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Berrien County 2005 to 2015 Economic Forecast: Final Report

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Final Report Berrien County 2005 to 2015 Economic Forecast

**May 9, 2006
George A. Erickcek
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Summary of Long-term Outlook

The following are the major findings of our long-term employment forecast for Berrien County:

- Total non-farm employment is forecast to increase by over 6,000 jobs or about 0.7 percent annually from 2005 to 2015.
- Total population is expected to grow by about 4,200 residents during the 10-year period—a 0.3 percent annual average growth rate.
- The area's labor force will expand at a 0.4 percent annual rate, and the share of people ages 16 to 64 participating in the labor force will increase from 80.3 percent to 81.8 percent.
- The expected growth in employment is forecast to push the county's unemployment rate down slightly during the 10-year period; however, data limitations bar us from creating an estimate in the change.

**Table 1
Berrien County 2005 to 2015 Forecast Summary**

Economic or Demographic Measure	2005	2015	Annual Average Growth
Total Population	163,540	167,747	0.3%
Labor Force	85,597	89,202	0.4%
Total Non-farm Employment	85,841	91,873	0.7%
Participation Rate (age 16-64)	80.3%	81.8%	-

Note: Employment estimates are based on U.S. Bureau of Economic Analysis (BEA) data and methodology, while labor force estimates are based on U.S. Bureau of Labor Statistics (BLS) data and methodology. The two widely-used data series are based on separate sources and use different methodologies and are not comparable. Therefore, the fact that the number of persons employed is

greater than the number of persons in the county's labor force cannot be taken to mean that the area's unemployment rate is zero or negative.

Detailed Population Trends

- During the 10-year period 2005 to 2015, population growth in Berrien County will be slower than the nation's: 0.3 percent annual average rate (AAR) versus 1.3 percent AAR, respectively.
- Due to nationwide demographic trends, older population groups will increase in size while middle-aged groups and school-age children will be decreasing in numbers.
- Like the rest of the nation, Berrien County's population is forecast to continue to grow more racially diverse over the ten-year period.

Table 2
Population Trend Forecast 2005 to 2015

Average Annual Rate by Population Category	Berrien County	U.S.
Total Population	0.3%	1.3%
by Census Age Grouping		
Age 0 to 4	0.7%	1.4%
Age 5 to 19	-1.1%	0.4%
Age 20 to 44	0.1%	0.2%
Age 45 to 64	0.3%	2.8%
Age 65 to 84	1.7%	2.8%
Age 85 and up	3.3%	4.6%
by Lifestage Age Grouping		
Age 0 to 4	0.7%	n.a
Age 5 to 17	-1.0%	n.a
Age 18 to 24	-0.8%	n.a
Age 25 to 34	2.5%	n.a
Age 35 to 49	-2.1%	n.a
Age 50 to 64	1.2%	n.a
Age 65 to 74	3.1%	n.a
Age 75 and up	0.7%	n.a
by Race		
White	-0.3%	0.7%
Black	1.7%	1.2%
Other Races	2.8%	2.6%
Hispanic	2.5%	2.6%

- Key Implications:
 - Labor shortages could occur in occupations where large numbers of current workers are approaching retirement. This is especially the case in several high- and medium-skilled manufacturing occupations.

- The growing number of retirees could strain the county's social service programs.
- The county will become more diverse which, if accepted and celebrated, can bring a new level of vitality to the area.
- The expected decline in young adults could represent a "brain drain." Highly-educated young adults are more likely than others to move out of their home communities.

Major Industry Growth Trends

- The Accommodations & Food Service sector and the Arts & Entertainment sector are forecast to be the fastest-growing industries in percentage terms because of the development of the new casino as well as the continued strength of local tourism.¹
- The Health Care industry will add the greatest number of new jobs (+2,400), followed by Arts & Entertainment (+1,900), Accommodation & Food Service (+1,300), and Administrative & Waste Management Services (+1,200).
- Manufacturing will continue to struggle, declining about 1.0 percent annually or by around 1,500 jobs.
- Slow population growth and larger sector trends will keep retail employment flat.

