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## Geauga County Growth Forecast: Study of Expected Trends to the Year 2005

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# Geauga County Growth Forecast

Study of Expected Trends To The Year 2005

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December 27, 1994

Prepared for *Centerior Energy Company*  
By Economic Development Program  
Levin College of Urban Affairs  
Cleveland State University

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### **I. Purpose**

Centerior Energy has requested the Economic Development Program within Cleveland State University's Levin College of Urban Affairs (CSU) and The Wharton Econometrics Forecasting Associates (WEFA Group) to prepare an independent and objective analysis of future growth trends in Geauga County, Ohio. The final study results will be used by the company in its planning for future electric power facilities to serve the county.

### **II. Study Scope and Approach**

This report describes the results of CSU's growth forecast study of Geauga County, Ohio over the 1995-2005 period. An analysis of current and recent historical trends is included as a foundation for this forecast. The study examines growth trends within the six-county Cleveland Primary Statistical Area (PMSA), which includes Cuyahoga, Lake, Geauga, Ashtabula, Medina, and Lorain counties. Regional growth and development trends have played an important historic role in Geauga County's growth and will continue to do so in the future.

*Three lead forecast variables are analyzed: 1) industry employment growth trends; 2) population growth trends; and 3) personal income growth trends.* Selected other important factors, such as housing construction, population migration patterns, construction and building activity, retail sales, and changes in real property values are examined to provide additional insights into future county growth trends and dynamics.

CSU's role has been two-fold in the study. The first was to research regional and local trends and developments and identify factors likely to encourage and discourage future growth in Geauga County. Secondly, CSU integrated its research with the county level forecast data prepared by the WEFA Group for the study.

The WEFA Group used its regional forecasting model to generate population, income, and employment forecasts for the Greater Cleveland area and Geauga County. Centerior Energy has used WEFA forecast data in earlier facility planning, therefore WEFA's contribution to this study lends consistency to Centerior's earlier planning and forecasting efforts.

The overall project research methodology includes four basic activities: 1) secondary data analysis of key economic and demographic variables; 2) a content analysis of earlier studies, plans, and published reports on the county; 3) interviews with development experts knowledgeable about Geauga County and Greater Cleveland; and 4) detailed econometric forecasting. The combination of these techniques ensures adequate consideration of both quantitative and qualitative factors influencing future growth trends in the county.

### **III. Short History of Geauga County Development<sup>1</sup>**

The first settlement in Geauga County was established in Burton Township in 1798. Geauga County was officially founded in 1806, three years after Ohio's statehood. South Russell Village was the last political jurisdiction to be established in the county in 1923.

Presently, the county is composed of 21 political subdivisions, including 16 townships and 5 villages. There are currently no municipalities (cities) found in the county. The county was largely an agricultural center until the 1950s, when other types of development began to appear in the county and the county's economic base began to diversify.

Before the construction of the interstate highway system in Greater Cleveland, development found its way into the county by way of Mayfield Road (Rte.322), Chagrin Boulevard (Rte. 422),

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<sup>1</sup>Information for this section of the report was developed through personal interviews with various local development and planning experts and a review of available planning and development reports.

Kinsman Road (Rte. 87), Chillicothe Road (Rte. 306), and Painesville-Ravenna Road (Rte. 44). Interstate highway development has spurred the recent development of the county. These include: I-90 (to the north); I-271 (to the west); and recently I-480 (to the south). Historically, development activity from the west (eastern Cuyahoga County) moving eastward has been the major outside push to the county's development. This trend remains important, but new growth pressures from the north (Lake County) and the south (Summit and Portage Counties) are now significant influences on the county's development.

While agriculture is found across the county's 412 square mile area, the eastern section of the county (Huntsburg, Middlefield, Parkman) has the highest concentration of small agricultural centers. The county's 6,400 Amish residents are heavily concentrated in this eastern part of the county. The western part of the county (Russell, Chester, Bainbridge), which abuts Cuyahoga County, is heavily residential and commercial in nature. Industrial facilities are most heavily concentrated in the Chardon (north-central) and Middlefield (east) areas of the county. As the county seat, Chardon remains the center of local government activity.

Tourism attractions have developed in the county in recent years, attracting many regional and out-of-state visitors each year. Sea World and Geauga Lake in Bainbridge Township are major attractions. Alpine Valley Ski Area in Munson brings many regional visitors to the county. Finally, agricultural attractions and the Amish settlements are tourism generators. Golfing, fishing, camping, and hiking are also important reasons for people to visit the county. As more companies establish offices and production facilities in the county, more business travellers will visit the county. For example, the American Society of Metals headquarters in Russell attracts many people each year.

Together, these varied development activities indicate a major diversification of the county's economic base. New construction activity has grown steadily in the county. Over the 1984-1993 period, \$184 million has been invested in new construction in all sectors of Geauga

County's economy, averaging \$18.4 million per year over the period.<sup>2</sup> Since 1990, these investment trends have been very favorable, with 58% of the decade's total investment in new construction taking place in the past four years. This study foresees an acceleration of growth within the county over the next decade.

#### **IV. Residential Growth and Development Activity**

##### **Historical Population Growth Trends**

Geauga County's population has grown from 62,977 in 1970 to 83,241 in 1992, for a 32% increase over the 22-year period. Geauga County's residential growth activity has been steady over the period, only being out-paced by Medina County within the Cleveland PMSA region.

**Table 1** presents population growth data for Geauga and the other five counties comprising the Cleveland PMSA. The region lost over 198,000 people during the 1970-1992 period. This entire loss occurred in Cuyahoga County, which lost 310,000 people over the period. Seventy-two percent of Cuyahoga County's population loss during the 1970-1992 period occurred in the 1970s. The remainder of this loss has taken place since 1980. Eastern suburban counties (Geauga, Lake, Ashtabula) grew from a combined total population of 358,414 people in 1970 to 404,601 people in 1992. Western suburban counties (Medina, Lorain) grew from 339,560 people in 1970 to just over 405,000 in 1992. During the 1970-1990 period, Geauga County represented nearly a 20% share of total net population growth within the Cleveland PMSA, as **Table 2** indicates. During the more recent 1980-1992 period, Geauga County accounted for almost 29% of the Cleveland PMSA's total net population growth.

Geauga County averaged a 1.44% annual population growth during the 1970-1990 period, compared to a -0.45% decline experienced by the Cleveland PMSA region. Geauga's rate of growth decreased to 1% per year during the 1980-1992, compared to a -0.2% average annual

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<sup>2</sup>Source: CSU analysis of Geauga County's 1993 *Comprehensive Annual Financial Report*.



**Table 1**  
**County Population Growth for Cleveland PMSA, 1970-1992**

	1992	1990	1980	1970
<b>Cuyahoga</b>	1,411,209	1,412,140	1,498,400	1,721,298
<b>Eastern Suburban Counties</b>	404,601	396,449	391,497	358,414
<b>Geauga</b>	83,241	81,129	74,474	62,977
<b>Ashtabula</b>	100,924	99,821	104,215	98,237
<b>Lake</b>	220,436	215,499	212,808	197,200
<b>Western Suburban Counties</b>	405,192	393,480	388,059	339,560
<b>Lorain</b>	276,679	271,126	274,909	256,843
<b>Medina</b>	128,513	122,354	113,150	82,717
<b>Cleveland PMSA</b>	2,221,002	2,202,069	2,277,956	2,419,272
<u>Source:</u> (1) 1990 Census of Population and Housing; (2) 1990 Census and 1992 Estimates of Ohio's Population: State, Counties, Cities, and Villages.				

### **Summary**

Geauga County's population grew from just under 63,000 in 1970 to 81,130 in 1990, averaging 1.4% annual growth over the 20-year period. Between 1990-1992, the county's population grew at a 1.35% annual rate. The 6-county Cleveland PMSA region lost population over the 1970-1992 period at a rate of 9,000 people per year, or at a .004% annually. Cuyahoga County lost 310,089 in population over the 1970-1992 period, accounting for the total regional population loss. Two-thirds of Cuyahoga County's population loss occurred in the decade of the 1970s.

**Table 2**  
**Cleveland PMSA Counties' Share of Population Growth, 1970-1992 Period**

	1970 to 1990		1980 to 1992	
	Net Change	Share of Growth	Net Change	Share of Growth
<b>Cuyahoga</b>	-309,158	net decline	-87,191	net decline
<b>Other Metro Counties</b>	91,955	100%	30,237	100%
<b>Geauga</b>	18,152	19.74%	8,767	28.99%
<b>Ashtabula</b>	1,584	1.72%	-3,291	-10.88%
<b>Lake</b>	18,299	19.90%	7,628	25.23%
<b>Lorain</b>	14,283	15.53%	1,770	5.85%
<b>Medina</b>	39,627	43.09%	15,363	50.81%
<b>Cleveland PMSA</b>	-217,203		-56,954	

Sources: (1) 1990 U.S. Census of Population and Housing;  
(2) 1990 Census and 1992 Estimates of Ohio's Population: State, Counties, Cities, and Villages.

### Summary

#### 1970-1990 Period

The five suburban counties as a group gained 91,955 people during the 1970-1990 period. Each of these counties contributed to this total gain. Cuyahoga County, as the central urban county, lost 309,000 people - most of which migrated to surrounding counties. Geauga County contributed 19.74% of the suburban population growth in the Cleveland PMSA in the 1970-1990 period, with an 18,152 net population gain. Medina County led all counties in the region with a 43% share of new growth and a 39,627 population gain.

#### 1980-1992 Period

The five suburban counties as a group increased population by 30,237 over the 1980-1992 period. Four of the suburban counties (Geauga, Lake, Lorain, Medina) contributed all of this growth. Cuyahoga County lost 87,191 people over the 12-year period - most of which migrated to the surrounding counties. Geauga County became an even more important contributor to suburban counties' population growth in this period, with an 8,767 person gain and a 29% share of total suburban population growth. Medina County once again led all Cleveland PMSA counties with a 51% share of all new suburban population growth.

decline experienced by the region. These rates, as well as those for the other regional counties, are described in **Table 3**.

#### Other Major Population Characteristics

Four population data tables in **Appendix A** summarize trends in Geauga County. **Table A-1** in **Appendix A** describes general homeowner and renter characteristics. Geauga County has the highest percent of owner-occupied housing units of all counties within the region. Nearly 86% of Geauga County's residential units is owner-occupied, compared to a 66.4% percentage for the Cleveland PMSA and only a 62% rate for Cuyahoga County. This statistic points to the high level of single-family residential development in the county. **Table A-2** and **A-3** in **Appendix A** describe the educational and age distribution characteristics of the county's population. Geauga County has the highest rates of high school and college graduation of all Cleveland PMSA counties, as **Table A-2** indicates. Geauga County also has one of the youngest populations in the region, with nearly 29% of its population under the age of 18 years, and only 10.6% of its population over 65 years of age, as **Table A-3** indicates. As data in **Table A-4** indicate, Geauga County's population is over 98% White, suggesting low racial diversity in the population. Geauga County is very similar to Medina County in this respect.

#### Population Migration Activity

Migration activity in and out of Geauga County resulted in an 840 person net in-migration over the 1979-1991 period, based upon Internal Revenue Service data analyzed by CSU's Housing Policy Research Program. Between 1979 and 1984, Geauga County experienced a net out-migration of 955 people. The trend switched in the other direction over the 1985-1991 period, when the county experienced a 1,795 person net in-migration. Annual migration data for the period are contained in **Table 4**. An earlier study of population migration flows for Cuyahoga County reflected that 1,518 people migrated from Cuyahoga County to Geauga County during the 1979-1991 period.<sup>3</sup> A total of 805 people migrated from Geauga County to Cuyahoga

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<sup>3</sup>Source: Housing Policy Research Program, The Urban Center, Cleveland State University, 1994.

