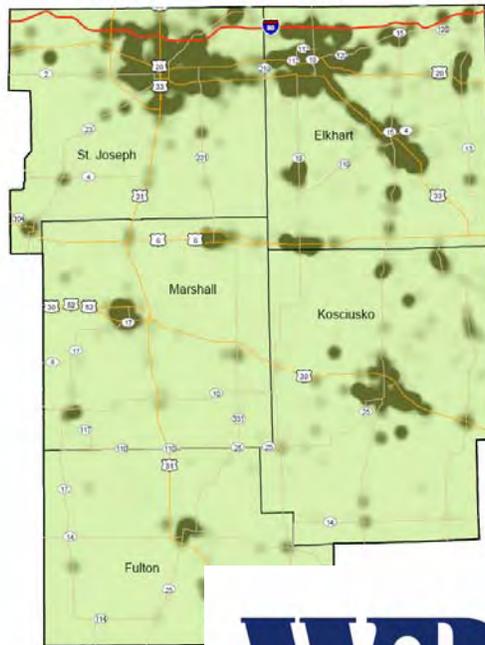


Strategic Skills Initiative Phase One Report

Region 2 Job Density, 2004:2



Source: Indiana Department of Workforce Development



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Workforce Investment Board, Inc.
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Appendices

The following Appendices present the source material for tables, charts, and analyses provided in the body of the EGR-2 Strategic Skills Phase One Report.

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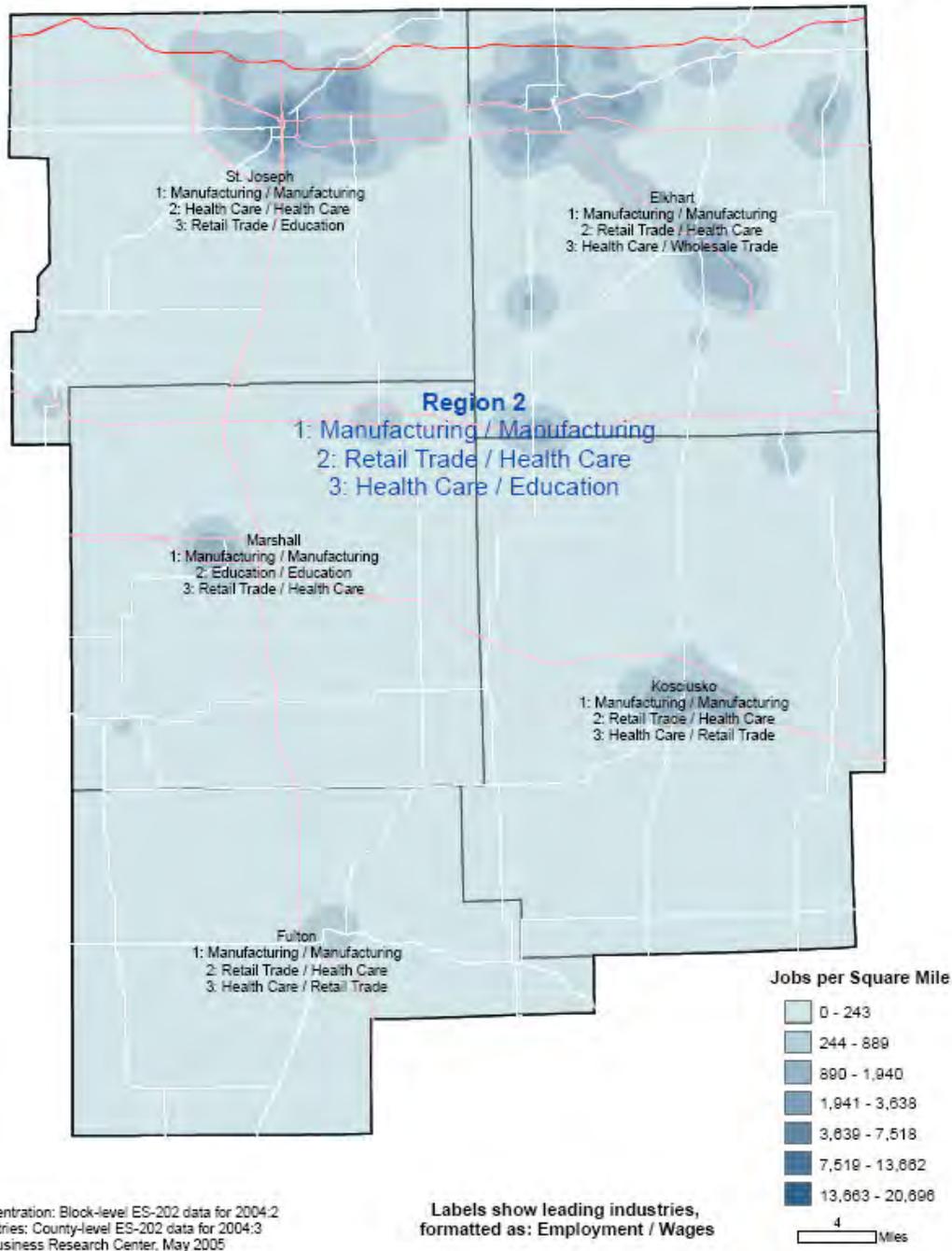
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Top Industries by Employment and Wages



Regardless of county, the same four sectors: manufacturing, health care, education, and retail trade are economic drivers.

Determination of Strategic Occupational Sectors (SOS)

Our first strategy was to identify the Region's largest employers, in terms of jobs. Then, we selected six other variables by which to assess the employers, and the industrial sectors (NAICS Codes) to which they belong: location quotient, quarterly wages, weekly wages, value-added dollars, job growth over time, and shift-share analysis of job growth over time. The data used were:

Total Number of Jobs

Covered Employment & Wages Data for EGR 2, in 2004

Sort: ▼

NAICS	Industry	Jobs
00	Total	306,642
11	Agriculture, Forestry, Fishing and Hunting	1,101
111	Crop Production	543
112	Animal Production	520
113	Forestry and Logging	N/A
115	Support Activities for Agriculture and Forestry	N/A
21	Mining	105
212	Mining (except Oil and Gas)	N/A
213	Support Activities for Mining	N/A
22	Utilities	581
221	Utilities	581
23	Construction	12,792
236	Construction of Buildings	3,457
237	Heavy and Civil Engineering Construction	1,435
238	Specialty Trade Contractors	7,900
31-33	Manufacturing	105,372
311	Food Manufacturing	3,398
312	Beverage and Tobacco Product Manufacturing	N/A
313	Textile Mills	189
314	Textile Product Mills	817
315	Apparel Manufacturing	N/A
316	Leather and Allied Product Manufacturing	145
321	Wood Product Manufacturing	7,895
322	Paper Manufacturing	1,417
323	Printing and Related Support Activities	2,873
324	Petroleum and Coal Products Manufacturing	244
325	Chemical Manufacturing	2,064
326	Plastics and Rubber Products Manufacturing	10,129
327	Nonmetallic Mineral Product Manufacturing	1,249
331	Primary Metal Manufacturing	4,012
332	Fabricated Metal Product Manufacturing	12,435
333	Machinery Manufacturing	3,748
334	Computer and Electronic Product Manufacturing	2,147
335	Electrical Equipment, Appliance, and Component Manufacturing	1,392
336	Transportation Equipment Manufacturing	38,573
337	Furniture and Related Product Manufacturing	4,680
339	Miscellaneous Manufacturing	7,937

42	Wholesale Trade	13,651
423	Merchant Wholesalers, Durable Goods	9,824
424	Merchant Wholesalers, Nondurable Goods	3,191
425	Wholesale Electronic Markets and Agents and Brokers	636
44-45	Retail Trade	30,771
441	Motor Vehicle and Parts Dealers	4,218
442	Furniture and Home Furnishings Stores	859
443	Electronics and Appliance Stores	869
444	Building Material and Garden Equipment and Supplies Dealers	3,215
445	Food and Beverage Stores	4,954
446	Health and Personal Care Stores	1,747
447	Gasoline Stations	1,862
448	Clothing and Clothing Accessories Stores	1,315
451	Sporting Goods, Hobby, Book, and Music Stores	1,178
452	General Merchandise Stores	7,884
453	Miscellaneous Store Retailers	2,035
454	Nonstore Retailers	635
48-49	Transportation and Warehousing	7,456
481	Air Transportation	N/A
484	Truck Transportation	2,929
485	Transit and Ground Passenger Transportation	518
486	Pipeline Transportation	N/A
488	Support Activities for Transportation	662
491	Postal Service	1,277
492	Couriers and Messengers	995
493	Warehousing and Storage	587
51	Information	4,723
511	Publishing Industries (except Internet)	1,399
512	Motion Picture and Sound Recording Industries	384
515	Broadcasting (except Internet)	593
516	Internet Publishing and Broadcasting	N/A
517	Telecommunications	1,229
518	Internet Service Providers, Web Search Portals, and Data Processing Services	N/A
519	Other Information Services	789
52	Finance and Insurance	7,861
522	Credit Intermediation and Related Activities	4,534
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	467
524	Insurance Carriers and Related Activities	2,818
525	Funds, Trusts, and Other Financial Vehicles	42
53	Real Estate and Rental and Leasing	3,537
531	Real Estate	2,084
532	Rental and Leasing Services	N/A
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	N/A
54	Professional, Scientific, and Technical Services	7,198
541	Professional, Scientific, and Technical Services	7,198
55	Management of Companies and Enterprises	2,135
551	Management of Companies and Enterprises	2,135
56	Administrative and Support and Waste Management and Remediation Services	12,374
561	Administrative and Support Services	11,774
562	Waste Management and Remediation Services	600
61	Educational Services	26,831
611	Educational Services	26,831

62	Health Care and Social Services	30,191
621	Ambulatory Health Care Services	9,636
622	Hospitals	10,295
623	Nursing and Residential Care Facilities	6,140
624	Social Assistance	4,120
71	Arts, Entertainment, and Recreation	2,318
711	Performing Arts, Spectator Sports, and Related Industries	374
712	Museums, Historical Sites, and Similar Institutions	126
713	Amusement, Gambling, and Recreation Industries	1,818
72	Accommodation and Food Services	20,082
721	Accommodation	1,745
722	Food Services and Drinking Places	18,337
81	Other Services(Except Public Administration)	8,216
811	Repair and Maintenance	3,313
812	Personal and Laundry Services	2,786
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	1,921
814	Private Households	196
92	Public Administration	9,345
921	Executive, Legislative, and Other General Government Support	7,589
922	Justice, Public Order, and Safety Activities	401
923	Administration of Human Resource Programs	587
924	Administration of Environmental Quality Programs	132
925	Administration of Housing Programs, Urban Planning, and Community Development	28
926	Administration of Economic Programs	547
928	National Security and International Affairs	61
99	Unallocated	2

N/A = This item is not available. This is due to non-disclosure requirements, or because a calculation could not be created.

Data sources: Indiana Business Research Center based on ES202 data, U.S. Bureau of Labor Statistics
 Provided by: Indiana Business Research Center, IU Kelley School of Business
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Location Quotient

Covered Employment & Wages Data for EGR 2, in 2004

Sort:

NAICS

NAICS	Industry	Jobs	Jobs LQ (IN base)	Jobs LQ (Midwest base)	Jobs LQ (US base)
00	Total	306,642	1.00	1.00	1.00
11	Agriculture, Forestry, Fishing and Hunting	1,101	0.84	0.80	0.40
111	Crop Production	543	0.82	0.77	0.41
112	Animal Production	520	1.06	1.31	1.05
113	Forestry and Logging	N/A	N/A	N/A	N/A
115	Support Activities for Agriculture and Forestry	N/A	N/A	N/A	N/A
21	Mining	105	0.15	0.13	0.09
212	Mining (except Oil and Gas)	N/A	N/A	N/A	N/A
213	Support Activities for Mining	N/A	N/A	N/A	N/A
22	Utilities	581	0.37	0.38	0.30
221	Utilities	581	0.37	0.38	0.30
23	Construction	12,792	0.80	0.87	0.76
236	Construction of Buildings	3,457	0.81	1.01	0.90
237	Heavy and Civil Engineering Construction	1,435	0.80	0.83	0.56
238	Specialty Trade Contractors	7,900	0.80	0.84	0.76
31-33	Manufacturing	105,372	1.71	2.17	3.11
311	Food Manufacturing	3,398	0.99	0.84	0.96
312	Beverage and Tobacco Product Manufacturing	N/A	N/A	N/A	N/A
313	Textile Mills	189	3.70	1.96	0.34
314	Textile Product Mills	817	2.21	3.23	1.95
315	Apparel Manufacturing	N/A	N/A	N/A	N/A
316	Leather and Allied Product Manufacturing	145	3.24	1.35	1.44
321	Wood Product Manufacturing	7,895	3.66	5.61	6.07
322	Paper Manufacturing	1,417	1.12	0.79	1.21
323	Printing and Related Support Activities	2,873	1.35	1.26	1.83
324	Petroleum and Coal Products Manufacturing	244	0.70	1.15	0.92
325	Chemical Manufacturing	2,064	0.58	0.83	0.99
326	Plastics and Rubber Products Manufacturing	10,129	2.14	3.04	5.31
327	Nonmetallic Mineral Product Manufacturing	1,249	0.74	1.00	1.06
331	Primary Metal Manufacturing	4,012	0.77	1.66	3.63
332	Fabricated Metal Product Manufacturing	12,435	1.94	2.03	3.51
333	Machinery Manufacturing	3,748	0.80	0.72	1.39
334	Computer and Electronic Product Manufacturing	2,147	0.94	1.04	0.69
335	Electrical Equipment, Appliance, and Component Manufacturing	1,392	0.89	0.83	1.32
336	Transportation Equipment Manufacturing	38,573	2.56	4.08	9.07
337	Furniture and Related Product Manufacturing	4,680	1.59	2.77	3.47
339	Miscellaneous Manufacturing	7,937	2.55	4.46	5.11
42	Wholesale Trade	13,651	1.06	0.99	1.02
423	Merchant Wholesalers, Durable Goods	9,824	1.23	1.27	1.41
424	Merchant Wholesalers, Nondurable Goods	3,191	0.78	0.67	0.67
425	Wholesale Electronic Markets and Agents and Brokers	636	0.81	0.51	0.38
44-45	Retail Trade	30,771	0.86	0.87	0.86
441	Motor Vehicle and Parts Dealers	4,218	0.92	0.99	0.94
442	Furniture and Home Furnishings Stores	859	0.76	0.68	0.64

443	Electronics and Appliance Stores	869	0.78	0.71	0.70
444	Building Material and Garden Equipment and Supplies Dealers	3,215	0.98	1.05	1.10
445	Food and Beverage Stores	4,954	0.90	0.80	0.74
446	Health and Personal Care Stores	1,747	0.79	0.75	0.78
447	Gasoline Stations	1,862	0.69	0.86	0.90
448	Clothing and Clothing Accessories Stores	1,315	0.54	0.49	0.41
451	Sporting Goods, Hobby, Book, and Music Stores	1,178	0.80	0.79	0.77
452	General Merchandise Stores	7,884	0.97	1.04	1.15
453	Miscellaneous Store Retailers	2,035	0.89	0.98	0.93
454	Nonstore Retailers	635	0.66	0.56	0.63
48-49	Transportation and Warehousing	7,456	0.56	0.58	0.61
481	Air Transportation	N/A	N/A	N/A	N/A
484	Truck Transportation	2,929	0.56	0.75	0.91
485	Transit and Ground Passenger Transportation	518	0.60	0.41	0.36
486	Pipeline Transportation	N/A	N/A	N/A	N/A
488	Support Activities for Transportation	662	0.79	0.59	0.45
491	Postal Service	1,277	0.77	0.67	0.68
492	Couriers and Messengers	995	0.64	0.74	0.75
493	Warehousing and Storage	587	0.27	0.34	0.44
51	Information	4,723	0.92	0.80	0.61
511	Publishing Industries (except Internet)	1,399	0.91	0.74	0.65
512	Motion Picture and Sound Recording Industries	384	0.91	0.78	0.42
515	Broadcasting (except Internet)	593	1.18	1.10	0.77
516	Internet Publishing and Broadcasting	N/A	N/A	N/A	N/A
517	Telecommunications	1,229	0.74	0.66	0.50
518	Internet Service Providers, Web Search Portals, and Data Processing Services	N/A	N/A	N/A	N/A
519	Other Information Services	789	1.06	1.63	1.82
52	Finance and Insurance	7,861	0.72	0.58	0.57
522	Credit Intermediation and Related Activities	4,534	0.81	0.68	0.68
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	467	0.62	0.32	0.26
524	Insurance Carriers and Related Activities	2,818	0.62	0.54	0.56
525	Funds, Trusts, and Other Financial Vehicles	42	N/A	1.28	0.19
53	Real Estate and Rental and Leasing	3,537	0.91	0.89	0.70
531	Real Estate	2,084	0.86	0.80	0.60
532	Rental and Leasing Services	N/A	N/A	N/A	N/A
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	N/A	N/A	N/A	N/A
54	Professional, Scientific, and Technical Services	7,198	0.75	0.50	0.44
541	Professional, Scientific, and Technical Services	7,198	0.75	0.50	0.44
55	Management of Companies and Enterprises	2,135	0.74	0.51	0.53
551	Management of Companies and Enterprises	2,135	0.74	0.51	0.53
56	Administrative and Support and Waste Management and Remediation Services	12,374	0.76	0.68	0.66
561	Administrative and Support Services	11,774	0.75	0.68	0.66
562	Waste Management and Remediation Services	600	0.86	0.81	0.70
61	Educational Services	26,831	1.06	1.03	0.99
611	Educational Services	26,831	1.06	1.03	0.99
62	Health Care and Social Services	30,191	0.83	0.82	0.81
621	Ambulatory Health Care Services	9,636	0.87	0.88	0.81
622	Hospitals	10,295	0.74	0.74	0.79
623	Nursing and Residential Care Facilities	6,140	0.86	0.87	0.86

624	Social Assistance	4,120	0.97	0.85	0.78
71	Arts, Entertainment, and Recreation	2,318	0.48	0.52	0.44
711	Performing Arts, Spectator Sports, and Related Industries	374	0.44	0.46	0.40
712	Museums, Historical Sites, and Similar Institutions	126	0.55	0.35	0.26
713	Amusement, Gambling, and Recreation Industries	1,818	0.49	0.47	0.47
72	Accommodation and Food Services	20,082	0.81	0.83	0.79
721	Accommodation	1,745	0.78	0.63	0.40
722	Food Services and Drinking Places	18,337	0.81	0.86	0.87
81	Other Services(Except Public Administration)	8,216	0.91	0.86	0.80
811	Repair and Maintenance	3,313	1.17	1.14	1.13
812	Personal and Laundry Services	2,786	0.96	0.95	0.92
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	1,921	0.64	0.57	0.61
814	Private Households	196	0.77	0.48	0.16
92	Public Administration	9,345	0.67	0.67	0.55
921	Executive, Legislative, and Other General Government Support	7,589	0.87	0.86	1.04
922	Justice, Public Order, and Safety Activities	401	0.27	0.17	0.10
923	Administration of Human Resource Programs	587	0.53	0.50	0.33
924	Administration of Environmental Quality Programs	132	0.27	0.31	0.17
925	Administration of Housing Programs, Urban Planning, and Community Development	28	0.47	0.24	0.14
926	Administration of Economic Programs	547	0.45	0.47	0.40
928	National Security and International Affairs	61	0.07	0.11	0.05
99	Unallocated	2	0.04	0.00	0.00

Data sources: Indiana Business Research Center based on ES202 data, U.S. Bureau of Labor Statistics
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Quarterly Wages

Covered Employment & Wages Data for EGR 2 , in Quarter 4 of 2004

Sort:

NAICS

NAICS	Industry	Wages
00	Total	\$2,817,643,209
11	Agriculture, Forestry, Fishing and Hunting	\$8,064,168
111	Crop Production	\$2,688,981
112	Animal Production	\$5,075,811
113	Forestry and Logging	N/A
115	Support Activities for Agriculture and Forestry	N/A
21	Mining	N/A
212	Mining (except Oil and Gas)	N/A
213	Support Activities for Mining	N/A
22	Utilities	\$8,723,923
221	Utilities	\$8,723,923
23	Construction	\$140,087,369
236	Construction of Buildings	\$37,459,884
237	Heavy and Civil Engineering Construction	\$23,444,042
238	Specialty Trade Contractors	\$79,183,443
31-33	Manufacturing	\$1,172,574,505
311	Food Manufacturing	\$26,910,153
312	Beverage and Tobacco Product Manufacturing	N/A
313	Textile Mills	\$2,251,763
314	Textile Product Mills	\$4,983,142
315	Apparel Manufacturing	N/A
316	Leather and Allied Product Manufacturing	\$831,961
321	Wood Product Manufacturing	\$76,244,696
322	Paper Manufacturing	\$16,877,568
323	Printing and Related Support Activities	\$28,675,723
324	Petroleum and Coal Products Manufacturing	\$2,190,037
325	Chemical Manufacturing	\$26,459,208
326	Plastics and Rubber Products Manufacturing	\$87,060,895
327	Nonmetallic Mineral Product Manufacturing	\$13,981,831
331	Primary Metal Manufacturing	\$47,546,359
332	Fabricated Metal Product Manufacturing	\$117,199,682
333	Machinery Manufacturing	\$46,051,153
334	Computer and Electronic Product Manufacturing	\$21,070,674
335	Electrical Equipment, Appliance, and Component Manufacturing	\$12,245,464
336	Transportation Equipment Manufacturing	\$474,762,722
337	Furniture and Related Product Manufacturing	\$37,346,716
339	Miscellaneous Manufacturing	\$129,716,085
42	Wholesale Trade	\$158,412,187
423	Merchant Wholesalers, Durable Goods	\$116,690,043
424	Merchant Wholesalers, Nondurable Goods	\$34,367,317
425	Wholesale Electronic Markets and Agents and Brokers	\$7,354,827
44-45	Retail Trade	\$177,259,427
441	Motor Vehicle and Parts Dealers	\$41,163,623
442	Furniture and Home Furnishings Stores	\$6,025,567
443	Electronics and Appliance Stores	\$5,963,251
444	Building Material and Garden Equipment and Supplies Dealers	\$22,807,687

