



ECONOMIC IMPACT ANALYSIS

Illinois Route 23/I-90 Project

Shaping the Economy of McHenry County

**McHENRY
COUNTY | EDC**

Pam Cumpata, President
620 Dakota Street, Suite 244,
Crystal Lake, IL 60012

815.893.0895

www.mchenrycountyedc.com



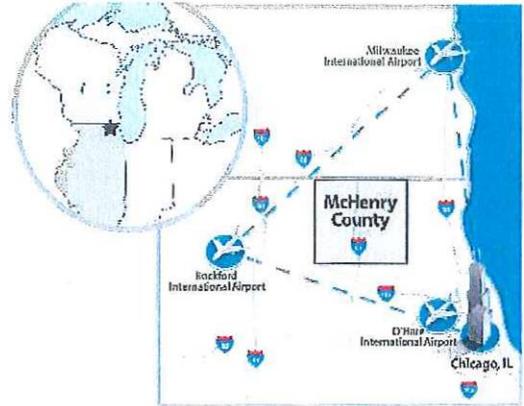
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Full Interchange IL Rt. 23/Illinois 90 Project

McHenry County is strategically located in the center of the Chicago, IL, Milwaukee WI, and Rockford, IL business triangle and provides the transportation, labor and utility benefits of the Chicagoland region.



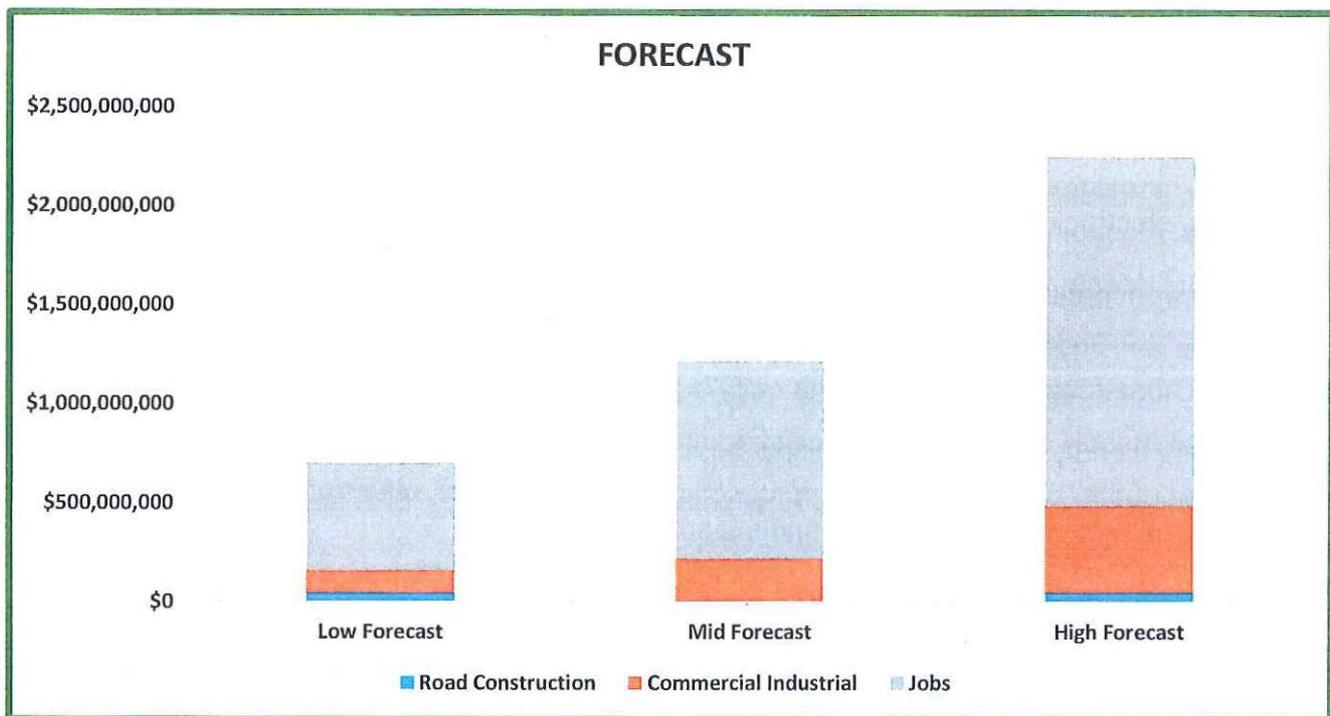
- Solid financial structure --- Aaa bond rating
- Unparalleled supply chain access to the Chicago metropolitan 6 county region as well as nearby Milwaukee Wisconsin metro area
- Extensive transportation network access (FOUR Airports – Chicago O’Hare, Chicago Rockford International Airport with air cargo hub, Midway and Milwaukee, as well as Class A rail and high capacity roadways)
- Home of world-class corporate headquarters and more than 500 manufacturers
- Abundant open land opportunities
- Class A business parks
- Vibrant, innovative and expanding industry sectors – advanced manufacturing, plastics, medical devices, electronics and more
- Skilled workforce with collaborative educational partners
- Reliable and cost effective utilities
- Diverse hometown communities with easy big-city access
- Business friendly county and municipal administrations
- Excellent quality of life in town and rural settings, the Fox River, bike trails and other recreational choices, multiple cultural activities and seasonal change
- Multiple hospital and medical facilities

But with all these incredible assets, McHenry County lacks access to an interstate more specifically access to I-90. Access to Illinois 90 would open up the western half of McHenry County for additional commerce for the agriculture, manufacturing, logistics and other primary employment sectors. Employers could access a larger workforce pool and new commercial development could occur.

EXECUTIVE SUMMARY

McHenry County Economic Development Corporation (MCEDC), as the regional economic development corporation in McHenry County, analyzed the economic benefits of the proposed Illinois Route 23 & Illinois 90 transportation project. MCEDC, through the use of an economic modeling software, IMPLAN, sought to forecast the economic impact of the interchange construction project, the construction of commercial/industrial development that this project would foster and employment within those commercial/industrial facilities.

	<u>Low Forecast</u>	<u>Mid-Level Forecast</u>	<u>High Forecast</u>
Road Construction	\$45,298,529		\$49,399,871
Commercial/Industrial Development	\$113,845,761	\$218,126,983	\$436,243,535
900 - 3594 Jobs	\$537,615,370	\$997,238,372	\$1,761,983,231
Total	\$696,759,660	\$1,215,365,355	\$2,247,626,637



As competition for businesses to locate and expand here continues to be an uphill battle, these economic development and job growth data are very promising and present tremendous opportunities for our region, and the state. Moreover, new businesses also help diversify and expand the tax base.

ECONOMIC MODEL EMPLOYED

*IMPLAN is a computer software package that consists of procedures for estimating local input-output models and associated databases. The acronym is for **IMP**act **PL**anning and **AN**alyses.*

was originally developed by the U.S. Forest Service in cooperation with the Federal Emergency Management Agency and the U.S. Department of the Interior's Bureau of Land Management to assist in land and resource management planning. Since 1993, the IMPLAN system has been developed under exclusive rights by the Minnesota Implan Group, Inc. (Headquartered in Stillwater, Minnesota), which licenses and distributes the software to users. Currently, there are hundreds of licensed users in the United States including universities, government agencies, and private companies.

The economic data for IMPLAN comes from the system of national accounts for the United States based on data collected by the U.S. Department of Commerce, the U.S. Bureau of Labor Statistics, and other federal and state government agencies. Data are collected for 528 distinct producing industry sectors of the national economy corresponding to the Standard Industrial Categories (SICs). Industry sectors are classified on the basis of the primary commodity or service produced. Corresponding data sets are also produced for each county in the United States, allowing analyses at the county level and for geographic aggregations such as clusters of contiguous counties, individual states, or groups of states.

Data provided for each industry sector includes outputs and inputs from other sectors, value added, employment, wages and business taxes paid, imports and exports, final demand by households and government, capital investments, business inventories, marketing margins, and inflation factors (deflators). These data are provided both for the 528 producing sectors at the national level and for the corresponding sectors at the county level. Data on the technological mix of inputs and levels of transactions between producing sectors are taken from detailed input-output tables of the national economy. National and county level data are the basis for IMPLAN calculations of input-output tables and multipliers for local areas.

MCEDC developed this report using the IMPLAN economic modeling software and the inputs provided by Marengo Southwestern Sub-Area Plan. Additional data or conversion factors were used where appropriate. Distributions were made to mirror the current clusters as represented in the 2016 Northern Illinois Comprehensive Economic Development Strategy.