¹Our employment impact estimate of the Four Winds Casino differs from that generated by Michigan Consultants in 2001 (Michigan Consultants, *New Buffalo Township Casino Economic Impact Analysis* June, 2001). While both studies assumed that the Casino would employ approximately 2,000 workers, their estimates of indirect and induced employment were substantially different, resulting in an employment multiplier of 2.1. In our view, this multiplier is much too robust. Our implied multiplier is a much smaller 1.2. In part this is because we assumed that a large share of the jobs at the Casino will be part-time, while Michigan Consultants assumed that they would be all full-time positions. Finally, our two approaches did agree on the countywide impact of the construction phase of the Casino.

**Table 3
Major Industry Employment Forecast**

Major Industry	2005 Estimate	2015 Forecast	Annual Average Change Rate
Total	85,841	91,873	0.7%
Forestry, Fishing, Other	245	223	-0.9%
Mining	161	165	0.2%
Utilities	499	404	-2.1%
Construction	4,474	4,690	0.5%
Manufacturing	15,903	14,397	-1.0%
Wholesale Trade	2,564	2,369	-0.8%
Retail Trade	10,279	10,145	-0.1%
Transp, Warehousing	2,493	2,751	1.0%
Information	1,103	1,118	0.1%
Finance, Insurance	2,395	2,531	0.6%
Real Estate, Rental, Leasing	2,977	3,192	0.7%
Profess, Tech Services	3,158	3,564	1.2%
Mngmt of Co, Enter	118	114	-0.3%
Admin, Waste Services	5,963	7,178	1.9%
Educational Services	2,226	2,212	-0.1%
Health Care, Social Asst	9,308	11,737	2.3%
Arts, Enter, Rec	1,558	3,433	8.2%
Accom, Food Services	6,184	7,447	1.9%
Other Services	5,294	5,394	0.2%
Government	8,939	8,809	-0.1%

Comparison Analysis

The Michigan Department of Labor and Economic Growth (MDLEG) generated a 2002 to 2012 employment forecast for the three-county area of Berrien, Van Buren, and Cass counties. The two forecasts share similar outlooks regarding total employment change. However, there are substantial differences.

- The inclusion of the Four Winds Casino dramatically increased our forecast of growth in the area's arts, entertainment and recreation sector employment.
- Our forecast is more pessimistic regarding the outlook for the area's manufacturing employment.

**Table 4
Comparison of Industry Forecasts**

Major Industry Category	Annual Average Rate	
	MDLEG Berrien, Cass, Van Buren 2012 Forecast	Berrien 2015 Forecast
Total	0.6%	0.7%
Forestry, Fishing, Other	n.a.	-0.9%
Mining	1.0%	0.2%
Utilities	0.1%	-2.1%
Construction	1.3%	0.5%
Manufacturing	0.0%	-1.0%
Wholesale Trade	1.1%	-0.8%
Retail Trade	0.4%	-0.1%
Transp, Warehousing	0.4%	1.0%
Information	0.1%	0.1%
Finance, Insurance	0.4%	0.6%
Real Estate, Rental, Leasing	0.4%	0.7%
Profess, Tech Services	0.8%	1.2%
Mngmt of Co, Enter	0.4%	-0.3%
Admin, Waste Services	2.0%	1.9%
Educational Services *	0.5%	-0.1%
Health Care, Social Asst *	1.3%	2.3%
Arts, Enter, Rec	2.0%	8.2%
Accom, Food Services	0.9%	1.9%
Other Services	1.1%	0.2%
Government *	0.3%	-0.1%

NOTE: MDLEG "Education Services" includes public schools and MDLEG "Health Care" includes government-run medical facilities--our 2005 forecast does NOT. This also effects "Government" sector calculations.