445	Food and Beverage Stores	\$21,308,081
446	Health and Personal Care Stores	\$10,472,228
447	Gasoline Stations	\$6,615,341
448	Clothing and Clothing Accessories Stores	\$5,164,179
451	Sporting Goods, Hobby, Book, and Music Stores	\$5,630,035
452	General Merchandise Stores	\$35,424,140
453	Miscellaneous Store Retailers	\$11,336,410
454	Nonstore Retailers	\$5,348,885
48-49	Transportation and Warehousing	\$77,510,241
481	Air Transportation	N/A
484	Truck Transportation	\$32,635,375
485	Transit and Ground Passenger Transportation	\$3,012,426
486	Pipeline Transportation	N/A
488	Support Activities for Transportation	\$5,694,826
491	Postal Service	\$16,282,036
492	Couriers and Messengers	\$9,548,075
493	Warehousing and Storage	\$5,493,717
51	Information	\$43,768,783
511	Publishing Industries (except Internet)	\$13,476,235
512	Motion Picture and Sound Recording Industries	\$948,720
515	Broadcasting (except Internet)	\$5,295,257
516	Internet Publishing and Broadcasting	N/A
517	Telecommunications	\$16,098,703
518	Internet Service Providers, Web Search Portals, and Data Processing Services	N/A
519	Other Information Services	\$3,751,147
52	Finance and Insurance	\$93,888,740
522	Credit Intermediation and Related Activities	\$44,735,761
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	\$15,550,749
524	Insurance Carriers and Related Activities	\$32,823,690
525	Funds, Trusts, and Other Financial Vehicles	\$778,540
53	Real Estate and Rental and Leasing	\$26,003,885
531	Real Estate	\$18,022,051
532	Rental and Leasing Services	N/A
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	N/A
54	Professional, Scientific, and Technical Services	\$78,998,599
541	Professional, Scientific, and Technical Services	\$78,998,599
55	Management of Companies and Enterprises	\$40,444,607
551	Management of Companies and Enterprises	\$40,444,607
56	Administrative and Support and Waste Management and Remediation Services	\$71,367,533
561	Administrative and Support Services	\$65,138,269
562	Waste Management and Remediation Services	\$6,229,264
61	Educational Services	\$228,665,264
611	Educational Services	\$228,665,264
62	Health Care and Social Services	\$296,213,754
621	Ambulatory Health Care Services	\$139,484,533
622	Hospitals	\$100,965,265
623	Nursing and Residential Care Facilities	\$35,275,353
624	Social Assistance	\$20,488,603
71	Arts, Entertainment, and Recreation	\$7,809,179
711	Performing Arts, Spectator Sports, and Related Industries	\$1,126,457
712	Museums, Historical Sites, and Similar Institutions	\$520,673
713	Amusement, Gambling, and Recreation Industries	\$6,162,049

72	<u>Accommodation and Food Services</u>	\$56,260,239
721	<u>Accommodation</u>	\$5,672,499
722	<u>Food Services and Drinking Places</u>	\$50,587,740
81	<u>Other Services(Except Public Administration)</u>	\$51,542,643
811	<u>Repair and Maintenance</u>	\$28,937,150
812	<u>Personal and Laundry Services</u>	\$14,415,398
813	<u>Religious, Grantmaking, Civic, Professional, and Similar Organizations</u>	\$7,386,030
814	<u>Private Households</u>	\$804,065
92	<u>Public Administration</u>	\$79,009,578
921	<u>Executive, Legislative, and Other General Government Support</u>	\$63,361,286
922	<u>Justice, Public Order, and Safety Activities</u>	\$4,977,723
923	<u>Administration of Human Resource Programs</u>	\$4,458,807
924	<u>Administration of Environmental Quality Programs</u>	\$925,422
925	<u>Administration of Housing Programs, Urban Planning, and Community Development</u>	\$216,545
926	<u>Administration of Economic Programs</u>	\$4,363,503
928	<u>National Security and International Affairs</u>	\$706,292
99	<u>Unallocated</u>	N/A

Data sources: Indiana Business Research Center based on ES202 data, U.S. Bureau of Labor Statistics
 Provided by: Indiana Business Research Center, IU Kelley School of Business
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Weekly Wages

Covered Employment & Wages Data for EGR 2 , in Quarter 4 of 2004

Sort:

NAICS

NAICS	Industry	Avg Weekly Wage
00	Total	\$695.59
11	Agriculture, Forestry, Fishing and Hunting	\$640.17
111	Crop Production	\$487.84
112	Animal Production	\$768.60
113	Forestry and Logging	N/A
115	Support Activities for Agriculture and Forestry	N/A
21	Mining	N/A
212	Mining (except Oil and Gas)	N/A
213	Support Activities for Mining	N/A
22	Utilities	\$1,155.03
221	Utilities	\$1,155.03
23	Construction	\$835.22
236	Construction of Buildings	\$830.65
237	Heavy and Civil Engineering Construction	\$1,179.46
238	Specialty Trade Contractors	\$770.63
31-33	Manufacturing	\$854.52
311	Food Manufacturing	\$594.32
312	Beverage and Tobacco Product Manufacturing	N/A
313	Textile Mills	\$946.52
314	Textile Product Mills	\$484.60
315	Apparel Manufacturing	N/A
316	Leather and Allied Product Manufacturing	\$484.83
321	Wood Product Manufacturing	\$732.21
322	Paper Manufacturing	\$934.01
323	Printing and Related Support Activities	\$783.04
324	Petroleum and Coal Products Manufacturing	\$647.94
325	Chemical Manufacturing	\$1,013.61
326	Plastics and Rubber Products Manufacturing	\$657.79
327	Nonmetallic Mineral Product Manufacturing	\$909.92
331	Primary Metal Manufacturing	\$902.84
332	Fabricated Metal Product Manufacturing	\$727.81
333	Machinery Manufacturing	\$932.45
334	Computer and Electronic Product Manufacturing	\$754.57
335	Electrical Equipment, Appliance, and Component Manufacturing	\$702.43
336	Transportation Equipment Manufacturing	\$941.36
337	Furniture and Related Product Manufacturing	\$631.53
339	Miscellaneous Manufacturing	\$1,244.16
42	Wholesale Trade	\$889.39
423	Merchant Wholesalers, Durable Goods	\$909.81
424	Merchant Wholesalers, Nondurable Goods	\$835.80
425	Wholesale Electronic Markets and Agents and Brokers	\$841.90
44-45	Retail Trade	\$435.87
441	Motor Vehicle and Parts Dealers	\$759.70
442	Furniture and Home Furnishings Stores	\$524.33

443	Electronics and Appliance Stores	\$517.73
444	Building Material and Garden Equipment and Supplies Dealers	\$546.89
445	Food and Beverage Stores	\$333.15
446	Health and Personal Care Stores	\$460.32
447	Gasoline Stations	\$278.83
448	Clothing and Clothing Accessories Stores	\$277.21
451	Sporting Goods, Hobby, Book, and Music Stores	\$352.67
452	General Merchandise Stores	\$329.54
453	Miscellaneous Store Retailers	\$432.13
454	Nonstore Retailers	\$592.87
48-49	Transportation and Warehousing	\$770.92
481	Air Transportation	N/A
484	Truck Transportation	\$822.01
485	Transit and Ground Passenger Transportation	\$427.54
486	Pipeline Transportation	N/A
488	Support Activities for Transportation	\$645.16
491	Postal Service	\$983.87
492	Couriers and Messengers	\$708.95
493	Warehousing and Storage	\$629.80
51	Information	\$730.97
511	Publishing Industries (except Internet)	\$749.55
512	Motion Picture and Sound Recording Industries	\$196.18
515	Broadcasting (except Internet)	\$691.56
516	Internet Publishing and Broadcasting	N/A
517	Telecommunications	\$1,062.06
518	Internet Service Providers, Web Search Portals, and Data Processing Services	N/A
519	Other Information Services	\$361.59
52	Finance and Insurance	\$928.30
522	Credit Intermediation and Related Activities	\$769.50
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	\$2,528.99
524	Insurance Carriers and Related Activities	\$905.31
525	Funds, Trusts, and Other Financial Vehicles	\$1,301.91
53	Real Estate and Rental and Leasing	\$565.70
531	Real Estate	\$663.94
532	Rental and Leasing Services	N/A
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	N/A
54	Professional, Scientific, and Technical Services	\$860.13
541	Professional, Scientific, and Technical Services	\$860.13
55	Management of Companies and Enterprises	\$1,437.67
551	Management of Companies and Enterprises	\$1,437.67
56	Administrative and Support and Waste Management and Remediation Services	\$382.78
561	Administrative and Support Services	\$364.62
562	Waste Management and Remediation Services	\$798.62
61	Educational Services	\$603.85
611	Educational Services	\$603.85
62	Health Care and Social Services	\$748.20
621	Ambulatory Health Care Services	\$1,096.98
622	Hospitals	\$745.21
623	Nursing and Residential Care Facilities	\$439.93
624	Social Assistance	\$386.00
71	Arts, Entertainment, and Recreation	\$269.62
711	Performing Arts, Spectator Sports, and Related Industries	\$275.96

712	Museums, Historical Sites, and Similar Institutions	\$312.90
713	Amusement, Gambling, and Recreation Industries	\$265.40
72	Accommodation and Food Services	\$215.23
721	Accommodation	\$255.47
722	Food Services and Drinking Places	\$211.50
81	Other Services(Except Public Administration)	\$487.44
811	Repair and Maintenance	\$672.28
812	Personal and Laundry Services	\$400.17
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	\$304.64
814	Private Households	\$330.75
92	Public Administration	\$659.04
921	Executive, Legislative, and Other General Government Support	\$652.21
922	Justice, Public Order, and Safety Activities	\$947.78
923	Administration of Human Resource Programs	\$587.30
924	Administration of Environmental Quality Programs	\$560.52
925	Administration of Housing Programs, Urban Planning, and Community Development	\$616.94
926	Administration of Economic Programs	\$617.01
928	National Security and International Affairs	\$862.38
99	Unallocated	N/A

Data sources: Indiana Business Research Center based on ES202 data, U.S. Bureau of Labor Statistics
 Provided by: Indiana Business Research Center, IU Kelley School of Business
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Value-added Dollars, top 10 Sectors

NAICS	Industry	Total Value Add	Value Add Per Employee
327	Nonmetallic Mineral Product Manufacturing	74,059,000	\$55,351
332	Fabricated Metal Product Manufacturing	869,821,000	\$65,228
336	Transportation Equipment Manufacturing	1,545,387,000	\$73,818
339	Miscellaneous Manufacturing	786,410,000	\$94,023
423	Merchant Wholesalers, Durable Goods	1,262,937,000	\$83,340
551	Management of Companies and Enterprises	191,819,000	\$101,384
561	Administrative and Support Services	425,584,000	\$30,421
611	Educational Services	349,824,000	\$28,809
621	Ambulatory Health Care Services	653,167,000	\$59,819
622	Hospitals	406,476,000	\$38,686

Source: I INPLAN

Job Growth Over Time – Shift Share

Covered Employment & Wages Data for EGR 2, in 2004

Shift Share base year is 1994.

Shift share components may not sum to change for 'Total' due to non-disclosure requirements.

Sort:

NAICS
▼

NAICS	Industry	Jobs	Jobs Change	Jobs National Growth	Jobs Industry Mix	Jobs Regional Shift
00	Total	306,642	17,902	43,083	-20,746	-4,065
11	Agriculture, Forestry, Fishing and Hunting	1,101	-165	189	-171	-183
111	Crop Production	543	-193	110	-116	-186
112	Animal Production	520	66	68	51	-53
113	Forestry and Logging	N/A	N/A	N/A	N/A	N/A
115	Support Activities for Agriculture and Forestry	N/A	N/A	N/A	N/A	N/A
21	Mining	105	15	13	-21	23
212	Mining (except Oil and Gas)	N/A	N/A	N/A	N/A	N/A
213	Support Activities for Mining	N/A	N/A	N/A	N/A	N/A
22	Utilities	581	-296	131	-252	-175
221	Utilities	581	-296	131	-252	-175
23	Construction	12,792	992	1,761	2,910	-3,679
236	Construction of Buildings	3,457	-182	543	615	-1,340
237	Heavy and Civil Engineering Construction	1,435	332	165	5	163
238	Specialty Trade Contractors	7,900	842	1,053	2,291	-2,502
31-33	Manufacturing	105,372	1,801	15,454	-32,059	18,406
311	Food Manufacturing	3,398	57	499	-578	136
312	Beverage and Tobacco Product Manufacturing	N/A	N/A	N/A	N/A	N/A
313	Textile Mills	189	69	18	-78	129
314	Textile Product Mills	817	-72	133	-325	120
315	Apparel Manufacturing	N/A	N/A	N/A	N/A	N/A
316	Leather and Allied Product Manufacturing	145	-370	77	-395	-52
321	Wood Product Manufacturing	7,895	-80	1,190	-1,333	63
322	Paper Manufacturing	1,417	125	193	-491	424
323	Printing and Related Support Activities	2,873	-177	455	-1,044	412
324	Petroleum and Coal Products Manufacturing	244	168	11	-24	181
325	Chemical Manufacturing	2,064	-1,391	516	-901	-1,005
326	Plastics and Rubber Products Manufacturing	10,129	-1,855	1,788	-2,474	-1,169
327	Nonmetallic Mineral Product Manufacturing	1,249	-14	188	-204	2
331	Primary Metal Manufacturing	4,012	-413	660	-1,702	629
332	Fabricated Metal Product Manufacturing	12,435	372	1,800	-2,419	991
333	Machinery Manufacturing	3,748	-625	652	-1,384	107
334	Computer and Electronic Product Manufacturing	2,147	-1,128	489	-1,138	-479
335	Electrical Equipment, Appliance, and Component Manufacturing	1,392	-1,137	377	-972	-542
336	Transportation Equipment Manufacturing	38,573	6,632	4,766	-8,167	10,033
337	Furniture and Related Product Manufacturing	4,680	-190	727	-1,183	267
339	Miscellaneous Manufacturing	7,937	2,331	836	-1,319	2,813
42	Wholesale Trade	13,651	1,257	1,849	-288	-305
423	Merchant Wholesalers, Durable Goods	9,824	1,852	1,189	10	653
424	Merchant Wholesalers, Nondurable Goods	3,191	-19	479	-35	-463
425	Wholesale Electronic Markets and Agents and Brokers	636	-576	181	-174	-582
44-45	Retail Trade	30,771	-468	4,661	-1,021	-4,108

441	Motor Vehicle and Parts Dealers	4,218	-36	635	183	-854
442	Furniture and Home Furnishings Stores	859	38	123	102	-187
443	Electronics and Appliance Stores	869	101	115	57	-71
444	Building Material and Garden Equipment and Supplies Dealers	3,215	278	438	445	-605
445	Food and Beverage Stores	4,954	-1,253	926	-813	-1,366
446	Health and Personal Care Stores	1,747	-248	298	70	-616
447	Gasoline Stations	1,862	323	230	-233	327
448	Clothing and Clothing Accessories Stores	1,315	-465	266	-141	-590
451	Sporting Goods, Hobby, Book, and Music Stores	1,178	32	171	-49	-90
452	General Merchandise Stores	7,884	946	1,035	-154	64
453	Miscellaneous Store Retailers	2,035	50	296	-7	-239
454	Nonstore Retailers	635	-234	130	-170	-194
48-49	Transportation and Warehousing	7,456	-937	1,252	-280	-1,910
481	Air Transportation	N/A	N/A	N/A	N/A	N/A
484	Truck Transportation	2,929	-1,754	699	-101	-2,352
485	Transit and Ground Passenger Transportation	518	88	64	28	-4
486	Pipeline Transportation	N/A	N/A	N/A	N/A	N/A
488	Support Activities for Transportation	662	-155	122	96	-373
491	Postal Service	1,277	-23	194	-249	33
492	Couriers and Messengers	995	146	127	-28	47
493	Warehousing and Storage	587	449	21	19	410
51	Information	4,723	186	677	-127	-364
511	Publishing Industries (except Internet)	1,399	-127	228	-172	-183
512	Motion Picture and Sound Recording Industries	384	129	38	10	81
515	Broadcasting (except Internet)	593	-13	90	-12	-92
516	Internet Publishing and Broadcasting	N/A	N/A	N/A	N/A	N/A
517	Telecommunications	1,229	-128	202	-86	-244
518	Internet Service Providers, Web Search Portals, and Data Processing Services	N/A	N/A	N/A	N/A	N/A
519	Other Information Services	789	175	92	51	32
52	Finance and Insurance	7,861	-796	1,292	56	-2,143
522	Credit Intermediation and Related Activities	4,534	-926	815	160	-1,901
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	467	177	43	56	78
524	Insurance Carriers and Related Activities	2,818	-74	432	-160	-346
525	Funds, Trusts, and Other Financial Vehicles	42	27	2	-1	26
53	Real Estate and Rental and Leasing	3,537	316	481	60	-225
531	Real Estate	2,084	45	304	63	-322
532	Rental and Leasing Services	N/A	N/A	N/A	N/A	N/A
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	N/A	N/A	N/A	N/A	N/A
54	Professional, Scientific, and Technical Services	7,198	-811	1,195	1,313	-3,319
541	Professional, Scientific, and Technical Services	7,198	-811	1,195	1,313	-3,319
55	Management of Companies and Enterprises	2,135	638	223	-41	456
551	Management of Companies and Enterprises	2,135	638	223	-41	456
56	Administrative and Support and Waste Management and Remediation Services	12,374	2,974	1,403	2,560	-989
561	Administrative and Support Services	11,774	2,825	1,335	2,574	-1,085
562	Waste Management and Remediation Services	600	149	67	-14	96
61	Educational Services	26,831	6,380	3,051	2,271	1,058
611	Educational Services	26,831	6,380	3,051	2,271	1,058
62	Health Care and Social Services	30,191	5,021	3,756	2,438	-1,173
621	Ambulatory Health Care Services	9,636	1,842	1,163	1,499	-820

622	Hospitals	10,295	1,806	1,267	-205	745
623	Nursing and Residential Care Facilities	6,140	-369	971	475	-1,815
624	Social Assistance	4,120	1,742	355	670	717
71	Arts, Entertainment, and Recreation	2,318	396	287	331	-222
711	Performing Arts, Spectator Sports, and Related Industries	374	-17	58	-63	-12
712	Museums, Historical Sites, and Similar Institutions	126	27	15	4	9
713	Amusement, Gambling, and Recreation Industries	1,818	386	214	391	-218
72	Accommodation and Food Services	20,082	520	2,919	1,881	-4,280
721	Accommodation	1,745	-139	281	-36	-385
722	Food Services and Drinking Places	18,337	659	2,638	1,917	-3,896
81	Other Services(Except Public Administration)	8,216	-266	1,266	18	-1,550
811	Repair and Maintenance	3,313	136	474	-95	-243
812	Personal and Laundry Services	2,786	-100	431	-83	-447
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	1,921	-184	314	90	-588
814	Private Households	196	-118	47	106	-271
92	Public Administration	9,345	1,466	1,176	-325	615
921	Executive, Legislative, and Other General Government Support	7,589	1,044	977	-242	310
922	Justice, Public Order, and Safety Activities	401	104	44	42	18
923	Administration of Human Resource Programs	587	99	73	-70	96
924	Administration of Environmental Quality Programs	132	25	16	-11	20
925	Administration of Housing Programs, Urban Planning, and Community Development	28	9	3	-6	13
926	Administration of Economic Programs	547	130	62	-34	102
928	National Security and International Affairs	61	55	1	-2	57
99	Unallocated	2	-321	48	N/A	N/A

N/A = This item is not available. This is due to non-disclosure requirements, or because a calculation could not be created.