INTERCHANGE PROJECT

This analysis is intended to examine and estimate the economic impact of repairing the bridge due to structural deficiencies and add a new interchange connecting Marengo's portion of Route 23 and Interstate 90 (I-90) - the Jane Addams Tollway ("proposed project"). The I-90 corridor is the largest transportation opportunity within the region. The Interchange and the new access to I-90 at the Route 23 intersection may stimulate economic growth and development of the Marengo Southwestern Sub-Area (Green, 2013). The proposed interchange project and tollway access could provide opportunities such as:

- ✓ Access to large areas of underdeveloped or underutilized land providing economic development opportunities that encourage trade and industry growth;
- ✓ Easing residents and businesses access to Chicago area airports and Rockford via the tollway and reducing commuting times; and
- ✓ Affecting the local economy through regional economic development and job creation. By improving access to the market and reducing transportation costs, a new interchange may stimulate the economy. (Green, 2013)

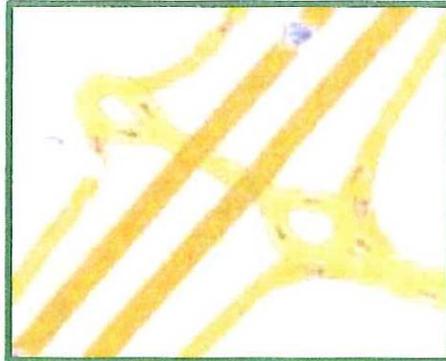
IMPROVED MOBILITY

In terms of economic impact, businesses are better able to reach economies of scale by access to a broader customer market. Further, improving transportation conditions through the proposed project will likely provide households with better access to work and retail opportunities.

BENEFIT	Travel Efficiency	Social	Economic Development
Commuting time savings for personal travel	YES	YES	
Commuting time savings for business travel	YES	YES	YES
Expense savings for vehicle operating costs	YES	YES	YES
Shipper/Receipt efficiency improvements			YES
Local income growth from potential business attraction		YES	YES
Value of environment benefits		YES	

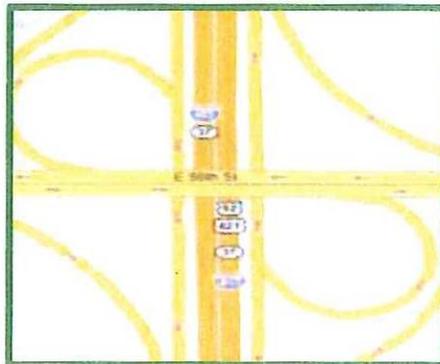
DESIGN OPTIONS and PROBABLE COSTS:

A roundabout interchange (Scenario 1) is a type of diamond interchange with roundabout sections at the ramp terminals. These types of interchanges are becoming more widespread throughout the country. It follows a “yield-at-entry” rule, in which oncoming traffic must wait for a gap in traffic flow. In general roundabouts help to alleviate traffic backups and provide improved safety.



Example of roundabout interchange

Partial cloverleaf (Scenario 2) interchange designs are used instead of a diamond interchange. They are often used at 4-leg intersections and utilize loop ramps to accommodate left turn movements. Full cloverleaf interchanges are those with loops in all four quadrants; all other types are considered partial cloverleaf.



Example of a partial cloverleaf

The following table summarizes estimates of the costs and impacts associated with Scenarios 1 and 2:

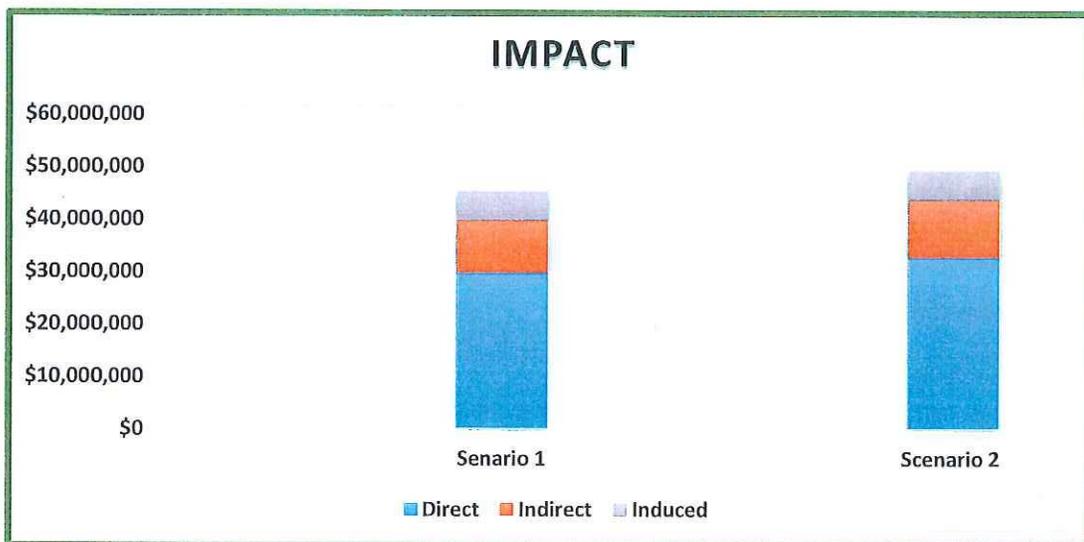
	Scenario 1
	Diamond with Roundabouts
City of Marengo Pre-Engineering Experience	\$ 250,000
McHenry County Pre-Engineering Experience	\$ 289,609
Engineering Cost (Phase I, II & III)	\$ 4,721,103
Land Acquisition Cost	\$ 2,077,030
Construction Cost w/ 25% Contingency	\$ 22,481,443
Total Interchange Cost	\$ 29,819,185
(Interchange: Tollway Authority Share 50%)	(\$ 14,909,592)
Interchange: Local Share 50%	\$ 14,909,592

	Scenario 2
	Parclo with Roundabouts
City of Marengo Pre-Engineering Experience	\$ 250,000
McHenry County Pre-Engineering Experience	\$ 289,609
Engineering Cost (Phase I, II & III)	\$ 5,094,788
Land Acquisition Cost	\$ 2,899,090
Construction Cost w/ 25% Contingency	\$ 24,260,883
Total Interchange Cost	\$ 32,794,370
(Interchange: Tollway Authority Share 50%)	(\$ 16,397,185)
Interchange: Local Share 50%	\$ 16,397,185

For the purposes of this analysis, the *direct impacts* are the direct result of transportation construction. The *indirect impacts* are generated from the expenditures of the individuals who benefit from the direct impact – suppliers, contractors, and service providers. *Induced impacts* result from an increase in household income and related spending which is driven by the direct and indirect impacts. All of these impacts are measured based upon their economic contributions to McHenry County, Illinois.

The following chart summarizes the direct, indirect, and induced effects of the proposed project:

Impact Type	Scenario 1 Diamond with Roundabouts	Impact Type	Scenario 2 Parclo with Roundabouts
Direct Effect	\$ 29,819,185	Direct Effect	\$ 32,794,370
Indirect Effect	\$ 10,037,369	Indirect Effect	\$ 11,038,839
Induced Effect	\$ 5,441,975	Induced Effect	\$ 5,566,662
Total Effect	\$ 45,298,529	Total Effect	\$ 49,399,871



INTERCHANGE CONSTRUCTION COMPONENT

The road construction investment is projected to be between \$29.8 million and \$32.8 million. This investment can be expected to drive between \$45.3 million and \$49.8 million of economic activity.

Sector	Description	Scenario 1 Output	Scenario 2 Output
0	Total	\$45,298,530.45	\$49,818,154.59
56	Construction of new highways and streets	\$29,819,186.10	\$32,794,371.21
395	Wholesale trade	\$2,028,925.35	\$2,231,359.73
156	Petroleum refineries	\$1,932,776.85	\$2,125,618.10
441	Owner-occupied dwellings	\$1,140,053.49	\$1,253,801.40
206	Ready-mix concrete manufacturing	\$962,866.99	\$1,058,936.26
30	Stone mining and quarrying	\$494,054.89	\$543,348.81
411	Truck transportation	\$462,689.13	\$508,853.56
449	Architectural, engineering, and related services	\$393,686.94	\$432,966.74
440	Real estate	\$379,717.76	\$417,603.79
158	Asphalt shingle and coating materials manufacturing	\$362,273.93	\$398,419.51
433	Monetary authorities and depository credit intermediation	\$335,478.31	\$368,950.39
445	Commercial and industrial machinery and equipment rental and leasing	\$317,021.37	\$348,651.92
482	Hospitals	\$314,531.32	\$345,913.43
407	Retail - Nonstore retailers	\$301,659.66	\$331,757.50
502	Limited-service restaurants	\$231,101.59	\$254,159.56
507	Commercial and industrial machinery and equipment repair and maintenance	\$198,933.88	\$218,782.35
475	Offices of physicians	\$188,630.01	\$207,450.42
464	Employment services	\$183,014.51	\$201,274.64
405	Retail - General merchandise stores	\$180,404.39	\$198,404.09
403	Retail - Clothing and clothing accessories stores	\$169,780.13	\$186,719.81
504	Automotive repair and maintenance, except car washes	\$163,100.50	\$179,373.72
410	Water transportation	\$162,007.51	\$178,171.67
436	Other financial investment activities	\$152,562.36	\$167,784.14
501	Full-service restaurants	\$150,007.87	\$164,974.78
447	Legal services	\$148,612.36	\$163,440.04
461	Management of companies and enterprises	\$147,626.50	\$162,355.81
62	Maintenance and repair construction of nonresidential structures	\$140,702.79	\$154,741.30
396	Retail - Motor vehicle and parts dealers	\$137,156.22	\$150,840.87
399	Retail - Building material and garden equipment and supplies stores	\$130,820.55	\$143,873.07
31	Sand and gravel mining	\$120,334.62	\$132,340.91
401	Retail - Health and personal care stores	\$113,727.16	\$125,074.20
427	Wired telecommunications carriers	\$113,676.58	\$125,018.57
159	Petroleum lubricating oil and grease manufacturing	\$112,173.06	\$123,365.03
157	Asphalt paving mixture and block manufacturing	\$105,664.10	\$116,206.65
454	Management consulting services	\$101,845.54	\$112,007.10
476	Offices of dentists	\$94,354.48	\$103,768.62
400	Retail - Food and beverage stores	\$92,031.62	\$101,214.00
154	Printing	\$89,936.75	\$98,910.12