**Table 3**  
**County Population Growth for Cleveland PMSA, 1970-1992**

	1970 to 1990		1980 to 1992	
<b>County</b>	<b>Net Change</b>	<b>Average Annual Percent Change</b>	<b>Net Change</b>	<b>Average Annual Percent Change</b>
<b>Cuyahoga</b>	-309,158	-0.90%	-87,191	-.49%
<b>Eastern Suburban Counties</b>	38,305	0.53%	13,104	0.28%
<b>Geauga</b>	18,152	1.44%	8,767	0.98%
<b>Ashtabula</b>	1,584	0.08%	-3,291	-0.26%
<b>Lake</b>	18,299	0.46%	7,628	0.30%
<b>Western Suburban Counties</b>	53,920	0.79%	17,133	0.37%
<b>Lorain</b>	14,283	0.28%	1,770	0.05%
<b>Medina</b>	39,627	2.40%	15,363	1.13%
<b>Cleveland PMSA</b>	-217,203	-0.45%	-56,954	-0.21%

Sources:

- (1) 1990 Census of Population and Housing;  
 (2) 1990 Census and 1992 Estimates of Ohio's Population : State, Counties, Cities, and Villages.

**Summary**

Medina and Geauga Counties had the fastest annual population growth rates all of Cleveland PMSA counties during the 1970-1990 and the 1980-1992 periods. Geauga County's population grew at the rate of 1.4% annually in the 1970-1990 period and 1% annually in the 1980-1992 period.

Western suburban counties a part of the Cleveland PMSA grew slightly faster and slightly more than their eastern suburban counterparts within the region in the 1970-1990 and 1980-1992 periods.

**Table 4**  
**Migration Flows Into and Out From Geauga County**  
**(Number of Persons)**

<b>Year</b>	<b>Moving In</b>	<b>Moving Out</b>	<b>Net Migration</b>
1979-80	4,256	3,748	508
1980-81	4,136	4,244	-108
1981-82	4,369	4,770	-401
1982-83	3,258	3,715	-457
1983-84	4,873	5,186	-313
1984-85	3,851	4,035	-184
1985-86	4,221	4,106	115
1986-87	4,605	4,353	252
1987-88	4,348	3,766	582
1988-89	4,301	3,892	409
1989-90	4,184	3,912	272
1990-91	3,958	3,793	165
Total 12-Yrs.	50,360	49,520	840

Source: Calculations prepared by CSU's Housing Policy Research Program in The Urban Center. Based on exemptions claimed on IRS tax returns, Income Division, IRS, Department of the Treasury.

County during the same period, producing a 713-person net out-migration of former Cuyahoga County residents to Geauga County.

#### Residential Real Property Value Growth<sup>4</sup>

During the 1983-1992 period, the total value of residential assessed real property has increased from \$491 million to \$852 million on a current dollar basis. In constant 1983 dollars, this represented a jump from \$491 million to \$631 million. This represented a 8.19% average annual growth rate in current dollars and a 3.18% average annual growth rate on a 1983 constant dollar basis. **Table A-5** in **Appendix A** provides annual data for the 1983-1992 period.

Three townships in Geauga County - Bainbridge, Chester, and Russell - account for nearly 48% of total residential assessed property valuation in the county. These three areas are the fastest growing residential centers within the county. This pattern has persisted over the last decade. Two other communities combined - Munson Township and South Russell Village - represent another 16% of these total values. These data in current dollars are described in **Table A-6** of **Appendix A**.

#### Future Residential Development Factors

Interviews with public and private sector experts knowledgeable about development trends within the county indicate that most of the residential growth has historically come from outside the county, which is confirmed in part by the migration data presented above. *In-migration of population will be a significant source of future residential growth.* Past residential growth has come largely from the Cleveland area, especially Cuyahoga County. Interview results indicate that this trend will continue over the 1995-2005 period. Other Cleveland area counties will continue to add to Geauga County's in-migration growth trend, but the Akron area is also

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<sup>4</sup>Data presented relate to the assessed value of residential real estate in the county for county tax purposes. These data are from the Geauga County Auditor's Office, as analyzed by CSU's Housing Policy Research Program.

expected to add future in-migrants with the opening of the southern part of the county for development by the extension of Interstate-480.

*Quality of life factors, especially good schools and a quiet rural lifestyle, have stimulated population growth in the past. These factors are expected to influence residential location in the county over the next decade, especially as Cuyahoga County continues to struggle with high crime problems and declining school quality in some communities.*

*Improved transportation access, linking Geauga County to the Akron and Cleveland labor markets, will facilitate residential growth in Geauga County.<sup>5</sup>*

Residential growth is expected to lead the way for the county's overall development over the next decade. Larger homes on 3-5 acre lots will continue to develop in high growth centers like Bainbridge, Russell, South Russell, and Chester.

Factors limiting future residential growth include: 1) rising housing costs related to large lot requirements; 2) limited water, sewer, electric, and gas utility service within many parts of the county; 3) anti-growth attitudes by residents and local government officials found in many parts of the county; 4) environmentally sensitive land, especially land areas with wetlands, could limit growth.

#### Geauga County Population Forecast, 1995-2005 Period

At CSU's request, the WEFA Group disaggregated its Fall, 1994 Cleveland PMSA regional economic and demographic forecast at the county level for each county in the Cleveland PMSA region. WEFA's forecasts for the Cleveland PMSA region and Geauga County are contained in **Tables B-1 and B-2 in Appendix B**. A methodology statement for these forecasts is also

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<sup>5</sup>The *Geauga County Transportation Improvement Plan (TIP)*, submitted to NOACA, identifies several of these improvements, including those planned for State Routes 87, 322, and 422.

contained there. Forecasts were prepared for each of the six counties comprising the Cleveland PMSA region. The 1992 population baseline for the WEFA forecast for the Cleveland PMSA is 2,221,000, which is identical to data used in CSU's earlier analysis. WEFA's 1992 population baseline for Geauga County for the forecast is 83,200, which is consistent with the U.S. Census' most recent estimate.

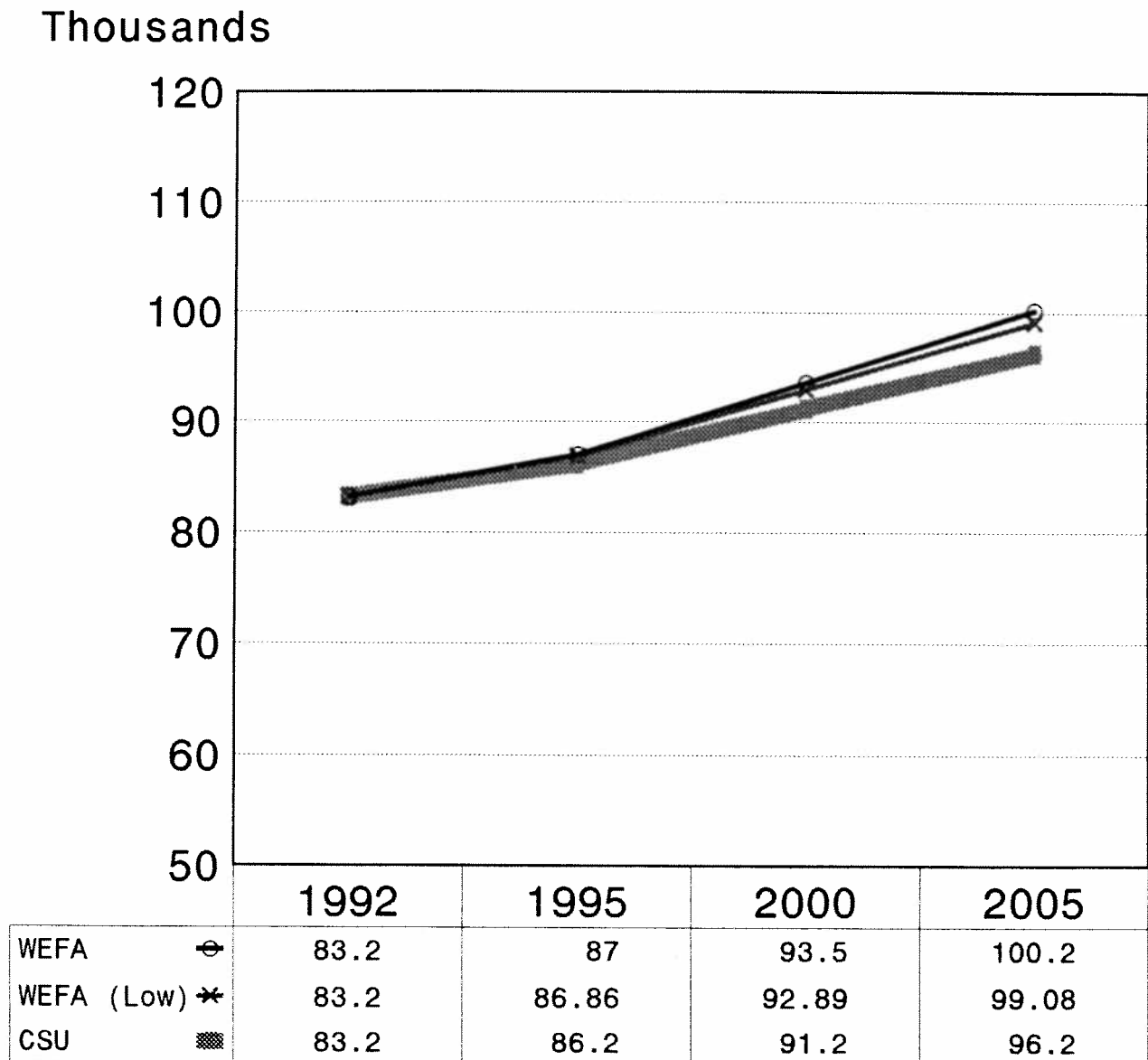
As **Figure 1** indicates, WEFA forecasts that Geauga County's population will grow by an average of 1,267 people per year, from its 1992 level of 83,200 to 87,000 people in 1995. Then between 1995 and 2000, WEFA expects the county's population to increase at the rate of 1,300 per year to reach 93,500 in the year 2000. Finally, WEFA forecasts Geauga County's population will grow to 100,200 people by the year 2005, which represents an average annual increase of 1,340 people during the 2000-2005 period.

National Planning Associates (NPA) in Washington, D.C., and the Ohio Data Users Center (ODUC), a part of the Ohio Department of Development, prepared county-level population forecasts for Geauga County to the year 2000. NPA's 1992 forecast shows Geauga County's population at 86,000 and 89,000 in 1995 and 2000 respectively. Both forecasts fall somewhat below WEFA's Fall, 1994 forecast. ODUC's 1993 forecast of 83,400 and 87,900 in 1995 and 2000 respectively, fall considerably below the WEFA forecast.

After reviewing the results of our own historical trend analysis and the available forecasts, it is CSU's assessment that WEFA's population forecast is achievable only if Geauga County officials adopt a more positive attitude in encouraging future growth and invest in the infrastructure required to support this growth. *In the absence of these more aggressive development policies, we believe Geauga County's residential sector will grow at a slower rate than that forecasted by WEFA. CSU researchers believe that the county's population will increase at the rate of about 1,000 people per year over the 1992-2005 period in the absence of any major change in the county's growth policies, which is slightly above the county's historical population growth rate of 921 per year over the 1970-1992 period.* We believe that WEFA's 1995-2005 forecast should be



Figure 1  
Geauga County Population Forecast  
1992-2005 Period



Source: WEFA Group Forecast Preparation, CSU Analysis

reduced by an average of 300 people per year, which would revise WEFA's population forecast downward by 3,900 ( $300 \times 13$ ) to a 96,300 level by the year 2005.

At CSU request, WEFA revised its forecast to projections based on lower growth assumptions for the Cleveland Metropolitan Area and its counties. These estimates are presented in **Table B-3** in **Appendix B**. The population projections are still higher than those expected by CSU. WEFA lower-end projections estimate population gains of 3,650 between 1992 and 1995 (average of 1,217 per year), 6,030 between 1995 and 2000 (annual average of 1,206), and 6,190 between 2000 and 2005 (annual average of 1,238).

Even with CSU's revisions, Geauga County is expected to experience steady growth in its population, spurring the continued growth of the county's residential sector. It is not technically possible to allocate these population forecasts to the sub-county level for individual villages and townships.

### **V. Geauga County Employment Growth and Development Trends**

#### **Data Sources**

Two primary data inputs were used in preparing the employment forecast part of this study. The first is the Employment Security (ES-202) data, produced by the Ohio Bureau of Employment Services, and analyzed by CSU. The ES-202 data cover all industrial sectors including agriculture and government. The second is the WEFA county employment forecast prepared for this study, which is based upon WEFA's Cleveland PMSA regional forecast. The WEFA data include government employment, but do not include agricultural jobs. National Planning Associates (NPA's) employment forecasts for Geauga County to the year 2000 were also examined as another point of reference.