Major Occupational Forecast Trends

- The buildings, grounds, and personal service occupation group is forecast to have the fastest growth in percentage terms as well as the largest increase in employment of all major occupation groups. These include a significant number of jobs related to the operation of the new Casino and the Harbor Shores development.
- Health care occupations will continue to grow quickly and demand a significant number of new workers.
- Production occupations related to the manufacturing sector will shrink by nearly 900 jobs during the period.

Table 5
Major Occupation Group Employment Forecast

Occupation Group	2005 Estimate	2015 Forecast	Annual Average Change Rate
Total	85,841	91,873	0.7%
Mgmt., business, finance	7,670	8,400	0.9%
Computers, engineering, architecture	3,050	3,250	0.6%
Scientists: life, physical, and social	530	560	0.6%
Community & social services	1,340	1,550	1.4%
Legal occupations	410	450	0.9%
Educators, trainers, librarians	4,530	4,820	0.6%
Artist, designers, media, athletes	900	1,030	1.3%
Health care	5,920	7,360	2.2%
Protective services	1,680	1,940	1.4%
Food prep and serving	6,430	7,420	1.4%
Building, grounds, personal services	5,960	7,520	2.4%
Sales and office administration	22,080	22,360	0.1%
Farm, forestry, fishing	1,600	1,660	0.3%
Construction and mining occupations	4,090	4,380	0.7%
Installers, maintenance, and repair	3,960	4,130	0.4%
Production workers	11,080	10,200	-0.8%
Transportation, drivers, material movers	6,430	6,600	0.3%

Table 6 provides a breakdown of forecast growth for a group of 94 occupations. These more specific occupations are based on a breakdown of positions typically distributed within a more general grouping, such as an average ratio of nurses and medical assistants to doctors in a typical group of health care occupation workers.

The detailed occupational forecasts presented in Table 6 must be viewed with caution. While our forecast incorporates foreseen changes in productivity and technology, past studies of national long-term forecasts have repeatedly shown that they typically underestimate the speed of technological change. Of course, this is not surprising, but it does present a warning regarding the direction of possible errors in our forecast.

**Table 6
Detailed Occupation Employment Forecast**

Detailed Occupation	2005 Estimate	2015 Forecast	Annual Average Change Rate
Top executives	1,650	1,780	0.8%
Advertising, marketing, promotions	410	470	1.3%
Operations specialties managers	1,080	1,160	0.7%
Other management positions	1,920	2,110	0.9%
Business operations specialists	1,580	1,770	1.1%
Financial specialists	1,030	1,120	0.9%
Computer specialists	1,380	1,610	1.6%
Mathematical science occupations	40	40	0.2%
Architects, surveyors, & cartographers	80	90	0.4%
Engineers	960	930	-0.3%
Drafters	600	580	-0.3%
Life scientists	90	100	0.5%
Physical scientists	100	100	0.4%
Social scientists	170	190	1.0%
Life, physical, & social sciences other	170	170	0.4%
Counselors and social workers	860	1,030	1.8%
Religious workers	340	350	0.4%
All other counselors	140	170	1.6%
Lawyers and judges	250	280	1.0%
Legal support workers	160	180	0.7%
Postsecondary teachers	960	1,070	1.2%
Primary and secondary educators	2,170	2,210	0.2%
Other teachers and instructors	460	560	1.9%
Librarians, curators, and archivists	150	140	-0.3%
Other education and training workers	800	840	0.5%
Art and design	280	300	0.7%
Entertainers and sports occupations	270	350	2.4%
Media and communications	270	290	0.7%
Media equipment operators	90	100	1.2%
Health diagnosing & treating occupations	2,410	2,960	2.1%
Health technologists	1,400	1,680	1.9%
Other healthcare practitioners	140	170	2.3%
Nursing, psychiatric, and home health	1,200	1,510	2.4%
Occupational and physical therapists	70	100	3.2%
Other healthcare support occupations	710	940	2.8%
Supervisors of protection workers	130	130	0.6%
Fire fighting	130	140	0.4%
Law enforcement	520	550	0.5%
Other protective service workers	910	1,120	2.1%
Supervisors of food preparation	500	570	1.4%
Cooks and food preparation workers	1,750	1,920	0.9%
Food and beverage serving	3,360	3,970	1.7%
Other food preparation and serving	830	970	1.6%
Supervisors of building/grounds workers	220	260	1.7%
Building cleaning and pest control	2,520	2,880	1.4%
Grounds maintenance	760	990	2.7%
Supervisors of service workers	100	160	4.5%
Animal care and service workers	90	100	1.4%