428	Wireless telecommunications carriers (except satellite)	\$88,160.87	\$96,957.05
409	Rail transportation	\$84,905.37	\$93,376.73
471	Waste management and remediation services	\$81,856.33	\$90,023.48
439	Funds, trusts, and other financial vehicles	\$79,358.82	\$87,276.78
483	Nursing and community care facilities	\$78,749.87	\$86,607.08
406	Retail - Miscellaneous store retailers	\$76,098.46	\$83,691.12
63	Maintenance and repair construction of residential structures	\$67,297.03	\$74,011.54
506	Electronic and precision equipment repair and maintenance	\$62,476.95	\$68,710.54
477	Offices of other health practitioners	\$59,892.05	\$65,867.73
508	Personal and household goods repair and maintenance	\$59,544.58	\$65,485.60
448	Accounting, tax preparation, bookkeeping, and payroll services	\$54,137.49	\$59,539.01
518	Postal service	\$51,353.41	\$56,477.16
435	Securities and commodity contracts intermediation and brokerage	\$50,858.92	\$55,933.32
468	Services to buildings	\$50,367.47	\$55,392.84
469	Landscape and horticultural services	\$50,259.04	\$55,273.59
460	Marketing research and all other miscellaneous professional, scientific, and technical services	\$47,936.24	\$52,719.03
462	Office administrative services	\$46,907.00	\$51,587.10
453	Other computer related services, including facilities management	\$46,184.28	\$50,792.28
414	Scenic and sightseeing transportation and support activities for transportation	\$44,737.52	\$49,201.17
503	All other food and drinking places	\$44,441.64	\$48,875.77
216	Miscellaneous nonmetallic mineral products manufacturing	\$41,048.49	\$45,144.07
438	Insurance agencies, brokerages, and related activities	\$40,104.48	\$44,105.87
404	Retail - Sporting goods, hobby, musical instrument and book stores	\$39,485.56	\$43,425.20
209	Other concrete product manufacturing	\$39,426.31	\$43,360.04
416	Warehousing and storage	\$37,397.53	\$41,128.84
470	Other support services	\$36,093.94	\$39,695.19
526	Other local government enterprises	\$35,686.80	\$39,247.42
442	Automotive equipment rental and leasing	\$35,622.48	\$39,176.68
457	Advertising, public relations, and related services	\$34,848.26	\$38,325.22
486	Community food, housing, and other relief services, including rehabilitation services	\$31,840.51	\$35,017.37
496	Other amusement and recreation industries	\$31,538.31	\$34,685.02
402	Retail - Gasoline stores	\$31,217.44	\$34,332.13
452	Computer systems design services	\$30,669.44	\$33,729.46
446	Lessors of nonfinancial intangible assets	\$30,510.88	\$33,555.08
509	Personal care services	\$30,117.68	\$33,122.65
49	Electric power transmission and distribution	\$28,532.11	\$31,378.88
487	Child day care services	\$28,294.81	\$31,117.90
459	Veterinary services	\$26,262.10	\$28,882.38
466	Travel arrangement and reservation services	\$25,709.37	\$28,274.51
437	Insurance carriers	\$25,535.41	\$28,083.18
472	Elementary and secondary schools	\$25,276.18	\$27,798.09
434	Nondepository credit intermediation and related activities	\$25,092.54	\$27,596.13
397	Retail - Furniture and home furnishings stores	\$24,359.15	\$26,789.57
513	Religious organizations	\$22,937.72	\$25,226.32
20	Extraction of natural gas and crude petroleum	\$19,872.77	\$21,855.55
480	Home health care services	\$19,216.44	\$21,133.75
497	Fitness and recreational sports centers	\$18,541.93	\$20,391.94
398	Retail - Electronics and appliance stores	\$18,361.37	\$20,193.36

478	Outpatient care centers	\$18,328.92	\$20,157.68
415	Couriers and messengers	\$18,185.52	\$19,999.96
474	Other educational services	\$16,947.64	\$18,638.58
408	Air transportation	\$16,912.11	\$18,599.50
515	Business and professional associations	\$16,908.31	\$18,595.32
485	Individual and family services	\$16,907.80	\$18,594.76
417	Newspaper publishers	\$16,302.43	\$17,928.99
517	Private households	\$16,189.05	\$17,804.30
430	Data processing, hosting, and related services	\$16,047.34	\$17,648.45
200	Brick, tile, and other structural clay product manufacturing	\$14,619.48	\$16,078.13
423	Motion picture and video industries	\$14,528.46	\$15,978.02
195	Other plastics product manufacturing	\$14,061.86	\$15,464.87
420	Directory, mailing list, and other publishers	\$13,869.80	\$15,253.65
450	Specialized design services	\$13,757.71	\$15,130.38
205	Cement manufacturing	\$12,989.91	\$14,285.96
84	Fluid milk manufacturing	\$12,982.05	\$14,277.33
492	Independent artists, writers, and performers	\$12,948.31	\$14,240.22
412	Transit and ground passenger transportation	\$12,634.70	\$13,895.32
443	General and consumer goods rental except video tapes and discs	\$12,559.61	\$13,812.74
50	Natural gas distribution	\$12,506.84	\$13,754.70
473	Junior colleges, colleges, universities, and professional schools	\$12,304.84	\$13,532.55
465	Business support services	\$11,777.48	\$12,952.56
426	Cable and other subscription programming	\$10,373.33	\$11,408.33
512	Other personal services	\$10,220.70	\$11,240.47
505	Car washes	\$10,006.11	\$11,004.46
495	Gambling industries (except casino hotels)	\$9,477.50	\$10,423.11
514	Grantmaking, giving, and social advocacy organizations	\$9,445.46	\$10,387.87
511	Dry-cleaning and laundry services	\$9,438.89	\$10,380.65
455	Environmental and other technical consulting services	\$9,198.76	\$10,116.56
177	Paint and coating manufacturing	\$8,754.38	\$9,627.84
488	Performing arts companies	\$8,583.02	\$9,439.39
388	Sign manufacturing	\$8,376.45	\$9,212.20
413	Pipeline transportation	\$7,588.73	\$8,345.89
516	Labor and civic organizations	\$7,466.00	\$8,210.92
419	Book publishers	\$6,027.78	\$6,629.20
237	Prefabricated metal buildings and components manufacturing	\$5,809.93	\$6,389.61
432	Internet publishing and broadcasting and web search portals	\$5,708.75	\$6,278.34
489	Commercial Sports Except Racing	\$5,229.21	\$5,750.95
510	Death care services	\$5,219.28	\$5,740.03
467	Investigation and security services	\$5,083.05	\$5,590.21

Note: Additional amounts available thru 0 impact.



COMMERCIAL/INDUSTRIAL DEVELOPMENT

The City of Marengo embarked on this Southwestern Sub-Area Plan (SWSA) plan to maximize the potential opportunities south and southwest of the current City limits, specifically along Route 23 and the potential interchange at I-90. This SWSA Plan incorporates ideas and strategies from the planning process and provides a comprehensive vision for the future of this area. This planning assignment was an important opportunity for the City to:

- Continue the planning process formalized in the 2004 Comprehensive Plan.
- Create a clear, documented vision of Marengo's future for this specific area.
- Plan for coordinated growth that incorporates existing physical and natural characteristics, utilities, and transportation strategies with sound land-use planning principles.
- Optimize a short and long-range development framework.
- Attract land uses and development compatible with community goals and the area's needs, infrastructure and character such as commercial, industrial office/research, residential and open space.
- Improve Marengo's land-use mix, physical conditions, and overall quality of life.

The need for this more refined planning effort is a function of the increasing development pressure within this southwestern sub-area. Additionally, it is important to understand the potential needs such as utility demands and a highly coordinated road network, as well as the challenges associated with preserving and enhancing the numerous natural features and open spaces. The geographic location of the potential Route 23/I-90 potential interchange would be a significant factor and driving force for future development in this area.

In summary, the overall purpose of the SWSA Plan is to carry forward the general policies of the Comprehensive Plan, and to further refine policy statements by translating them into a more specific vision that will be used to guide future development within the Southwestern Sub-Area. This Plan allows the City of Marengo to be forward-thinking by creating a road map that is mutually beneficial for all stakeholders. Overall, the planning process was designed to be sensitive to the multiple needs of the community and responsive to the Study Area's and City's land-use constraints and opportunities.