#### **CSU ES-202 Employment Analysis, 1989-1993 Period**

Using its ES-202 database, CSU has analyzed employment trends at the detailed industry level

over the 1989-1993 period. These data are more current than other industry employment data sources available, such as Census Bureau's County Business Patterns. The ES-202 data are not available before 1989 and the data are not reliable for sub-county level analysis because the data have not been cleaned and checked for accuracy for sub-county level analysis. **Table A-7** in **Appendix A** contains the results of CSU's ES-202 employment analysis for Geauga County. **Table 5** provides a quarterly estimate of total employment over the 1989-1993 period for Geauga County. It shows that total county employment peaked in the 25,700 range in both the third quarter, 1990 and in the third quarter, 1992.

The CSU data in **Table A-7 (Appendix A)** indicate that total employment in Geauga County grew at the rate of 364 new jobs per year from 22,507 in 1989 to 23,963 in 1993, representing a 6.5% overall gain. Nearly all of this 1,456 job gain was produced by employers in wholesale, retail, and service sectors, which is consistent with trends in the Greater Cleveland area during the same period. In fact, nondurable manufacturing (including rubber and plastics products) - which is a traditional industry strength of Geauga County - lost 367 jobs during the period. Manufacturing accounted for 7,858 jobs in 1993, which equalled 32.8% of the county's total employment. The non-manufacturing sector accounted for 16,105 jobs, or 67.2% of total county jobs in 1993. There are no employment forecasts available using the detailed ES-202 data.

#### National Planning Associates' Employment Forecast Compared to WEFA's Forecast

NPA forecasts Geauga County's employment at 35,000 in 1995 and 39,000 in the year 2000. Its 1990 baseline total employment figure for Geauga County was 32,000, which is 7,300 jobs higher than the ES-202 1990 employment number, and it is 3,000 jobs higher than WEFA's 1990 baseline employment number for Geauga County. See **Table 6**. NPA's 1995 and 2000 employment forecasts for Geauga County are 32,000 and 39,000 respectively. NPA's 1995 forecast is 2,500 jobs higher than WEFA's 32,500 forecast, but its year 2000 employment estimate is 500 lower than WEFA's 38,500 forecast.

**Table 5**  
**Geauga County Total Employment**  
**1989-1993 Trends**

<b>Period</b>	<b>Total Employment</b>
1989:1Q	22,507
2Q	24,055
3Q	24,774
4Q	24,048
1990:1Q	23,484
2Q	25,422
3Q	25,622
4Q	24,179
1991:1Q	23,311
2Q	24,784
3Q	25,146
4Q	23,783
1992:1Q	23,467
2Q	25,183
3Q	25,693
4Q	24,763
1993:1Q	23,963
<p><u>Source:</u> Ohio Bureau of Employment Services,  Detailed ES-202 Data.</p>	

## Table 6 Geauga County Employment Estimates

Comparison of Available Sources (in thousands)

Year	WEFA (low-end)	National Planning Assoc.	County Business Patterns	CSU (ES-202)
1990	29.1	32	22.8	24.7
1992	29.3	NA	21.2	24.8
1995	32.4	35	NA	NA
2000	37.9	39	NA	NA
2005	43.7	NA	NA	NA

Sources: WEFA, NPA, CSU (ES-202), U.S. Census (CBP)

### WEFA's Geauga County Employment Forecast

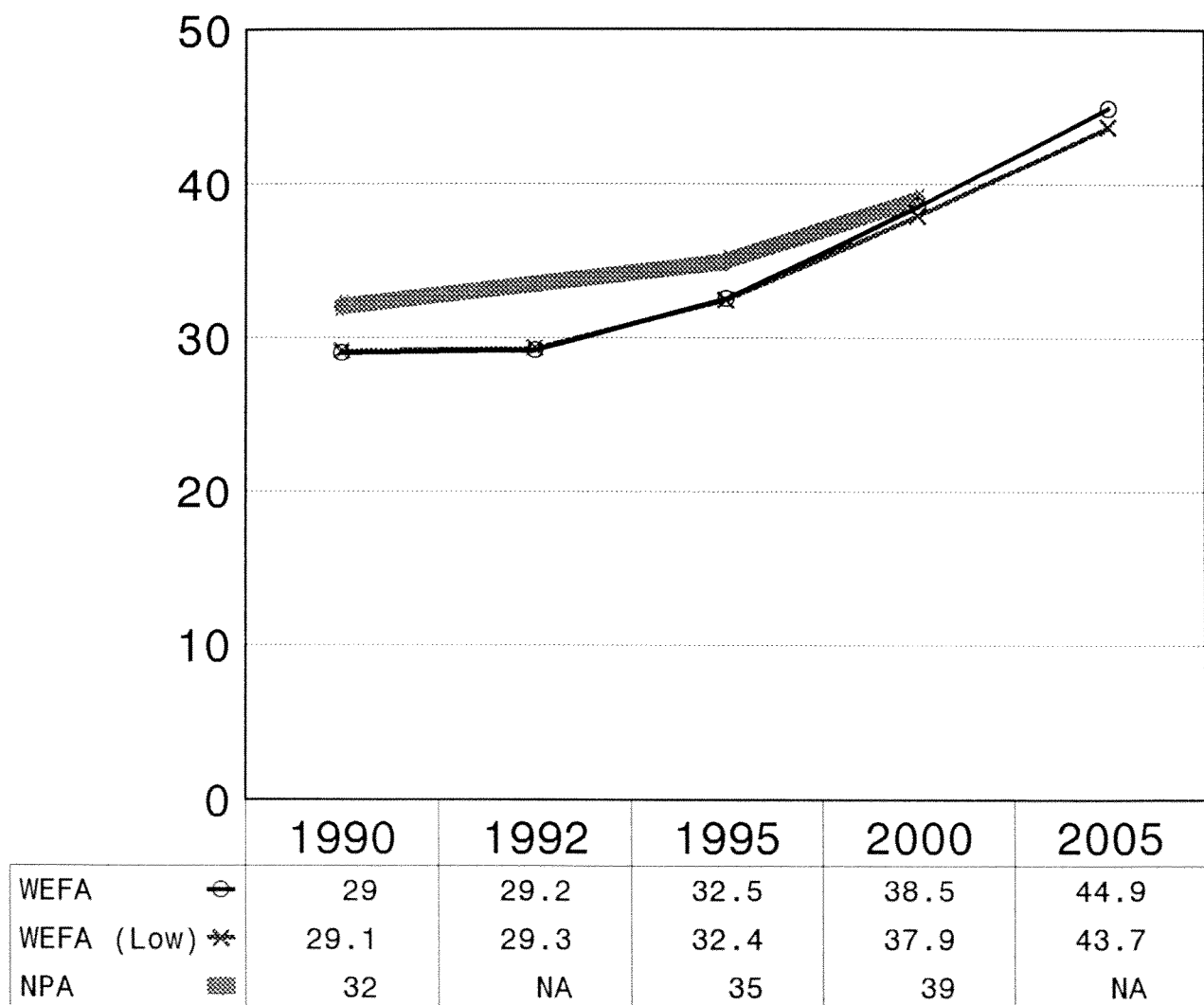
WEFA has provided employment forecasts on an annual basis from 1995 to 2005 for each of the six counties in the Cleveland PMSA based on average and lower growth scenarios for the metropolitan areas. **Figure 2** presents WEFA's forecasts for total employment. A more detailed industry breakdown of WEFA's employment forecasts based on average growth scenario is available in **Tables B-1** and **B-2** in **Appendix B**. **Table B-3** in **Appendix B** reports on WEFA's forecast for major industrial sectors based on lower regional growth assumptions.

WEFA's lower-end estimates indicate that Geauga County's total employment was 30,240 in 1993, with 8,540 manufacturing jobs (28.2% total) and 21,700 non-manufacturing jobs (71.8% total). By comparison, CSU's ES-202 data indicate that the manufacturing sector accounts for 32.8% of total county jobs in 1993, and non-manufacturing represents the other 67.2% of the total. Also, ES-202 employment figures are significantly lower than WEFA, as indicated in **Table 6**. This is a significant difference in estimates of total employment in the county and in percentage shares of manufacturing and non-manufacturing industries.

WEFA's lower-growth forecasts of total employment for the county are 32,440 in 1995, 37,860 in 2000, and 43,680 in the year 2005. Manufacturing jobs are expected to grow to 9,370 (28.9% of total employment) in 1995, 11,500 (30.4% of total employment) in 2000, and 14,370 (32.9%) in the year 2005. WEFA's projection of increased manufacturing share in Geauga's employment is in contrast to national and state trends, as well as to local trends reported in the ES-202 data. Non-manufacturing jobs are expected to grow to 23,070 (71.1% of total employment) in 1995, 26,360 (69.6%) in 2000, and 29,300 (67.1% of total employment) in the year 2005. WEFA lower-end forecasts project an average annual increase of 1,100 total jobs between 1993 and 1995, 1,084 between 1995 and 2000, and an average annual gain of 1,164 between the years 2000 and 2005. In terms of manufacturing employment, WEFA forecasts average annual increases of 415 (1993-1995), 426 (1995-2000), and 574 (2000-2005).

Figure 2  
Geauga County Employment Forecast  
1990-2005 Period

Thousands



Source: WEFA, NPA, CSU Analysis

CSU suggests a downward modification of WEFA's lower-end employment forecasts for this study's purposes. WEFA's projections should be viewed as optimistic and could be used as an upper limit of projected employment for Geauga county. In general, CSU believes employment will continue to grow favorably in the county over the next decade, but this growth is unlikely to reach the levels forecasted by WEFA given the cautious attitude toward growth in the county and the lack of in-place utility and infrastructure services to support this growth. Our assessment of the employment forecasts is similar to the population forecasts; which is that the county could only attain these high growth levels if major changes occurred in the county's growth policies.

#### Commercial Sector Growth Trends and Factors

Interviews with local experts point to the following general trends in each major employment sector. In the commercial sector:

1. Retail and service enterprises in the county serve both individual and business consumers. Most services appear to be more oriented to individual consumers. Retail activity is believed to follow population growth, as illustrated by the location of strip shopping centers and other retail developments within the county.
2. Chardon Village recently voted against a zoning change request to allow construction of a Wal-Mart Superstore. Many residents have expressed fears that these type commercial developments will increase traffic congestion and cause other problems within the county. While some residents view new retailing as positive to the county's quality of life, others express serious reservations about this type growth.
3. Much of the commercial development within the county has occurred along major state highways running through the county (Routes 322, 422, 87, 306, others). Many commercial businesses in the county are small in size and they are family-owned and operated. Strict zoning requirements, limited utilities and infrastructure, and general



public resistance suggests that commercial development will be contained to existing commercial areas in the near term (next 3-5 years).

Data in **Tables A-8 and A-9 in Appendix A** indicate that retail sales in Geauga County have grown from \$255 million in 1984 to nearly \$480 million in 1994. *Sales and Marketing Management Magazine* forecasts that Geauga County's total retail sales will rise to \$540 million in 1996, representing a 2.8% share of the Cleveland PMSA's 1996 total retail market. Geauga County's share of the Cleveland PMSA's total retail sales has increased from 2.1% in 1984 to about 2.6% in 1994. Cuyahoga County represents about 65% of the Cleveland PMSA's total retail sales, followed by Lake County with 12.4% and Lorain County with 11.6%.

The assessed value of commercial real property in Geauga County has increase from \$54.5 million in 1983 to over \$90 million in 1992, for a 65% gain for the nine-year period on a current dollar basis. This represents an average annual growth of 7.3%. On a constant 1983 dollar basis, these values have grown from \$54.5 million to only \$66.8 million, which is a 2.5% average annual growth rate over the 1983-1992 period. More detailed data on these values is available in **Table A-10 in Appendix A**.

#### Industrial Sector Growth and Development Trends and Factors

Industrial development activity within the county is seen as largely coming from the expansion of existing industrial facilities, which are concentrated in areas like Chardon, Middlefield, and Bainbridge. The WEFA forecast suggests that manufacturing jobs will grow favorably in Geauga County over the next decade. These jobs have shown favorable historical growth, although far from being dramatic growth. Interviews suggest that industrial activity will remain in its current county locations. Limited new greenfield plant development in isolated areas is expected.