Table 6 (cont'd) - Part II
Detailed Occupation Employment Forecast

Detailed Occupation	2005 Estimate	2015 Forecast	Annual Average Change Rate
Entertainment attendants and casino	320	620	6.9%
Funeral service workers	30	40	0.9%
Personal appearance occupations	380	440	1.4%
Transportation and lodging workers	110	130	2.2%
Other service workers	1,440	1,910	2.8%
Supervisors of sales workers	990	1,040	0.5%
Retail sales workers	5,430	5,590	0.3%
Sales representatives - services	340	350	0.3%
Sales representatives - wholesale	1,020	1,040	0.2%
Other sales workers	980	1,040	0.6%
Supervisors of office workers	820	810	-0.1%
Communications equipment operators	160	150	-0.8%
Financial clerks	2,070	2,070	0.0%
Information and record clerks	2,960	3,330	1.2%
Material recording, scheduling workers	2,210	2,010	-0.9%
Administrative assistants	2,360	2,280	-0.3%
Other office support workers	2,750	2,660	-0.3%
Supervisors of fish/forestry/ag. workers	70	70	0.9%
Agricultural workers	1,330	1,390	0.4%
Fishing and hunting workers	10	10	-4.4%
All other fish/forestry/ag. workers	190	190	-0.1%
Supervisors of construction workers	330	340	0.4%
Construction trades	3,150	3,390	0.7%
Construction helpers	290	300	0.4%
Other construction & extraction workers	270	300	1.0%
Extraction workers	50	60	0.4%
Supervisors of maintenance workers	330	340	0.4%
Electronic equipment repair & install	350	340	-0.1%
Vehicle mechanics	1,190	1,190	0.0%
Other installation & maintenance workers	2,090	2,270	0.8%
Supervisors of production workers	720	710	-0.1%
Assemblers and fabricators	2,780	2,290	-1.9%
Food processing workers	320	310	-0.2%
Metal and plastics workers	3,640	3,370	-0.8%
Printing occupations	480	440	-0.7%
Textile and furnishings workers	500	500	0.1%
Woodworkers	250	230	-0.7%
Plant and system operators	170	160	-0.5%
Other production occupations	2,240	2,200	-0.2%
Supervisors of transportation workers	230	240	0.3%
Air transportation	40	40	0.5%
Motor vehicle operators	2,550	2,760	0.8%
Rail transportation occupations	90	80	-1.4%
Water transportation occupations	20	20	1.5%
Other transportation workers	210	220	0.7%
Material moving occupations	3,300	3,240	-0.2%

Table 7 provides estimates regarding the total number of annual openings anticipated in each major occupational group through 2015. Annual openings occur due to new growth as well as the need to replace persons who leave the occupation or retire.² The purpose of this is to better illustrate the true level of occupational demand that will occur, since slow-growing or even declining occupations may still have a significant number of openings to be filled due to retirements and workers leaving for other jobs. Production occupations—which are directly tied to the shrinking manufacturing industry—are a perfect example of this. It has been reported that the typical skilled production worker in the state is in his/her mid-50s, meaning that there will still be good opportunities for younger workers, even as factory jobs in general continue to decline in number.