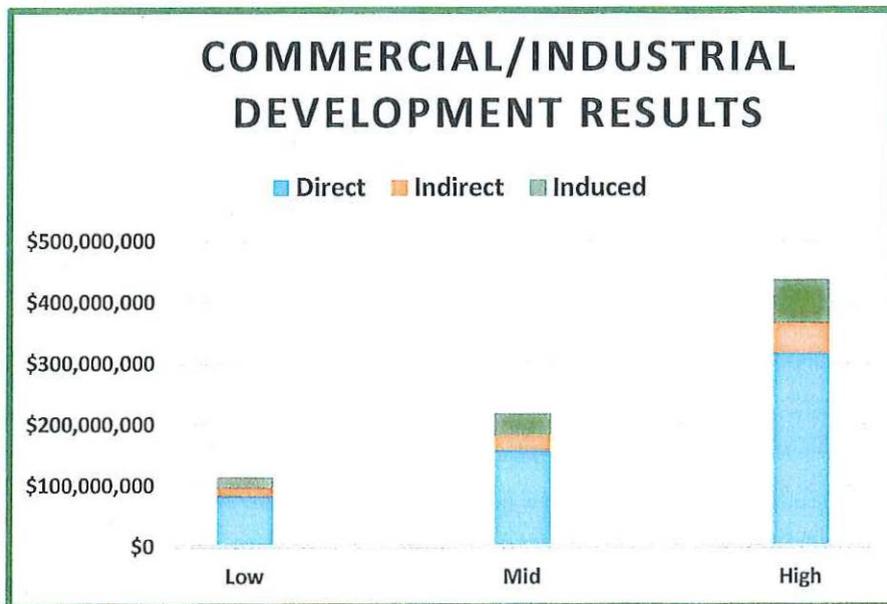
Aligning the Marengo Southwestern Sub area plan (2013) with the Northern Illinois Comprehensive Economic Development Strategy (2016) resulted in assumptions of sectors and employment opportunities in those sectors. The analysis also uses Fishkind & Associates, Orlando, FL for square foot per employee. The cost per square foot to build an industrial facility is based on current projects in McHenry County of \$65 to \$85 per square foot (2016).

Square feet Per Employee

Office	350 square foot per employee
Professional/Medical	275 square foot per employee
Industrial	2,500 square foot per employee

Source: Fishkind & Associates, Orlando FL

	LOW	MID	HIGH
Direct	\$82,117,503	\$158,400,006	\$316,792,512
Indirect	\$13,857,621	\$ 24,792,102	\$49,582,854
Induced	\$17,870,637	\$334,934,876	\$69,868,170
Total	\$113,845,761	\$218,126,983	\$436,243,535



For the purposes of this analysis, the **direct impacts** are the direct result of investments in construction costs of commercial/industrial facilities. The **indirect impacts** are generated from the expenditures of the individuals who benefit from the direct impact – suppliers, contractors, and service providers. **Induced impacts** result from an increase in household income and related spending which is driven by the direct and indirect impacts. All of these impacts are measured based upon their economic contributions to McHenry County, Illinois.

Rt. 23 & I-90 Interchange		OUTPUT		
Sector	Description	LOW	MID	HIGH
0	Total	\$113,845,761	\$218,126,983	\$436,243,535
53	Construction of new manufacturing structures	\$62,887,502	\$125,612,505	\$251,225,009
58	Construction of other new nonresidential structures	\$19,230,001	\$32,787,501	\$65,567,502
395	Wholesale trade	\$5,281,528	\$10,333,239	\$20,665,986
441	Owner-occupied dwellings	\$3,741,586	\$7,313,332	\$14,626,332
156	Petroleum refineries	\$2,402,437	\$4,389,903	\$8,779,574
440	Real estate	\$1,047,893	\$2,023,429	\$4,046,766
482	Hospitals	\$1,034,649	\$1,984,446	\$3,968,792
411	Truck transportation	\$891,588	\$1,764,253	\$3,528,419
449	Architectural, engineering, and related services	\$790,317	\$1,553,785	\$3,107,443
433	Monetary authorities and depository credit intermediation	\$735,560	\$1,441,905	\$2,883,730
502	Limited-service restaurants	\$692,355	\$1,360,130	\$2,720,198
206	Ready-mix concrete manufacturing	\$676,780	\$1,351,917	\$2,703,784
475	Offices of physicians	\$620,498	\$1,213,486	\$2,426,917
405	Retail - General merchandise stores	\$550,097	\$957,646	\$1,915,241
407	Retail - Nonstore retailers	\$491,940	\$838,453	\$1,676,865
464	Employment services	\$431,226	\$838,004	\$1,675,967
436	Other financial investment activities	\$429,610	\$784,209	\$1,568,390
501	Full-service restaurants	\$425,629	\$706,716	\$1,413,405
447	Legal services	\$369,607	\$665,199	\$1,330,367
445	Commercial and industrial machinery and equipment rental and leasing	\$346,873	\$646,801	\$1,293,572
504	Automotive repair and maintenance, except car washes	\$342,290	\$606,997	\$1,213,967
427	Wired telecommunications carriers	\$341,281	\$570,111	\$1,140,194
399	Retail - Building material and garden equipment and supplies stores	\$323,232	\$568,023	\$1,136,017
396	Retail - Motor vehicle and parts dealers	\$319,808	\$567,430	\$1,134,834
476	Offices of dentists	\$310,379	\$562,443	\$1,124,858
461	Management of companies and enterprises	\$301,276	\$529,043	\$1,058,063
400	Retail - Food and beverage stores	\$299,975	\$524,861	\$1,049,697
454	Management consulting services	\$284,070	\$510,640	\$1,021,256
403	Retail - Clothing and clothing accessories stores	\$270,273	\$506,670	\$1,013,318
154	Printing	\$268,955	\$506,570	\$1,013,118
428	Wireless telecommunications carriers (except satellite)	\$261,115	\$506,040	\$1,012,056

483	Nursing and community care facilities	\$259,031	\$459,367	\$918,703
439	Funds, trusts, and other financial vehicles	\$258,970	\$451,331	\$902,639
62	Maintenance and repair construction of nonresidential structures	\$239,800	\$434,127	\$868,237
401	Retail - Health and personal care stores	\$226,533	\$424,806	\$849,592
469	Landscape and horticultural services	\$218,752	\$385,295	\$770,572
63	Maintenance and repair construction of residential structures	\$217,773	\$353,362	\$706,708
477	Offices of other health practitioners	\$197,015	\$299,658	\$599,300
471	Waste management and remediation services	\$185,423	\$294,817	\$589,618
507	Commercial and industrial machinery and equipment repair and maintenance	\$181,132	\$280,352	\$560,696
406	Retail - Miscellaneous store retailers	\$141,846	\$274,010	\$548,008
503	All other food and drinking places	\$140,169	\$251,176	\$502,344
448	Accounting, tax preparation, bookkeeping, and payroll services	\$133,567	\$239,055	\$478,092
200	Brick, tile, and other structural clay product manufacturing	\$125,982	\$224,556	\$449,101
518	Postal service	\$117,932	\$223,169	\$446,325
468	Services to buildings	\$114,780	\$208,007	\$416,009
435	Securities and commodity contracts intermediation and brokerage	\$112,905	\$207,417	\$414,827
462	Office administrative services	\$112,227	\$204,170	\$408,330
466	Travel arrangement and reservation services	\$109,212	\$198,669	\$397,329
438	Insurance agencies, brokerages, and related activities	\$105,893	\$197,684	\$395,359
457	Advertising, public relations, and related services	\$105,546	\$193,501	\$386,992
486	Community food, housing, and other relief services, including rehabilitation services	\$104,464	\$193,479	\$386,949
159	Petroleum lubricating oil and grease manufacturing	\$103,463	\$192,650	\$385,292
526	Other local government enterprises	\$100,133	\$186,512	\$373,016
509	Personal care services	\$98,968	\$180,369	\$360,731
414	Scenic and sightseeing transportation and support activities for transportation	\$96,081	\$180,350	\$360,692
496	Other amusement and recreation industries	\$95,427	\$178,309	\$356,609
460	Marketing research and all other miscellaneous professional, scientific, and technical services	\$95,326	\$176,968	\$353,930
453	Other computer related services, including facilities management	\$93,366	\$168,519	\$337,027
487	Child day care services	\$92,382	\$168,501	\$336,992
416	Warehousing and storage	\$86,640	\$168,269	\$336,529
459	Veterinary services	\$86,107	\$164,908	\$329,794
404	Retail - Sporting goods, hobby, musical instrument and book stores	\$86,058	\$161,277	\$322,546
442	Automotive equipment rental and leasing	\$83,993	\$155,611	\$311,215
472	Elementary and secondary schools	\$82,596	\$153,636	\$307,264
508	Personal and household goods repair and maintenance	\$80,904	\$150,186	\$300,364
446	Lessors of nonfinancial intangible assets	\$78,918	\$147,372	\$294,738
437	Insurance carriers	\$77,406	\$147,083	\$294,159
513	Religious organizations	\$75,255	\$145,307	\$290,606
49	Electric power transmission and distribution	\$75,205	\$144,153	\$288,300
209	Other concrete product manufacturing	\$73,434	\$140,402	\$280,796
410	Water transportation	\$72,114	\$124,380	\$248,754
397	Retail - Furniture and home furnishings stores	\$69,179	\$124,323	\$248,640
506	Electronic and precision equipment repair and maintenance	\$68,461	\$123,622	\$247,239
452	Computer systems design services	\$63,983	\$121,009	\$242,013
480	Home health care services	\$63,212	\$118,807	\$237,602
409	Rail transportation	\$63,113	\$118,179	\$236,351
402	Retail - Gasoline stores	\$62,248	\$117,913	\$235,820
470	Other support services	\$60,480	\$113,037	\$226,068