Lower labor costs, available greenfield sites, a non-union workforce, and a strong local work ethic are seen as factors stimulating new industrial location activity in the area. Limited utility

and infrastructure services, zoning constraints, and transportation access problems in parts of the county could serve to limit industrial expansion in the county.

An analysis of current industrial companies located in the county in 1993 revealed the following location timing trends:<sup>6</sup>

1. Before 1920: 3 plants (3.3%)
2. 1920-1939: 10 plants (10.9%)
3. 1940-1959: 18 plants (19.5%)
4. 1960-1969: 13 plants (14.1%)
5. 1970-1979: 24 plants (26.1%)
6. 1980-1989: 21 plants (22.8%)
7. 1990-present: 3 plants (3.3%)
8. Total = 92 plants (100%)

This analysis indicates that over half (48/92) of all industrial plants in the county were built there since 1970. Almost all industrial operations were small in size and they are mostly privately-owned.

The assessed value of industrial real property in Geauga County is small in relation to residential, commercial, and agricultural real property. Industrial property values grew from only \$20.8 million in 1983 to \$33.8 million in 1992 on a current dollar basis, for a 6.9% average annual growth rate over the 1983-1992 period. These values grew by only 2.3% annually on a constant 1983 dollar basis. Four areas accounted for most these values: Bainbridge; Chardon; Middlefield; and Munson. **Tables A-11 and A-12 in Appendix A** provides detailed data on industrial property values.

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<sup>6</sup>Source: CSU analysis of 1994 *Harris Ohio Industrial Directory*.

### Agricultural Development Trends and Factors

Agriculture has played a strong historical role in Geauga County's development. It is still an important part of the economy and the community base. **Table A-7** data in **Appendix A** indicate that only 430 people currently work in the county's agricultural sector, but 73,000 acres of county land are committed to agriculture. There are 720 farms in the county, which average 103 acres per farm. Leading products are: milk, cheese, pork, beef, corn, hay, and maple syrup. Farms are found throughout the county, with concentrations in about 15 of the county's 21 political subdivisions.

Data in **Tables A-13** and **A-14** in **Appendix A** describe agricultural assessed property valuation trends in the county, which have grown from \$105 million in 1983 to over \$130 million in 1992 in current dollars. WEFA employment forecasts do not include the agricultural sector, therefore none are offered in this report.

### **VI. Geauga County Total Personal Income Forecasts**

Historically, Geauga County has had relatively high per capita personal income, compared to other Ohio counties. For example, in 1992 Geauga County ranked 1st among all Ohio counties in this category. **Tables A-15** and **A-16** in **Appendix A** describe per capita personal income trends and total personal income trends for Geauga and surrounding counties. The flipside is also true; Geauga County has had lower individual and family poverty rates than most other counties. **Table A-17** in **Appendix A** compares Geauga to the other Cleveland PMSA counties.

WEFA provides total personal income forecasts to the year 2005 for Geauga County in **Table B-1** of **Appendix B**. The county's total personal income is estimated at \$1.86 billion for 1992, which is identical to CSU's figure in **Table A-16** of **Appendix A**. WEFA forecasts that the county's personal income will rise on a current dollar basis to \$2.21 billion in 1995, \$2.93 billion in 2000, and \$3.93 billion in the year 2005. WEFA's revised forecast, which is based upon lower

growth assumptions is presented in **Table B-3** in **Appendix 3**. The lower-end forecast estimates that Geauga's personal income will increase (in current dollars) to \$2.21 in 1995 (the same as the regular forecast), to \$2.92 billion in the year 2000, and to \$3.88 billion by the year 2005.

On an annual basis, the lower-end forecasts indicate that the county's total personal income will rise an average of \$118 million per year between 1992 and 1995 (6.3% average annual rate); \$139 million per year between 1995 and 2000 (6.3% average annual rate); and \$194 million per year between 2000 and 2005 (6.7% avg. annual rate). Geauga County's total personal income grew from \$1.01 billion in 1983 to \$1.86 billion in 1992, which represented an average annual increase of \$94 million per year, or an 9.3% average annual growth rate on a current dollar basis.

### **VII. Overall Conclusions**

This report identifies growth forecasts for Geauga County, Ohio for the 1995-2005 period. The study has focussed on three lead growth variables: population; employment; and income growth. A number of related variables have been examined to support this analysis. Interviews with various local and regional officials have helped to identify key factors likely to stimulate and inhibit growth in the county.

Attitudes about growth in Geauga County are varied, with most people falling into two general opinion categories: 1) those willing to support modest growth proposals assuming they do not disrupt the county's current rural quality of life; and 2) those opposed to growth. A few economic development people interviewed could be characterized as pro-growth, but these individuals are in a minority.

Most people believe the county will continue to grow during the 1995-2005 period. The strongest growth is expected from the residential sector, which is driven by in-migration activity from surrounding counties. Historically, the Cleveland area has been the largest source of new

residents. This is likely to remain the case in the next decade, but more Akron area residents are expected to move into the county, especially its southern part.

Commercial development activity, especially regional shopping facilities, is not viewed favorably by many county residents. The recent vote against zoning changes for a proposed Wal-Mart in Chardon Village is one indication of this view. Most people believe commercial activity (service and retail) will naturally follow residential growth, assuming that local growth and development policy requirements can be met. Any new major commercial development activity is expected to come from outside the county. Commercial development activity in the county is expected by CSU researchers to be slow to moderate in the absence of more supportive local development policy changes to encourage this growth. This growth will increase if a more

lenient attitude is adopted about commercial and residential growth. WEFA forecasts a much higher level of activity than that expected by CSU.

Industrial development activity is seen as driven by existing industrial companies. The expansion of these companies is seen as the largest source of future industrial investment and jobs. Growth expectations are modest for the 1995-2005 period in CSU's view. WEFA is forecasting a somewhat higher level of growth than that seen by CSU researchers.

In general, several public policy and resource constraints are likely to reduce the county's ability to attain the growth forecasts prepared by the WEFA Group for the next decade. The absence of electric, gas, water, and sewer services will reduce development activity in all sectors (residential, commercial, industrial). Large-lot zoning and other growth management policies will also reduce the county's rate of growth. A change in local development policies and investment in new infrastructure are necessary requirements to achieve the WEFA forecasts prepared.

APPENDIX A: CSU GROWTH TREND TABLES AND CHARTS

Table A-1 General Homeowner and Renter Characteristics:1990				
	All Owner-Occupied Housing Units		All Renter-Occupied Housing Units	
	Total	% All Units	Total	% All Units
<b>Geauga</b>	23,098	85.80%	3,808	14.20%
<b>Cuyahoga</b>	348,985	62.00%	214,258	38.00%
<b>Ashtabula</b>	26,429	71.90%	10,331	28.10%
<b>Lake</b>	60,931	75.80%	19,490	24.20%
<b>Lorain</b>	69,048	71.90%	27,016	28.10%
<b>Medina</b>	33,129	79.30%	8,663	20.70%
<b>Cleveland PMSA</b>	561,620	66.40%	283,566	33.60%
Source: 1990 Census of Population and Housing Note: The Cleveland PMSA data are calculated based on the six constituent counties' data.				

### Summary

Of the six Cleveland PMSA counties, Geauga County has the highest owner-occupied housing status with almost 86% of the county's households falling in this category.

Table A-2 Population Characteristics: 1990 Educational Status		
	Persons 25 Years and Older	
	High School Graduates or Higher	With Bachelor's Degree or Higher
<b>Geauga</b>	82.00%	25.90%
<b>Cuyahoga</b>	74.00%	20.10%
<b>Ashtabula</b>	72.40%	9.00%
<b>Lake</b>	81.10%	17.50%
<b>Lorain</b>	75.30%	12.30%
<b>Medina</b>	82.40%	18.00%
Source: 1990 U.S. Census of Population and Housing		

### Summary

Geauga County has the highest educational attainment levels of all counties within the Greater Cleveland area. 82% of its population aged 25 years or older has graduated from high school and nearly 26% of this population has at least a 4-year college degree.



**Table A-3**  
**Population Characteristics: 1990 Selected Age Distribution**

	All Persons	Under 18		65 & Over		Median Age
		Total	% of All	Total	% of All	
Geauga	81,129	23,306	28.73	8,621	10.63	34.5
Cuyahoga	1,412,140	339,199	24.02	220,659	15.63	34.9
Ashtabula	99,821	27,349	27.4	14,661	14.69	34.4
Lake	215,499	53,900	25.01	25,830	11.99	34.3
Lorain	271,126	74,652	27.53	31,267	11.53	32.8
Medina	122,354	34,920	28.54	11,833	9.67	33.3
Cleveland PMSA	2,202,069	553,326	25.13	312,871	14.21	

Source: 1990 Census of Population and Housing

Note: The Cleveland PMSA data is obtained by adding up the six constituent counties' data.

### Summary

Geauga County has a higher percent of its population which is younger, or under 18 years of age, and the second lowest percent of all Greater Cleveland counties whose population is over 65 years of age.

**Table A-4**  
**Population Characteristics: 1990 (Race)**

	All persons	White		Black		Other
		Total	% of All	Total	% of All	
<b>Geauga</b>	81,129	79,591	98.1	963	1.19	575
<b>Cuyahoga</b>	1,412,140	1,025,600	72.63	349,916	24.78	36,624
<b>Ashtabula</b>	99,821	95,658	95.83	2,901	2.91	1,262
<b>Lake</b>	215,499	210,064	97.48	3,452	1.6	1,983
<b>Lorain</b>	271,126	241,846	89.2	21,138	7.8	8,142
<b>Medina</b>	122,354	120,439	98.43	906	0.75	1,009
<b>Cleveland PMSA</b>	2,202,069	1,773,198	80.53	379,276	17.22	49,595

Source: 1990 U.S. Census of Population and Housing

Note: Other includes American Indian (which includes Eskimos and Aleut), Asian (which includes Pacific Islanders), and other.

### Summary

The racial mix in Geauga County is 98.1% White and only 1.9% Non-White, compared to an 80.5% White and 19.5% Non-White share for the Cleveland PMSA area. Cuyahoga County has the highest Non-White share of population with 27.4%.

**Table A-5**  
**Residential Assessed Real Property Values in Geauga County**  
**( 1983-1992)**

<b>Year</b>	<b>in Current Dollars</b>	<b>in 1983 Dollars</b>
1983	\$490,592,110	\$490,592,110
1984	\$498,334,150	\$480,773,804
1985	\$509,878,250	\$478,690,146
1986	\$524,963,970	\$485,208,487
1987	\$615,682,160	\$554,387,581
1988	\$638,602,080	\$555,282,324
1989	\$665,394,410	\$550,240,439
1990	\$797,098,670	\$627,397,788
1991	\$825,399,150	\$623,511,811
1992	\$852,236,110	\$631,078,348
<b>Change (1983-1992)</b>	\$361,644,000	\$140,486,238
<b>Growth (1983-1992)</b>	73.72%	28.64%

Source: CSU Urban Center, Housing Policy Research Program

Note: Constant dollars are obtained by deflating current dollars using Cleveland PMSA's CPI factors.

### **Summary**

Geauga County's residential assessed real property values on a current dollar basis grew from \$491 million in 1983 to \$852 million in 1992, representing a 7.4% average annual growth rate. On a constant dollar basis, these values only increased 2.86% annually.