**Table 7
Berrien County Occupational Annual Job Openings Forecast**

Occupation Group	Estimated Total Annual Job Openings	Forecast Annual Replacement Openings	Forecast Annual Growth Openings
Total	2,790	2,105	685
Mgmt., business, finance	193	120	73
Computers, engineering, architecture	85	65	20
Scientists: life, physical, and social	18	15	3
Community & social services	46	25	21
Legal occupations	9	5	4
Educators, trainers, librarians	124	95	29
Artist, designers, media, athletes	28	15	13
Health care	254	110	144
Protective services	81	55	26
Food prep and serving	354	255	99
Building, grounds, personal services	286	130	156
Sales and office administration	628	600	28
Farm, forestry, fishing	51	45	6
Construction and mining occupations	104	75	29
Installers, maintenance, and repair	107	90	17
Production workers	270	270	0
Transportation, drivers, material movers	152	135	17

A Detailed Examination of Employment Conditions in the Benton Harbor Area

Berrien County faces many challenges associated with modest economic growth and ongoing structural changes. Unfortunately, the residents of the City of Benton Harbor and Benton Charter Township face additional barriers, as many are educationally unprepared to meet the demands of economic change. As shown in Table 8, more than a third of the adult residents (individuals 25 years or older) in both communities have not completed high school compared

² It is important to note that replacements are not the same as turnovers. Several occupations experience a large number of turnovers, as individuals move from one employer to another due to wage and benefit advancements but stay in the same occupation. Individuals, who stay in the same occupation and move between employers, are not included in the replacement count.

to only 15 percent in the remainder of Berrien County. Many residents may not be able to meet the hiring requirements for even entry-level positions associated with our economic forecast.

Table 8
2000 Educational Attainment of Adults Age 25 and Older

Education Level	Benton charter township	Benton Harbor city	Rest of Berrien County
Dropouts	33.6%	39.5%	15.0%
H.S. Graduate or some college	52.2%	52.9%	54.9%
Associate degree	5.1%	3.4%	8.3%
Bachelor's degree	6.2%	2.1%	13.5%
Graduate degree	2.9%	2.2%	8.2%

Source: 2000 Census

Even during the best of times—back in 2000 when the national economy was still booming—many of residents of the two communities were unable to participate in the economy. Unemployment stood at 16.3 percent in the City of Benton Harbor, and the participation rates for both units of government were well below that of the rest of the county.

Table 9
Unemployment and Labor Force Participation in 2000

2000 Census Labor Force Statistics	Benton charter township	Benton Harbor city	Rest of Berrien County
Unemployment Rate	8.5%	16.3%	4.6%
Labor Force Participation	57.6%	58.1%	66.0%

Source: 2000 Census

Not surprisingly, a high share, nearly one-quarter of workers residing in Benton Harbor City and Benton Charter Township have been or are involved in production occupations (Table 10). Traditionally, for workers lacking formal education, production occupations offer the highest wages and best opportunity for benefits and advancement. However, being home to a large number of production workers can be a liability in a changing economy where employment growth is expected to be in services, such as health care, gaming, and lodging, which all require an alternative set of work skills.

However, although the transition from a production occupation to an occupation in services or healthcare may be challenging, even more difficult is the task of moving individuals who are not working into any sector of the labor force. As shown in Table 11, nearly half of county's adult residents, who did not finish high school, have no occupation, meaning they are not currently working and have not worked in the last year. Of those with an occupation, the largest portion are experienced in production work, followed by transportation and construction.