478	Outpatient care centers	\$60,293	\$112,379	\$224,752
434	Nondepository credit intermediation and related activities	\$57,797	\$109,294	\$218,582
398	Retail - Electronics and appliance stores	\$55,968	\$108,416	\$216,827
485	Individual and family services	\$55,471	\$106,470	\$212,935
474	Other educational services	\$54,709	\$106,305	\$212,605
497	Fitness and recreational sports centers	\$54,042	\$105,074	\$210,143
517	Private households	\$53,086	\$103,741	\$207,477
417	Newspaper publishers	\$49,886	\$94,414	\$188,823
423	Motion picture and video industries	\$45,913	\$89,446	\$178,888
84	Fluid milk manufacturing	\$42,557	\$84,453	\$168,901
420	Directory, mailing list, and other publishers	\$42,455	\$83,223	\$166,441
408	Air transportation	\$42,108	\$81,149	\$162,294
415	Couriers and messengers	\$41,238	\$80,671	\$161,338
31	Sand and gravel mining	\$40,957	\$78,450	\$156,897
473	Junior colleges, colleges, universities, and professional schools	\$39,967	\$77,784	\$155,565
430	Data processing, hosting, and related services	\$37,266	\$74,227	\$148,449
515	Business and professional associations	\$36,992	\$70,787	\$141,571
450	Specialized design services	\$35,688	\$70,090	\$140,177
30	Stone mining and quarrying	\$34,243	\$69,425	\$138,848
512	Other personal services	\$32,684	\$63,758	\$127,513
158	Asphalt shingle and coating materials manufacturing	\$32,135	\$60,717	\$121,432
426	Cable and other subscription programming	\$31,353	\$60,193	\$120,384
495	Gambling industries (except casino hotels)	\$31,071	\$60,044	\$120,086
514	Grantmaking, giving, and social advocacy organizations	\$30,809	\$59,828	\$119,654
492	Independent artists, writers, and performers	\$30,481	\$58,204	\$116,405
275	Air purification and ventilation equipment manufacturing	\$28,807	\$55,590	\$111,178
511	Dry-cleaning and laundry services	\$28,635	\$55,402	\$110,802
465	Business support services	\$28,377	\$55,028	\$110,053
412	Transit and ground passenger transportation	\$27,685	\$51,642	\$103,281
443	General and consumer goods rental except video tapes and discs	\$27,553	\$51,567	\$103,132
195	Other plastics product manufacturing	\$26,711	\$48,420	\$96,835
488	Performing arts companies	\$26,420	\$47,826	\$95,649
20	Extraction of natural gas and crude petroleum	\$24,715	\$47,158	\$94,314
505	Car washes	\$24,617	\$45,155	\$90,308
516	Labor and civic organizations	\$24,478	\$41,603	\$83,205
455	Environmental and other technical consulting services	\$22,325	\$37,832	\$75,662
419	Book publishers	\$19,413	\$34,954	\$69,906
157	Asphalt paving mixture and block manufacturing	\$18,473	\$33,467	\$66,933
50	Natural gas distribution	\$18,173	\$32,093	\$64,185
510	Death care services	\$17,124	\$30,273	\$60,542
216	Miscellaneous nonmetallic mineral products manufacturing	\$16,982	\$29,620	\$59,238
432	Internet publishing and broadcasting and web search portals	\$16,972	\$28,273	\$56,544
489	Commercial Sports Except Racing	\$15,038	\$26,851	\$53,696
479	Medical and diagnostic laboratories	\$14,457	\$25,886	\$51,771
212	Abrasive product manufacturing	\$13,275	\$25,278	\$50,555
418	Periodical publishers	\$13,270	\$24,836	\$49,670
458	Photographic services	\$12,741	\$24,714	\$49,427
467	Investigation and security services	\$12,704	\$23,385	\$46,770

207	Concrete block and brick manufacturing	\$10,886	\$19,535	\$39,069
237	Prefabricated metal buildings and components manufacturing	\$10,799	\$18,998	\$37,992
261	Other fabricated metal manufacturing	\$10,570	\$18,459	\$36,918
422	Software publishers	\$9,307	\$18,172	\$36,342
493	Museums, historical sites, zoos, and parks	\$9,299	\$18,014	\$36,027
205	Cement manufacturing	\$9,110	\$17,031	\$34,062
425	Radio and television broadcasting	\$9,032	\$17,023	\$34,046
413	Pipeline transportation	\$8,847	\$16,685	\$33,368
254	Valve and fittings, other than plumbing, manufacturing	\$8,846	\$16,400	\$32,797
481	Other ambulatory health care services	\$8,705	\$16,247	\$32,493
491	Promoters of performing arts and sports and agents for public figures	\$8,380	\$15,969	\$31,938
141	Other millwork, including flooring	\$7,862	\$14,303	\$28,606
108	Breweries	\$7,199	\$14,079	\$28,157
240	Metal window and door manufacturing	\$6,928	\$13,178	\$26,356
172	Pesticide and other agricultural chemical manufacturing	\$6,737	\$12,566	\$25,131
431	News syndicates, libraries, archives and all other information services	\$6,449	\$12,499	\$24,998
89	Animal, except poultry, slaughtering	\$6,328	\$12,380	\$24,759
174	Pharmaceutical preparation manufacturing	\$5,314	\$11,718	\$23,435
134	Sawmills	\$5,006	\$11,566	\$23,130
444	Video tape and disc rental	\$4,627	\$10,383	\$20,765
51	Water, sewage and other systems	\$4,548	\$9,049	\$18,097
277	Air conditioning, refrigeration, and warm air heating equipment manufacturing	\$4,375	\$8,830	\$17,660
177	Paint and coating manufacturing	\$4,279	\$8,188	\$16,376
3	Vegetable and melon farming	\$4,186	\$7,887	\$15,774
484	Residential mental retardation, mental health, substance abuse and other facilities	\$4,033	\$7,832	\$15,663
260	Fabricated pipe and pipe fitting manufacturing	\$3,566	\$7,327	\$14,653
326	Lighting fixture manufacturing	\$3,445	\$6,739	\$13,478
213	Cut stone and stone product manufacturing	\$3,440	\$6,569	\$13,138
463	Facilities support services	\$3,268	\$6,373	\$12,746
499	Hotels and motels, including casino hotels	\$2,766	\$6,053	\$12,105
14	Animal production, except cattle and poultry and eggs	\$2,761	\$5,991	\$11,981
494	Amusement parks and arcades	\$2,740	\$5,768	\$11,535
149	Paperboard container manufacturing	\$2,496	\$5,475	\$10,949
10	All other crop farming	\$2,485	\$5,398	\$10,796
380	Surgical appliance and supplies manufacturing	\$2,455	\$5,353	\$10,706
424	Sound recording industries	\$2,369	\$5,243	\$10,486
241	Sheet metal work manufacturing	\$2,262	\$5,242	\$10,483

Note: Additional amounts available thru 0 impact

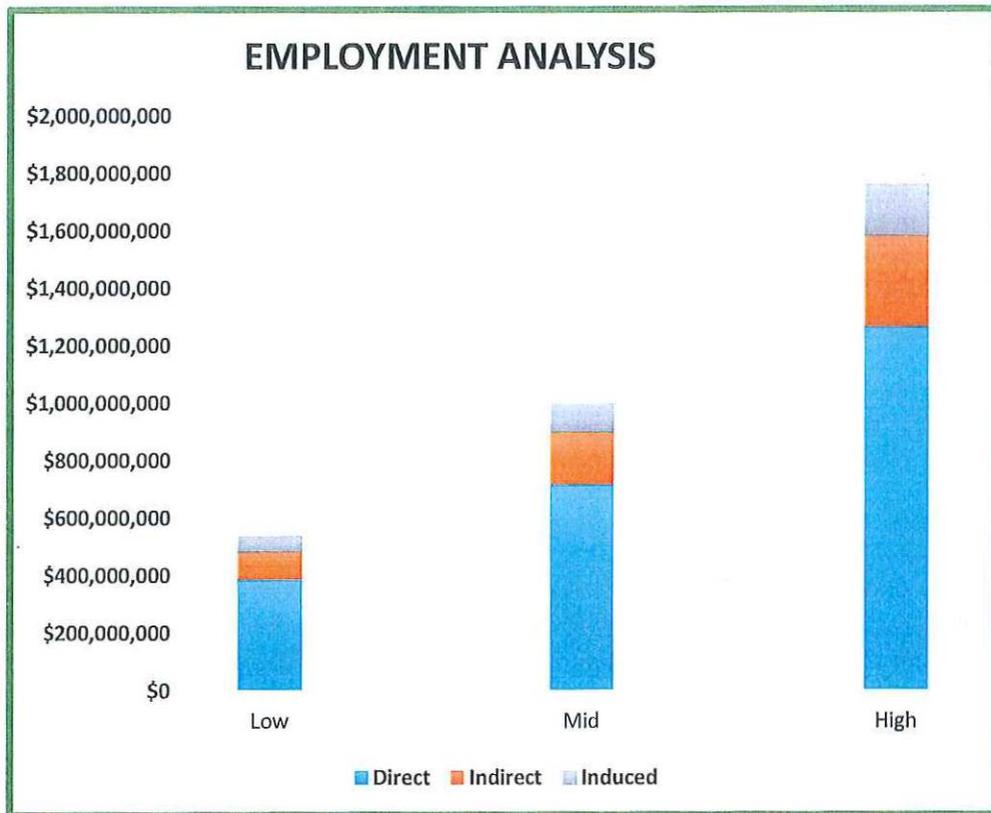
EMPLOYMENT ANALYSIS

This component of the analysis is intended to examine and estimate the economic impact of the jobs created by the companies locating within the Southwestern Sub- Area Plan (HR Green 2013). The plan projects development that can occur following the completion of the new interchange connecting Marengo's portion of Route 23 and Interstate 90 (I-90). Using the land use plan, HR Green modeled the potential jobs created based on 4 jobs per developed acre which resulted in potentially 3,594 new jobs.