Residential Assessed Real Property Values  
Geauga County, 1983-1992

Table A-6

Place	Vlg / Twp	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
AQUILLA	V	1,240,370	1,236,080	1,235,480	1,239,100	1,275,140	1,272,060	1,272,430	1,368,330	1,179,600	1,191,890
AUBURN	T	17,168,500	18,396,420	20,087,070	22,228,140	26,368,630	28,610,920	31,649,420	40,717,390	43,476,500	45,673,820
BAINBRIDGE	T	81,132,620	82,850,460	85,859,580	90,220,780	106,620,640	111,597,920	114,183,020	137,345,740	143,027,810	149,780,320
BURTON	T	12,119,490	12,154,860	12,258,060	12,473,430	13,883,500	14,166,310	14,598,240	17,111,100	17,232,780	17,413,800
BURTON	V	6,144,650	6,149,770	6,158,870	6,188,710	7,219,300	7,278,090	7,291,930	8,326,250	8,345,590	8,412,800
CHARDON	T	22,697,170	23,068,780	23,673,380	24,546,910	29,062,700	30,761,780	32,541,120	39,329,230	43,035,630	45,401,070
CHARDON	V	19,651,310	20,260,600	20,675,420	20,711,180	24,087,250	24,755,680	25,245,510	29,155,490	30,517,210	31,853,240
CHESTER	T	92,880,900	93,592,040	94,754,930	96,305,270	112,283,430	115,611,010	120,965,190	144,566,390	148,464,020	151,735,910
CLARIDON	T	9,549,250	9,654,640	9,729,430	9,902,170	11,215,080	11,392,900	11,545,610	13,833,070	14,213,510	14,551,570
HAMBLEN	T	10,408,960	10,491,590	10,713,690	10,990,510	12,669,220	13,317,810	13,869,800	16,791,490	17,862,010	18,495,820
HUNTING VALLEY	V	4,488,850	4,504,070	4,679,690	4,721,200	5,484,930	5,546,310	5,812,940	7,245,200	7,463,920	7,449,070
HUNTSBURG	T	6,082,440	6,226,790	6,364,840	6,614,740	7,358,380	7,568,960	7,987,260	9,344,440	9,727,380	10,016,490
MIDDLEFIELD	T	8,531,680	8,740,800	9,424,500	9,651,460	9,810,620	10,025,920	10,369,130	12,126,590	12,435,630	12,629,880
MIDDLEFIELD	V	7,720,100	7,753,650	7,999,800	8,068,380	8,938,850	9,047,760	9,115,460	10,627,950	10,755,700	10,847,070
MONTVILLE	T	6,099,900	6,171,650	6,250,880	6,329,960	7,107,040	7,250,870	7,404,360	8,638,510	8,831,870	9,010,250
MUNSON	T	43,115,400	43,453,720	43,981,610	44,940,750	52,403,560	53,734,100	55,621,340	66,104,080	67,903,260	70,299,640
NEWBURY	T	31,876,340	32,480,900	32,635,470	33,124,840	39,118,800	39,612,890	40,380,360	46,739,480	47,872,830	48,794,460
PARKMAN	T	7,958,250	8,119,350	8,253,290	8,350,110	9,334,650	9,542,750	9,936,410	11,814,310	12,240,440	12,713,200
RUSSELL	T	59,853,640	60,601,710	61,469,700	63,136,820	77,187,440	79,590,510	82,644,900	99,123,680	101,723,120	104,613,820
SOUTH RUSSELL	V	30,790,540	31,166,230	32,228,760	33,542,130	40,818,870	44,034,510	48,675,920	60,312,820	62,351,450	64,183,120
THOMPSON	T	5,695,560	5,772,130	5,835,470	5,992,410	6,779,160	6,909,930	7,078,160	8,070,510	8,141,240	8,367,120
TROY	T	5,386,190	5,487,910	5,608,330	5,684,970	6,654,970	6,973,090	7,205,900	8,406,620	8,597,650	8,801,750
Geauga County		490,592,110	498,334,150	509,878,250	524,963,970	615,682,160	638,602,080	665,394,410	797,098,670	825,399,150	852,236,110

Source: Ohio Municipal Advisory Council

**Table A-7**  
**Geauga County Employment Trends by Detailed Industry (3 pages)**

		Employment		Employment Change	
	SIC	1989:1Q	1993:1Q	Level	Percent
<b>Total</b>		22,507	23,963	1,456	6.5%
<b>Agriculture &amp; Mining</b>		412	429	17	4.1%
<b>Construction</b>		935	1,036	101	10.8%
General Building Contractor	15	273	223	-50	-18.3%
Heavy Construction, Ex. Build.	16	99	129	30	30.3%
Special Trade Contractors	17	562	683	121	21.5%
<b>Mfg.- Durables</b>		3,887	3,946	59	1.5%
Furniture and Fixtures	25	11	7	-4	-36.4%
Stone, Clay, Glass Products	32	na	188	na	na
Primary Metal Industries	33	na	14	na	na
Fabricated Metal Products	34	435	456	21	4.8%
Industrial Machinery & Eq.	35	1,198	1,044	-154	-12.9%
Electronic & Electric Eq.	36	353	387	34	9.6%
Instruments & Related Products	38	797	786	-11	-1.4%
Misc Manufacturing	39	62	93	31	50.0%
<b>Mfg.-Nondurables</b>		4,279	3,912	-367	-8.6%
Food and Kindred Products	20	68	77	9	13.2%
Apparel & Other Textile Prod.	23	22	na	na	na
Printing and Publishing	27	191	284	93	48.7%
Chemicals and Allied Products	28	599	609	10	1.7%
Rubber and Misc. Plastics Prod.	30	3,320	2,871	-449	-13.5%
<b>Transportation &amp; Pub. Utilities</b>		996	915	-81	-8.1%
Trucking and Warehousing	42	638	564	-74	-11.6%
U.S. Postal Service	43	121	125	4	3.3%

**Table A-7**  
**Geauga County Employment Trends by Detailed Industry (3 pages)**

		Employment		Employment Change	
	SIC	1989:1Q	1993:1Q	Level	Percent
Transportation Services	47	17	24	7	41.2%
Communications	48	76	82	6	7.9%
Electric, Gas, Sanitary Services	49	117	na	na	na
<b>Wholesale Trade</b>		1,143	1,422	279	24.4%
Wholesale Trade-Durable Goods	50	738	880	142	19.2%
Wholesale Trade-Nondurables	51	405	541	136	33.6%
<b>Retail Trade</b>		3,468	3,774	306	8.8%
Building & Garden Materials	52	181	183	2	1.1%
General Merchandise Stores	53	204	153	-51	-25.0%
Food Stores	54	936	941	5	0.5%
Automotive Dealers, Service St.	55	517	410	-107	-20.7%
Apparel & Accessory Stores	56	34	54	20	58.8%
Furniture & Home Furnishings	57	57	112	55	96.5%
Eating and Drinking Places	58	1,056	1,438	382	36.2%
Misc. Retail	59	480	479	-1	-0.2%
<b>Finance, Insurance, Real Estate</b>		567	544	-23	-4.1%
Depository Institutions	60	229	220	-9	-3.9%
Nondepository Institutions	61	27	9	-18	-66.7%
Security and Com. Brokers	62	4	19	15	375.0%
Insurance Carriers	63	45	72	27	60.0%
Insurance Agents and Brokers	64	170	93	-77	-45.3%
Real Estate	65	90	127	37	41.1%
<b>Services</b>		6,085	7,171	1,086	17.8%
Hotels, and Lodging Places	70	29	52	23	79.3%

**Table A-7**  
**Geauga County Employment Trends by Detailed Industry (3 pages)**

		Employment		Employment Change	
	SIC	1989:1Q	1993:1Q	Level	Percent
Personal Services	72	418	393	-25	-6.0%
Business Services	73	490	447	-43	-8.8%
Auto Repair, Services, Parking	75	186	224	38	20.4%
Misc. Repair Services	76	29	91	62	213.8%
Motion Pictures	78	34	77	43	126.5%
Amusement & Recreation	79	312	498	186	59.6%
Health Services	80	1,570	1,824	254	16.2%
Legal Services	81	75	107	32	42.7%
Educational Services	82	2,157	2,343	186	8.6%
Social Services	83	313	481	168	53.7%
Membership Organizations	86	26	108	82	315.4%
Engineering & Management Ser.	87	399	460	61	15.3%
Private Households	88	27	33	6	22.2%
Services, NEC	89	6	16	10	166.7%
<b>Government</b>		735	814	79	10.7%
Executive, Legislative, General	91	411	418	7	1.7%
Justice, Public Order, Safety	92	141	168	27	19.1%
Environmental Quality, Housing	95	79	111	32	40.5%
Administration of Economic Prg.	96	66	69	3	4.5%

Note: "na" indicates suppressed data due to confidentiality.

Source: Ohio Bureau of Employment Service, Detailed ES-202 Data.





**Table A-9**  
**Share of the PMSA's Retail Sales**  
**(1984-1994)**

	1984 Share of the PMSA	1994 Share of the PMSA	1984-1994	
			Change( million \$)	Growth(%)
<b>Cuyahoga</b>	69.98%	64.37%	3423.8	39.69
<b>Ashtabula</b>	3.75%	3.74%	238.9	51.71
<b>Geauga</b>	2.07%	2.56%	223.9	87.6
<b>Lorain</b>	9.50%	11.57%	993.9	84.84
<b>Lake</b>	10.82%	12.41%	989.6	74.2
<b>Medina</b>	3.88%	5.34%	522.6	109.31
<b>Cleveland PMSA</b>	100.00%	100.00%	6392.6	51.86

Note: Share, change, and growth are calculated by the author based on the *Survey of Buying Power (1984, 1994)* data estimated by *Sales and Marketing Management*.

**Table A-10**  
**Commercial Assessed Real Property Values in Geauga County**  
**( 1983-1992)**

<b>Year</b>	<b>in Current Dollars</b>	<b>in 1983 Dollars</b>
1983	\$54,473,110	\$54,473,110
1984	\$54,941,820	\$53,005,775
1985	\$56,547,610	\$53,088,720
1986	\$57,870,720	\$53,488,175
1987	\$67,898,530	\$61,138,854
1988	\$68,120,290	\$59,232,493
1989	\$72,580,720	\$60,019,812
1990	\$86,148,220	\$67,807,418
1991	\$89,968,910	\$67,963,092
1992	\$90,230,020	\$66,815,066
<b>Change (1983-1992)</b>	\$35,756,910	\$12,341,956
<b>Growth (1983-1992)</b>	65.64%	22.66%

Source: CSU Urban Center's Housing Policy Research Program

Note: Constant dollars are obtained by deflating current dollars using Cleveland PMSA's CPI factors.

### **Summary**

Commercial assessed real property values in Geauga County have grown on a current dollar basis from \$54.5 million in 1983 to over \$90 million in 1992, representing a 6.56% average annual growth rate during the period. On a constant dollar basis, these property values climbed from \$54.5 million to just under \$67 million over the same period, representing a 2.26% average annual growth rate.

**Table A-11**  
**Industrial Assessed Real Property Values in Geauga County**  
**( 1983-1992)**

<b>Year</b>	<b>in Current Dollars</b>	<b>in 1983 Dollars</b>
1983	\$20,834,080	\$20,834,080
1984	\$21,598,650	\$20,837,555
1985	\$22,830,890	\$21,434,376
1986	\$23,510,430	\$21,729,987
1987	\$27,277,020	\$24,561,441
1988	\$27,400,590	\$23,825,577
1989	\$28,547,540	\$23,607,068
1990	\$32,794,320	\$25,812,468
1991	\$32,913,350	\$24,862,956
1992	\$33,802,080	\$25,030,341
<b>Change: 1983-1992</b>	\$12,968,000	\$4,196,261
<b>Growth: 1983-1992</b>	62.24%	20.14%

Source: CSU Urban Center Housing Policy Research Program

Note: Constant dollars are obtained by deflating current dollars using Cleveland PMSA's CPI factors.

### **Summary**

Between 1983 and 1992, the total current dollar value of assessed industrial real property in Geauga County grew from \$20.8 million to \$33.8 million for a 62.2% gain. This represented an average annual increase of 6.2%. On a 1983 constant dollar basis, this represented just above a 2% average annual growth rate. The largest annual increases occurred during 1987, which was a national growth year, and 1990, which was a national recession year.