Data sources: Indiana Business Research Center based on ES202 data, U.S. Bureau of Labor Statistics
 Provided by: Indiana Business Research Center, IU Kelley School of Business
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Analyses of Supplied Data

This data enabled us to begin the process of selecting the NIACS sectors that not only are most critical for our Region, but also warrant the attention of the Strategic Skills Initiative. One preliminary task was to compare sectors among the counties that make up our Region:

Region 2: Fulton, Marshall, Kosciusko, Elkhart, and St. Joseph Counties

County:	Total Emp	Sector (NAICS)	Sector Employment	% of total
Fulton	6159	31-33 Manufacturing	2227	36%
Fulton		44-45 Retail Trade	746	12%
Fulton		62 Health Care	703	11.40%
Fulton		61 Education	539	8.80%
Fulton		72 Accommodation/Food	536	8.70%
Marshall	17968	31-33 Manufacturing	6751	37.60%
Marshall		61 Education	2230	12.40%
Marshall		44-45 Retail Trade	1653	9.20%
Marshall		72 Accommodation/Food	1438	8%
Marshall		62 Health Care	1351	7.50%
Kosciusko	31288	31-33 Manufacturing	13724	43%
Kosciusko		44-45 Retail Trade	3194	10.20%
Kosciusko		61 Education	2582	8.30%
Kosciusko		62 Health Care	2023	6.50%
Kosciusko		72 Accommodation/Food	1976	6.30%
Kosciusko		92 Public Admin	1068	3.40%
Elkhart	114785	31-33 Manufacturing	57662	50.20%
Elkhart		62 Health Care	8731	7.60%
Elkhart		44-45 Retail Trade	8473	7.40%
Elkhart		42 Wholesale Trade	6016	5.20%
Elkhart		61 Education	6009	5.20%
Elkhart		72 Accommodation/Food	5735	5%
St. Joseph	126105	31-33 Manufacturing	17832	14.10%
St. Joseph		62 Health Care	17802	14.10%
St. Joseph		61 Education	17417	13.80%
St. Joseph		44-45 Retail Trade	15730	12.50%
St. Joseph		72 Accommodation/Food	9249	7.30%

It appeared at this point that two sectors seemed more amenable to analysis, and to improvement in skills shortages, than others. They were NIACS 31-33 Manufacturing and NIACS 62 Health Care. We had to decide whether to address all manufacturing sectors, or just a few, so we began to determine the relative importance to our Region of each subsector by considering the growth in the number of subsector jobs, and the share of the sector's employment found in the particular subsectors:

Northern Indiana Workforce Investment Board
13-Sep-05

Question: Which industries have experienced the most growth in employment, 4Q 2001 - 4Q 2004

		Base Year employer	Current Yr. Employment	% growth
31-33	Manufacturing			
	336 Transportation Equipment Mfg.	28955	38795	6.34
	332 Fabricated Metal Product Mfg.	11330	12387	9.3
	326 Plastics and Rubber Products	9939	10181	2.4
	339 Miscellaneous mfg.	7664	8020	4.6
	321 Wood Products	8328	8010	-3.9
	337 Furniture and Related Products	4150	4549	9.6
	331 Primary Metal Manufacturing	4347	4051	-6.9
	333 Machinery Manufacturing	4064	3799	-6.6
	311 Food Manufacturing	3137	3483	11
	323 Printing and Related Support Activities	2837	2817	-0.08
	334 Computer and Electronic Product Mfg.	2435	2148	-11.8
	325 Chemical Manufacturing	2302	2008	-12.8
	322 Paper Manufacturing	1521	1390	-8.7
	335 Elec. Equip., Appliance and Component M	1919	1341	-30.2
	327 Nonmetallic Mineral Product Mfg.	1380	1182	-14.4
62	Health Care and Social Services			
	622 Hospitals	9956	10422	4.6
	621 Ambulatory Health Care	9070	9781	7.8
	623 Nursing and Residential Care	6514	6168	-5.4
	624 Social Assistance	3574	4083	14.2

And,

Northern Indiana Workforce Investment Board
13-Sep-05

Next Question: What are the respective employment shares of the selected industries?

	Manufacturing Sector	Share, %
31-33		
336	Transportation Equipment Mfg	36.7
332	Fabricated Metal Product Mfg.	11.7
326	Plastics and Rubber Product Mfg.	9.6
339	Miscellaneous Mfg.	7.6
321	Wood Product Mfg.	7.6
337	Furniture and Related Product Mfg.	4.3
331	Primary Metal Manufacturing	3.8
333	Machinery Manufacturing	3.6
	Food	
311	Manufacturing	3.3
323	Printing and Related Support Activities	2.7
334	Computer and Electronic Product Mfg.	2
325	Chemical Manufacturing	1.9
	Paper	
322	Manufacturing	1.3
335	Elec. Equip., Appliance, and Component Mfg	1.3
327	Nonmetallic Mineral Product Mfg.	1.1
62	Health Care and Social Services	
622	Hospitals	34.2
621	Ambulatory Health Care	32.1
623	Nursing and Residential Care Facilities	20.3
624	Social Assistance	13.4

To further analyze our options, and to gather data that would justify our Strategic Occupational Sectors, the following web sites were mined for relevant data:

www.stats.indiana.edu

www.stats.indiana.edu/ssi

www.directoriesusa.com

www.bls.gov/emp/home.htm

www.census.gov

www.census.gov/statab/www (Statistical Abstract of the US)

<http://lehd.dsd.census.gov/led/>

www.census.gov/cir/www/alpha.html

www.census.gov/indicator/www/m3

www.hoovers.com

www.in.gov/dwd/inews/lmi.asp

As a result of these investigations, the Strategic Occupational Sectors noted in the body of the report were targeted. The targeted subsectors consisted of two clusters of industries. They are (as indicated in Table 1 of the report, reprinted below):

NIACS Code	Title
336	Transportation Equipment Manufacturing
3391	Miscellaneous Manufacturing – Medical Equipment
332	Fabricated Metal Products
326	Plastics and Rubber Products
333	Machinery Manufacturing
621	Ambulatory Health Care
622	Hospitals

Northern Indiana Workforce Investment Board
Strategic Skills Initiative
Strategic Occupational Sectors (SOS)
Quantitative Priorities for EGR2
(Data is 2004 Annual Average, except where noted)

Strategic Occupational Sectors (SOS) EGR2

	Jobs	Rank	LQ ¹	Total Wages, Q4 '04			Total Value Added		Job Growth			Shift Share ²			Cum Score	Overall Ranking	Clust Rank
				1,000s	Rank	Weekly \$	Rank	(in thousands)	Rank	1994-2004	Rank	Nat'l	Indu	Reg			
31-33 Manufacturing			US														
336 Transportation Equip.	38573	1	9.04	\$474,763	1	\$941.36	13	1,545,387	1	6632	1	4766	-8167	10033	17	1	
3391 Miscellaneous Mfg. - Medical	7937	11	5.14	129,716	4	1244.16	4	786,410	4	2331	4	836	-1319	2813	27	2	
332 Fabricated Metal Products	12435	5	3.47	117,200	5	727.81	36	869,821	3	372	16	1800	-2419	991	65	6	
326 Plastics and Rubber Products	10129	7	5.33	87,061	8	657.79	42	423,101	8	-1855	81	1788	-2474	-1169	146	13	
333 Machinery Manufacturing	3748	23	1.4	46,051	16	932.45	15	234,988	11	-625	73	652	-1384	107	138	12	
Health Care																	
621 Ambulatory Health Care Svcs.	9636	9	0.81	139,485	3	1096.98	7	653,167	5	1842	6	1163	1499	-820	54	4	
622 Hospitals	10295	6	0.8	100,965	7	745.21	34	406,476	9	1806	7	1267	-205	745	63	5	
For Comparison:																	
334 Computer and Electronic Mfg.	2147	34	0.69	21,071	34	754.57	32	87,786	15	-1128	76	489	-1138	-479	191	15	
423 Merchant Wholesalers, durable	9824	8	1.4	116,690	6	909.81	17	1,262,937	2	1852	5	1189	10	653	38	3	
452 General Mdse. Sales	7884	10	1.13	35,424	22	329.54	72			946	10	1035	-154	64	>129	11	
611 Educational Services	26831	2	1.02	228,665	2	604	50	349,824	10	6380	2	3,051	2,271	1,058	68	7	
722 Food Services and Drinking Place	18337	3	0.87	50,588	14	212	80			659	12	2638	1917	-3896	>109	9	
561 Administrative and Support ³	11774	4	0.74	65,138	12	365	67			2825	3	1335	2574	-1085	>86	8	
321 Wood Products Mfg.	7,895	12	6.08	76,245	11	732	35	442,126	6	-80	53	1,190	-1,333	63	181	14	
541 Professional, Scientific and Technical Services ⁴	7,198	15	0.43	78,999	10	860	21			-811	74	1195	1313	-3319	>120	10	

¹LQ - Location Quotient. A measure of an industry's concentration in a region compared with its concentration in the US as a whole. An LQ of 0.8-1.2 is not considered to be a significant deviation from 1.0.

²Shift Share Analysis - a measure of the change in the number of jobs relative to the general national economy ("natl"), the particular industry in the rest of the country ("indu"), and the specific region ("reg"). The larger the number in the "reg" column, the faster that industry has grown relative to national trends.

³Administrative and Support NAICS includes establishments performing functions for other firms, such as security, phone answering, temp placement, collections, etc.

⁴Professional, Scientific, and Technical Services NAICS includes lawyers, accountants, consultants, and other highly-educated advisory or consulting persons.

Total n = 81 NAICS codes
sources: www.stats.indiana.edu/ssi
INPLAN

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Analysis of Strategic Occupational Sectors

Once the target sectors had been identified, an analysis of the number of workers in each NAICS Code industry found in the EGR-2 counties was made.

Northern Indiana Workforce Investment Board Strategic Skills Initiative

EGR 2 Employment, By County and NAICS Code

	NAICS codes:						
	326 Plastics	332 Fab Metals	333 Machinery	336 Trans Equip.	339 Misc. Mfg.	621 Amb, Care	622 Hospitals
Fulton County							
number of jobs	184	904	223	61	n/a	177	n/a
% of EGR2 sector	1.80%	7.30%	5.80%	0.02%	0.02%	1.80%	
Marshall County							
number of jobs	1861	1212	158	445	452	307	584
% of EGR2 sector	18.20%	9.70%	4.10%	1.10%	5.60%	3.10%	6.20%
Kosciusko County							
number of jobs	1040	862	1015	1642	5402	711	n/a
% of EGR2 sector	10.20%	6.90%	26.70%	4.20%	67.30%	7.30%	
Elkhart County							
number of jobs	4877	6833	1401	30669	1313	2954	3051
% of EGR2 sector	47.90%	55.10%	36.90%	79.10%	16.30%	30.20%	32.60%
St. Joseph County							
number of jobs	2219	2576	1002	5978	852	5632	5711
% of EGR2 sector	21.80%	20.70%	26.40%	15.40%	10.60%	57.60%	61.10%
Total Jobs per Sector	10181	12387	3799	38795	8019	9781	9346

Knowing the number of workers found in each subsector in each county, however, does not tell us what occupations those workers are in, or whether there are shortages in those occupations. Following the directions in the SSI Handbook, we began to identify occupations that warrant consideration. The primary criterion we used was whether a shortage of workers in the occupation, or a shortage of skills held by workers in the occupation, would create bottlenecks limiting the throughput of products or services generated by the subsector.

Determining the Strategic Occupations in Each Subsector

General Methodology

Initially, the process of drilling down to strategic occupations began with the job listings (JIC Report) from our partners at WorkOne.

Using the spreadsheets supplied by www.stats.indiana.edu/ssi, we continued the drilling process by establishing staffing patterns in each industry subsector. By sorting data on the variable “percent base year is of industry,” we obtained a measure of the numerical significance of the occupation to the subsector, but that does not warrant identification of that occupation as “critical,” unless shortages thereof cause bottlenecks in the production process. Click on these boxes to call spreadsheets:

EGR-2 Estimates, Wages www.stats.indiana.edu/ssi/occupations/egr2estimates.xls

EGR-2 Projections, Growth www.stats.indiana.edu/ssi/occupations/egr2projections.xls

Therefore, we selected six variables, in addition to staffing patterns:

1. Anticipated demand for workers in the occupation between 2002-2012, when both growth and attrition are accounted for.
2. The wage structure of the occupation, including entry-level wages, mean wages, wages for experienced workers, and wages at the 10th, 50th, and 90th deciles.
3. Whether the particular occupation is found across two or more of the identified subsectors.
4. The interrelationships between that occupation and others within its category.
5. The educational level necessary to successfully engage in the occupation.

6. Focus group participants' feedback as to their perceptions of their own workforce difficulties.

The first three of these variables could be analyzed using data supplied by the SSI web site, namely the series of spread sheets linked above, developed by Indiana University's Kelly School of Business, that presented a huge organization of data for our use. In addition, material was supplied by the Indiana Department of Workforce Development, from which we made a preliminary cut of non-critical occupations (using our standards).

One result is as follows:

Document prepared by Research and Analysis Department
 Indiana Workforce Development Agency
 Release Date: July, 2005
 Questions may be referred to: 317-232-7718
 Visit the R&A web site at: www.in.gov/dwd/inews
 All data rounded to nearest 10, Occupations with less than 20 excluded

LONG-TERM INDIANA OCCUPATIONAL PROJECTIONS
BASE PERIOD: 2002
PROJECTED PERIOD: 2012
AREA: Economic Growth Region 02

Code	Occupational Title	2002	2012	Total	Percent	Total Replacements ¹	Total	2004	Education Requirement ³	
		Employment	Projection	Growth	Change		Openings	Annual Wage ²		
Health Care Cluster										
29-1111	Registered Nurses	4,040	5,240	1,200	30%	850	2,040	\$47,595	Associate degree	
29-2034	Radiologic Technologists and Technicians	390	460	70	18%	70	150	\$40,871	Associate degree	
29-2071	Medical Records and Health Information Technicians	500	730	230	46%	70	300	\$25,257	Associate degree	
31-9092	Medical Assistants	620	860	240	39%	110	360	\$23,490	Moderate-term on-the-job training	
29-1126	Respiratory Therapists	180	260	80	44%	60	130	\$41,607	Associate degree	
29-2054	Respiratory Therapy Technicians	60	80	20	33%	10	30	NA	Postsecondary vocational training	
29-2055	Surgical Technologists	230	300	70	30%	30	110	\$35,763	Postsecondary vocational training	
Advanced Industry Cluster										
51-1011	First-Line Supervisors/Managers of Production and Operating	4,740	5,430	690	15%	990	1,680	\$46,447	Work experience in a related occup	
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and	3,280	3,600	320	10%	760	1,080	\$30,268	Moderate-term on-the-job training	
49-9042	Maintenance and Repair Workers, General	3,700	4,240	540	15%	710	1,250	\$32,039	Long-term on-the-job training	
51-4121	Welders, Cutters, Solderers, and Brazers	2,300	2,800	500	22%	650	1,150	\$31,968	Postsecondary vocational training	
53-3032	Truck Drivers, Heavy and Tractor-Trailer	5,030	5,350	320	6%	820	1,150	\$31,993	Moderate-term on-the-job training	
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	2,400	2,660	260	11%	550	810	\$29,155	Moderate-term on-the-job training	
51-4041	Machinists	2,020	2,110	90	4%	470	560	\$31,585	Long-term on-the-job training	
51-9122	Painters, Transportation Equipment	680	890	210	31%	180	390	\$29,177	Moderate-term on-the-job training	
17-3013	Mechanical Drafters	450	500	50	11%	130	180	\$38,258	Postsecondary vocational training	
17-3023	Electrical and Electronic Engineering Technicians	370	420	50	14%	80	130	\$38,951	Associate degree	
17-3026	Industrial Engineering Technicians	220	240	20	9%	50	70	\$38,212	Associate degree	
17-2071	Electrical Engineers	430	510	80	19%	80	160	NA	Bachelor's degree	

- 1) Replacements are "Net replacement" openings. Net replacement openings estimate the difference between the movement of experienced workers who change jobs to enter other occupations, retire, or leave the workforce for other reasons and the movement of experienced workers filling the openings. The openings that remain unfilled by experienced workers are net replacement openings, available to new workforce entrant. In most occupations, net replacement openings significantly understate the total number of job openings because net replacement openings measure the difference between the number of workers in the workforce who leave an occupation and the number who enter the occupation.
- 2) 2004 Annual Wage is the regional average wage for the occupation from the Occupational Employment Statistics program, conducted by the Indiana Department of Workforce Development for the national Bureau of Labor Statistics
- 3) Occupations are classified into 1 of 11 categories by the Bureau of Labor Statistics based on analyses of the occupation's usual education and training requirements. The 11 classifications are as follows:
 - First professional degree. Completion of the academic program usually requires at least 6 years of full-time equivalent academic study, including college study prior to entering the professional degree program.
 - Doctoral degree. Completion of the degree program usually requires at least 3 years of full-time equivalent academic work beyond the bachelor's degree.
 - Master's degree. Completion of the degree program usually requires 1 or 2 years of full-time equivalent study beyond the bachelor's degree.
 - Work experience, plus a bachelor's or higher degree. Most occupations in this category are managerial occupations that require experience in a related nonmanagerial position.
 - Bachelor's degree. Completion of the degree program generally requires at least 4 years but not more than 5 years of full-time equivalent academic work.
 - Associate degree. Completion of the degree program usually requires at least 2 years of full-time equivalent academic study.
 - Postsecondary vocational training. Some programs last only a few weeks while others may last more than a year. In some occupations, a license is needed that requires passing an examination after completion of the training.
 - Work experience in a related occupation. Some occupations requiring work experience are supervisory or managerial occupations.
 - Long-term on-the-job training. This category includes occupations that generally require more than 12 months of on-the-job training or combined work experience and formal classroom instruction for workers to develop the skills needed for average job performance. This category includes formal and informal apprenticeships that may last up to 4 years and short-term intensive employer-sponsored training that workers must successfully complete. Individuals undergoing training are generally considered to be employed in the occupation. This category includes occupations in which workers may gain experience in non-work activities, such as professional athletes who gain experience through participation in athletic programs in academic institutions.
 - Moderate-term on-the-job training. This category includes occupations in which workers can develop the skills needed for average job performance after 1 to 12 months of combined on-the-job experience and informal training.
 - Short-term on-the-job training. This category covers occupations in which workers can develop the skills needed for average job performance after a short demonstration or up to one month of on-the-job experience or instruction.

Determining the Demand for Target Occupations

At this point we had some idea of the growth patterns of several occupations, although we realized that percentages could be dubious, because small changes in an occupation with low numbers might result in large percent-change figures. That would be no problem if other data indicated the strategic importance of the occupation, but percent change was treated cautiously.

We know the current demand, by looking at the job openings, as noted above. We also know approximately what the demand would be over the next several years, from the SSI spreadsheets. What remained was for the members of our focus groups to indicate whether these data reflected their realities. After ongoing analysis of both quantitative and qualitative data, it became clear that our EGR exhibited several occupations that were related to each other in a type of ladder arrangement, and that at least one rung of each ladder not only appeared in short supply, but also required skills that were in even shorter supply. We also noted a limited number of occupations that were unrelated to any others, but seemed quite important to the subsectors in which they are found. Click on these boxes to call data, attached below.

EGR-2 Critical Occupation Ladders, Industrial Cluster

EGR-2 Health Care Occupation Analyses

To deal with all of these occupations and their interrelationships would have been much too complicated, so we continued to evaluate the data in order to reduce the number of occupations we would target. Our focus groups became critical at this point, and they significantly aided our determination of the particular occupations we would consider.

Combining the quantitative analyses with the qualitative material gathered in the field, we were able to narrow our target occupations to a few that seemed, by both data and opinion, to be especially critical, according to our definition. We wanted to ensure we would be considering those occupations and skills, the lack of which would create production bottlenecks or otherwise increase employers' costs in ways that could be ameliorated.

Examination of the JIC Job Openings report had yielded the following:

Northern Indiana Workforce Investment Board
Strategic Skills Initiative
Job Shortage Analysis, October 1, 2005

SOC Code	Job Title	Current Openings	Anticipated Openings 12/31/2005	Annual Openings 2002-12
51-1011	Front-line Supervisor, Production	9	10	170
51-4031	Cutting, Punch, Press Ops	17	15	110
51-4011	Computer-controlled Machine Tool Oper.	20	20	40
49-9042	Maintenance and Repair Workers, General			
	listing category: Maintenance Mechanics	17	15	130
41-4121	Welders, Cutters, Solderers, Brazers	11	10	120
53-3032	Truck Drivers - Heavy Duty	21	20	120
51-9061	Inspectors, Testers, Sorters, Samplers	0	3	80
50-4041	Machinists	3	5	60
51-9122	Painters, Transportation Equipment	3	2	40
17-3013	Mechanical Drafters	0	0	20
17-3023	Electrical and Electronic Technicians	0	0	10
17-3026	Industrial Engineering Technicians	1	1	10

Combining these data with those from the sources listed above, we evolved a set of critical occupations for the Industrial Cluster, and a set of similar needs for the Health Care Cluster. Each set consisted of two levels of concern, a “first tier” of occupations that required immediate and concerted effort, and a “second tier” that required consideration but somewhat less timely effort. The final selections follow:

Critical Occupations, Industrial Cluster

Critical Occupations, Health Care Cluster

These worksheets include SSI estimates of annual openings for that SOC in all sectors, and our estimates of annual openings in the specific sectors we targeted earlier in the process. Together, they signify the current and anticipated demand for skilled workers in those occupations. Both the University Research Team and the SSI Consortium approved these deliverables.