The economic impact modeling aligned the land use plan with the clusters identified in the recently completed Northern Illinois Comprehensive Economic Development Strategy (CEDS) 2016. The CEDS which included the counties of McHenry, Boone and Winnebago, targeted the following industries clusters:

- Advanced Manufacturing
 - Automotive
 - Aerospace
 - Production Technology and Heavy Machinery
 - Metal and Metal Products
 - Plastics
 - Chemical
- Transportation, Logistics and Distribution
- Agriculture & Food Processing
- Healthcare & Medical Sciences

<u>Impact Type</u>	<u>Low Forecast</u>	<u>Mid Forecast</u>	<u>High Forecast</u>
Direct Effect	\$388,288,397	\$718,606,674	\$1,266,386,875
Indirect Effect	\$ 96,015,285	\$182,040,971	\$316,518,680
Induced Effect	\$ 53,371,686	\$ 96,590,725	\$179,077,674
Total Effect	\$537,615,369	\$997,238,372	\$1,761,983,231



Explanation of Results Reported

The IMPLAN software package allows the estimation of the multiplier effects of changes in final demand for one industry on all other industries within a local economic area. Multipliers may be estimated for a single county.

1. Direct, Indirect, and Induced Effects

For a particular producing industry, multipliers estimate three components of total change within the local area. There are three multipliers: Direct effect, Indirect effect and Induced effect.

Direct effect refers to the impact created directly by the business activity. For example, if a manufacturing facility opens in an area and records sales of \$10 million, the direct impact of the facility is additional sales of \$10 million. That is, the gross output of the region is higher by an amount of \$10 million. Similarly, the facility will hire employees to run the operations. Therefore, these jobs created are a direct result of the facility's business activity.

Indirect effect refers to those effects created by the producers of intermediate goods and services (i.e., the goods and services purchased by the manufacturing facility). For example, when the facility purchases its supplies for the production of products, the supplier must retain employees or hire employees to support its operations related to facility's purchases. Thus the hiring of employees by the supplier to support the facility's purchases are indirect jobs.

Induced effect refers to the subsequent round of spending in the local economy made by the households of the employees of companies that incur both direct and indirect expenditures. When these dollars are spent locally, the result is additional sales (output), employment, and income related as the production and sales of locally purchased goods and services.

2. Output Definitions

The value of goods and services produced is also referred to as "economic output". This value represents all sales of goods or services, either at the intermediate or final product (retail) level.

The estimate of the total value of goods and services associated with manufacturing operations is comprised of direct, indirect, and induced increases in spending. In the above example, the total production of the manufacturing facility of \$10 million is the direct impact on the output of the economy. The indirect impacts are the increased sales (production) of the businesses supplying goods and services to the manufacturing facility. The induced effects are the increase in the output of the local businesses due to increased jobs and household wages.

3. Employment Definitions

Employment effects are measured by equivalent full-time equivalent positions (FTEs). Employment effects can be direct (e.g., employees of the manufacturing facility), indirect (e.g., employees of suppliers to the manufacturing facility), or induced (e.g., employees of companies that supply goods and services to the households that are employed due to the direct and indirect activity).

4. Employee Compensation

Employee compensation refers to the total household income due to the economic or business activity. This includes the household income from the employees of the manufacturing facility (direct effect), the wages of the employees of the suppliers (indirect effect), and wages of people employed in providing goods and services to the direct and indirect employees (induced effect).

EMPLOYMENT ANALYSIS

Industrial/Commercial development in the Sub- Area will occur over time, that said, the analysis reflects three (3) scenarios - low, mid and high forecast. Each forecast mirrors the CEDS industry clusters as referenced on page 21. The low forecast assumes 900 jobs created over time or 25% of the estimated 3,594. The mid forecast assumes 1,797 jobs created over time or 50% of the estimated 3,594. The high forecast assumes full employment of 3,594. The following chart summarizes the direct, indirect and induced effects of the proposed job creation:

Rt. 23 I90 Interchange		OUTPUT		
		Low	Mid	High
Sector	Description	Total	Total	Total
0	Total	\$537,615,369.68	\$997,238,372.15	\$1,761,983,231.30
84	Fluid milk manufacturing	\$160,427,381.95	\$320,830,415.73	\$468,504,180.07
380	Surgical appliance and supplies manufacturing	\$110,655,770.41	\$220,572,394.19	\$440,774,070.23
271	All other industrial machinery manufacturing	\$55,593,088.71	\$83,389,864.13	\$162,332,296.76
279	Special tool, die, jig, and fixture manufacturing	\$32,511,574.44	\$57,367,274.65	\$112,681,630.62
461	Management of companies and enterprises	\$29,243,977.33	\$53,894,133.72	\$93,743,250.05
395	Wholesale trade	\$28,697,217.23	\$33,975,698.09	\$67,788,658.64
441	Owner-occupied dwellings	\$11,177,242.15	\$20,229,841.98	\$37,500,285.18
440	Real estate	\$6,538,007.12	\$13,685,231.30	\$26,197,071.23
12	Dairy cattle and milk production	\$6,065,318.16	\$12,129,593.44	\$18,563,835.86
411	Truck transportation	\$5,807,892.03	\$11,168,759.41	\$18,388,093.84
447	Legal services	\$4,774,638.73	\$9,517,634.13	\$17,731,059.29
456	Scientific research and development services	\$4,648,904.23	\$9,502,741.73	\$17,713,285.56
449	Architectural, engineering, and related services	\$4,066,182.24	\$8,126,277.76	\$15,721,173.45
433	Monetary authorities and depository credit intermediation	\$3,907,954.92	\$7,187,806.87	\$13,413,582.09
454	Management consulting services	\$3,185,736.90	\$6,102,618.37	\$11,737,132.37
482	Hospitals	\$3,087,774.20	\$5,586,912.02	\$10,362,542.15
502	Limited-service restaurants	\$2,955,912.38	\$5,391,764.45	\$10,095,373.79
156	Petroleum refineries	\$2,833,154.63	\$5,257,992.26	\$9,289,717.40
62	Maintenance and repair construction of nonresidential structures	\$2,661,950.49	\$4,953,989.64	\$8,832,851.31
154	Printing	\$2,457,166.70	\$4,629,917.40	\$8,811,504.55
462	Office administrative services	\$2,267,215.23	\$4,553,416.90	\$8,666,449.18
464	Employment services	\$2,110,182.84	\$4,017,328.00	\$7,559,128.77
405	Retail - General merchandise stores	\$1,957,453.95	\$3,626,478.84	\$6,550,219.54
475	Offices of physicians	\$1,851,792.96	\$3,350,570.25	\$6,263,339.08
436	Other financial investment activities	\$1,829,455.05	\$3,315,067.11	\$6,214,600.35
446	Lessors of nonfinancial intangible assets	\$1,758,096.01	\$3,255,743.52	\$6,210,292.13
501	Full-service restaurants	\$1,709,063.42	\$3,124,823.60	\$5,852,572.51
427	Wired telecommunications carriers	\$1,616,925.10	\$2,936,675.96	\$5,491,399.16
460	Marketing research and all other miscellaneous professional, scientific, and technical services	\$1,484,499.70	\$2,751,421.07	\$5,155,598.26
504	Automotive repair and maintenance, except car washes	\$1,210,454.51	\$2,206,959.07	\$4,034,075.29
428	Wireless telecommunications carriers (except satellite)	\$1,179,369.74	\$2,150,777.70	\$4,029,137.14