Industrial Assessed Real Property Values  
Geauga County, 1983-1992

Table A-12

Place	Vlg / Twp	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
AQUILLA	V	0	0	0	0	0	0	0	0	0	0
AUBURN	T	1,585,980	1,640,200	1,641,610	1,878,910	2,038,150	2,038,150	2,069,590	2,489,080	2,611,240	2,595,590
BAINBRIDGE	T	3,359,500	3,770,810	3,798,880	3,961,460	4,902,490	4,900,880	5,016,630	6,142,750	6,163,890	6,150,450
BURTON	T	909,360	991,750	977,770	989,650	1,032,760	1,104,230	1,084,730	1,209,120	1,223,420	1,356,300
BURTON	V	0	0	0	0	76,060	76,060	76,060	79,870	79,870	79,870
CHARDON	T	0	0	0	0	0	0	0	0	10,230	10,230
CHARDON	V	4,306,140	4,306,140	4,307,190	4,290,610	5,152,970	5,153,360	5,928,890	6,625,020	6,357,930	6,263,470
CHESTER	T	1,108,430	1,108,430	1,150,080	1,294,110	1,432,550	1,432,550	1,504,930	1,655,620	1,642,630	1,642,630
CLARIDON	T	0	0	0	0	0	0	0	0	0	0
HAMBLEN	T	96,120	103,610	105,500	105,500	125,230	125,230	125,230	131,510	131,510	131,510
HUNTING VALLEY	V	0	0	0	0	0	0	0	0	0	0
HUNTSBURG	T	0	0	0	0	0	0	0	0	0	0
MIDDLEFIELD	T	1,148,400	1,213,980	1,239,710	1,288,250	1,446,980	1,461,290	1,444,760	1,963,480	2,050,460	2,626,670
MIDDLEFIELD	V	3,487,910	3,564,160	3,793,280	3,633,980	4,502,390	4,456,510	4,582,300	4,974,380	4,960,590	4,960,600
MONTVILLE	T	0	0	0	0	215,410	228,950	243,970	268,640	286,590	286,590
MUNSON	T	859,760	881,250	905,310	832,990	814,160	814,160	814,160	854,840	858,860	1,139,850
NEWBURY	T	2,284,550	2,330,390	3,083,000	3,406,410	3,379,150	3,427,210	3,434,430	3,827,940	3,853,180	3,853,180
PARKMAN	T	0	0	0	0	221,600	221,540	228,350	244,770	279,000	279,690
RUSSELL	T	0	0	0	0	0	0	0	0	0	0
SOUTH RUSSELL	V	465,870	465,870	468,770	468,770	492,070	492,070	492,070	722,590	722,590	722,590
THOMPSON	T	884,860	884,860	1,022,590	1,022,590	1,162,020	1,162,020	1,162,020	1,265,290	1,341,940	1,363,440
TROY	T	337,200	337,200	337,200	337,200	283,030	306,380	339,420	339,420	339,420	339,420
Geauga County		20,834,080	21,598,650	22,830,890	23,510,430	27,277,020	27,400,590	28,547,540	32,794,320	32,913,350	33,802,080

Source: Ohio Municipal Advisory Council

**Table A-13**  
**Agricultural Assessed Real Property Values in Geauga County**  
**( 1983-1992)**

<b>Year</b>	<b>in Current Dollars</b>	<b>in 1983 Dollars</b>
1983	\$105,027,390	\$105,027,390
1984	\$102,888,170	\$99,262,587
1985	\$103,065,740	\$96,761,441
1986	\$102,747,730	\$94,966,652
1987	\$114,034,490	\$102,681,723
1988	\$113,583,100	\$98,763,674
1989	\$114,218,170	\$94,451,434
1990	\$128,897,870	\$101,455,744
1991	\$131,029,100	\$98,980,222
1992	\$130,985,850	\$96,994,639
<b>Change (1983-1992)</b>	\$25,958,460	\$-8,032,751
<b>Growth (1983-1992)</b>	24.72%	-7.65%

Source: CSU Unrban Center, Housing Policy Research Program

Note: Constant dollars are obtained by deflating current dollars using Cleveland PMSA's CPI factors.

### Summary

Geauga County's agricultural assessed real property values on a current dollar basis grew from \$105 million in 1983 to \$131 million in 1992, representing a 2.47% average annual growth rate. On a 1983 constant dollar value basis, these property values actually declined from \$105 million in 1983 to \$97 million in 1992, representing a -0.76% average annual rate.

Table A-14  
Agricultural Assessed Real Property Values  
Geauga County, 1983-1992

Place	Vlg / Twp	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
AQUILLA	V	0	0	0	0	0	0	0	0	0	0
AUBURN	T	6,772,690	6,493,780	6,497,010	6,514,530	7,470,510	7,636,480	7,611,750	8,773,400	9,332,670	9,448,690
BAINBRIDGE	T	7,309,940	7,159,820	7,307,970	7,368,660	8,426,410	8,525,950	8,752,400	9,931,940	9,860,970	9,559,430
BURTON	T	5,647,550	5,563,890	5,527,470	5,452,960	5,574,900	5,391,990	5,461,480	6,221,600	6,353,370	6,269,310
BURTON	V	20,840	18,890	18,890	17,900	40,300	40,300	53,530	52,320	54,110	54,110
CHARDON	T	7,624,700	7,482,220	7,464,670	7,501,740	8,366,160	8,344,100	8,283,300	9,307,290	9,403,730	9,556,810
CHARDON	V	416,110	434,750	367,340	451,610	495,920	504,050	523,470	515,460	625,980	491,120
CHESTER	T	5,855,530	5,723,960	5,694,050	5,562,590	6,880,290	6,815,100	6,479,680	7,349,890	7,319,940	7,252,360
CLARIDON	T	5,990,810	5,866,840	5,897,260	5,859,360	6,353,470	6,522,090	6,580,110	7,295,490	7,500,380	7,679,030
HAMBLEN	T	5,164,900	5,073,070	5,153,780	5,157,130	5,647,470	5,684,260	5,831,810	6,695,810	6,788,450	6,929,070
HUNTING VALLEY	V	151,390	146,250	146,250	146,250	348,830	348,830	393,840	698,450	749,090	749,090
HUNTSBURG	T	6,454,190	6,232,140	6,227,610	6,267,290	6,338,090	6,379,080	6,435,610	7,189,450	7,296,510	7,352,290
MIDDLEFIELD	T	5,709,560	5,370,200	5,377,130	5,398,810	5,763,640	5,781,610	5,728,520	6,484,180	6,522,820	6,473,430
MIDDLEFIELD	V	168,320	167,800	156,360	156,360	214,890	235,110	283,200	278,770	263,110	304,820
MONTVILLE	T	5,741,460	5,616,340	5,647,010	5,674,300	5,781,260	5,838,450	5,948,260	6,659,890	6,792,870	6,757,310
MUNSON	T	6,101,220	6,110,420	6,131,340	5,987,890	6,939,990	6,890,890	6,968,720	8,035,930	8,487,510	7,971,340
NEWBURY	T	9,974,420	9,906,030	9,895,390	9,934,840	11,396,600	11,515,700	11,644,250	13,119,180	13,212,500	13,329,120
PARKMAN	T	5,278,460	5,038,530	5,068,570	5,060,360	5,449,690	5,482,540	5,485,020	6,080,190	5,964,450	6,060,850
RUSSELL	T	7,771,040	7,875,140	7,873,080	7,680,690	8,710,670	8,668,990	8,646,350	9,707,980	9,904,510	10,081,280
SOUTH RUSSELL	V	869,630	854,260	849,060	825,890	1,074,460	943,560	979,160	1,125,670	1,067,290	1,017,940
THOMPSON	T	5,669,200	5,533,290	5,539,460	5,509,050	5,704,460	5,479,750	5,507,330	6,120,980	6,282,250	6,255,410
TROY	T	6,335,430	6,220,550	6,226,040	6,219,520	7,056,480	6,554,270	6,620,380	7,254,000	7,246,590	7,393,040
Geauga County		105,027,390	102,888,170	103,065,740	102,747,730	114,034,490	113,583,100	114,218,170	128,897,870	131,029,100	130,985,850

Source: Ohio Municipal Advisory Council

**Table A-15**  
**Per Capita Personal Income: 1990-1992**

	1990 (\$)	1991 (\$)	1992 (\$)	1992 Rank in State
<b>Cuyahoga</b>	21,370	21,462	22,355	3
<b>Geauga</b>	21,210	22,040	23,128	1
<b>Ashtabula</b>	14,137	14,421	15,259	60
<b>Lake</b>	19,262	19,485	20,450	6
<b>Lorain</b>	16,080	16,400	17,436	31
<b>Medina</b>	18,205	18,321	19,080	12
<b>Cleveland PMSA</b>	19,904	20,511	21,533	-

Source: U.S. Bureau of Economic Analysis

### **Summary**

In 1992, Geauga County had the highest per capita personal income level of all 88 Ohio counties. Historically the county ranks high in this measure. Cuyahoga County tends also to rank high among Ohio counties in this regard.

**Table A-16**  
**Total Personal Income: 1990-1992**

	Millions of Dollars			Percent Change 1990-92
	1990	1991	1992	
<b>Geauga</b>	1,739	1,765	1,861	5.4
<b>Cuyahoga</b>	29,945	31,105	32,639	4.9
<b>Ashtabula</b>	1,413	1,448	1,540	6.4
<b>Lake</b>	4,159	4,250	4,508	6.1
<b>Lorain</b>	4,369	4,494	4,824	7.3
<b>Medina</b>	2,237	2,300	2,452	6.6
<b>Cleveland PMSA</b>	43,861	45,363	47,824	5.4
Source: U.S. Bureau of Economic Analysis				

### Summary

Geauga County experienced a 5.4% gain total personal income over the 1990-1992 period, which equalled the Cleveland PMSA's gain over the same period. Four other Cleveland PMSA counties experienced a higher gain during the period. In 1992, Geauga County represented 3.9% of total personal income in the region, which is slightly below its 3.96% share in 1990.



**Table A-17**  
**Poverty Status: 1990**

	Persons from Whom Poverty Status Is Determined		Families with Income below Poverty Level	
	Total	Poverty Rate	Number	% all Families
<b>Geauga</b>	80,419	5.60%	910	4.10%
<b>Cuyahoga</b>	1,388,547	13.80%	40,982	11.00%
<b>Ashtabula</b>	97,541	16.10%	3,538	12.90%
<b>Lake</b>	213,036	4.90%	2,192	3.60%
<b>Lorain</b>	265,062	11.50%	6,683	9.10%
<b>Medina</b>	121,055	5.50%	1,397	4.10%
<b>Cleveland PMSA</b>	2,165,660	12.00%	55,702	9.40%

Source: 1990 U.S. Census of Population and Housing

Note: The Cleveland PMSA data are calculated based on the six constituent counties' data.

### Summary

Geauga County's poverty rate is 5.6% on an individual basis and 4.1% on a family basis - which are considerably below the Cleveland PMSA's 12% individual poverty rate and its 9.4% family poverty rate. Of the six Cleveland PMSA counties, only Lake County had lower rates than Geauga County. Medina County's individual and family rates are almost identical to Geauga County's rates.

APPENDIX B: WEFA GROWTH FORECAST TABLES AND METHODOLOGY



THE WEFA GROUP

### *Methodology to Derive Metropolitan Area County Forecast*

The derivation of Metropolitan Area County forecasts is based on a top-down approach. This methodology assures the consistency of the county forecasts with the Metropolitan Area forecast while also allowing for differential growth among the component counties. By using a top-down approach, we can perform several types of simulations. The two basic types of simulations include changing assumptions regarding:

- **The Relative Performance of the Counties within a Metropolitan Area.** For example, it may be necessary to determine how changes in the relative distribution of growth among counties within a Metropolitan Area affect the outlook for individual counties. Because each county does not necessarily have a similar economic structure (i.e. bedroom communities vs intensive manufacturing counties), changing the distribution of growth will not result in a symmetrical response due to migration patterns, wage rates, and the composition of the labor force.
- **The Relative Performance of the Metropolitan Area within the State Economy.** For example, altering the assumptions about the performance of the Metropolitan Area's manufacturing sector may result in a greater impact on the more industrial-intensive counties will a smaller impact on white-collar bedroom communities.

In practice, a credible simulation may include changes in assumptions regarding both the distribution of growth and the nature of the assumptions underlying the Metropolitan Area forecast.

To derive a county level forecast, it is necessary to rely on a number of data sources that describe the economic performance of the county. The main focus of the exercise is to derive the distribution of employment, population, income and housing from sources such as BEA and Bureau of Census County data. Once an historical distribution of economic activity across the component counties is available, a baseline projection of this distribution can be computed by using time series techniques in conjunction with any additional local information that may be available. Time series techniques have the advantage of summarizing and using the information embedded in the history of the series to generate a forecast. This is especially important if one is forecasting the distribution of activity, as opposed to the level of activity, and there are few exogenous assumptions to rely upon.