Assignment of Job Descriptions to Selected Occupations

Determining accurate job descriptions capable of generating agreement with members of our focus groups was not easy. No matter how detailed the description, real world practices often include duties not mentioned in the formal description, and frequently dismiss duties noted in the description. We examined job descriptions found on the O*Net web site and those found at <http://lmi.state.oh.us/PROJ/SocOccCodes.htm> and tended to use the latter in discussions because of their brevity. For the purposes of our report, however, material from a variety of sources, especially <http://online.onetcenter.org> was utilized.

Determining of Skills and Skill Sets Related to Occupational Shortages

The definition of “skill set” has a long a varied history, so much so that it is difficult to reach consensus about just what is included in the definition of the term. In 1990, Laress Wise, et.al., analyzed 12 different approaches that had been used to create and apply the notion of “necessary skills.” (Laress Wise, Wei Jing Chia, Lawrence M. Rudner, *Identifying Necessary Job Skills: A Review of Previous Approaches*, published by Pelavin Associates, Inc., 2030 M Street, N.W., Suite 800, Washington D.C. 20036 at the request of the Secretary of Labor) Similarly, the state of Ohio Office of Workforce Development has adapted an amalgam of WorkKeys and O*Net concepts into a listing of necessary skills by Strategic Occupational Category.

<http://lmi.state.oh.us/PROJ/SocOccCodes.htm>

The Oregon Department of Education, moreover, has gone a step further and produced a quantifiable set of performance standards for every occupational category: www.ode.state.or.us/search/results/?id=271

Peter de Jager has argued for more consideration of “soft skills” as a strategy of improving work performance: www.technobility.com/docs/article023.htm And Lawrence K. Jones has recently proposed a set of “Foundation Skills” necessary for all workers in the 21st Century: www.careerkey.org/english/

The Strategic Skills Initiative Handbook encouraged the standardized use of O*Net skill descriptors, and thus our report reflects these sets: <http://online.onetcenter.org>

For the purpose of dialogue, as we explored the skill sets appropriate to the occupations we targeted, we developed a working model of skills and their applications across SOCs before we elected to use the O*Net listings.

This chart has helped us understand the relationships between occupations and skills sets. Selected Occupations Skills Sets

Once we were satisfied that we had selected occupations consistent with actual employer concerns and bottlenecks, that we had an accurate sense of the ongoing need for skilled workers in those occupations, and that we knew the skills necessary for the workers to perform successfully and profitably, we then turned to the study of supply-side data.

Determining the Supply of Critical Workers

The target occupations are:

Industrial Cluster

51-4121 Welders, Cutters, Solderers, Brazers
51-1011 First-Line Supervisors, Production
51-9122 Painters, Transportation Equipment
51-4011 CNC Operators

Health Care Cluster

31-9092 Medical Assistants
29-1111 Registered Nurses
29-1126 Respiratory Therapists
29-2071 Medical Records Techs

EGR-2 currently has programs in various localities designed to train welders, CNC operators, medical assistants, registered nurses, and medical records technicians. There are no regional programs for the training of transportation equipment painters, factory supervisors, or respiratory therapists. Therefore, for the former set of occupations, we ascertained supply by examining graduation records of regional institutions and patterns of regional in- and out-migration. For the latter group of occupations, we were forced to speculate as to the supply of workers through employer interviews, focus groups, industry staffing patterns, and the results of the ERISS survey, which were provided to us by the SSI team.

Enrollment and graduation data were provided to us by three regional institutions: One or more of these institutions produce graduates in the fields of: welding, CNC operation, medical assistants, and registered nurses.

IVY Tech Community College: Indiana University South Bend

Elkhart Area Career Center

Other Regional institutions that produce graduates in the occupations we targeted are:

Registered Nurses:	Medical Assistants:	Health Records Techs:
Ancilla College	Davenport College	Davenport College
Goshen College	Brown-Mackie College	Brown-Mackie College
St. Mary's College		
Bethel College		

Each of these institutions was contacted by telephone to solicit data concerning enrollment and graduation rates. Of particular significance, relative to the demand determined earlier in the process, is the graduation rate of registered nurses:

Northern Indiana Workforce Investment Board
Strategic Skills Initiative
Registered Nurse Supply, by Program

2005 Program Enrollments and Graduating Class sizes

School	Degree	2005 Enrollment	2005 Graduation		
Ancilla College	ASN	75	30		
Bethel College	ADNurs.	68	50		
	BSN	113	28		
(includes Bethel College programs at both Hope College and Lakeland Regional, St. Joseph, MI)					
Goshen College	BSN	75	19		
IUSB	BSN	189	75	Anticipated	Anticipated
Saint Mary's	BSN	90	28	Annual	Annual
Ivy Tech Com. Coll.	ASN		47	Need	Shortage
			277	450	173

Difficulties Interpreting Supply-Side Data

While graduation rates are good markers of potential supply, the same accuracy cannot be found when determining the supply of first-line supervisors of production workers, transportation equipment painters, and respiratory therapists.

First-line supervisors, as noted in our report, are most usually employees who are promoted from within, often former line workers who become particularly adept at their line function. However, that skill does not necessarily translate into supervisory success. The additional skills necessary for effective leadership (cf. discussions of skill sets, both in the report and above) may not be present. They can be taught, perhaps, and programs are beginning to be developed to teach such skills. Few graduates of any such program are located in EGR-2, however, so our estimates of the supply of these workers are based on industry interviews, focus groups, and the experiences of the NIWIB staff in the field.

Similarly, transportation equipment painters are almost always home-grown and enter that occupation through factory-based on-the-job training. There are no institutional training programs for that set of skills, although DuPont Corporation does have a fairly new certification program for the occupation, which may result in the development of formal training programs at some point in the future.

There are no programs producing respiratory therapists in our Region. The nearest programs are in Gary (IU Northwest) and Fort Wayne (IU-PU Fort Wayne). There is little chance that graduates of those programs will migrate to EGR-2, given the need and salaries of RTs in those cities.

Migration Patterns and Their Effect on EGR-2 Worker Supply

Data (in the form of annotated maps) supplied by the SSI Handbook provided global numbers of persons migrating into and out of EGR-2 to work:

County	Commuting Into From outside EGR	Commuting Out To jobs outside EGR	
Fulton	1128	1054	Thus, 11.7% of EGR-2 workers migrate into the Region, and roughly 1/3 of that number, or 3.8% of EGR-2 workers, out-migrate to their jobs.
Marshall	2125	458	
Kosciusko	3375	2805	
Elkhart	14103	2492	
South Bend	15391	5090	
Totals	36122	11899	

Because these data do not capture individual occupations or industry sectors, we found it necessary to extrapolate. That is, when asked to indicate how many workers in the Hospital industry were in-migrating, we could suggest that the number would be about 11.7% of current employees. Similarly, out-migration would be about 3.8% of current employees. However, we found it necessary to take a more logical approach concerning some of the target occupations. Transportation equipment painters, for example, will probably not out-migrate at all, because there are very few jobs outside the Region for that skill, and the body shops and automobile dealers that would hire such workers will find plenty of home-grown candidates.

It is therefore necessary to suggest that while the demand-side worksheets reflect fairly accurate data, the supply-side worksheets obliged us to account for variables other than simple in- and out-migration, such as relative salary schedules, gasoline and auto insurance costs, regional weather patterns and data concerning family issues in the EGR-2 area (e.g. number of single parents, age of children, frequency of health insurance, etc.) In the end, working with percentages aligned with global migration numbers seemed the most reasonable approach.

Supply and Demand Worksheets

In accordance with the directions supplied by the SSI Handbook, demand, supply, and shortage calculation worksheets were prepared for each target occupation. They are being transmitted in a separate file, accompanying the Phase One Report and its Appendices. The data contained in those worksheets, however, is not without flaws. The methodology employed in the calculation of occupational shortages tends to overestimate demand, fails to account for employer actions designed to reduce demand, and tends to weaken the reliability of the data supplied by www.stats.indiana.edu/ssi concerning job projections between 2002-2012.

Gap Analysis – Predicting Shortages

The relationship between demand and supply can be affected by a diverse variety of factors. Predictions of worker supply are therefore somewhat fragile, and must be treated with care. Nevertheless, estimates of worker shortages within a fairly small margin of error – perhaps 10% - are possible, and our best reasoning, on the basis of both quantitative and qualitative data suggests the following:

Northern Indiana Workforce Investment Board
Strategic Skills Initiative

Gap Analysis for EGR2 Occupations

HEALTH CARE	Year 2006 EGR 2 SUPPLY					Current Gap	Year 2012				
	Regional Production	Migration Into EGR2	Total New Supply	Current Demand	Current Gap		Regional Production	Migration into EGR2	Total New Supply	Future Demand	Future Gap
Medical Assistants	31	3	34	45	11	40	4	44	55	11	
Registered Nurses	278	27	305	450	145	295	28	323	450	127	
Respiratory Therapists	0	2	2	10	8	2	2	4	14	10	
Medical Record Coders/Techs	20	2	22	30	8	22	2	24	30	6	
ADVANCED MANUFACTURING	Year 2006					Current Gap	Year 2012				
Welders, Cutters, etc.	47	5	52	120	68		60	5	65	120	55
First-line Supervisors	90	25	115	170	55	100	20	120	170	50	
Painters of Transportation Equip.	5	5	10	40	30	5	5	10	40	30	
CNC Machinist	9	0	9	40	31	13	0	13	30	17	

The reader will note that some of these estimates involve fairly few people; however, our intent from the outset has always been to identify those occupations and skill sets, the absence or shortage of which would result in constraints to the production process, and hence a loss revenue to the employer. These occupations present just this challenge.

Our report expands this table into others showing the relative shortages of critical occupations by county.

The forthcoming report, dealing with root causes, will discuss the reasons for these shortages.

Appendix 2 – Qualitative Data Analysis

Qualitative Data Collection – Focus Groups

The results of the focus group meetings have been identified and discussed throughout this report. What follows are the details of these meetings:

TYPE	DATE	TIME	LOCATION
SSI Consortium	August 30	8-10am	Swan Lake 5203 Plymouth-LaPorte Trail Plymouth
University Research Team	September 6	8-10 am	NIWIB Conference Room
IU South Bend Extended Learning Division	September 13	8-10 am	Allies in South Bend
Elkhart County WorkOne Center Employer Advisory Council	September 21	7:30am	Elkhart WorkOne Center 430 Waterfall Drive Elkhart
Ivy Tech Corporate & Continuing Ed	September 21	1:30 pm	Ivy Tech Community College 3 rd Floor Board Room South Bend
Kosciusko County WorkOne Center Employer Advisory Council	September 27	8-10 am	Kosciusko County WorkOne Center 715 S. Buffalo St Warsaw
Advanced Mfg Saint Joseph County	September 28	12Noon-2pm	SJC WorkOne Center 851 S. Marietta St South Bend
Advanced Mfg Elkhart County	September 29	8:30-10:30 am	Elkhart Chamber of Commerce 418 S. Main Street Elkhart
Advanced Mfg Elkhart County	September 29	12Noon-2pm	Goshen Chamber of Commerce 232 S. Main Street Goshen
Advanced Mfg Kosciusko County	September 30	8-10 am	Kosciusko WorkOne Center 715 S. Buffalo Warsaw
Medical Manufacturing Kosciusko County	September 30	12Noon-2pm	Kosciusko Area Chamber of Commerce 313 S. Buffalo Warsaw
Health Care Summit	October 3	12Noon-2pm	Christo's Banquet Center 830 Lincolnway Plymouth
University Research Team	October 4	8-10 am	NIWIB Conf Room South Bend
Advanced Mfg Marshall County	October 4	12Noon-2pm	Christo's Banquet Center 830 E. Lincolnway Plymouth
SSI Consortium	October 18	8:30 -10:30 am	Swan Lake Resort 5203 Plymouth-LaPorte Trail Plymouth

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Northern Indiana
Workforce Investment Board

Strategic Skills Initiative

Purpose and Scope:

Identify critical skill shortages in strategic occupations that are essential to the economic growth and prosperity of our Region.

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SSI's Three Reports: "The Workforce Doctor"

- Identify symptoms
- Diagnose
- Prescribe

09.05 Rev. 5

This PowerPoint presentation was shown to all Focus Groups, and was used to generate discussion.

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Criteria:

- Must represent strong employment demand.
- Must be critical to industry competitiveness.
- Must provide good earnings and benefits for workers.
- Must be appropriate for targeting by the workforce system. – *We can make a difference or impact by improving the regional economy.*

09.05 Rev. 5

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Critical Skills Issue Example:

- Nursing: (Possible Causes):**
 - Students want into program...
 - Students can't get into programs...
 - There are not enough places for students in the classroom because...
 - There are not enough teachers...
 - Because there are not enough Nursing faculty allocated by the state...
 - ...It's not a training issue it may be a allocation issue.

09.05 Rev. 5

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Strategic Skills Initiative

Deliverables:

- Identify skill shortages in strategic occupations.
- Determine the root causes behind the skill shortages.
- Develop executable and effective solutions to attack those causes and alleviate the shortages.
- Implement the solutions to alleviate the skill shortages.
- Verify that the solutions are implemented successfully.

09.05 Rev. 5

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Critical Skills Issue Example:

- CNC Machinists: (Possible Causes)**
 - Not enough employees with enough knowledge and skill.
 - Takes many courses to gain proper knowledge.
 - Not enough workers able or willing to commit to getting what it takes.
 - Have to work and go to school for a long time to become a CNC Machinist.

09.05 Rev. 5

Slide 7

Critical Skills Issue Example:

- **Radiology Techs** are needed at hospitals:
 - ↳ Candidates have received their schooling.
 - ↳ What is the gap between schooled and placed?
 - ↳ "Clinicals" – there are not enough location whereby a student can complete their clinical hours so vacancies can be filled.

09.05 Rev. 5 7

Slide 10

SSI Data Gathering Methods

Web Site Built for SSI:
www.stats.indiana.edu/ssi

Labor Market Information:
www.in.gov/dwd/inews/lmi

Quantitative Information

09.05 Rev. 5 10

Slide 8

How do we get from here to there...

The Drilling Down Process:

- ↓ Clusters
- ↓ Sectors (NAICS)
- ↓ **Occupations**
- ↓ **Skills**
- ↓ **Shortages**
- ↓ **Causes – Root Cause**
- ↓ Solutions
- ↓ Implement
- ↓ Verify Success



09.05 Rev. 5

Slide 11

Focus Groups...

- SSI Consortium
- University Research Team
- Work One Advisory Councils
- Health Care
- Advanced Manufacturing
- Medical Manufacturing
- Individual Interviews
- Education

Qualitative Information

09.05 Rev. 5 11

Slide 9

SSI Data Clustering...

By Most Strategic	By Demographics
Employment	Region
Wages	County
Growth	Industry
Value added	Occupation
Labor Quotient	
Shift Share Analysis	

09.05 Rev. 5 9

Slide 12

Quantifiable Information



See SOS* Handout →

*Strategic Occupational Sectors

09.05 Rev. 5 12

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Why?

The Theory of Constraints...

is holding back our EGR's economic stability and growth.



09.05 Rev. 5

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The End

Thank you for coming.



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Focus Group Questions...

Current Occupational and Skill Issues

Future Occupational Projections



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Quantifiable Information

See SOC* Handout

*Standardized Occupational Code



09.05 Rev. 5

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Focus Group Questions:

_____ **Focus Group**
_____, **2005**

Current Issues:

1. Of the open positions with your organization that you are presently trying to find competent people for, which are the most difficult to fill?
2. Why is (are) the position(s) hard to fill? Is the difficulty a matter of training, a matter of talent, a matter of certification, a matter of character, or etc.?
3. Is this situation typical or special in your industry? In other words, does it affect your industry as a whole, or just your company?
4. If the problem involves a lack of training or skills, what are the skills you need to have, but that you find to be in short supply?
5. How do you compensate for not finding the right people for those positions? To what extent does this situation affect your competitiveness?

Future Issues:

1. What trends are affecting your industry that you believe will make it more difficult to find workers for particular positions (which may or may not be the same as those addressed above) in the future?
2. In the next three years, what specific occupations do you anticipate having difficulty finding suitable candidates for? Why will there be a shortage? Company growth? Burnout? Baby-boomer retirements? Problems with schools? Lack of training programs? Foreign competition? Local “brain drain”? Other reasons...?
3. Can you find acceptable substitute workers, such as temps? If not, why not?
4. Are there ways in which your organization is willing to contribute to a solution to the problem of improving the local workforce?

Focus Group Attendees and Notes

SEPTEMBER 21, 2005 - FOCUS GROUP ATTENDEES: ELKHART COUNTY WORKONE CENTER , EMPLOYER ADVISORY COUNCIL

1. Roger Speaks – Philips Products
2. Rhonda Nelson – City of Elkhart
3. Greg Morris – Rosewood Terrace
4. Carol Caviness – Elkhart County Personnel Office
5. Michael Bunn – Dexter Axle
6. Patty Baker – Utilimaster
7. Suzanne Randall – Dutchmen Industries
8. Beth Firestone – Indalex, Inc.
9. Pam Groward – JobWorks
10. Gregg Ball – WorkOne
11. Tom Primrose – WorkOne
12. George Lewandowski – Department of Workforce Development
13. Wendy Hatcher – WorkOne
14. Sonja Matheny – WorkOne (Goodwill Industries of Michiana)

Elkhart County WorkOne Employer Advisory Council September 21, 2005, 7:30 AM

Attendance: Suzanne Randall, Patty Baker, Beth Firestone, Roger Speaks, Rhonda Nelson, Carol Caviness, Greg Morris, Michael Bunn, Tom Primrose, Howard Blackwood, George Lewandowski, Sonia Matheny, Wendy Hatcher, Gregg Ball, Ethel Holloway, Pam Goward, Mike Gerald

Facilitator: Dan Hendricks, Recorder: Barbara White

Mr. Hendricks gave a presentation on the Strategic Skills Initiative and informed attendees that our region is aggressively pursuing this funding.

Built towards the goal of creating new jobs and raising Hoosier income, the Strategic Skills Initiative (SSI) is a revolutionary effort that fights unemployment by going directly to the root causes. A \$23 million initiative, SSI focuses on two primary goals:

- Identify and alleviate shortages projected to exist in critical occupations and specific skill sets within high-wage Indiana industries; and,
- Instill a lasting, demand-driven approach to workforce development at the regional and local level.

It is important to understand that SSI is not a state effort, but a regional one, and the effectiveness of SSI will be directly related to the input and time put into the initiative by regional representatives.

Each region will be spearheaded by a core agent and a team of regional industry representatives. Towards the goal of identifying and alleviating occupation and skill shortages, SSI provides the regions with a systematic process geared towards efficiency and consistency. Regions will proceed through the initiative as follows:

- 1) Identify occupation and skill shortages.

- 2) Determine the root causes of the shortages.
- 3) Develop solutions that are directly tied to the root causes.

Each of these steps will consist of a report submission by the regional teams that will eventually determine funding allocations.

SSI itself is a two and a half year initiative; however, the goals of the effort do not end with the initiative. The systematic approach to solving workforce problems that propels SSI will be institutionalized and carried on as Indiana's economy and the Hoosier workforce are continually strengthened.

Attendees participated in a dialogue concerning strategic skills and employee performance.

Advanced Manufacturing SSI Focus Group will meet on September 28th at 8am, at the WorkOne Center, 430 Waterfall Drive, Elkhart.

Next Employers Advisory Council meeting is October 19, 2005, at 7:30 AM

SEPTEMBER 21, 2005 - FOCUS GROUP ATTENDEES:

IVY TECH COMMUNITY COLLEGE CORPORATE & CONTINUING EDUCATION STAFF

1. Jim Ergle – (Elkhart)
2. Dawn Feller - (South Bend)
3. Melissa Denton – (Warsaw)
4. Jean Perrin – (Region 2)
5. Dave Brinkruff - (Region 2)
6. Carol J. Kirkner – (HHS Division Chair)
7. Bonni Sullivan – (South Bend)

SEPTEMBER 27, 2005 - FOCUS GROUP ATTENDEES:

KOSCIUSKO COUNTY WORKONE CENTER , EMPLOYER ADVISORY COUNCIL

1. Michelle Sears – Biomet
2. Ernest L. Benion – Dalton Corporation
3. Melissa Blue – WorkOne (Goodwill Industries of Michiana)
4. Wendy Hatcher – WorkOne
5. Howard Blackwood – WorkOne (Business Services Division)

Kosciusko County Work One Advisory Council
Tuesday, September 27th, 2005

Current Occupational and Skill Issues:

1. What positions are currently open in your organization? How many of each?
 - *Development Engineers (2)*
 - *Clerical (5)*
 - *Regulatory FDA*
 - *Research Position*
 - *General labor (entry level) – (less than 10 per month)*

Michele from Biomet and Ernie from Dalton had to leave after one hour – This is all the farther we got.

