana University, such as "How Education Pays: The Work Outcomes of Indiana's Postsecondary Graduates," November, 2011, and a report commissioned by the Central Indiana Corporate Partnership, "Competitive Economic Advantage: The Opportunity to Win the Global Competition for College Educated Talent," July, 2013.

SECTION 3

Overview of Demand Supply Alignment

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STRATEGIES FOR REGIONAL DEVELOPMENT

Overview of Demand and Supply Alignment

SECTION OVERVIEW:

Our analysis of demand-supply alignment organizes data on demand across key occupational areas and aligns them with data on concentrators from CTE districts and credential output from postsecondary institutions in the region. We present a "Summary Chart of Alignment" of our analysis of demand-supply alignment in this section.

The summary chart, on the next page, shows a high-level picture of demand supply alignment across a number of key occupational areas and is a useful starting point for discussion among members of the Works Council and with employers, educators, government, and civic leaders in the region. The chart will help these partners understand overall labor market demand and the alignment of the supply of talent to meet that demand.

The data included in the chart come from multiple sources:

- The first area is annual demand. Demand data are for 2013 based on FutureWorks calculations of EMSI's projected job openings from the U.S. Bureau of Labor Statistics in 2013 and Burning Glass Labor Insight's 2013 real-time job postings. All demand data are specific to the Works Council region.

- The second area is credentials awarded from both regional secondary CTE districts and area postsecondary institutions. The secondary data are Graduating Seniors with a CTE concentration reported to Indiana DOE/DWD for each school district and CTE center in the region. Postsecondary credentials data are credentials awarded from two-year and four-year postsecondary institutions within or nearby the region. All data on postsecondary credentials are from the U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS) for 2012.

Overview of Demand and Supply Alignment

SECTION OVERVIEW, CONT.:

The regional demand supply model does not capture every pathway to employment, i.e., apprenticeships, temp agencies, etc. The academic institutional education pathway is our focus.

We recognize that the pathways into employment for many occupations in this analysis, like construction, are non-academic pathways. Determining the supply of non-academic pathways is beyond the scope of this research. Even so, in many cases, these non-academic pathways are changing. Increasingly they involve obtaining a postsecondary credential. For example, many apprenticeships are being linked to academic programs and awards of associate degrees through community colleges. Thus some production of traditionally non-academic occupational training now is being captured by data on degree awards.

To find an example of research in this area see: "Demand Study for Construction Employees" prepared by Mohr Partners Cleveland, W.E. Upjohn Institute for Employment Research, and Weber Murphy Fox for The Construction Diversity Committee, Commission on Economic Inclusion, Greater Cleveland Partnership.

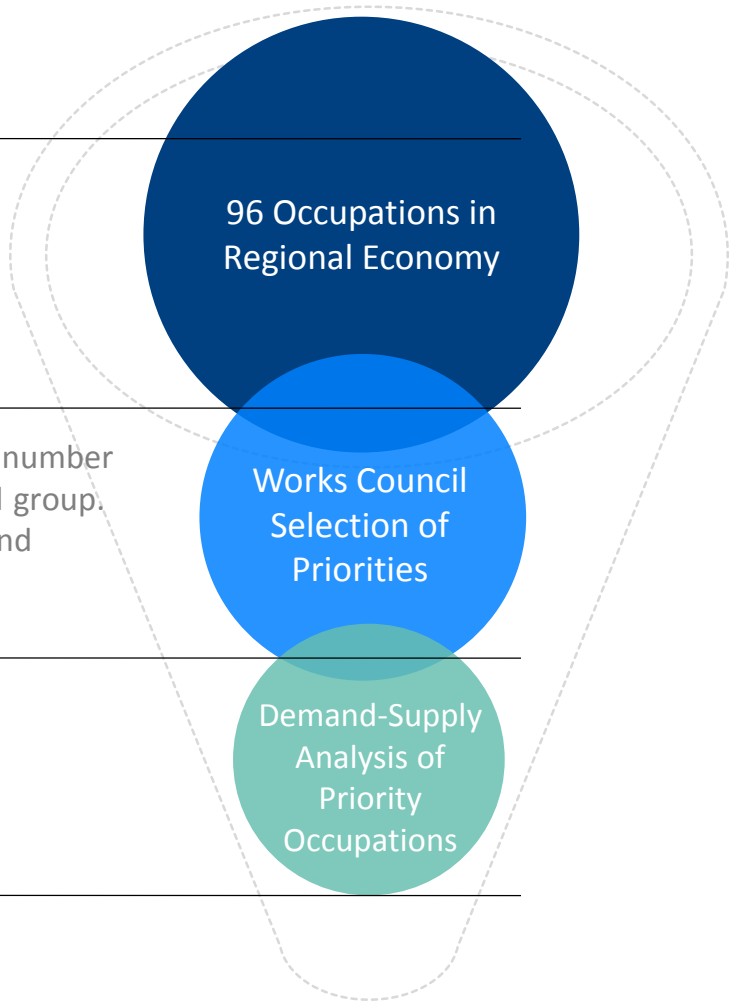
Overview of Demand and Supply Alignment

SELECTION PROCESS FOR ANALYSIS OF DEMAND SUPPLY ALIGNMENT

We provide data by 96 occupational groups that encompass all specific occupations in the economy.

Works Council receives data on level of demand, earning potential, number of total jobs, and education typically required for each occupational group. The Works Council will use these data and its local understanding and priorities to identify priorities and areas for action planning.

CECI will partner with the Works Council to help develop a deeper analysis, strategic assessments, and action steps. CECI, Works Councils and the State Career Councils will develop an education and workforce development agenda and initiatives.



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Overview of Demand and Supply Alignment

Generally speaking, there appears to be more demand than supply of credentials.

Generally speaking, demand and supply approach balance.

Generally speaking, there appears to be more supply of credentials than demand.

SUMMARY CHART OF ALIGNMENT

		Demand 2013	PSE Credentials Awarded 2013	CTE Concentrators 2013	Alignment
IT	Computer and IT Workers	702	448	47	
Manufacturing	Skilled Production, Engineering Technology and Related	546	46	86	
	Installation, Maintenance and Repair Workers	425	13		
Health	Health Diagnosing and Treating Practitioners	530	362	72	
	Health Technologists and Technicians	324	76	11	
	Health Aides and Support Workers	327	37	144	

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Overview of Demand and Supply Alignment

Generally speaking, there appears to be more demand than supply of credentials.

Generally speaking, demand and supply approach balance.

Generally speaking, there appears to be more supply of credentials than demand.

SUMMARY CHART OF ALIGNMENT

		Demand 2013	PSE Credentials Awarded 2013	CTE Concentrators 2013	Alignment
Education	Educators (Teachers and Related)	405	930	82	
Life Sciences and Engineering	Engineers	259	0	173	
	Life Scientists and Technicians	187	764	75	
	Architects and Mathematicians	19	114		

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