Table 10
Major Category Occupation Concentration by Area in 2000

Occupation Category	Benton charter township	Benton Harbor city	Rest of Berrien County
Total Employed Persons	6,294	3,557	66,706
Management occupations	4.0%	2.9%	7.8%
Farmers and farm managers	0.7%	0.0%	0.9%
Business operations specialists	1.4%	0.5%	1.6%
Financial specialists	1.3%	0.3%	1.6%
Computer and mathematical occupations	1.2%	0.0%	1.4%
Architects, surveyors, and engineers	0.6%	0.0%	1.9%
Drafters and mapping technicians	0.2%	0.0%	0.8%
Life, physical, and social science occupations	0.3%	0.1%	0.7%
Community and social services occupations	1.7%	1.0%	1.7%
Legal occupations	0.1%	0.3%	0.6%
Education, training, and library occupations	3.6%	3.9%	6.1%
Arts, design, entertainment, sports, and media	1.2%	0.0%	1.5%
Health practitioners and technical occupations	1.2%	0.2%	3.4%
Health technologists and technicians	0.5%	0.5%	1.4%
Healthcare support occupations	1.8%	3.3%	1.8%
Fire fighting and law enforcement workers	0.4%	0.8%	0.9%
Other protective service workers	1.1%	0.8%	0.7%
Food preparation and serving	5.8%	9.7%	5.1%
Building and grounds cleaning and maintenance	4.6%	7.7%	3.1%
Personal care and service occupations	3.8%	5.3%	2.8%
Sales and related occupations	9.8%	11.4%	9.6%
Office and administrative support occupations	14.6%	12.0%	14.5%
Farming, fishing, and forestry occupations	1.4%	0.6%	1.0%
Supervisors of construction and extraction workers	0.8%	0.3%	0.6%
Construction trades workers	3.1%	3.0%	4.4%
Extraction workers	0.0%	0.0%	0.1%
Installation, maintenance, and repair occupations	2.9%	2.0%	4.3%
Production occupations	24.0%	23.2%	13.6%
Supervisors of transportation and material moving workers	0.1%	0.0%	0.1%
Aircraft and traffic control occupations	0.0%	0.0%	0.1%
Motor vehicle operators	3.4%	4.7%	3.2%
Rail, water and other transportation occupations	0.8%	0.0%	0.2%
Material moving workers	3.8%	5.5%	2.4%

Source: 2000 Census

**Table 11
Occupations of Berrien County Residents Age 25+
Without a High School Diploma**

SOC Occupation Category	Berrien County Share
Management	2.1%
Business & Financial	0.3%
Architecture and Engineering	0.1%
Education and Library	0.1%
Arts, Design, Entertainment, Media	0.4%
Healthcare Support	0.7%
Protective Services	0.4%
Food Prep and Service	3.3%
Cleaning and Maintenance	4.1%
Personal Care and Services	1.9%
Sales and Related	3.4%
Office Administration	3.6%
Farming, Fishing, Forestry	2.6%
Construction	4.3%
Installation, Maintenance, Repair	2.9%
Production	12.4%
Transportation	8.3%
Military Related	0.9%
No Occupation	48.1%

Source: 2000 PUMS data.

Finally, in addressing issues of occupational training, education, and work-preparedness in the community, it is important to note that there are significant differences among racial and ethnic groups. Table 12 shows educational attainment of adults age 25 and older for major racial groups by geography. The high concentration of dropouts among Hispanic residents and within the urban core areas will have an impact both in how educational training programs are created and marketed. For example, the prevalence of Hispanic residents without H.S. diplomas may indicate that basic literacy programs and multi-lingual instructors will be needed before more in-depth occupational training can begin.

Table 12
Educational Attainment of Adults Age 25 and Up by Race

Education Level	Benton charter township	Benton Harbor city	Rest of Berrien County
<u>Black</u>			
Dropouts	36.8%	39.5%	19.5%
H.S. Graduate or some college	52.8%	54.3%	45.2%
Associate degree	4.6%	3.2%	8.6%
Bachelor's degree	4.3%	1.7%	13.4%
Graduate degree	1.6%	1.4%	13.3%
<u>Hispanic</u>			
Dropouts	61.6%	76.2%	41.9%
H.S. Graduate or some college	32.2%	23.8%	34.5%
Associate degree	6.1%	0.0%	2.9%
Bachelor's degree	0.0%	0.0%	12.2%
Graduate degree	0.0%	0.0%	8.5%
<u>White</u>			
Dropouts	29.7%	34.5%	14.2%
H.S. Graduate or some college	52.9%	45.8%	56.3%
Associate degree	5.6%	4.9%	8.4%
Bachelor's degree	7.7%	5.5%	13.3%
Graduate degree	4.1%	9.3%	7.8%