2. Is this occupation hard to fill? If yes...why?
3. Is this a typical or special need in your industry?
4. What skills or skill sets are common to that occupation?
5. What skills are lacking?
6. What makes this occupation critical to your industry?
7. How do you "get by" without these skills or occupations?

Future Occupational Projections:

8. What does the future look like for your industry? Kinds of changes?
9. What will be the numerical demand for the future of this occupation?
Growth? Attrition? Shortage?
10. How easy/difficult is it to find acceptable substitute workers? (temps?)
11. Is your company willing to invest in the solution?
12. How will this effect your competitiveness?

**SEPTEMBER 28, 2005 - FOCUS GROUP ATTENDEES:
ST. JOSEPH COUNTY ADVANCED MANUFACTURERS**

1. Nora Johnson – Polygon Company
2. Jason Welsch – Hoosier Tank & Manufacturing
3. Mark Minne – AM General
4. Krysten Shoulders – Daman Products Company
5. Stephanie VanklaVeren – Plastics Solutions
6. Tom Thomas – Syscon International, Inc.
7. Karen Dady – Master Metal Engineering
8. Art Harrison – General Sheet Metal Works
9. Carole Ruff – Curtis Products
10. Jean Perrin – Ivy Tech Community College
11. Bonni Sullivan – Ivy Tech Community College
12. Howard Blackwood – WorkOne
13. Sharon Prusinski - WorkOne

St. Joseph County Focus Group
September 28, 2005

Current Occupational and Skill Issues:

8. Of the open positions with your organization that you are presently trying to find competent people for, which are the most difficult to fill?
 - *CNC Operators (2)*
 - *Laser Operators (CNC Controlled Machine) - (2)*
 - *CNC Machine Operator (5) – off shift*

- *Mold Maker (1)*
 - *Design Engineer*
 - *Supervisors (5)*
 - *Master Scheduler (1)*
 - *General Labor (8)*
 - *General Maintenance*
 - *Tool & Die Operator*
9. Why is (are) the position (s) hard to fill or hard to keep filled? Is the difficulty a matter of training, a matter of talent, a matter of certification, a matter of character, or etc,?
- *getting qualified people into the training program at learning institution (Ivy Tech)*
 - *lack of awareness in High School of other opportunities available that don't require college degree*
 - *life skills (life outside of work)/soft skills*
 - *attendance*
 - *continue to replace base level of technical workers*
 - *lack of people taking the responsibility what they need to do*
10. Is this situation typical or special in your industry? In other words, does it affect your industry as a whole, or just your company?
- *all companies face some of the same issues*
 - *self directed work team*
11. If the problem involves a lack of training or skills, what are the skills you need to have, what are the skills you need to have but that you find to be in short supply?
- *work ethics*
 - *manufacturing engineer (2nd shift 3:30-midnight)*
 - *CNC Machinist (and the skills that go with it)*
 - *Industrial Maintenance (trouble shooting, hydraulics, pneumatics, electrical)*
 - *problem solving skills*
12. How do you compensate for not finding the right people for those positions? To what extent does this situation affect your competitiveness?
- *train – self grow within the company*
 - *Upgrade equipment – more sophisticated – automate equipment*
 - *Work overtime – bad cycle – burn people out*
 - *Outsource (simple maintenance)*

Future Occupational Projections:

1. What trends are affecting your industry that you believe will make it more difficult to find workers for particular positions (which may or may not be the same as those addressed above) in the future?
 - *quality of students out of high school is deteriorate (CRITICAL)*
 - *money in training needs to be invested elsewhere*

2. In the next three years, what specific occupations do you anticipate having difficulty finding suitable candidates for? Why will there be a shortage? Company growth? Burnout? Baby-boomer retirements? Problems with schools? Lack of training programs? Foreign competition? Local "brain drain"? Other reasons.....?

- no good awareness of technical trades (position need to be advertised In the high schools)
- same conversations for over 20 years (nothing has really changed)

3. Can you find acceptable substitute workers, such as temps? If not, why not?

4. Are there ways in which your organization is willing to contribute a solution to the problem of improving the local workforce?
 - tuition reimbursement (5% take advantage)
 - training funds to the schools
 - Customized on site training for workers (soft skills/tech skills) – (Ivy Tech)
 - Work keys Program
 - if company provide internal training – get some financial support for add'l man hours lost
 - concern people not interested in investing time into the training
 - mentor high school students – (bring young people in during summer and train)
 - company fund after school programs focused on skills classes (manufacturing, life skills, etc.)
(free to the parents, provide transportation)

5. What is your company's workforce going look like in the next 5 years?
 - more automation
 - business may not grow – do more with what we can do withh we have
 - access the data and use by operators on the floor

**SEPTEMBER 29, 2005 - FOCUS GROUP ATTENDEES:
ELKHART COUNTY ADVANCED MANUFACTURERS
(Elkhart)**

1. Larry Shank – AE Techron
2. Beth Firestone – Indalex Aluminum Solutions
3. Dale Noyes – Amerimax Building Products
4. Phil Penn – Elkhart Chamber of Commerce
5. Greg Ball – WorkOne
6. Tim Ergle – Ivy Tech Community College
7. Kyle Hannon - Elkhart Chamber of Commerce
8. Jim Walsh – Elkhart Chamber of Commerce

(Goshen)

1. Steve Aspy – Dutchmen Manufacturing, Inc.
2. Gary Bjornson – Dutchmen Manufacturing, Inc.
3. Steve Seevers – NIBCO, Inc.
4. Tim Ergle – Ivy Tech Community College
5. Wendy Hatcher – WorkOne
6. David Daugherty – Goshen Chamber of Commerce
7. Bill Bradley – Economic Development Corporation of Elkhart County

Current Occupational and Skill Issues:

13. What positions are currently open in your organization? How many of each?

Welders – 4 – spot welding.

CAD – convert customers drawings – drawing – 2 –knowledge not degree is ok

*Ditto – CAD to do printed circuit board (PCB) 1**

Mechanical CAD

*Double ET - to do trouble shooting. – need analog.**

Machine Maintenance 1- including PLC

Electricians that will do machine maintenance.

*Overhead crane operators – Always 1- 2**

QC - inspectors 1

14. Is this occupation hard to fill? If yes...why?

All positions listed above are hard to fill.

15. Is this a typical or special need in your industry?

Some are company specific – with the astrics – the rest are typical for the industry need.*

16. What skills or skill sets are common to that occupation? What skills are lacking?

See notes above

17. What makes this occupation critical to your industry?

Difficult to perform and make product effectively with out the skills.

18. How do you "get by" without these skills or occupations?

Overtime, try to grow your own,

Future Occupational Projections:

13. What does the future look like for your industry? Kinds of changes?

RV – metal side skins to laminated sides – Future in lamination.

Expanding what we are currently doing.

Continuing to grow. Work with our network of plants to get the right fit.

Electronics – High volume is not going to be made here. Our nitch will be low volume high value complexes – hostile environment – eg lightning strike. – Bottom of ocean – very robust.

Trans – young mans game. – Brutal on the body.

Deliver quicker with higher quality – more customized – go to lean manufacturing.

14. How easy/difficult is it to find acceptable substitute workers? (temps?)

Very difficult – Work one was at the meeting and availed himself to helping them.

15. Is your company willing to invest in the solution?

Yes, Yes, Yes. Each company is willing to invest in their employees.

Ivy Tech was present and we talked about a few solutions they currently offer.

16. How will this effect your competitiveness?

**SEPTEMBER 30, 2005 - FOCUS GROUP ATTENDEES:
KOSCIUSKO COUNTY ADVANCED MANUFACTURERS**

1. Betty Thompson - Dalton Corp.
2. Jessica Prater – Ivy Tech Community College
3. Wendy Hatcher - WorkOne

Kos Cty Adv Mfg SSI Focus Group

Friday, September 30, 2005

Current Occupational and Skill Issues:

19. What positions are currently open in your organization? How many of each?

Job – Occupation (Foundry Industry)	Total Number Needed/ Openings Per Month	Skills or Skill Sets Needed
Finishers*	120/50	Hold heavy grinder
Core Operators*	36/6	Mechanical skills, read sketches/drawings
Mechanical & Electrical Maintenance – Apprentice Journeymen	40/8	Blueprint reading, schematic, ACDC fundamentals, Fundamentals of mechanics

20. Why are these occupations hard to fill?

- *Dirty/hot environment to work in*
- *wage scale not competitive to Orthopedic/RV industries*
- *drug test requirement*
- *language barrier*

21. Is this a typical or special need in your industry?

Some are company specific – with the asterisk – the rest are typical for the industry need.*

22. What skills or skill sets are common to that occupation? What skills are lacking?

See notes above

23. How do you “get by” without these skills or occupations?

- Overtime

Future Occupational Projections:

1. What does the future look like for your industry? Kinds of changes?

2. Is your company willing to invest in the solution? How?

- *apprenticeship program*
- *some can't pass the test (70%) – suggest employee go to Ivy Tech*

3. How will this affect your competitiveness?

- *less down time (Maintenance) so more product go out the door*

**SEPTEMBER 30, 2005 - FOCUS GROUP ATTENDEES:
KOSCIUSKO COUNTY MEDICAL MANUFACTURERS**

1. Karen Dady – Master Metal Engineering
2. Starr Roth – Paragon Medical
3. Jean Gosney – Zimmer
4. Cliff Staton – Zimmer
5. Brad Bishop – Zimmer
6. Joy McCarthy-Sessing – Warsaw/Kosciusko County Chamber of Commerce/Kosciusko Development Corp.
7. Wendy Hatcher – WorkOne
8. Jean Perrin – Ivy Tech Community College
9. Melissa Denton – Ivy Tech Community College

Medical Manufacturing SSI Focus Group

Friday, September 30, 2005

Current Occupational and Skill Issues:

24. What positions are currently open in your organization? How many of each?

<i>Job – Occupation</i>	<i>Total Number Needed/ Openings Per Month</i>	<i>Skills or Skill Sets Needed</i>
<i>Polishers*</i>	<i>Lots</i>	<i>Act of polishing, manual polishing belt, robotics Hold belt sander, measuring,</i>
<i>All Manufacturer Employees</i>		<i>blue print reading, basic math skills, instrument readings, geometric, GD&T, dimensioning and tolerancing, decent hand to eye coordination,</i>
<i>CNC Machinists</i>	<i>Lots</i>	<i>Set up, troubleshooting on program adjustments, Knowledge of CNC operation, basic machine technology, inspection</i>
<i>Engineers (quality, technician, design)</i>		<i>4 year degree (minimum), internal promote for high performers</i>
<i>IS (Information System Support)</i>		<i>4 yr degree</i>
<i>Tool & Die Makers</i>		<i>Journeymen license, special skill set for specific surgical instruments,</i>

25. Is this a typical or special need in your industry?

Company specific: place an asterisk – the rest are transferable industrial skills.*

26. What causes these occupational shortages? Why? (Root Cause)

- *competition*
- *growth*
- *attrition*
- *lack of training opportunities*
- *not a perceived value in the jobs(e.g, CNC jobs, etc) for young people (parents not supportive)*
- *lack of emphasis on these types of jobs*
- *labor market shortage*
- *workers not willing to invest own time in training after hours*

27. How do you “get by” without these skills or occupations?

- *overtime*
- *outsource (state/country)*
- *grow your own*
- *automation*

Future Occupational Projections:

4. What does the future look like for your industry? Kinds of changes?
 - *immediate future – baby boomers*
 - *bullet proof*
 - *largest number of patents from this area*
5. Will wages increase as a result of skills increase? How will this be measured?
 - *Yes – become eligible for higher paying jobs*
 - *Keep companies here - expansion – develop people with higher skills*
 - *Measure - keeping people living in the county working in the county*
6. Will quality and productivity increase as a result of skill increase? How will this be measured?
 - *Productively should increase and waste should decrease*
7. Is your company willing to invest in the solution? How?
 - *internal training*
 - *automation*
 - *apprenticeship program*
 - *encourage training/tuition reimbursement*
8. How will this affect your competitiveness?
 - *should improve if you are more productive*

Possible Resolutions:

- *Encourage middle/high schools to put emphasis on job training for manufacturing jobs*
- *Colleges need more facilities for training equipment (looking at alternative locations)*
- *Orthopedic Academy (funding)*

**OCTOBER 3, 2005 - FOCUS GROUP ATTENDEES:
HEALTH CARE SUMMIT**

1. Diana Custer – Memorial Hospital
2. Julie Bowers – Kosciusko Community Hospital
3. Joe Jarboe – Kosciusko Community Hospital
4. Jennifer Straw – St. Joseph Regional Medical Center
5. Jinny Longbrake – Memorial Hospital
6. Jayne Mitton – Memorial Hospital
7. Julian Lewiecki – Memorial Hospital
8. Pat Wise-Rogers – Memorial Hospital
9. Kathy Bryant – Woodlawn Hospital
10. Amy Bercik – Woodlawn Hospital
11. Deb Lemasters – Woodlawn Hospital
12. Jackie Newman – IUSB
13. Mary Coursey – Oaklawn Hospital
14. Mary Jo Regan-Kubinski
15. Kay Cochrane – NIWIB
16. Greg Toth - WorkOne

Health Care SSI Focus Group
Monday, October 03, 2005

Current Occupational and Skill Issues:

28. What positions are currently open in your organization? How many of each?

<i>Job – Occupation (Hospitals)</i>	<i>Total Number Needed/ Openings Per Month</i>	<i>Skills or Skill Sets Needed</i>
<i>Respiratory Therapists</i>	<i>78/12 (growth)</i>	<i>2 yr degree plus state license, certifications and registration (national)</i>

Poly Somnographer	10/2 (growing)	License, 8 month program, resp therapist can go thru 5 day program
Surgical Techs	49/8+ (growth, expand)	10 months to 1 yr program , 2 yr degree(depend on facility) in house training – need accreditation to be certified, (Varies)
Pharmacist	33/1	6 Year Masters Degree, License
Pharmacy Tech		10 week program ISUB, 2 year IV Tech
Radiographer (old name XRAY Tech) Many are needed in Ambulatory area	102 (entire field)/1	2 yr degree and license, certification
Physical Therapist	28/5	5 yr Masters Degree, License
CT/MRI		Radiographer - Recertified after additional training,
Invasive Therapy		Radiographer with Additional training
Radiation Therapist		2 yr degree (grandfathered in) New – mandatory Bachelors
Occupational Therapy		4 year 5 year program – Masters plus license
Speech Therapy	3/1	6 yr program – Masters plus license
Recreational Therapy	We have 7with one opening Requires 2 years for hospital coding	4 yr program - certification
Health Information Mgmt		2 and 4 year programs, but can do on the job
Phlebotomist		6 Week class IV Tech has a program
Certified Nursing Asst		On the job training/30 day CMA=2 years
Medical Transcription		2 years
Medical Billing		On the job training – min 6 months
Coders		(Need to know internal and external medical knowledge –critical to bring in \$\$\$)
EEG Tech	2/0	On the job
ECHO Tech	4/0	2 years formal degree
MSW (masters of Social Work)		6 years
Nursing (RN)	765/45 growing	2 years/4 years
Medical Asst in Physician Office	61/3	On the job training
Advanced Practice Nurse - specialized areas, midwife, public health nurse, etc.		BSN plus 2 year

29. Is this a typical or special need in your industry?

Company specific: place an asterisk* – the rest are transferable industrial skills.

30. What causes these occupational shortages? Why? (Root Cause)

For all health care jobs:

- teachers underpaid (differential what can be paid in the industry,)
- wide diversity of opportunities for faculty/students
- not enough of recruiting students young enough
- lack of knowledge of the profession
- aging population/retirement

Respiratory Therapists

- no local programs – Michigan City, Gary, IUPFW (Fort Wayne)

Surgical Technicians

- no local program (Ivy Tech (Gary Campus), Michigan City, Ball State (Muncie))
- surgical instructors not readily available for training
- Olympia Program (close to Gary)
(not a 2 year program)

Physical Therapists

No local programs – IUPUI, Chicago, Indianapolis (University of Indy), Grand Rapids
Toledo, OH

- Lack of job security - downsizing
- Late Shift
- Other occupations
- cost of living (working in rural area vs large - SB vs. Chicago)
-

2nd Career Opportunities for people out of work (funding available through IWC)
Accelerated Nursing programs available in South Bend & Indianapolis

31. How do you “get by” without these skills or occupations?

- train own in house
- partner with Notre Dame
- overtime
- outsource (expensive)
- deferred treatment

Future Occupational Projections:

9. What does the future look like for your industry? Kinds of changes?

In hospital Care

Demand/Supply growing – aging of workforce and faculty, aging of population
Technology exploding
Look at collaborative efforts
Managed care shrinking – reimbursements – paying for less and less
Specialty hospitals
Need to reexamine duplication of services
Multi tasking
Patients much more acute
Patients appear to have more information/knowledge

10. Will wages increase as a result of skills increase? How will this be measured?

As supply goes down

Employers currently in employment
Yes,

11. Will quality and productivity increase as a result of skill increase? How will this be measured?

Yes,

Coders/Billers

Need to be accurate – to bring in the money

Higher the education level of Nurse – the lower the fatality rate

Need to attract to get to higher level

12. Is your company willing to invest in the solution? How?

13. How will this affect your competitiveness?

Possible Resolutions:

Can't look for quick fixes in the Health Industry – put real dollars in to make a difference

Health Care is a very powerful political issue – when quality of health care goes down it will make a difference.

Need Study to look at cost of Managed Health Care

**OCTOBER 4, 2005 - FOCUS GROUP ATTENDEES:
MARSHALL COUNTY ADVANCED MANUFACTURERS**

1. Lonnie Harner Whitley Products
 2. Greg Toth – WorkOne
 3. Melissa Denton – Ivy Tech Community College
- Marshall County Mfg SSI Focus Group
Tuesday, October 4, 2005

Current Occupational and Skill Issues:

32. What positions are currently open in your organization? How many of each?

<i>Job – Occupation (Fabricated Metal Products)</i>	<i>Total Number Needed/ Openings Per Month</i>	<i>Skills or Skill Sets Needed</i>
<i>CNC Bending Operator*</i>	<i>11/3</i>	<i>Tooling, use 3D graphic viewer, basic math skills</i>
<i>Cut off*</i>	<i>5/2</i>	<i>Cut, degrease, multi task, inventory, debur</i>
<i>Hand braze*</i>	<i>2/2</i>	<i>4 weeks training, learned art/skill</i>
<i>CAD Design</i>	<i>3/0</i>	<i>Hire in as apprentice, multi task</i>

33. Is this a typical or special need in your industry?

Company specific: place an asterisk – the rest are transferable industrial skills.*

34. What causes these occupational shortages? Why? (Root Cause)

35. How do you “get by” without these skills or occupations?

- *overtime (try to keep at minimum)*
- *train to fill in gaps*

Future Occupational Projections:

14. What does the future look like for your industry? Kinds of changes?

- *strong economically*

Changes:

- *new state of the art machines (brazen), new customers*

15. Will wages increase as a result of skills increase? How will this be measured?

Yes, bonus added to 401K

16. Will quality and productivity increase as a result of skill increase? How will this be measured?

17. Is your company willing to invest in the solution? How?

Have to, we are growing our own...

18. How will this affect your competitiveness?

a. Not threat doing business overseas (China) local companies able to turnaround design work cheaper cost of energy - cost to do business ship back to US – therefore this specific industry more secure

Possible Resolutions:

Slide 1

Critical Skill Shortages In Strategic Occupations



WIB Northern Indiana
Workforce Investment Board

Slide 4



Slide 2

Strategic Skills Initiative

Purpose and Scope:

Identify and alleviate
critical skill shortages
in strategic occupations
that are essential to the
economic growth and prosperity
of our Region.

SSI Phase 2, Focus Group
Rev. 0

Slide 5

Follow along...