With a forecast of the baseline distribution of economic activity in place, it is then possible to alter either the distributive assumptions or the forecast of the Metropolitan Area economy to derive alternative forecasts of county level activity. It is in the alteration of distributive assumptions that it is possible to incorporate additional qualitative information from local sources that may not be represented in the data. For example, knowledge of local economic development initiative, such as zoning regulations that may alter migration flows between counties, future investment in infrastructure, or private projects such as office park or industrial construction are important factors that influence both the level and the distribution of activity across counties.

Table B-1

B-41

## The WEFA Group - Regional Economic Service

Cleveland-Lorain-Elyria, OH

Fall 1994 (based on standard macro of September 1994)

Compound Annual  
Growth Rates  
85-90 90-95 85-95

	1988	1989	1990	1991	1992	1993	1994	1995	1996			
Personal Income (Billions \$)												
Total Personal Income	39.1	41.3	43.9	45.4	47.8	49.6	52.8	55.4	57.9	5.5	4.8	5.1
pct. chg.	6.9	5.4	6.3	3.4	5.4	3.8	6.3	4.9	4.6			
Wage and Salaries	24.3	25.5	26.8	27.0	28.3	28.9	30.7	31.9	33.2	5.3	3.5	4.4
Nonwage Income*	14.9	15.8	17.0	18.3	19.5	20.7	22.1	23.5	24.7	5.8	6.6	6.2
Real Pers. Inc. (87\$)	37.6	37.8	38.2	37.9	38.7	39.2	40.8	41.4	41.7	1.1	1.6	1.4
pct. chg.	2.6	0.6	1.0	-0.7	2.2	1.2	4.0	1.5	0.9			
Disposable Inc. (87\$)	32.6	32.5	32.9	32.7	33.6	34.0	35.2	35.7	36.1	0.9	1.7	1.3
Establishment Employment (Place of Work, Thousands -- SA)												
Total Employment	1033.5	1058.7	1069.2	1043.2	1040.3	1047.8	1058.9	1073.6	1085.7	1.6	0.1	0.8
pct. chg.	2.1	2.4	1.0	-2.4	-0.3	0.7	1.1	1.4	1.1			
Manufacturing	241.0	244.9	242.3	229.2	223.1	219.1	217.9	218.5	215.9	-0.6	-2.0	-1.3
Nonmanufacturing	792.5	813.8	826.9	814.0	817.2	828.7	841.1	855.0	869.9	2.3	0.7	1.5
Trade	246.3	249.8	252.6	246.4	244.1	244.1	243.8	247.4	250.5	1.5	-0.4	0.6
Services	269.6	280.4	285.5	284.7	290.3	298.4	307.7	315.1	324.9	3.6	2.0	2.8
Trans., Comm., Util.	46.7	47.3	47.3	44.4	43.9	42.8	42.6	43.2	43.2	0.6	-1.8	-0.6
Fin., Ins., Real Est.	60.5	61.1	62.2	63.2	63.5	64.8	66.7	67.2	67.8	2.6	1.6	2.1
Construction	34.2	38.1	40.6	36.6	35.3	37.3	38.1	38.5	39.0	5.7	-1.1	2.3
Mining	0.9	0.8	0.8	0.5	0.7	0.7	0.9	0.9	0.9	-8.7	2.7	-3.2
Government	134.2	136.1	137.7	138.1	139.6	140.5	141.2	142.8	143.6	0.8	0.7	0.8
MFG avg. hrly earn(SA)	11.8	11.8	12.1	12.5	13.6	13.9	14.3	14.9	15.6	1.6	4.2	2.9
Other Economic Indicators												
Housing Starts (Ths)	8.4	9.0	7.8	6.7	8.4	7.8	6.8	7.0	7.2	1.9	-2.3	-0.2
Single-Family (Ths)	6.2	6.5	6.5	6.0	7.2	7.0	6.3	6.2	6.1	4.4	-0.9	1.7
Multifamily (Ths)	2.2	2.5	1.4	0.7	1.2	0.7	0.5	0.8	1.0	-6.7	-10.4	-8.6
Dep. Str. sales(mil87\$)	1262.5	1188.6	1102.6	1044.9	1060.4	1084.4	1103.0	1070.3	1047.6	-4.3	-0.6	-2.4
CPI (1982-84=100)	116.7	122.7	129.0	134.2	136.8	140.3	144.6	149.5	154.7	3.7	3.0	3.3
Population (Ths)	2210.1	2206.0	2203.6	2211.6	2221.0	2226.1	2223.6	2221.3	2220.7	-0.2	0.2	-0.0

Compound Annual  
Growth Rates  
95-100 100-05 95-05

	1997	1998	1999	2000	2001	2002	2003	2004	2005			
Personal Income (Billions \$)												
Total Personal Income	60.9	64.2	67.5	71.2	75.3	79.7	84.1	88.6	93.3	5.1	5.6	5.3
pct. chg.	5.2	5.4	5.1	5.5	5.7	5.9	5.6	5.4	5.2			
Wage and Salaries	34.7	36.5	38.4	40.3	42.4	44.5	46.8	49.2	51.7	4.8	5.1	4.9
Nonwage Income*	26.2	27.7	29.1	30.9	32.9	35.1	37.3	39.5	41.6	5.6	6.2	5.9
Real Pers. Inc. (87\$)	42.3	43.1	43.6	44.4	45.3	46.4	47.3	48.3	49.1	1.4	2.0	1.7
pct. chg.	1.4	1.7	1.3	1.8	2.1	2.3	2.1	1.9	1.8			
Disposable Inc. (87\$)	36.6	37.2	37.7	38.3	39.1	40.0	40.8	41.6	42.3	1.4	2.0	1.7
Establishment Employment (Place of Work, Thousands -- SA)												
Total Employment	1097.7	1110.6	1121.6	1131.9	1141.7	1151.6	1161.9	1172.7	1184.3	1.1	0.9	1.0
pct. chg.	1.1	1.2	1.0	0.9	0.9	0.9	0.9	0.9	1.0			
Manufacturing	214.2	214.6	214.3	213.7	213.1	212.9	212.7	212.2	211.6	-0.4	-0.2	-0.3
Nonmanufacturing	883.5	896.0	907.3	918.2	928.6	938.7	949.2	960.5	972.7	1.4	1.2	1.3
Trade	253.4	255.9	257.9	259.9	261.9	263.8	265.7	267.5	269.4	1.0	0.7	0.9
Services	332.8	339.4	346.0	351.6	356.7	361.7	367.3	374.0	381.4	2.2	1.6	1.9
Trans., Comm., Util.	43.5	43.8	43.8	44.2	44.7	45.1	45.2	45.1	44.8	0.5	0.3	0.4
Fin., Ins., Real Est.	68.4	69.0	69.7	70.4	71.1	72.1	73.1	74.3	75.6	0.9	1.4	1.2
Construction	40.0	41.5	43.0	44.5	45.5	46.3	47.1	47.9	48.7	3.0	1.8	2.4
Mining	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.2	0.6
Government	144.5	145.5	145.9	146.7	147.7	148.8	149.8	150.8	151.8	0.5	0.7	0.6
MFG avg. hrly earn(SA)	16.2	16.8	17.5	18.1	18.8	19.5	20.3	21.1	22.0	4.0	3.9	3.9
Other Economic Indicators												
Housing Starts (Ths)	7.2	7.2	7.4	7.8	8.1	8.4	8.6	8.8	9.0	2.3	2.9	2.6
Single-Family (Ths)	6.1	6.0	6.1	6.4	6.6	6.8	7.0	7.1	7.2	0.6	2.4	1.5
Multifamily (Ths)	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.7	1.8	12.5	4.9	8.6
Dep. Str. sales(mil87\$)	1025.7	1005.6	984.9	965.5	948.2	932.0	916.4	901.6	887.1	-2.0	-1.7	-1.9
CPI (1982-84=100)	160.3	166.1	172.3	178.7	185.3	192.1	199.0	205.8	212.8	3.6	3.6	3.6
Population (Ths)	2220.4	2220.1	2219.2	2218.5	2217.8	2217.0	2216.4	2215.7	2214.7	-0.0	-0.0	-0.0

\* Includes residence adjustment

Table B-1 (cont.)

The WEFA Group - Regional Economic Service

Cleveland-Lorain-Elyria, OH

Fall 1994 (based on standard macro of September 1994)

Compound Annual  
Growth Rates  
05-010 010-15 05-15

	2006	2007	2008	2009	2010	2011	2012	2013	2014			
Personal Income (Billions \$)												
Total Personal Income	98.1	103.3	108.7	114.1	119.8	125.8	132.0	138.3	145.3	5.1	4.9	5.0
pct. chg.	5.1	5.3	5.2	5.0	5.0	5.0	4.9	4.8	5.0			
Wage and Salaries	54.3	57.2	60.1	63.1	66.3	69.6	73.0	76.6	80.3	5.1	4.9	5.0
Nonwage Income*	43.7	46.1	48.6	51.0	53.5	56.2	59.0	61.8	64.9	5.2	5.0	5.1
Real Pers. Inc. (87\$)	49.9	50.7	51.5	52.2	52.9	53.7	54.4	55.1	56.0	1.5	1.4	1.5
pct. chg.	1.6	1.7	1.6	1.4	1.3	1.4	1.4	1.3	1.5			
Disposable Inc. (87\$)	43.0	43.7	44.4	45.0	45.6	46.2	46.9	47.5	48.2	1.5	1.4	1.4
Establishment Employment (Place of Work, Thousands -- SA)												
Total Employment	1196.3	1207.6	1218.3	1228.3	1237.8	1246.9	1256.2	1265.0	1274.0	0.9	0.7	0.8
pct. chg.	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.7			
Manufacturing	211.0	210.4	209.9	209.2	208.5	207.7	206.9	205.9	205.2	-0.3	-0.4	-0.4
Nonmanufacturing	985.3	997.2	1008.4	1019.1	1029.3	1039.2	1049.3	1059.1	1068.8	1.1	0.9	1.0
Trade	271.3	273.0	274.7	276.2	277.7	279.2	280.8	282.3	283.8	0.6	0.5	0.6
Services	389.3	396.8	403.7	410.5	416.8	422.9	429.0	434.9	440.3	1.8	1.3	1.5
Trans., Comm., Util.	44.6	44.3	44.0	43.6	43.3	42.9	42.6	42.2	41.9	-0.7	-0.7	-0.7
Fin., Ins., Real Est.	76.9	78.3	79.6	80.9	82.1	83.4	84.7	86.0	87.3	1.7	1.5	1.6
Construction	49.5	50.4	51.2	52.0	52.8	53.6	54.5	55.3	56.2	1.6	1.6	1.6
Mining	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-0.1	-0.3	-0.2
Government	152.7	153.5	154.3	155.0	155.6	156.2	156.8	157.6	158.4	0.5	0.5	0.5
MFG avg. hrly earn(SA)	23.0	24.0	25.2	26.3	27.6	28.9	30.3	31.8	33.3	4.6	4.9	4.8
Other Economic Indicators												
Housing Starts (Ths)	9.2	9.4	9.5	9.6	9.6	9.6	9.6	9.6	9.6	1.3	-0.3	0.5
Single-Family (Ths)	7.3	7.4	7.5	7.6	7.6	7.5	7.5	7.5	7.5	1.0	-0.6	0.2
Multifamily (Ths)	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.6	0.7	1.6
Dep. Str. sales(mil87\$)	872.5	857.1	842.2	827.5	813.2	799.9	787.3	775.4	763.9	-1.7	-1.5	-1.6
CPI (1982-84=100)	220.4	228.4	236.9	245.7	254.7	264.1	273.8	283.8	294.2	3.7	3.7	3.7
Population (Ths)	2213.6	2212.3	2211.0	2209.7	2208.2	2206.5	2204.7	2202.8	2200.7	-0.1	-0.1	-0.1