435	Securities and commodity contracts intermediation and brokerage	\$1,126,729.50	\$2,005,374.81	\$3,865,750.97
396	Retail - Motor vehicle and parts dealers	\$1,025,175.09	\$1,866,974.90	\$3,449,377.50
400	Retail - Food and beverage stores	\$1,006,389.05	\$1,843,681.65	\$3,429,092.86
399	Retail - Building material and garden equipment and supplies stores	\$991,016.18	\$1,831,903.44	\$3,363,078.10
457	Advertising, public relations, and related services	\$971,856.19	\$1,821,727.64	\$3,270,265.25
507	Commercial and industrial machinery and equipment repair and maintenance	\$967,911.46	\$1,785,890.43	\$3,188,215.56
416	Warehousing and storage	\$930,446.33	\$1,701,597.68	\$3,185,635.99
476	Offices of dentists	\$926,284.02	\$1,675,986.32	\$3,108,600.74
471	Waste management and remediation services	\$902,927.96	\$1,674,622.36	\$2,974,569.98
518	Postal service	\$896,644.66	\$1,599,290.88	\$2,957,122.89
407	Retail - Nonstore retailers	\$863,884.99	\$1,574,862.57	\$2,842,308.76
448	Accounting, tax preparation, bookkeeping, and payroll services	\$794,604.38	\$1,467,692.95	\$2,769,815.60
438	Insurance agencies, brokerages, and related activities	\$792,003.34	\$1,423,816.08	\$2,642,203.70
439	Funds, trusts, and other financial vehicles	\$786,839.95	\$1,398,767.64	\$2,640,263.66
483	Nursing and community care facilities	\$773,064.33	\$1,392,889.41	\$2,594,376.86
452	Computer systems design services	\$740,484.27	\$1,380,463.93	\$2,558,969.73
468	Services to buildings	\$734,118.46	\$1,376,544.73	\$2,481,539.74
159	Petroleum lubricating oil and grease manufacturing	\$712,159.26	\$1,357,158.94	\$2,459,187.42
63	Maintenance and repair construction of residential structures	\$696,957.71	\$1,284,098.60	\$2,388,287.64
469	Landscape and horticultural services	\$681,477.87	\$1,267,248.84	\$2,295,094.54
430	Data processing, hosting, and related services	\$625,032.89	\$1,131,241.50	\$2,154,694.88
477	Offices of other health practitioners	\$587,964.09	\$1,063,841.92	\$1,973,202.13
403	Retail - Clothing and clothing accessories stores	\$509,894.14	\$959,410.38	\$1,830,189.59
453	Other computer related services, including facilities management	\$507,034.52	\$949,055.01	\$1,751,176.51
470	Other support services	\$506,875.30	\$940,306.44	\$1,722,207.80
503	All other food and drinking places	\$502,735.16	\$929,099.28	\$1,714,039.15
414	Scenic and sightseeing transportation and support activities for transportation	\$493,446.11	\$918,057.55	\$1,668,084.11
401	Retail - Health and personal care stores	\$491,133.60	\$898,193.06	\$1,626,107.47
49	Electric power transmission and distribution	\$456,599.55	\$840,030.94	\$1,520,219.97
442	Automotive equipment rental and leasing	\$439,515.26	\$808,678.55	\$1,519,313.48
526	Other local government enterprises	\$435,732.11	\$803,843.55	\$1,446,033.77
466	Travel arrangement and reservation services	\$423,547.11	\$798,801.08	\$1,439,871.33
417	Newspaper publishers	\$406,501.54	\$764,417.01	\$1,430,240.33
496	Other amusement and recreation industries	\$405,761.51	\$748,173.36	\$1,408,803.65
409	Rail transportation	\$380,937.55	\$699,845.54	\$1,282,750.60
506	Electronic and precision equipment repair and maintenance	\$373,573.53	\$694,218.70	\$1,207,109.65
508	Personal and household goods repair and maintenance	\$338,721.16	\$626,387.04	\$1,160,375.00
420	Directory, mailing list, and other publishers	\$328,773.78	\$617,724.78	\$1,157,136.77
455	Environmental and other technical consulting services	\$315,157.17	\$601,157.34	\$1,145,711.54
486	Community food, housing, and other relief services, including rehabilitation services	\$312,109.44	\$567,144.25	\$1,047,102.81
434	Nondepository credit intermediation and related activities	\$310,800.30	\$564,915.79	\$1,045,586.49
406	Retail - Miscellaneous store retailers	\$305,650.10	\$563,268.39	\$1,032,507.72
509	Personal care services	\$295,489.32	\$534,722.12	\$991,533.48
437	Insurance carriers	\$292,109.81	\$533,593.94	\$981,229.94
450	Specialized design services	\$285,696.61	\$513,554.60	\$952,713.22

487	Child day care services	\$276,586.19	\$500,938.45	\$927,380.63
459	Veterinary services	\$265,388.40	\$487,567.15	\$888,254.46
410	Water transportation	\$260,548.80	\$481,964.97	\$859,958.76
212	Abrasive product manufacturing	\$254,860.22	\$455,940.24	\$852,916.52
497	Fitness and recreational sports centers	\$249,656.28	\$447,660.84	\$832,350.21
472	Elementary and secondary schools	\$247,196.98	\$443,998.49	\$828,924.19
408	Air transportation	\$243,632.96	\$442,792.22	\$822,750.58
404	Retail - Sporting goods, hobby, musical instrument and book stores	\$238,460.22	\$439,609.70	\$816,761.87
465	Business support services	\$236,872.64	\$436,464.84	\$790,243.61
426	Cable and other subscription programming	\$233,619.18	\$434,974.45	\$774,417.67
445	Commercial and industrial machinery and equipment rental and leasing	\$233,278.16	\$432,737.01	\$764,524.11
415	Couriers and messengers	\$228,010.37	\$431,951.75	\$755,703.54
513	Religious organizations	\$224,841.89	\$429,854.77	\$754,327.00
195	Other plastics product manufacturing	\$223,685.69	\$409,460.83	\$741,915.74
246	Metal barrels, drums and pails manufacturing	\$223,048.24	\$406,962.17	\$727,588.19
515	Business and professional associations	\$219,656.08	\$393,758.58	\$713,390.80
412	Transit and ground passenger transportation	\$202,939.10	\$374,176.58	\$687,796.92
492	Independent artists, writers, and performers	\$201,041.70	\$368,894.71	\$669,894.84
397	Retail - Furniture and home furnishings stores	\$200,140.57	\$363,795.78	\$648,634.50
451	Custom computer programming services	\$193,612.72	\$341,335.11	\$633,104.55
480	Home health care services	\$188,649.07	\$330,549.10	\$615,578.92
423	Motion picture and video industries	\$181,255.83	\$325,570.37	\$603,864.30
478	Outpatient care centers	\$179,936.21	\$322,422.37	\$569,926.60
402	Retail - Gasoline stores	\$173,117.06	\$299,977.70	\$556,023.96
485	Individual and family services	\$165,734.00	\$298,838.98	\$553,754.43
474	Other educational services	\$164,864.05	\$293,692.77	\$552,829.91
398	Retail - Electronics and appliance stores	\$162,085.12	\$292,575.37	\$544,253.55
517	Private households	\$158,641.62	\$287,160.11	\$532,196.30
50	Natural gas distribution	\$154,056.40	\$285,461.88	\$524,377.81
432	Internet publishing and broadcasting and web search portals	\$148,056.22	\$284,094.29	\$484,249.56
19	Support activities for agriculture and forestry	\$146,527.80	\$279,061.26	\$430,473.65
488	Performing arts companies	\$122,902.00	\$226,775.57	\$429,055.20
473	Junior colleges, colleges, universities, and professional schools	\$119,500.32	\$216,553.44	\$400,599.46
443	General and consumer goods rental except video tapes and discs	\$111,470.42	\$206,519.87	\$381,129.73
388	Sign manufacturing	\$108,020.42	\$203,611.53	\$376,205.91
512	Other personal services	\$106,321.43	\$200,588.67	\$357,505.16
231	Iron and steel forging	\$104,780.12	\$193,667.92	\$342,709.08
511	Dry-cleaning and laundry services	\$100,769.92	\$184,520.81	\$341,849.19
87	Dry, condensed, and evaporated dairy product manufacturing	\$100,482.03	\$182,926.11	\$323,062.58
418	Periodical publishers	\$97,893.10	\$168,124.45	\$311,569.36
495	Gambling industries (except casino hotels)	\$92,877.49	\$168,062.18	\$311,362.14
514	Grantmaking, giving, and social advocacy organizations	\$92,785.26	\$164,265.44	\$294,280.96
229	Ferrous metal foundries	\$92,335.28	\$152,561.17	\$283,895.90
505	Car washes	\$83,876.78	\$151,685.73	\$281,613.04
425	Radio and television broadcasting	\$80,526.14	\$142,820.91	\$280,068.17
467	Investigation and security services	\$74,528.61	\$138,913.36	\$259,395.73
516	Labor and civic organizations	\$74,404.46	\$134,812.51	\$249,946.78