Northern Indiana Workforce Investment Board
Strategic Skills Initiative
Strategic Occupational Sectors (SOS)
Quantitative Priorities for ECRP
(Data is 2004 Annual Average, unless noted otherwise)

Strategic Occupational Sector (SOS)	Jobs	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Manufacturing																		
330 Transportation Equip	20073	934	943,702	114	345,307	1	6022	4	4266	4017	5013	17	1					
331 Machinery Equip - Metal	7307	8	120,719	21	124,161	44	384,433	41	2201	4	631	2119	2613	27	2			
332 Machinery Equip - Plastic	6405	5	11,225	77	11,811	80	80,881	215	16	631	2419	169	6					
333 Plastics and Rubber Products	10129	5	87,291	8	607,79	43	433,101	8	1059	81	1738	2474	1168	146	13			
334 Machinery Manufacturing	1704	1	40,121	45	22,248	14	24,248	429	121	274	179	124	126	12				
Health Care																		
807 Ambulatory Health Care Svcs	16306	0	211	133,463	2	1006,26	1	633,107	5	1842	8	1103	1460	408	94	4	2	
809 Hospital	32250	0	142	102,095	27	716,211	24	452,493	12	1028	7	1247	2201	142	43	2		
Construction																		
240 Construction and Electronics Mfg	2147	4	628	21,071	34	26,127	124	87,780	11	1120	15	1460	1130	474	191	15		
420 Mechanical (Plumbing, Air-Conditioning)	1944	0	114	110,240	20	208,011	171	1,262,017	1	1862	8	1130	10	28	28			
400 General Electric Svcs	1946	0	14	24,248	45	26,044	11	1862	8	1130	10	14	11					
611 Educational Services	26301	0	143	228,869	72	694	103	349,824	10	6380	23,033	2,271	1,028	68	7			
120 Food Services and Drinking Water	10321	0	1443	90,268	141	212	84	1002	12	2638	1617	660	6					
901 Administrative and Support	11774	4	2174	63,128	112	303	473	2820	3	1130	2074	1648	185	8				
200 Professional Svcs	14801	13	1443	70,245	131	732	84	442,135	1	161	1130	1333	61	14				
941 Professional, Scientific, and Technical Services	11498	12	2142	78,999	113	800	74	611	74	1130	1313	211	120	10				

1/3 Location Quotient: A measure of an industry's concentration in a region compared with its concentration in the US as a whole. An LQ of 0.8 is not considered to be a significant deviation from 1.0.
 *2010 Data Available: a measure of the change in the number of jobs relative to the general national economy ("net"), the particular industry in the rest of the country ("net"), and the specific region ("net"). The larger the number in the "net" column, the better that industry has grown relative to national trends.
 †Administrative and Support (ASOS) includes related health professions functions for other firms, such as security, phone answering, long distance, collections, etc.
 ‡Professional, Scientific, and Technical Services (NSTS) includes lawyers, accountants, consultants, and other highly educated advisory or consulting professions.

Table is in Millions unless noted otherwise.
 Source: Bureau of Economic Analysis
 ©2009 WVB

Slide 3

Strategic Skills Initiative

Deliverables:

1. Identify skill shortages in strategic occupations.
2. Determine the root causes behind the skill shortages.
3. Develop executable and effective solutions to attack those causes and alleviate the shortages.
4. Implement the solutions to alleviate the skill shortages.
5. Verify that the solutions are implemented successfully.

SSI Phase 2, Focus Group
Rev. 0

Slide 6

Qualitative

- 21st Century Strategic Skills Consortium
- University Research Team
- Work One Advisory Councils
- Health Care
- Advanced Manufacturing
- Medical Manufacturing
- Individual Interviews
- Supply:
 - Education
 - WorkOne

} Focus Groups

SSI Phase 2, Focus Group
Rev. 0

Slide 7

Greatest "People" Pain Causing Bottlenecks:

- "Get workers to come to work on time..."
- "... every day!"
- Listen to directions.
- Follow instructions.
- Come to work motivated.



SSI Phase 2, Focus Group, Rev. 0 7

Slide 10

How do you get by?

- Overtime
- Outsourcing (expensive)
 - Sub-contracting
 - Temporary agencies
- Growing your own
 - In-house training
 - On the job training (OJT)
- Automation
- Deferring treatment



SSI Phase 2, Focus Group, Rev. 0 10

Slide 8

Greatest Basic Technical Pain Causing Slow Throughput:

- Measuring
- Math
- Problem Solving – Critical Thinking.
- Reading drawings &/or blueprints.



SSI Phase 2, Focus Group, Rev. 0 8

Slide 11

Will wages increase as a result of increased skills?

- When positioned in a higher skilled occupation.
- No Pay for Knowledge plans in place.
- Tuition reimbursement is available but seldom used.
- Employers are willing to pay for skill building.



SSI Phase 2, Focus Group, Rev. 0 11

Slide 9

Occupations discussed:

- Welders
- Truck drivers
- CNC machinists
- Tool & die
- Metal workers
- Painters
- Engineering
- Engineering technicians
- Polishers
- Berbers
- Brazers
- CAD designers/converters/drafters
- Finishers
- Operators
- Mechanical & electrical maintenance
- Insulators
- Set up & process technicians
- Plumbers
- Electricians
- Metal hangers
- Body repair
- Respiratory therapists
- Poly somnographer
- Surgical technicians
- Pharmacists
- Pharmacy technicians
- Radiographer
- Physical therapist
- Occupational therapist
- Speech Therapist
- Recreational therapist
- Health information management
- Phlebotomist
- Certified nursing Assistant
- Medical transcription
- Masters of Social Work
- Nursing (RN)
- Medical Assistant (in physician office)
- Advanced Practice Nurse

SSI Phase 2, Focus Group, Rev. 0 9

Slide 12

Quality and productivity increase?

- Consensus is that as skills increase quality and productivity would improve while waste would decrease.



SSI Phase 2, Focus Group, Rev. 0 12

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What does the future look like for health care?

- Health Care will grow with our aging workforce.
- Technology will continue to explode.
- Specialization and niches will grow.
- Acute patient care will become more hospital based.
- More multi-tasking will be required.
- Patients will appear to have more information/knowledge.

SSI Phase 2, Focus Group, Rev. 0 13

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Follow along

Source: Bureau of Economic Analysis
Critical Occupations (SOC), Industrial Cluster
May 2006 (Project Year 2012)

SOC - Critical Occupations - Industrial Cluster
2006 by the Bureau of Labor Statistics, Dept. of Labor

Occupation Title	Openings and Growth Potential				Openings and Growth Potential				Wages	
	2006	2012	% Change	Annual	2006	2012	% Change	Annual	2006	2012
First Tier										
51-4121 Welders, Cutters, Solderers, Brazers	2300	3600	500	600	120	332	212	332	2247	2344
51-1011 First-line Supervisors of Production and Operating Workers	4740	5400	600	160	170	326	156	332	2180	2400
51-9122 Painters, Transportation Equipment	480	600	120	40	40	336	190	332	2180	2300
51-4011 Computer-controlled Machine Tool Operator	1200	1400	200	40	40	336	190	332	2180	2300
Second Tier										
51-3033 Tool, Die, Mould, and Die-set Maker	600	600	0	0	0	336	190	332	2180	2300
51-3028 Industrial Engineering Technicians	200	240	40	40	40	336	190	332	2180	2300
51-9000 Other Production Occupations						336	190	332	2180	2300

Notes: SOC codes are listed in the left margin. The "Annual" column shows the number of openings per year. The "Wages" column shows the median annual wage. The "Current" column shows the number of workers in the occupation in 2006. The "Gap" column shows the difference between the number of openings and the number of workers in 2012. The "Total New" column shows the total number of new openings in 2012. The "Current Demand" column shows the number of workers in the occupation in 2006. The "Current Supply" column shows the number of workers in the occupation in 2006. The "Current Gap" column shows the difference between the current demand and the current supply. The "Current Migration" column shows the number of workers who are expected to migrate into the occupation in 2012. The "Current Production" column shows the number of workers who are expected to be produced in 2012. The "Current Supply" column shows the number of workers who are expected to be supplied in 2012. The "Current Demand" column shows the number of workers who are expected to be demanded in 2012. The "Current Gap" column shows the difference between the current demand and the current supply. The "Current Migration" column shows the number of workers who are expected to migrate into the occupation in 2012. The "Current Production" column shows the number of workers who are expected to be produced in 2012. The "Current Supply" column shows the number of workers who are expected to be supplied in 2012. The "Current Demand" column shows the number of workers who are expected to be demanded in 2012. The "Current Gap" column shows the difference between the current demand and the current supply.

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What does the future look like for manufacturing?

- Competitive positioning should improve as meeting customers' quality, on-time-delivery, volume and price demands of customers are met.
- The future varies for each industry depending on it's performance, flexibility to meet customer needs, competitiveness, application of technology and ability to reinvent it's self.

SSI Phase 2, Focus Group, Rev. 0 14

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SOC - Industrial Cluster Tier 1

SOC code	Occupation Title	Openings from growth	Openings from replacement	Annual Openings (all sectors)	Focus Sectors (10-yr)	Change (10-yr)	Estimated Annual Openings
First Tier							
51-4121	Welders, Cutters, Solderers, Brazers	500	660	120	332	70	16
					332	40	8
					336	290	40
							total 68
51-1011	First-line Supervisors of Production and Operating Workers	690	990	170	326	-30	0
					332	70	16
					332	30	6
					336	220	39
						90	16
							total 79
51-9122	Painters, Transportation Equipment	210	180	40	336	190	25
51-4011	Computer-controlled Machine Tool Operator	140	210	40	339	190	25

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Required Futuristic Quantum Leap

- Globalization
- Technology
- Innovation
- Nanotechnology
- Biochemistry
- Geo-spatial

Outside the box...

SSI Phase 2, Focus Group, Rev. 0 15

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2006 Gap Analysis - Advanced Manufacturing

ADVANCED MANUFACTURING	Year 2006				
	Regional Production	Migration Into EGR2	Total New Supply	Current Demand	Current Gap
Welders, Cutters, etc.	47	5	52	120	68
First-line Supervisors	130	10	140	170	30
Painters of Transportation Equip.	5	5	10	40	30
CNC Machinist	9	0	9	40	31

SSI Phase 2, Focus Group, Rev. 0

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Follow along Northern Indiana Workforce Investment Board
Strategic Skills Inventory
Critical Occupations (SOC), Health Care Cluster
Date: Year 2002, Projected Year 2012
SOC - Standard Occupational Classification, January 2000 by Bureau of Labor Statistics, U.S. Department of Labor

Occupations, by SOC	Openings and Growth, General					Openings and Growth, Specific					Wages		
	SOC code	Occupation Title	2002 Proj. New Hires	2002-2012 Change	2002-2012 % Change	2002 Sector	2002 Proj. New Hires	2002-2012 Change	2002-2012 % Change	Estimated Hourly Wage	Annual Salary		
First Tier													
31-9092	Medical Assistants	620	800	240	110	360	36	621	500	600	190	19	
								622	90	140	50	5	
												total 24	
29-1111	Registered Nurses ¹	4240	5240	1000	800	2040	200	621	1070	1480	410	151	
								622	2440	3070	630	23	
												total 450	
29-1126	Respiratory Therapists	180	280	70	60	130	13	622	170	200	30	14	
29-2071	Medical Record and Health Information Technicians	500	700	200	70	300	30	621	180	300	120	12	
								622	240	300	60	6	
												total 240	
Second Tier													
29-2094	Pharmacy Technicians and Technicians	350	460	80	70	100	10	621	140	170	30	3	
								622	250	290	40	4	
												total 70	
29-2085	Surgical Technicians	250	300	80	30	110	11	621	80	110	30	3	
								622	100	200	100	10	
												total 110	

Annual openings were monthly, converted by dividing by 12. Focus groups and planning groups to begin implementation. Legend: a=annual openings, s=salary.
The "Net" and "Sector" for the 10-year period will be the average of the occupations' 10-year averages.

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Visions for the Future

- Biotechnological corridor – SB to FW
- Midwest Orthopedic Hospital (Think Mao)
- Leading research and application of Biochemical innovations turned profitable. (Economic Growth). Think Purdue and Notre Dame Universities with ERG2 as their work applications field.
- Our Job? Prepare the workforce for this future....



SSI Phase 2, Focus Group, Rev. 9

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SOC – Health Care Cluster Tier 1

SOC code	Occupation Title	Openings fmgrowth	Openings fmrreplace attention	Annual Openings all sectors	Focus Sector (see legend)	Proj. Change 10 yr	Estimated Sector Annual Openings
First Tier							
31-9092	Medical Assistants	240	110	36	621	190	19
					622	50	5
							total 24
29-1111	Registered Nurses ¹	1200	850	200	621	400	100
					622	630	350
							total 450
29-1126	Respiratory Therapist	70	60	13	622	80	8
29-2071	Medical Record and Information Technicians	230	70	30	621	120	12
					622	80	8
							total 20

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Next Steps

1. Perform root cause analysis for each SOC.
 - Advanced Manufacturing – Week of November 7th.
 - Health Care – Week of November 14th.
 - Education and LEO's – Week of November 28th.
2. Report to 21st Century Skills Consortium – Tuesday, December 20th.



SSI Phase 2, Focus Group, Rev. 9

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2006 Gap Analysis – Health Care

	Year 2006				
	Regional Production	Migration Into EGR2	Total New Supply	Current Demand	Current Gap
HEALTH CARE					
Medical Assistants	31	3	34	45	11
Registered Nurses	278	27	305	450	145
Respiratory Therapists	0	2	2	10	8
Medical Record Coders/Techs	20	2	22	30	8

Rev. 0

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Thank you for coming!



Gotta go...



SSI Phase 2, Focus Group, Rev. 0

CONSORTIA ROSTERS, NOTES, AND DETAILS

SSI CONSORTIUM MEETING, AUGUST 31, 2005

SSI Consortium Agenda for 8.30.05

Room set up:

Square tables for small group discussion – 8 to a table.

Digital projector, laptop, screen or white wall, small table for equipment.

What to bring for participants:

3x5 cards and pens

2 handouts on SSI

What to bring from the office:

Projector, laptop, extension cord, surge protector, laser pointer.

Agenda:

Clock Time	Clock Minutes	Slide #	Task	Presenter / Facilitator
7.30	30		Arrive and set up	Dan & Barbra
8.00	30		Meet and Greet	All
8.35	7	1-4	Welcome, Today's purpose, WIB deliverables.	Juan
	3	5	Intro SSI Team set up, Intro Dan	Juan
8.45	10		Meet your group – “one positive thing about each table member”.	Dan
8.55	15	6-13	SSI Purpose, Scope, Deliverables & Deadlines.	Dan
9.10	3	14-16	SSI Data Gathering & Clustering	Dan
	12	17-24	SSI – 1 st Deliverable + Handout: 31 Top Economic Drivers Break down Statistics	Dan
9.25	5	25	Thinking: Write where you perceive gaps put one thought per card. 3 – 5 Yellow Cards	Dan
9.30	10	26	Workshop Step 1: Identify skills with group Handout: Focus Group Matrix	Dan
9.40	10	27	Workshop Step 2: Brainstorm shortages	Dan
9.50	5	28	Workshop Step 3: Prioritize by pain	Dan
9.55	20	29	Workshop Step 4: Leader of each group share with all their groups findings. Input into MS Word participant comments.	Dan Chuck
10.15	5	30-31	Future Steps Handout: Referral Card	Dan
10.20	5	32	Critique workshop – What went well? What could we improve? Are you willing to meet again?	Juan

10.25	2	33	Who to contact for thoughts after the meeting.	Juan
10.27	3	34	Thank you for coming	Juan
10.30		35	End	

**21st Century Skills Consortium Attendees
August 30, 2005**

1. Bob Abene
2. Doug Anspach – Plymouth Chamber of Commerce
3. Katherine Baert – Smurfit-Stone Container Corporation
4. Lyn Batzer – Ivy Tech Community College
5. Debbie Berger – JobWorks
6. Brad Bishop – Zimmer Corporation
7. Howard Blackwood – WorkOne Center (Employer Services Division)
8. John Booker – J. Booker Consultants
9. Eric Brown – Sheet Metal Workers Local 20
10. Virginia Calvin – Ivy Tech Community College
11. Jay Caponigro – Robinson Community Learning Center
12. Fred Carmel – Vincennes University
13. Dawn Chapla – United Way
14. Debie Coble – Goodwill Industries of Michiana
15. Kay Cochrane - Northern Indiana WIB, Inc.
16. David Daugherty – Goshen Chamber of Commerce
17. David Findlay – Lake City Bank
18. Cindy Fuja – Madison Center
19. Barkley Garrett – Indiana Department of Commerce
20. Diane Horst - Northern Indiana WIB, Inc.
21. Brian Hueni – Crowe Chizek
22. Jack Isles – Bull Moose Tube Company
23. Greg Jones – Indiana Plan
24. Carl Kaser – Kaser Auction Service
25. Fred Lanahan – Indiana Department of Workforce Development
26. Jerry Langley – University of Notre Dame –Mendoza College of Business
27. Paul Laskowski – Chamber of Commerce of St. Joseph County
28. Jinny Longbrake – Memorial Hospital
29. Juan Manigault – Northern Indiana WIB, Inc.
30. Pat McMahon – Project Future
31. Ron Michaelis – International Brotherhood of Electrical Workers
32. Kimberly Nance – Kosciusko Development, Inc.
33. Rebecca Parker – AM General
34. Phil Penn – Elkhart Chamber of Commerce
35. Jean Perrin – Ivy Tech Community College
36. Anna Marie Peters - Northern Indiana WIB, Inc.
37. Chuck Pressler - Northern Indiana WIB, Inc.

38. Tom Primrose – WorkOne
39. Suzanne Randall – Dutchmen Manufacturing
40. Mae Reck - Indiana University South Bend
41. Kathy Sokolowski – USDOL Bureau of Apprenticeships & Training
42. Fred Thon – City of South Bend
43. Barbara White – Northern Indiana WIB, Inc.

Northern Indiana Workforce Investment Board
SSI Consortium Notes
 August 30, 2005

OCCUPATIONS MENTIONED:

1. Pharmacist
2. Surgical Technician
3. Respiratory Therapist
4. Equipment Operator
5. Truck Driver, CDL
6. Registered Nurse
7. Medical Coding
8. Welder
9. Frontline Managers
10. Teachers, math and science
11. Accountants
12. Machinists
13. Health Care Technicians
14. Tool and Die Workers
15. Metal Workers

LIFE SKILLS MENTIONED:

1. Attitude
2. Attendance
3. Listening Skills
4. Communication Skills
5. Motivation

OTHER ISSUES:

1. Quality of Life
2. Environment, both physical and business

SKILLS MENTIONED:

1. Higher math
2. Critical Thinking
3. Statistics
4. Spanish language proficiency
5. Problem solving skills
6. Computer proficiency
7. Science knowledge
8. Licensure, CDL/Health Care/technology
9. Knowledge of relational data bases; data sharing
10. In the future: Laminates
Nanotechnology
11. Map Reading

NORTHERN INDIANA WORKFORCE INVESTMENT BOARD

**21st CENTURY SKILLS CONSORTIUM
STRATEGIC SKILLS INITIATIVE
MEETING MINUTES**

**August 30, 2005
Swan Lake Resort
Plymouth, Indiana**

PRESENT: Bob Abene, Doug Anspach, Katherine Baert, Lyn Batzer, Debbie Berger, Brad Bishop, Howard Blackwood, John Booker, Eric Brown, Virginia Calvin, Jay Caponigro, Fred Carmel, Dawn Chapla, Debie Coble, David Daugherty, David Findlay, Cindy Fuja, Barkley Garrett, Jack Isles, Greg Jones, Carl Kaser, Fred Lanahan, Jerry Langley, Paul Laskowski, Jinny Longbrake, Pat McMahon, Kimberly Nance, Rebecca Parker, Phil Penn, Jean Perrin, Tom Primrose, Suzann Randal, Mae Reck, Kathy Sokolowski, Fred Thon, Ron Michaelis

STAFF: Juan Manigault, Kay Cochrane, Dan Hendricks, Chuck Pressler, Sherry Szmanda, Brian Hueni, Anna Marie Peters, Barbara White, Diane Horst, Kent Snyder

I. CALL TO ORDER

Juan Manigault called the meeting to order at 8:40 A.M.

Juan briefly discussed the purpose of the meeting to begin a six month initiative that would focus on the strategic skills of our workforce region. He indicated that all attendees are very important in helping to determine what these skill sets are.

The purpose of this meeting is two fold. One, the groups help is needed to gain a working understanding of the Strategic Skills initiative and how it could positively impact the 5 county region and its future. Secondly and most importantly, help is also needed to help identify critical skill shortages and strategic occupations that are essential to the economic growth and prosperity of the region.

Juan went on to review how the workforce board was organized. There are four basic responsibilities in our 5 county region:

- a.) A strategic planning focus – we are looking at taking a long term view of the key skills that the workforce needs to have to help support economic development.
- b.) An operations component which focuses on the WorkOne Centers in the 5 counties.
- c.) A new component that is research and development on strategic skills which is being kicked off today.
- d.) Financial Management – Today we are a 5 million dollar agency and we have plans to become a 10 million dollar agency in 5 years. Financial management is important as we work hard to bring new resources into our community.

We have an SSI board made up of members of the workforce board about 11 people who will approve all of the reports required to develop. We have a university research team made up of the Notre Dame Economics Department, Mendoza College along with Indiana University South Bend's Business School and the School of Public and Environmental Affairs. This group is trying to put together a research team to support the development of the statistics that we will need to have and all of the data. We have our NIWIB support staff. We have also our Vice President of Strategic Research and Development, Dan Hendricks and our Director of Research, Dr. Chuck Pressler and myself. So we have a very broad group coming together to help us make this initiative a success for our region.

Juan then asked the group to welcome Dan Hendricks.