Source: 2000 Census

Conclusions Related to the Long-term Berrien County Forecast

- Although both total population and overall employment are forecast to grow in Berrien County, the expected rate of increase will be very modest compared to most predictions for the rest of the nation.
- A larger share of Berrien County's working-age population will need to participate in the labor force if the expected rate of employment growth is to be sustained. Increasing the participation rate will be necessary both because of the aging of the population and the modest overall growth rate of the populace.
- Occupational demand will be highest for service workers and health care positions, while the number of the county's manufacturing production workforce will continue to shrink. For local economic developers, educators, and planners this could create several dilemmas.
 1. The skills useful for production jobs (i.e. manual dexterity, precision measuring, repetition, etc.) will not be easily transferable to service occupations that require more people skills (i.e. personal interaction, public speaking, problem solving, adaptation to varied hours and situations).
 2. A shortage of health care workers will be an ongoing problem nationwide. For Berrien County to compete, they will need to both produce their own supply of workers (i.e. nursing and medical tech programs at the community college) as well as generate an environment that can attract workers from outside areas.

3. Many of the service occupations related to the tourism sector and the new casino (i.e. food prep, restaurant servers, building maintenance, gaming, service management) do not pay as well as manufacturing, construction, or other occupations which do not require specific college training.
 4. Although employment in manufacturing is expected to decline in the county, as well as nationwide, there will remain a large number of annual job openings because of the need to replace retiring workers. As shown in Table 7, although we are forecasting an average annual decline of 88 production workers in the county during the forecast period, the average annual number of job openings for production workers due to replacements is forecast to be 270. It will likely be a challenge to get young adults to consider the promising opportunities in the county's manufacturing sector given that it is expected to shrink in the coming years.
- Many county adult residents face additional barriers to employment due to the lack of education achievement and work experience. Unfortunately, many of these individuals are concentrated in the City of Benton Harbor and Benton Charter Township. National research suggests that individuals residing in high unemployment and poverty areas are less successful in finding employment because of the lack of informal job information networks,

Appendix

Assumptions Used in Generating the Berrien County Forecast Model

Three key assumptions were used in the preparation of our forecast as shown in Table 13. First, the employment, occupation, and productivity trends presented in the Bureau of Labor Statistics long-term 2002 to 2012 forecast will hold true for the 2012 to 2015 period as well. The other two assumptions are that Harbor Shores and Four Winds Casino will be built on schedule.

In making the forecast, we adjusted the forecast to reflect the information obtained on local economic conditions—potential closures as well as new firm activity—which was gathered during a meeting with business and community representatives on February 3, 2006.

Table 13
Inputs and Assumptions Used for the 2015 Berrien County Forecast

<p>Macro Economy Conditions Government projected 2002-2012 employment trends expected to carry through 2015.</p> <p>Harbor Shores Project Development to take place 2006 to 2011 Residential Investment = \$342.7 million Commercial Investment = \$215.1 million Related Spending = \$24.2 million New Firm Direct Employment Increases = 1,475</p> <p>Four Winds Casino Development to take place in 2007-2008 Construction Expenditures = \$130 million Direct Casino and Hotel Employment = 2,000</p>
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In generating this report we used the W.E. Upjohn Institute's regional economic forecasting computer model for Berrien County which was especially constructed by Regional Economic Models Incorporated (REMI). The model contains three separate components that together capture the resulting total impact to the local economy due to a change in employment. These components are:

- An input-output model that estimates the impact on the local economy of changes in inter-industry purchases. This component of the model captures the impact of an increase in orders to local suppliers of goods and services as well as the impact of households increasing their purchases of consumer goods and services.
- A relative wage component that estimates the impact of the expected changes in the area's cost structure due to changes in economic activity. For instance, when a major

employer moves into the area, it can cause wages to increase across most all industries due to the increased demand for workers and other local resources. This boost in wages, while generating additional consumption expenditures, increases the cost of doing business in the area, making the area slightly less attractive to other industries.

- A forecasting and demographic component that forecasts the resulting changes in future employment and population levels due to a change in economic activity.