489	Commercial Sports Except Racing	\$71,367.38	\$131,320.44	\$246,889.92
419	Book publishers	\$69,062.72	\$129,121.91	\$235,646.85
149	Paperboard container manufacturing	\$66,691.92	\$126,348.38	\$211,102.76
249	Machine shops	\$64,531.83	\$116,412.81	\$194,559.19
194	Plastics bottle manufacturing	\$58,295.39	\$106,308.96	\$193,998.17
206	Ready-mix concrete manufacturing	\$57,353.83	\$99,050.26	\$174,349.98
510	Death care services	\$51,160.79	\$93,592.79	\$171,640.46
458	Photographic services	\$50,667.31	\$92,600.66	\$171,189.01
422	Software publishers	\$43,277.44	\$83,037.82	\$165,051.17
479	Medical and diagnostic laboratories	\$43,161.07	\$79,899.04	\$150,903.83
178	Adhesive manufacturing	\$41,862.54	\$78,096.11	\$144,991.03
491	Promoters of performing arts and sports and agents for public figures	\$41,613.43	\$77,169.73	\$144,845.14
188	Plastics packaging materials and unlaminated film and sheet manufacturing	\$38,251.18	\$72,422.78	\$129,270.59
172	Pesticide and other agricultural chemical manufacturing	\$37,271.06	\$70,697.83	\$119,985.30
498	Bowling centers	\$35,767.27	\$64,745.06	\$118,037.08
389	Gasket, packing, and sealing device manufacturing	\$32,667.29	\$57,108.74	\$101,051.24
250	Turned product and screw, nut, and bolt manufacturing	\$31,220.43	\$56,647.55	\$100,916.23
20	Extraction of natural gas and crude petroleum	\$30,731.60	\$52,884.33	\$98,526.88
30	Stone mining and quarrying	\$30,383.06	\$50,493.41	\$96,697.02
150	Paper bag and coated and treated paper manufacturing	\$29,118.18	\$50,305.29	\$94,449.45
493	Museums, historical sites, zoos, and parks	\$27,790.65	\$49,963.97	\$93,227.92
431	News syndicates, libraries, archives and all other information services	\$27,378.60	\$49,884.89	\$90,438.09
481	Other ambulatory health care services	\$26,018.86	\$47,080.66	\$87,326.04
2	Grain farming	\$23,555.71	\$46,828.12	\$84,770.60
333	Motor and generator manufacturing	\$23,214.88	\$42,762.80	\$75,363.73
254	Valve and fittings, other than plumbing, manufacturing	\$22,588.98	\$40,619.95	\$69,673.62
108	Breweries	\$22,408.17	\$36,962.02	\$67,686.89
89	Animal, except poultry, slaughtering	\$20,142.71	\$36,568.44	\$67,453.45
335	Relay and industrial control manufacturing	\$19,708.09	\$35,530.68	\$64,500.69
51	Water, sewage and other systems	\$19,320.22	\$34,824.02	\$63,462.47
463	Facilities support services	\$18,895.55	\$34,398.76	\$58,328.60
11	Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	\$18,593.45	\$33,296.28	\$54,978.83
104	Spice and extract manufacturing	\$16,888.64	\$30,521.59	\$53,391.31
174	Pharmaceutical preparation manufacturing	\$15,911.66	\$29,110.01	\$50,722.84
251	Metal heat treating	\$15,629.37	\$28,807.64	\$50,449.28
10	All other crop farming	\$14,718.22	\$25,886.92	\$46,347.80
234	Crown and closure manufacturing and metal stamping	\$14,057.11	\$24,990.00	\$44,605.91
444	Video tape and disc rental	\$13,810.95	\$24,246.44	\$44,442.69
3	Vegetable and melon farming	\$13,319.71	\$23,545.38	\$43,917.00
158	Asphalt shingle and coating materials manufacturing	\$12,683.74	\$23,504.76	\$42,475.31
14	Animal production, except cattle and poultry and eggs	\$12,478.88	\$23,366.72	\$42,431.55
413	Pipeline transportation	\$12,478.41	\$23,255.47	\$42,336.87
189	Unlaminated plastics profile shape manufacturing	\$12,258.32	\$22,367.70	\$41,928.32
484	Residential mental retardation, mental health, substance abuse and other facilities	\$12,036.78	\$21,779.11	\$40,939.22
198	Other rubber product manufacturing	\$11,818.05	\$21,580.93	\$40,696.77
117	Textile and fabric finishing mills	\$11,236.42	\$21,491.92	\$40,395.01
499	Hotels and motels, including casino hotels	\$10,778.72	\$20,192.60	\$37,617.87

166	Plastics material and resin manufacturing	\$9,252.03	\$18,183.19	\$31,330.67
424	Sound recording industries	\$8,662.34	\$15,951.46	\$29,609.86
494	Amusement parks and arcades	\$8,602.18	\$15,857.86	\$29,060.94
429	Satellite, telecommunications resellers, and all other telecommunications	\$8,148.54	\$15,633.76	\$27,772.51
262	Farm machinery and equipment manufacturing	\$8,012.71	\$14,863.98	\$26,432.08
31	Sand and gravel mining	\$7,893.23	\$14,318.52	\$25,852.93
157	Asphalt paving mixture and block manufacturing	\$7,716.73	\$14,229.62	\$24,084.55
248	Spring and wire product manufacturing	\$6,688.33	\$12,245.50	\$21,503.37
141	Other millwork, including flooring	\$6,543.73	\$12,094.72	\$21,121.69
6	Greenhouse, nursery, and floriculture production	\$6,512.68	\$11,450.96	\$19,998.17
86	Cheese manufacturing	\$6,069.08	\$11,356.61	\$18,298.91
280	Cutting tool and machine tool accessory manufacturing	\$5,913.93	\$10,285.52	\$17,962.64
1	Oilseed farming	\$5,814.04	\$10,040.09	\$17,874.75
73	Breakfast cereal manufacturing	\$5,496.59	\$10,017.09	\$17,827.18
218	Iron, steel pipe and tube manufacturing from purchased steel	\$5,447.40	\$8,814.12	\$16,304.61
103	Mayonnaise, dressing, and sauce manufacturing	\$5,440.02	\$8,397.78	\$15,503.27
278	Industrial mold manufacturing	\$5,110.09	\$7,851.92	\$15,098.52
298	Fluid power cylinder and actuator manufacturing	\$4,895.41	\$7,827.73	\$15,030.84
213	Cut stone and stone product manufacturing Brick, tile, and other structural clay product manufacturing	\$4,848.39	\$7,691.07	\$14,528.78
200		\$4,598.27	\$7,602.62	\$14,370.58
94	Bread and bakery product, except frozen, manufacturing	\$4,322.85	\$7,467.31	\$13,966.27
209	Other concrete product manufacturing	\$4,205.82	\$7,241.18	\$13,824.24
216	Miscellaneous nonmetallic mineral products manufacturing	\$4,178.95	\$7,102.77	\$13,118.58
217	Iron and steel mills and ferroalloy manufacturing	\$4,166.79	\$6,903.63	\$13,080.05
142	Wood container and pallet manufacturing	\$3,952.45	\$6,759.18	\$12,747.92
4	Fruit farming	\$3,950.12	\$6,177.95	\$12,138.70
215	Mineral wool manufacturing	\$3,946.82	\$5,799.09	\$11,380.64
240	Metal window and door manufacturing	\$3,491.13	\$5,699.87	\$11,344.26
230	Nonferrous metal foundries	\$3,477.33	\$5,443.78	\$10,235.03
204	Glass product manufacturing made of purchased glass	\$3,156.93	\$5,289.34	\$9,645.33
252	Metal coating and nonprecious engraving	\$2,894.06	\$5,269.06	\$9,505.67
155	Support activities for printing	\$2,888.10	\$5,255.58	\$9,447.66
261	Other fabricated metal manufacturing	\$2,865.68	\$4,891.53	\$9,410.94
277	Air conditioning, refrigeration, and warm air heating equipment manufacturing	\$2,813.83	\$4,829.79	\$9,410.59
177	Paint and coating manufacturing	\$2,799.73	\$4,811.06	\$9,207.24
65	Dog and cat food manufacturing	\$2,790.17	\$4,800.13	\$9,037.39
356	Other motor vehicle parts manufacturing	\$2,714.38	\$4,748.92	\$8,867.65
313	Other electronic component manufacturing	\$2,692.57	\$4,356.76	\$8,282.51
243	Power boiler and heat exchanger manufacturing	\$2,635.70	\$4,275.13	\$8,134.90
185	Custom compounding of purchased resins	\$2,478.01	\$4,216.18	\$7,980.60
253	Electroplating, anodizing, and coloring metal	\$2,471.61	\$4,187.52	\$7,942.89
182	Toilet preparation manufacturing	\$2,329.29	\$4,071.19	\$7,759.30
394	All other miscellaneous manufacturing	\$2,299.62	\$4,011.22	\$7,756.46
134	Sawmills	\$2,075.40	\$3,933.57	\$7,106.29
282	Rolling mill and other metalworking machinery manufacturing	\$2,036.31	\$3,581.82	\$6,645.27
241	Sheet metal work manufacturing	\$2,021.58	\$3,416.00	\$6,570.87
80	Frozen specialties manufacturing	\$1,978.32	\$3,360.00	\$6,409.10

APPENDIX

ASSUMPTIONS

1. Used NAICS 23* (Implan sector 56 Construction of new highways and streets) for the interchange construction. Source: IMPLAN Online
2. For Scenario 1 used \$29.8 million for industry sales and event year 2016. For Scenario 2 used \$32.7 million for industry sales and event year 2016. Source: IMPLAN Online.
3. Commercial /Industrial Analysis
Sector
53 Construction New Manufacturing facilities
57 Construction of New Commercial Structures
4. Employment
Sector
456 Scientific Research
380 Surgical Appliance & Supplies
351 Motor Vehicle Electrical
395 Whole Trade
65 Dog & Cat Food Manufacturing
440 Real Estate
454 Management Consulting

REFERENCES:

Cambridge Systematics, Inc. (1998). Economic Impact Analysis of Transit Investments: Guidebook for Practitioners. *Transportation Research Board*.

Green, H. (2013). *Southwestern Sub-Area Plan*. City of Marengo.

Indiana, H. C. (n.d.). *Major Moves - The New US 31 Hamilton County*. Indianapolis: Hamilton County, Indiana.

Impact Analysis for Planning. www.implanonline.com