II. PRESENTATION – DAN HENDRICKS

Dan again quickly ran through the purpose of today's meeting:

- 1.) To provide a working understanding of how the Strategic Skills Initiative (SSI) can positively impact our region's future.
- 2.) To provide an opportunity to identify critical skill shortages in strategic occupations that are essential to the economic growth and prosperity of our region.

The Strategic Skills Initiative will have set goals to work towards over the next three years.

A schedule of deliverables and deadlines have been arranged as follows: Obtaining these goals would assist in obtaining a 2 year \$30,000,000.00 grant that is being applied for.

1st Deliverable:

Identify critical skill shortage in strategic occupations that are essential to the economic Growth and prosperity of our region.

1st Deadline: October 21, 2005

2nd Deliverable:

Determine the root causes behind the critical skill shortages

2nd Deadline: December 16, 2005

3rd Deliverable:

Create Solutions to resolve the root causes.

3rd Deadline: March 3, 2006

4th Deliverable:

Implement the solutions to alleviate the critical skill shortages.

4th Deadline: March 3, 2007

5th Deliverable:

Verify the solutions are implemented successfully.

5th Deadline: March 3, 2008

Dan then asked the group to fill out the referral cards that were located on each table with names of individuals and organizations for SSI to sit down and talk with. Dan also asked that the cards be signed.

GATHERING DATA

Dan explained the different ways the data could be collected.

SSI GATHERING METHOD

QUANTITATIVE	QUALITATIVE
Secondary Stats:	Focus Groups:
Built for SSI	By Consortium
www.stats.indiana.edu.ssi	By County, sector/cluster
US Sites	By special group
Indiana Sites	Interviews with SME's
Other Sites	Surveys by grouping
Primary Stats:	
Localized Research	

SSI DATA CLUSTERING

BY MOST STRATEGIC	BY DEMOGRAPHICS
Employment	Region
Wages	County
Growth	Industry
Value Added	Occupation

Dan then went through a series of charts comparing wages throughout the 5 region counties. This information did not include any federal government data.

Dan asked all to think of an occupation (write it at the top of the card). Next, write one skill gap per card where you have noticed skill shortages relative to that occupation.

- a.) at work
- b.) with your neighbor
- c.) in a conversation

III. WORKSHOP

Using the Focus Group Matrix handout, identify (brainstorm) with your group occupation skill or skill sets within the Strategic Occupational Sectors (SOS) that are critical to economy of region 2 – critical to our economic growth and prosperity.

Brainstorm where critical skill shortages exist in this list.

Criteria:

- Must represent strong employment demand
- Must be critical to industry competitiveness
- Must provide good earning and benefits for workers
- Must be appropriate for targeting by the workforce system

Prioritize those critical skills and their shortages for each strategic occupational sector:

- What shortages are causing the most economic pain to our region?

Summarize your groups findings for presentation to the total group.

WORKSHOP DISCUSSION:

One member from each table presented the Occupations and Skill Shortages that they discussed.

OCCUPATIONS MENTIONED

1. Pharmacist
2. Surgical Technician
3. Respiratory Therapist
4. Equipment Operator
5. Truck Driver (CDL)
6. Registered Nurse
7. Medical Coding
8. Welder

9. Frontline Managers
10. Teachers, Math, Science

11. Accountants
12. Machinists
13. Healthcare Technicians
14. Tool and Die Workers
15. Metal Workers

SKILLS MENTIONED

1. Higher Math
2. Critical Thinking
3. Statistics
4. Spanish language proficiency
5. Problem solving skills
6. Computer Proficiency
7. Science knowledge
8. Licensure,
CDL/Healthcare/Technology
9. Knowledge of relational data bases
10. Future: Laminates, Nanotechnology
Robotics
11. Map Reading

LIFE SKILLS MENTIONED:

1. Attitude
2. Attendance

3. Listening Skills
4. Communication Skills
5. Motivations

OTHER ISSUES:

1. Quality of Life
2. Environment, both physical
And business

Respectfully submitted: DianeHorst
Recording Secretary

SSI CONSORTIUM MEETING, OCTOBER 18, 2005:

Participant	Organization Name
Bob Abene	Educational Consultant
Bill Hansen	Brown Mackie College
Sheryl Decker	Brown Mackie College
Fred Thon	City of South Bend
Suzanne Randall	Dutchmen Manufacturing, Inc.
Bill Bradley	Economic Development Corporation
Lola Brysz	Elkhart General Hospital
David Gibson	Gibson Insurance Group
Debie Coble	Goodwill Industries
Beth Firestone	Indalex Aluminum
Barkley Garrett	Indiana Economic Development Corp.
Dave Switzer	Indiana Michigan Power
Greg Jones	Indiana Plan
Grant Black	IUSB
Jacqueline Newman	IUSB
Rob Ducoffe	IUSB
Una Mae Reck	IUSB
Carol Kirkner	Ivy Tech Community College
Lyn Batzer	Ivy Tech Community College
Jean Perrin	Ivy Tech Community College
Debbie Berger	JobWorks, Inc.
Glenn Williams	Laborers International Union
Cindy Fuja	Madison Center
Doug Anspach	Marshall County Industrial Foundation
Karen Dady	Master Metal Engineering
Brian Pyszka	Master Metal Engineering
Jinny Longbrake	Memorial Health Systems
Debbie Remble	Memorial Health Systems
Jayne Mitton	Memorial Hospital
Jerry Langley	Mendoza College of Business
John Booker	National Assoc. of Direct Care Workers of Color, Inc.
Mary Coursey	Oaklawn
Rebecca Loth	Oaklawn
Lynn Forrest	Personnel Management, Inc.
Mark Curtis	Purdue University
Suzanne Wheeler	Purdue University
Lester Fox	Real Services, Inc.
Allison Heyde	Rochester & Lake Manitou Chamber of Commerce
Greg Morris	Rosewood Terrace

Participant	Organization
Eric Brown	Sheet Metal Workers Local 20
Katherine Baert	Smurfit-Stone Container Corp.
Andres Valtierra	Transition Resources Corporation
Carl Kaser	United Auto Workers Local
Kathy Sokolowski	USDOL Bureau of Apprenticeships & Training
Fred Carmel	Vincennes University
Jim Laughlin	Vincennes University Elkhart
Craig Toth	WorkOne Center
Brad Bishop	Zimmer Corporation

NORTHERN INDIANA WORKFORCE INVESTMENT BOARD

21ST CENTURY SKILLS CONSORTIUM
STRATEGIC SKILLS INITIATIVE
MEETING MINUTES

October 18, 2005
Swan Lake Resort
Plymouth, Indiana

PRESENT: Bill Hansen, Sheryl Decker, Fred Thon, Suzanne Randall, Bill Bradley, Lola Brysz, David Gibson, Debie Coble, Beth Firestone, Barkley Garrett, Dave Switzer, Greg Jones, Grant Black, Jacqueline Newman, Rob Ducoffe, Una Mae Reck, Carol Kirkner, Lyn Batzer, Jean Perrin, Debbie Berger, Glenn Williams, Cindy Fuja, Doug Anspach, Karen Dady, Brian Prszka, Jinny Longbrake, Debbie Remble, Jayne Mitton, Jerry Langley, John Booker, Mary Coursey, Rebecca Loth, Lynn Forrest, Mark Curtis, Suzanne Wheeler, Lester Fox, Allison Heyde, Greg Morris, Eric Brown, Katherine Baert, Andres Valtierra, Carl Kaser, Kathy Sokolowski, Fred Carmel, Jim Laughlin, Craig Toth, Brad Bishop

STAFF: Juan Manigualt, Kay Cochrane, Dan Hendricks, Chuck Pressler, Sherry Szmanda, Brien Hueni, Anna Marie Peters, Barbara White, Lynda Kay Smith

I. CALL TO ORDER

Juan Manigualt called the meeting to order at 8:40a.m.

Juan shared that the purpose of today's meeting was to present our findings on key occupations that we are projecting as well as key occupational skill sources. Juan indicated that the input of the group into this report is important in determining our findings.

The purpose of this meeting is to present our findings to this group and ask for your input and approval of our data. Based on the input received, a final report will be compiled and sent to the Indiana Department of Workforce Development. Juan explained that this report is critical and is the foundation for everything that follows.

Juan went on to explain that once we complete our work on occupational skill shortages and occupational shortages, we then can turn our attention to the root causes. Why we are having these shortages, what are the causal factors affecting these shortages and finally the third report will focus on solutions. Juan further explained that today is the foundation report.

Juan then asked the group to welcome Dan Hendricks, VP of the Northern Indiana Workforce Investment Board for Strategic Research and Development.

II. PRESENTATION – DAN HENDRICKS

Dan explained in detail that the purpose of today's meeting was to present strategic occupational skill shortages findings, obtain a consensus from the group on these findings and move on to Phase II, the root cause.

Dan briefly defined the Theory of Constraints. Dan explained that the Theory of Constraints is extremely important when providing products and services to the community and to your customers. The end result is finding the most efficient and economical way to deliver the products and services to our customers on time, every time with perfect quality.

Strategic Skills Initiative

Dan identified cultural, technical and basic skills as the three areas we are looking at. Dan shared that the Strategic Skills Initiative exists to identify and alleviate critical skill shortages in strategic occupations essential to the economic growth and prosperity of our region.

The State of Indiana is broken down into 11 regions. Northern Indiana Economic Development Region 2 (EGR2) is broken down into five counts; Elkhart, Fulton, Kosciusko, Marshal and St. Joseph County.

The Strategic Skills Initiative has five deliverables:

1. Identify skill shortages in strategic occupations.
2. Determine the root causes behind the skill shortages.
3. Develop executable and effective solutions to attack those causes and alleviate the shortages.
4. Implement the solutions to alleviate the skill shortages.
5. Verify that the solutions are implemented successfully.

The Drilling Down Process

Clusters - groups of industries

Sectors – more specific than clusters; breakdown by NAICS code

Occupations – What are the occupations within these sectors/clusters that need to be addressed?

Skills – What are the skills needed in these occupations.

Shortages - What skills are in shortage within these occupations?

Causes

Root Cause

Solution for Each Occupation

Implement

Verify Success

PRESENTATION – CHUCK PRESSLER

Based on directives given to us by the State of Indiana, we have a series of 22-24 questions that we must answer explicitly for our report. To arrive at those answers, we have been provided a great deal of data by the Kelly School. This information is on the SSI website and is available for everyone to access. Chuck explained that from that data we made the following decisions:

1. What are the industries in our regions that are significant enough and important enough that has occupations that require skills at a sufficient level that we ought to invest time and energy into improving those skills and thus improving the economy of the regions as a whole.
2. What is the character of the tide?
3. What time is it going to come in to raise all these boats?

Chuck explained that by looking at Strategic Occupational Sectors (NAICS CODE) we identified those occupations critical to our region. That determination was made by assigning an importance to the following variables:

- Employment
- Location Quotient
- Weekly Wages
- Wage Rank
- Total Value Added
- Job Growth
- Shift Share Analysis

With sectors identified, we decided what occupations within those sectors or that crossed those sectors that exhibit today a gap between the number of people available to do those jobs well and the number of jobs needing those people to be available. Chuck advised that the bottom line is to identify the gap between supply and demand. Specifically, the supply and demand of skill not the supply and demand of money, bodies or labor. We focused on Strategic Occupational Sectors (SOS) and Standard Occupational Classifications.

SOS = Strategic Occupational Sectors

- Employment
- Labor Quotient
- Wages
- Total Value Added
- Job Growth
- Shift Share

SOC = Standard Occupational Classification

- Current and projected openings
- Projected growth and attrition
- Entry, mean and experienced wages

Chuck explained that within our region there are six manufacturing sectors that fall into the general classification of Advanced Manufacturers. Advanced Manufacturers is difficult to define, however, it has to do with skill level, computerization, robotics and other kinds of ideal skills for the people working in that industry. Transportation and Equipment was also included in this selection.

Chuck defined Valued Added as being the total number of dollars that get re-circulated within the community through wages. High value added number means that number of dollars stays in the region.

For comparison we are focusing on the first six manufacturing firms and the two health care NAICS codes. (Refer to Follow Along, Power Point Presentation). Analysis of data was based on county data but we had to aggregate them into a regional focus.

Discussion of spreadsheet and graph analysis of data. (Refer to Power Point Presentation)

Shift Share; a measure of job growth. Shift share is the kind of analysis that gives you a portrait of your local regional economy relative to the national economy and analysis relative to that same industry nationwide. Negative Shift Share defined as the number of jobs you would expect to lose if your economy were following the national trends. Positive Shift Share defined as the number of jobs you would be gaining if your economy was not following the national trends. A review of the data indicates that our region has some sort of competitive advantage relative to the national economy and relative to those industries elsewhere located in the country.

Discussion of Health Care Shift Share.

Ambulatory Health Care, 621 – includes all walk-in clinics and any place that a person receives health care with the exclusion of doctors and dentists offices.

Question & Answers Relative to Data Analysis

Gross employment data based on 4th quarter 2004. Shift Share date is from 4th quarter 1994 to 4th quarter 2004.

Discussion of the classification of Wood Products Manufacturing vs. Machine Manufacturing as it relates to the RV Industry which is the largest sector. Based on our directives from the State, is to increase the number of high skilled, high wage jobs.

Selection of the six sectors – discussion. Our mandate is to look out at 3, 7, and 10 years. As we do that there is a question as to the future of Wood Manufacturing.

What is a video – A video is a series of snapshots that gives us regional economic portraits over a period of time that allows us to identify trends.

DAN HENDRICKS – PRESENTATION

FOCUS GROUPS

Focus groups included the following:

- 21st Century Strategic Skills Consortium
- University Research Team
- Work One Advisory Councils
- Health Care
- Advanced Manufacturing
- Medical Manufacturing
- Individual Interviews
- Supply:
 - Education
 - Work One

Highlights of Focus Groups – See handouts for the “Focus Group Story”

Greatest “People” Pain Causing Bottlenecks:

- “Get workers to come to work on time every day!”
- Listen to directions.
- Follow instructions
- Come to work motivated.

Greatest Basic Technical Pain Causing Slow Throughput:

- Measuring
- Math
- Problem Solving – Critical Thinking
- Reading drawings &/or blueprints

Occupations – See power point presentation for list of occupations discussed in Focus Groups.

How do you get by?

- Overtime
- Outsourcing (expensive)
 - Sub-contracting
 - Temporary agencies

- Growing our own
In-house training
On the job training (OJT)
- Automation
- Deferring treatment

Will wages increase as a result in increased skills?

- When positioned in a higher skilled occupation.
- No Pay for Knowledge plans in place.
- Tuition reimbursement is available but seldom used
- Employers are willing to pay for skill building.

Quality and productivity increase?

- Consensus is as skills increased quality and productivity would improve while waste would decrease.

What does the future look like for manufacturing?

- Competitive positioning should improve as meeting customers' quality, on-time delivery, volume and price demands are met.
- The future varies for each industry pending its ability to perform, flex to meeting customer needs and remain competitive.

What does the future look for health care?

- Health Care will grow with our aging workforce.
- Technology will continue to explode.
- Specialization and niches will grow.
- Patient care will become more acute care in hospitals.
- More multi-tasking will be required.
- Patients will appear to have more information/knowledge.

Role of the University Research Team

- To ensure validity, reliability and reality to our quantitative data.

Role of 21st Century Skills Consortium

- To ensure reality and accuracy of observations validated by qualitative findings
- To approve findings.

Final Remarks and Closing

Juan asked for motion to accept Phase I of our findings. Fred Thon moved to accept and Pat McMahon 2nd the motion. Vote was accepted.

Meeting adjourned at approximately 10:40 A.M.

**Strategic Skills Initiative EGR #2: Northern Indiana
Planning Activities and Schedule
August 5, 2005**

Project Activity	Timeline	Staff Responsible & Agency	Effort/Work Hours	Product Produced (if applicable)
1. Hire Staff	July, 2005	President, NIWIB	15 man hours	Primary staff hired.
2. Form Executive Group and Consortia	July, 2005 – August, 2005	President, NIWIB	5 man hours	Executive Group formed and Consortia Members identified
3. Executive Group first meeting	August 2, 2005	President, NIWIB	10 man hours	SSI Briefing and Review and approve SSI Research application.
4. Complete SSI Research proposal	August 5, 2005	President, NIWIB	10 man hours	SSI Research application submitted to DWD
5. Consortia first meeting	August 30, 2005	President, NIWIB Vice President, NIWIB	10 man hours	SSI Briefing and Consortia Role
6. Conduct Occupational Skill Shortages activities: ➤ Primary Research ➤ Secondary Research analysis ➤ Research analysis and development of findings	September 6 – October 28, 2005	➤ President, NIWIB ➤ Vice President, NIWIB ➤ Research Asst, NIWIB ➤ University Research Support Group	800 man hours	Draft Occupational Skill Shortages Report
7. Complete Report	October 21, 2005	Vice President, NIWIB	40 man hours	Occupational Skill Shortages Report, Final Version
8. Present findings to Consortia	October 24-28, 2005	Vice President, NIWIB	5 man hours	Report approved with minor changes
9. Submit report to DWD	October 28, 2005	President, NIWIB	2 man hours	Report sent to DWD

10. Conduct Root Causes activities: <ul style="list-style-type: none"> ➤ Primary Research ➤ Secondary Research analysis ➤ Research analysis and development of findings 	October 31 – December 28, 2005	<ul style="list-style-type: none"> ➤ President, NIWIB ➤ Vice President, NIWIB ➤ Research Asst, NIWIB ➤ University Research Support Group ➤ Walker Information 	800 man hours	Draft Root Causes Report
11. Complete Report	December 16, 2005	Vice President, NIWIB	40 man hours	Root Causes Report, Final Version
12. Present findings to Consortia	December 19 -22, 2005	Vice President, NIWIB	5 man hours	Report approved with minor changes
13. Submit report to DWD	December 28, 2005	President, NIWIB	2 man hours	Report sent to DWD
14. Conduct Solutions Analysis <ul style="list-style-type: none"> ➤ Primary Research ➤ Secondary Research analysis ➤ Research analysis and development of findings 	January 2 – March 3, 2005	<ul style="list-style-type: none"> ➤ President, NIWIB ➤ Vice President, NIWIB ➤ Research Asst, NIWIB ➤ University Research Support Group 	880 man hours	Draft Solutions Report
15. Complete Report	March 3, 2005	Vice President, NIWIB	40 man hours	Solutions Report, Final Version
16. Present findings to Consortia	March 6 – 10, 2005	Vice President, NIWIB	5 man hours	Report approved with minor changes
17. Submit report to DWD	March 15, 2005	President, NIWIB	2 man hours	Report sent to DWD

18. Attend SSI Workshops	As Scheduled	Vice President, NIWIB	48 man hours	Learn new skills to
19. Participate in SSI	As Scheduled	Research Director	16 man hours	institutionalize process.
“Webinars”		Vice President, NIWIB		Learn new skills to
		Research Director		institutionalize process.

NIACS legend:
 326 - Plastics and Rubber Products
 332 - Fabricated Metal Products
 333 - Machinery Manufacturing
 334 - Computer/Electronics Mfg.
 336 - Transportation Equipment
 3391 - Misc., Medical Equipment

Northern Indiana Workforce Investment Board
 Strategic Skills Initiative
 Critical Occupations, by SOC Code and sector
Industrial Cluster

(SOC = Standard Occupational Classification, created in 2000 by Bureau of Labor Statistics, U.S. Department of Labor)

Base year, 2002 Projected Year 2012

SOC Code	Job Title	Sectors Found In (NAICS)	% jobs in Sector (staffing)	Openings due to growth	Openings due to attrition	Total Anticipated Openings	Annual Job Openings (total)	Anticipated overall % increase	Total % Increase in sector	Mean Annu Wage	Entry Level Wage	Experience 50 Percent Wage	90 Percentile Wage	90 Percentile Wage
Critical Occupations - Immediate Focus														
Operator - Machinist Ladder														
51-4031	Cutting, Punching, Press Machine Operators	326	6.12	320	760	1080	110	10	-13.43	22818	20724	23864	22265	27563
		332	6.7						3.3					
		333	1.81						5.8					
		336	1.55						8.4					
51-4041	Machinists	326	0.8	90	470	560	60	4	-6.17	32204	23362	36625	31809	44188
		332	3.77						-5.86					
		333	8.1						-13.31					
		334	1.67						15					
		336	0.97						-1.28					
		3391	3.78						46.45					
51-4011	Computer-controlled Machine Tool Operators, Metal and Plastic	326	2.04	140	210	350	40	11	-3.4	34364	23368	39862	33608	50843
		332	2.42						-4.56					
		333	3.79						-18.75					
		336	0.67						-7.83					
		3391	4.73						51.33					
Drafting - Engineering Ladder														
17-3013	Mechanical Drafters	332	0.42	60	130	180	20	11	6	38417	28008	43622	36460	55460
		333	1.05						-5					
		336	0.56						10.44					
		339	0.39						51.61					
17-3023	Electrical and Electronic Engineering Technicians	334	2.38	60	80	130	10	14	12.28	37900	27970	42865	36168	54150
		336	0.12						34.21					
		339	1.3						58.33					
17-3026	Industrial Engineering			20	50	70	10	9		40457	28963	46204	39105	58080

Technicians	336	0.3	20.41
	339	0.2	43.75

SOC Code	Job Title	Sectors Found In	% jobs in Sector	Openings due to growth	Openings due to Attrition	Total Anticipated Openings	Annual Job Openings (total)	Anticipated overall % increase	Total % Increase in sector	Mean Wage	Annual Entry Level Wage	Experience 50 Percentile Wage	90 Percentile Wage
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Drafting - Engineering ladder, cont'd

17-3027	Mechanical Engineering Technicians	336	0.61	30	50	80	10	12		40852	31878	45340	40423	54698
17-2071	Electrical Engineers	333	0.39	80	80	160	20	19	13.33	49626	40331	54274	43666	66087
		334	2.59						9.68					
		336	0.79						24.02					
17-2112	Industrial Engineers	326	0.84	180	210	390	40	20		55149	40451	62498	53398	74796
		332	0.56						-3.53					
		333	0.82						15.15					
		336	1.19						19.25					
		3391	1.94						23.96					
									62.04					
17-2141	Mechanical Engineers	326	0.36	30	50	280	10	1		60466	44228	68586	60107	84795
		332	0.65						-19.44					
		333	1.71						3.95					
		336	1.69						-9.23					
		339	0.93						-8.07					
									45.95					

Maintenance Ladder

49-9042	Maintenance and Repair Workers, General	326	2.17	540	710	1250	130	15		32111	22214	37059	32470	43440
		332	1.67						0					
		333	0.89						14.21					
		336	1.29						-8.82					
		3391	1.56						20.24					
									62.07					
49-9043	Maintenance Workers, Machinery	326	0.33	30	50	80	10	14		32224	22927	36873	31543	44865
		332	0.19						3.03					
									9.09					
49-9041	Industrial Machinery Mechanics	326	0.36	110	100	210	20	22		37547	27106	42767	35979	57292
		332	0.39						-2.78					
		336	0.32						19.57					
		339	0.47						20.59					
									72.97					

SOC Code	Job Title	Sectors Found In	% jobs in Sector	Openings due to growth	Openings due to Attrition	Total Anticipated Openings	Annual Job Openings (total)	Anticipated overall % increase	Total % Increase in sector	Mean Annu Wage	Entry Level Wage	Experience 50 Percent Wage	90 Percentile Wage	
Critical Occupations - Single Focus														
51-1011	First-Line Supervisor/ Manager of Production and Operating Workers			690	990	1680	170	15		43559	31890	49394	40489	61415
		326	6.35						-4.37					
		332	5						11.73					
		333	4.94						17.02					
		334	4.1						0					
51-4121	Welders, Cutters, Solderers, Brazers	336	3.33						20.04					
		3391	2.8	500	650	1150	120	22	62.18	29624	23034	32920	29371	36945
		332	3.69						14.29					
		333	3.58						32.35					
		336	3.56						25.3					
51-9061	Inspectors, Testers, Sorters, Samplers			260	550	810	80	11		28677	21247	32392	27611	39564
		326	3.09						-16.35					
		332	2.52						1.35					
		333	1.97						1.33					
		334	2.93						14.29					
53-3032	Truck Drivers, Heavy and Tractor-Trailer	336	1.9						18.92					
		3391	4.3	330	820	1150	120	6	41.67	32575	19425	39151	32981	47381
		326	0.99						8					
51-9122	Painters, Transportation Equipment	332	0.8						18.09					
		336	0.36						18.8					
		336	1.67	210	180	390	40	31	35.62	28555	21212	32226	25647	46735
51-4033	Grinding, Lapping, Polishing and Buffing Machine Tool Setters, Operators and Tenders			10	230	230	25	1		30065	21918	34138	29023	41985
		326	0.96						-6.19					
		332	3.02						-7.3					
		336	0.27						-2.33					
		339	2.74					32.11						

Northern Indiana Workforce Investment Board
Healthcare Occupations
Preliminary Report on Critical Occupations

Occupation ID	Title	Employed in 2002	Projected Need 2012	Projected Change #	Projected Change %	Mean Yrly Wage	Entry Yrly Wage	Exp. Yrly Wage	Wage Range	
									Low 10%	High 10%
NAICS 621 Ambulatory Health Care										
29-1111	Registered Nurses	1070	1480	400	37.34	59827	35888	71796	32184	79566
29-2021	Dental Hygenists	420	580	150	36.49	53246	49148	55295	46069	62142
29-2071	Medical Records and Health Info	180	300	120	67.96	22853	17778	25930	16351	32849
31-2021	Physical Therapist Assistants	30	50	20	60.61	21095	20319	21484	19285	23726
31-9091	Dental Assistants	520	710	190	36.42	23340	19736	29963	22104	35045
31-9092	Medical Assistants	500	690	190	38.25	23340	19736	25142	18707	28742
NAICS 6211 Physicians' Offices										
29-1111	Registered Nurses	670	960	290	43.03	59827	35888	71796	32184	79566
29-2071	Medical Records and Health Info	150	260	110	77.03	22853	17778	25930	16351	32849
31-9092	Medical Assistants	220	340	120	55.91	23340	19736	25142	18707	28742
NAICS 622 Hospitals										
011-9111	Medical and Health Svcs Manage	170	230	50	29.89	69013	43256	81981	40206	109045
29-1111	Registered Nurses	2440	3070	630	25.99	43396	37544	46322	35196	54748
27-1126	Respiratory Therapists	170	250	70	42.44	41332	32650	45673	30609	55043
29-1123	Physical Therapists	90	120	30	30.34	59387	48459	59562	45373	76488
29-2031	Cardiovascular Technologists and Technicians	60	90	30	43.55	33914	23913	38914	21655	52489
31-9092	Medical Assistants	90	130	50	57.65	23848	19609	25968	18567	31844

source: stats.indiana.gov/ssi

9.5.rev1

Critical Occupations (SOC), Industrial Cluster

Base Year 2002, Projected Year 2012

(SOC = Standard Occupational Classification, created in 2000 by the Bureau of Labor Statistics, Dept. of Labor)

Occupations, by SOC		Openings and Growth, General					Openings and Growth, Specific					Wages					
SOC code	Occupation Title	2002 Base Yr. # emp.	2012 Proj. year # emp	Openings fm growth	Openings fm replace/ attrition	Annual Openings (all sectors)	Focus Sectors (see legend)	2002 Base Yr. # emp.	2012 Proj. year # emp.	Proj. Change	Estimated Sector Annual Openings ⁴	Annual Mean	Annual Entry	Annual Experienced			
First Tier																	
51-4121	Welders, Cutters, Solderers, Brazers	2300	2800	500	650	120	332	430	500	70	15	27533	22447	33440			
							333	140	180	40	8				27543	21660	30485
							336	1150	1440	290	40				31266	24148	34825
										total	63						
51-1011	First-line Supervisors of Production and Operating Workers	4740	5430	690	990	170	326	640	610	-30	0	43559	31890	49394			
							332	590	660	70	15	54835	28107	68199			
							333	190	220	30	5	53652	37965	61496			
							336	1070	1290	220	35	49900	35553	57074			
							3391	160	250	90	15	43301	31036	49433			
										total	70						
51-9122	Painters, Transportation Equipment	680	890	210	180	40	336	540	730	190	total	25	25543	20827	27901		
51-4011	Computer-controlled Machine Tool Operator	1290	1430	140	210	40	339	380	570	190	total	25	34364	28131	37033		
Second Tier																	
53-3032	Truck Drivers, Heavy and Tractor-Trailer	5030	5350	320	820	120	326	100	110	10	8	32722	22267	37949			
							332	90	110	20	10				35548	22789	41929
							336	120	140	20	15				34080	25620	38310
											total	32					
17-3026	Industrial Engineering Technicians	220	240	20	50	7	336	100	120	20	5	41649	28464	48242			
							339	20	30	10	3	44937	36534	49139			
											total	8					
51-9000	Other Production Employees - Polishers ¹						339	1130	1680	550	total	70	32733	22652	37773		

¹This SOC code, when used by NAICS 3391, includes the occupation of "Polisher," a special occupation unique to that industry, and not included in any other SOC. EGR2 has identified that occupation as "critical". Data on change due to growth and attrition are not available.

²Data for change in occupations due to growth and attrition are not available on the level of individual NAICS codes. Numbers are approximate.

"First Tier" and "Second Tier" refer to the speed with which the shortages in the occupations may be addressed.

Legend:	
326 Plastic and Rubber Products	336 Transportation Equipment Mfg.
332 Fabricated Metal Products	339 Miscellaneous Mfg., including Medical Equipment
333 Machinery Manufacturing	3391 Medical Equipment Manufacturing

Northern Indiana Workforce Investment Board
 Strategic Skills Initiative
Critical Occupations (SOC), Health Care Cluster
 Base Year 2002; Projected Year 2012

(SOC = Standard Occupational Classification, created in 2000 by the Bureau
 Labor Statistics, U.S. Department of Labor)

Occupations, by SOC		Openings and Growth, General						Openings and Growth, Specific					Wages		
SOC code	Occupation Title	2002 Base Yr. # emp.	2012 Proj. Year # emp.	Openings fm growth	Openings fm replace/ attrition	Total Openings all sectors	Annual Openings all sectors	Focus Sector (see legend)	2002 Base Yr. # emp.	2012 Proj. Yr # emp.	Proj. Change	Estimated Sector Annual Openings	Annual Mean	Annual Entry	Annual Experienced
First Tier															
31-9092	Medical Assistants	620	860	240	110	360	36	621	500	690	190	19	23340	19736	25142
								622	90	140	50	5	23848	20281	23562
												total	24		
29-1111	Registered Nurses ¹	4040	5240	1200	850	2040	200	621	1070	1480	400	100	59827	35888	71796
								622	2440	3070	630	350	43396	37544	46322
												total	450		
29-1126	Respiratory Therapists	180	260	70	60	130	13	622	170	250	80	8	41332	32650	45763
29-2071	Medical Record and Health Information Technicians	500	730	230	70	300	30	621	180	300	120	12	22853	17778	25390
								622	240	320	80	8	22256	17149	24809
												total	20		
Second Tier															
29-2034	Radiologic Technologists and Technicians	390	460	80	70	150	15	621	140	170	30	3	39304	29020	44446
								622	250	290	50	5	41308	34616	44655
												total	8		
29-2055	Surgical Technologists	230	300	80	30	110	11	621	80	110	30	3	33645	25619	37659
								622	150	200	50	5	34261	28244	37279
												total	8		

¹ Annual openings were severely understated by available SSI data. Focus groups and actual hiring records of region establishments suggest anticipated openings as above in italics.

"First Tier" and Second Tier refer to the speed with which the shortages in the occupations may be addressed.

Legend: 621 Ambulatory Health Care Facilities 622 Hospitals

Northern Indiana Workforce Investment Board
Strategic Skills Initiative
Strategic Skills, by Focus SOC

Skill Area	Specific Skills and Skill Sets	51-4121	51-1011	51-9122	51-4011	31-9092	29-1111	29-1126	29-2071
		Welders	Supervisors	Painters	CNC Ops	Med. Asst.	Nurses	Resp. Th.	Coders
Basic Skills:	Arrive at work on time	X	X	X	X	X	X	X	X
	Meet attendance requirements	X	X	X	X	X	X	X	X
	Accurately read information in manuals and tables	X	X	X	X	X	X	X	X
	Follow instructions	X	X	X	X	X	X	X	X
	Demonstrate motivation to work	X	X	X	X	X	X	X	X
Interpersonal/ Communications Skills	Listen actively, actually hearing what is said	X	X	X	X	X	X	X	X
	Communicate effectively in English	X	X	X	X	X	X	X	X
	Show ability to work as a member of a team		X			X	X	X	X
	Demonstrate capacity to accept change	X	X	X	X	X	X	X	X
	Exhibit an orientation toward service to others					X	X	X	
Math Skills:	Measure and ensure measurements meet specifications	X	X	X	X	X	X	X	
	Add and subtract measurements to 1/16 inch or .5 cc	X	X	X	X		X	X	
	Use tables, diagrams, and graphs to obtain information	X	X	X	X	X	X	X	X
	Solve basic arithmetic problems without calculator	X	X	X	X	X	X	X	
	Solve practical problems using percentages and fractions	X	X	X	X		X	X	
Thinking Skills:	Recognize problems and their causes	X	X	X	X	X	X	X	X
	Create, implement, and evaluate solutions	X	X	X			X	X	
	Make connections between ideas that seem unrelated		X				X	X	
	Imagine how something works by looking at a drawing	X	X		X	X	X	X	X
	Visualize a product by looking at a blueprint	X	X		X				
Technical Skills:	Demonstrate facility with computers and relevant software				X		X		X
	Translate blueprints and schematics into physical products	X	X		X				
	Equipment selection, maintenance, and repair	X		X	X				
	Ensure product meets specifications and tolerance levels	X	X	X	X		X	X	X
	Use technology, tools and information systems effectively	X	X	X	X	X	X	X	X
Leadership Skills	Give appropriate feedback in an appropriate manner		X				X		X
	Administer consistent discipline		X				X	X	
	Management of personnel resources		X						

sources: ERISS survey, 2005
Lawrence K. Jones, *The Foundation Skills*, www.careerkey.org
www.online.onetcenter.org/find/
WorkKeys

REGIONAL GRADUATES BY DIVISION, PROGRAM, IVY TECH

DIVISION	PROGRAM	DEGREE	2005	2004	2003	2002	2001
A & D	Environmental Design	AAS	13	9	13	7	1
	Visual Communication	AAS	13	10	15	12	15
	Video - discontinued in 2000 combined w/VISCOM	AAS	0	0	3	6	2
		TOTAL	26	19	31	25	18
BUSINESS	Accounting	TC	2	10	15	10	2
		AAS	18	34	29	30	25
	Business Administration	TC	13	21	15	23	8
		AAS	20	25	20	16	20
		AS	9	5	6	0	0
	Computer Inf. Systems	TC	2	9	2	5	2
		AAS	28	27	30	33	28
	Office Administration	TC	5	3	8	9	3
AAS		13	10	13	10	2	
	TOTAL	110	144	138	136	90	
GESS	General Studies	AS	4	2	1	0	0
		TC	0	5	1	1	0
	Liberal Arts	AA	1	0	0	0	0
	<i>Began in 2004</i>						
	Biotechnology	AS	0	0	0	0	0
<i>Began in 2004</i>							
	TOTAL	5	7	2	1	0	
HEALTH	Medical Assisting	TC	56	27	31	26	8
		AAS	14	20	10	9	0
	Medical Lab. Tech.	AAS	9	8	7	6	6
		Assoc. Degree Nursing	AS	47	46	52	33
	Practical Nursing		72	63	76	74	94
	Paramedic		0	0	0	0	0
		TOTAL	198	164	176	148	150
PUBLIC SERVICES	Criminal Justice	AAS	5	0	0	0	0
		AS	4	3	0	0	0
	Early Childhood	AAS	10	8	4	0	1
		TC	0	0	0	1	0
	Hospitality	AAS	9	11	5	1	0
		TC	0	0	0	0	0
	Human Services	AAS	1	0	0	0	0
	Paralegal	AAS	4	0	0	1	0
		AS	0	1	0	0	0
	Education	AS	0	0	0	0	0
	Program yet to begin						
		TOTAL	33	23	9	3	1
TECHNOLOGY	Automotive	TC	0	0	2	0	1
		AAS	6	10	3	7	1
	Design	TC	0	0	0	0	0
		AAS	5	7	10	10	14
	Electronics	TC	0	0	0	1	0
		AAS	8	8	4	6	3
		AS	0	1	0	0	0
	MIT	TC	5	3	3	6	2
AAS		8	7	5	4	6	
	TOTAL	32	36	27	34	27	
APPRENTICESHIPS TC/AAS	Bricklayer		1	--	--	1	
	Carpenter		13	14	11	6	3
	Electrician		67	2	2	2	1
	Ironworker TC/AAS		1/10	1/1	--		
	Plumber/Pipefitter TC/AAS		2/38	--	2	1	
	Sheetmetal Worker TC/AAS		-/15	--			
	Millwright		--	4	1	--	
	Teledata	--	--	--	3	4	
	TOTAL	147	22	19	14	4	
REGIONAL GRADUATES BY DIVISION							
			2005	2004	2003	2002	2001
	Arts & Design	Total	26	19	31	25	18
	Business	Total	110	144	138	136	90
	General Education	Total	5	7	2	1	0
	Health	Total	198	164	176	148	150
	Public Services	Total	33	23	9	3	1
	Technology	Total	32	36	27	34	27
	Total Divisions		404	393	383	347	286
	Apprenticeships	Total	147	22	19	14	4
	Divisions+Apprenticeships	Total	551	415	402	361	290

Graduation Statistics IUSB

Confer Date	Discipline	Count	Confer Date	Discipline	Count
Aug-04	Allied Health Undergraduate	1	May-05	Business & Econ Graduate	31
Aug-04	Business & Econ Graduate	18	May-05	Business & Econ Undergraduate	64
Aug-04	Business & Econ Undergraduate	27	May-05	Dental Aux Educ Undergraduate	46
Aug-04	Education Graduate	47	May-05	Education Graduate	54
Aug-04	Education Undergraduate	10	May-05	Education Undergraduate	68
Aug-04	General Studies Prog Undergrad	31	May-05	Gen & Tech Stdy	1
Aug-04	Grad Sch-Liberal Arts & Sci	1	May-05	General Studies Prog Undergrad	51
Aug-04	Lib Arts & Sci Undergraduate	23	May-05	Grad Sch-Liberal Arts & Sci	6
Aug-04	Nursing Undergraduate	2	May-05	Lib Arts & Sci Undergraduate	89
Aug-04	Pub & Envir Aff Graduate	1	May-05	Nursing Undergraduate	24
Aug-04	Pub & Envir Aff Undergraduate	8	May-05	Pub & Envir Aff Graduate	9
Aug-04	Sch of the Arts Graduate	2	May-05	Pub & Envir Aff Undergraduate	35
Aug-04	Sch of the Arts Undergraduate	7	May-05	Sch of the Arts Graduate	3
Aug-04	Social Work Graduate	1	May-05	Sch of the Arts Undergraduate	40
		179	May-05	Social Work Graduate	23
					544
Dec-04	Business & Econ Graduate	10			
Dec-04	Business & Econ Undergraduate	64			
Dec-04	Continuing Education Undergrad	3	Jun-05	Allied Health Undergraduate	14
Dec-04	Continuing Stdy Undergraduate	1	Jun-05	Continuing Education Undergrad	6
Dec-04	Dental Aux Educ Undergraduate	1	Jun-05	Continuing Stdy Undergraduate	1
Dec-04	Education Graduate	16	Jun-05	Dental Aux Educ Undergraduate	1
Dec-04	Education Undergraduate	43	Jun-05	Education Graduate	8
Dec-04	General Studies Prog Undergrad	22	Jun-05	Education Undergraduate	12
Dec-04	Grad Sch-Liberal Arts & Sci	3	Jun-05	Pub & Envir Aff Graduate	1
Dec-04	Labor Studies Undergraduate	1	Jun-05	Pub & Envir Aff Undergraduate	3
Dec-04	Lib Arts & Sci Undergraduate	33	Aug-05	Business & Econ Graduate	14
Dec-04	Nursing Undergraduate	33	Aug-05	Business & Econ Undergraduate	35
Dec-04	Pub & Envir Aff Graduate	1	Aug-05	Continuing Education Undergrad	3
Dec-04	Pub & Envir Aff Undergraduate	20	Aug-05	Education Graduate	45
Dec-04	Sch of the Arts Graduate	2	Aug-05	Education Undergraduate	12
Dec-04	Sch of the Arts Undergraduate	12	Aug-05	General Studies Prog Undergrad	43
Dec-04	Social Work Graduate	1	Aug-05	Grad Sch-Liberal Arts & Sci	2
		266	Aug-05	Labor Studies Undergraduate	2
			Aug-05	Lib Arts & Sci Undergraduate	30
			Aug-05	Nursing Undergraduate	6
			Aug-05	Pub & Envir Aff Graduate	3
			Aug-05	Pub & Envir Aff Undergraduate	7
			Aug-05	Sch of the Arts Graduate	1
			Aug-05	Sch of the Arts Undergraduate	11
			Aug-05	Social Work Graduate	4
					264

Course	Enrolled	9th	10th	11th	12th	1st Yr Seniors	2nd Yr Comp	Total Completers	
Machine Trades	2001-2002	32			14	18	unk	unk	13
	2002-2003	33	1	1	16	15	unk	unk	11
	2003-2004	40			20	20	2	13	15
	2004-2005	40			18	22	7	12	19
Welding	2001-2002	27		1	19	7	unk	unk	6
	2002-2003	30	1	3	13	13	unk	unk	8
	2003-2004	38			21	17	2	6	8
	2004-2005	45			21	24	6	11	17

Elkhart Area Career Center data