Compound Annual  
Growth Rates  
15-20 20-25 15-25

	2015	2016	2017	2018	2019	2020	2021	2022	2023			
Personal Income (Billions \$)												
Total Personal Income	152.4	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
pct. chg.	4.9	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Wage and Salaries	84.2	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Nonwage Income*	68.3	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Real Pers. Inc. (87\$)	56.8	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
pct. chg.	1.4	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Disposable Inc. (87\$)	48.9	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Establishment Employment (Place of Work, Thousands -- SA)												
Total Employment	1280.7	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
pct. chg.	0.5	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Manufacturing	204.3	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Nonmanufacturing	1076.4	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Trade	284.6	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Services	444.3	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Trans., Comm., Util.	41.7	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Fin., Ins., Real Est.	88.6	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Construction	57.1	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Mining	1.0	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Government	159.2	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
MFG avg. hrly earn(SA)	35.0	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Other Economic Indicators												
Housing Starts (Ths)	9.5	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Single-Family (Ths)	7.3	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Multifamily (Ths)	2.1	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Dep. Str. sales(mil87\$)	752.8	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
CPI (1982-84=100)	304.8	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Population (Ths)	2198.6	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN

\* Includes residence adjustment

Table B-2 WEFA County Forecasts For Cleveland PMSA

COUNTY	All employment and income in thousands	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
COEMOH007	ASHTABULA Construction employment	0	0	0	0	0	0	1.2	1.1	1	1	1.1	1.1	1.2	1.2	1.2	1.5
FEMOH007	ASHTABULA Finance, Insurance, Real Estate employment	0	0	0	0	0	0	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3
GOEMOH007	ASHTABULA Government employment	0	0	0	0	0	0	4.7	4.3	4.6	4.7	4.7	4.7	4.8	4.9	4.7	4.8
MEFMOH007	ASHTABULA Manufacturing employment	0	0	0	0	0	0	11.9	11.3	9.3	8.7	9.3	9.2	9.2	9.3	9.3	9.1
MIEMOH007	ASHTABULA Mining employment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NMEMOH007	ASHTABULA Non-Manufacturing employment	0	0	0	0	0	0	0	0	0	0	22.6	23.1	23.7	23.9	24	24.8
POPACH007	ASHTABULA Population	101.1	102	101.2	101.6	102.5	103.8	104.1	103.6	102.9	102.2	101.7	101.7	100.3	100.1	100.4	100.1
SEEMOH007	ASHTABULA Services employment	0	0	0	0	0	0	5.6	5.4	5.5	5.7	6	6.2	6.3	6.4	6.7	7.4
TNEMOH007	ASHTABULA Total Non-Agricultural employment	0	0	0	0	0	0	0	0	0	0	31.9	32.3	32.9	32.9	32.9	33.8
TPEMCH007	ASHTABULA Transp., Commun. and Pub. Util. employment	0	0	0	0	0	0	2.4	2.4	2.2	2	2.1	2.2	2.3	2.4	2.3	2.4
WREMOH007	ASHTABULA Wholesale/Retail Trade employment	0	0	0	0	0	0	0	0	0	0	7.1	7.3	7.5	7.4	7.5	7.6
YRADJOH007	ASHTABULA Income Adjustment	41808	47000	53776	60620	71713	87687	95725	105871	112161	120969	133888	136955.9	137476.9	147384.9	161972.9	178746.9
YRDROH007	ASHTABULA Property Income	52386.9	54768	58487	65108	76045	88851	110232	123338	130766	141105	164474.9	174440.9	184150	177298	184200	189848.9
YRPRCH007	ASHTABULA Personal Income	500636.1	522037.7	582367.9	644332.6	726074	873716.4	95124.1	975301.7	101215.7	107115.7	115141.9	120539.4	122717.0	128055.8	134155.4	141554.9
YRTRTOH007	ASHTABULA Transfer Payments	64153	82906	90522	95941	104418.9	119045	147621	169053.9	205174.9	219301	223643.9	242282	257899.9	269005	290509.9	304038.9
YWLOUOH007	ASHTABULA Other Labor Income	26894	28816	34268	39849	44566	49033	53097.9	55873.9	64584	54923	54296.9	57184	58340	56320.9	58679.9	60910.9
YWPTTOH007	ASHTABULA Proprietors Income	33424	34575	39065	37653	44008	44844	35117	36279	35399	38799	49666	53117	60620	64194	71889	79197.9
YWSOCH007	ASHTABULA Contributions to Social Insurance	18039	17593	19328	21793	25690	30637	32162	36092	36114	37363	42214	45854	49081	49604	53239	56749
YWSDOH007	ASHTABULA Wage Bill	300069.2	291562.2	325500.1	366654.8	411015.8	448930.8	464085.9	485917.6	465069.3	464443.5	517687.6	533805.6	565984.8	562491.8	583145.5	585669.2
COEMOH035	CUYAHOGA Construction employment	0	0	0	0	0	0	22.8	18.9	17.8	17.1	19	19.6	19.6	20.7	21.3	23.5
FEMOH035	CUYAHOGA Finance, Insurance, Real Estate employment	0	0	0	0	0	0	43.2	42.5	42.9	42.8	42.7	43.7	45.7	47.4	48.6	49.2
GOEMOH035	CUYAHOGA Government employment	0	0	0	0	0	0	101.2	100.2	97.9	97.7	97.1	97.4	98.4	99.3	98.5	99.4
MEFMOH035	CUYAHOGA Manufacturing employment	0	0	0	0	0	0	213.1	206.7	185.1	172.1	175.1	172.6	167.2	163.5	165.5	165.5
MIEMOH035	CUYAHOGA Mining employment	0	0	0	0	0	0	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.6	0.6	0.6
NMEMOH035	CUYAHOGA Non-Manufacturing employment	0	0	0	0	0	0	0	0	0	0	54.3	56.0	57.2	58.1	59.6	61.7
POPACH035	CUYAHOGA Population	1617.2	1595.3	1578.1	1559.1	1538.7	1514.2	1495.9	1480.7	1469	1469.7	1463	1452.3	1451.8	1442.5	1425.2	1418.1
SEEMOH035	CUYAHOGA Services employment	0	0	0	0	0	0	162.5	166	167.8	170.2	172.2	166.5	194	200.8	209.2	217.6
TNEMOH035	CUYAHOGA Total Non-Agricultural employment	0	0	0	0	0	0	0	0	0	0	721.4	732.6	740.2	745.7	759.9	777.2
TPEMCH035	CUYAHOGA Transp., Commun. and Pub. Util. employment	0	0	0	0	0	0	39.8	39.3	37	36	36.9	35.9	36	36.3	36.4	37
WREMOH035	CUYAHOGA Wholesale/Retail Trade employment	0	0	0	0	0	0	0	0	0	0	172.8	176.3	176.8	177.9	181.9	184.4
YRADJOH035	CUYAHOGA Income Adjustment	-1289942	-1356911	-1571876	-1837681	-2134530	-2375019	-2573728	-2769104	-2786964	-2815171	-3069461	-3282258	-3438080	-3644302	-3941182	-4212258
YRDROH035	CUYAHOGA Property Income	1543280	1554876	1641832	1790842	2046232	2377917	2806100	3402901	3668564	3918941	4343124	4583080	4743355	4760332	5047307	5248515
YRPRCH035	CUYAHOGA Personal Income	10778770	11248490	12196690	13437520	14785780	16015750	17302660	18762310	19516390	20331920	21994630	23156340	24292110	25225000	26817600	28154670
YRTRTOH035	CUYAHOGA Transfer Payments	1237010	1487565	1594356	1700642	1839967	2046794	2533871	2837039	3239046	3493604	3641404	3683333	4087066	4252412	4447937	4800118
YWLOUOH035	CUYAHOGA Other Labor Income	580645.9	764306.5	904305.8	1062025	1196174	1296719	1389594	1481134	1560207	1589519	1633148	1642810	1653394	1665105	1678488	1691489
YWPTTOH035	CUYAHOGA Proprietors Income	681154.8	733576.7	813790.1	1026517	1106891	1175670	1195288	1411588	1079303	1196031	1340238	1590464	1890644	2005425	2251961	2358112
YWSOCH035	CUYAHOGA Contributions to Social Insurance	497341	505828.2	542863.3	601220.4	702992.1	836413.4	877718.5	991580.5	1031369	1083366	1183220	1341221	1407489	1471137	1600981	1751538
YWSDOH035	CUYAHOGA Wage Bill	8424959	8570906	9359134	10296390	11433240	12330080	12829280	13660330	13787770	14036070	15179390	16096130	16752850	17659940	18823680	19787620
COEMOH055	GEALGA Construction employment	0	0	0	0	0	0	1.1	0.9	0.9	0.9	1.1	1.3	1.5	1.6	1.7	1.9
FEMOH055	GEALGA Finance, Insurance, Real Estate employment	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.1	1.2	1.2
GOEMOH055	GEALGA Government employment	0	0	0	0	0	0	2.9	2.8	2.8	2.8	2.9	3	3	3.1	3.1	3.1
MEFMOH055	GEALGA Manufacturing employment	0	0	0	0	0	0	6.2	6.3	6.3	6.4	7.2	7.6	7.7	8	8.2	8.7
MIEMOH055	GEALGA Mining employment	0	0	0	0	0	0	0	0.1	0	0	0	0	0.1	0.1	0	0
NMEMOH055	GEALGA Non-Manufacturing employment	0	0	0	0	0	0	0	0	0	0	0	16.5	16.7	17.8	18.4	19.2
POPACH055	GEALGA Population	66.1	67.7	67.8	70.4	73.3	73.6	74.5	74.6	74.5	74.5	74.5	74.7	74.3	76.9	79	80.2
SEEMOH055	GEALGA Services employment	0	0	0	0	0	0	4	4.1	4	4	4.8	5.2	5.8	6.3	6.6	6.6
TNEMOH055	GEALGA Total Non-Agricultural employment	0	0	0	0	0	0	0	0	0	0	22.7	24.3	25.3	26.4	26.7	27.9
TPEMCH055	GEALGA Transp., Commun. and Pub. Util. employment	0	0	0	0	0	0	0.8	0.8	0.8	0.9	1	1	1.1	1.1	1.1	1
WREMOH055	GEALGA Wholesale/Retail Trade employment	0	0	0	0	0	0	0	0	0	0	0	4.5	4.9	5	5.2	5.3
YRADJOH055	GEALGA Income Adjustment	180402.1	194790.1	214062.1	239556.1	269441.1	310310.1	351540	373414.9	374391.9	382545	421709	442006.8	454884.8	491184.8	533776.8	574370.8
YRDROH055	GEALGA Property Income	50928	62936	58884	66446	77318	99530	119296	159445	163003	180061	199012.9	218433.9	234658	248061	268430.9	310262.9
YRPRCH055	GEALGA Personal Income	414712.1	444480.9	505568	571430.9	651616.9	746554.9	823647.7	920136.6	949641.4	1014864	1126186	1205584	1276174	1355138	1473644	1618543
YRTRTOH055	GEALGA Transfer Payments	24317	31092	33921	36356	40121	44317	54896	68026	80407	89551	94194	92240	108769	113515	121519	134081
YWLOUOH055	GEALGA Other Labor Income	9681	10579	13692	16697	19252	21435	23235	25503	28935	31753	34676	36243	38360	38641	42551	47206
YWPTTOH055	GEALGA Proprietors Income	32841	34984	42061	47071	52438	64273	81594	82694	45745	60681.9	65886	70047	77661.9	82294	87823	100141.9
YWSOCH055	GEALGA Contributions to Social Insurance	95345	96358	10018	117330.5	140518	171926	178926	202126	228262	253163	28027	32533	36802	417186	47862	54784
YWSDOH055	GEALGA Wage Bill	125028.1	128737.9	152966	176635.9	207096.9	231142.9	241272.8	261976.8	279427.6	299589.7	340028.7	371085.8	397191.3	418629.9	461221.6	499254.4
COEMOH085	LAKE Construction employment	0	0	0	0	0	0	4	4.2	4.6	5.3	5.4	4.4	3.6	3.9	4	4.7
FEMOH085	LAKE Finance, Insurance, Real Estate employment	0	0	0	0	0	0	3.3	3.2	3	2.9	2.9	3.1	3.2	3.3	3.3	3.4
GOEMOH085	LAKE Government employment	0	0	0	0	0	0	10.3	10.5	10.3	10.3	10.2	10.4	9.3	9.6	9.8	10.1
MEFMOH085	LAKE Manufacturing employment	0	0	0	0	0	0	27.6	27.1	24.5	24.5	24.4	23.9	23.2	23.3	23.3	24.7
MIEMOH085	LAKE Mining employment	0	0	0	0	0	0	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1
NMEMOH085	LAKE Non-Manufacturing employment	0	0	0	0	0	0	0	0	0	0	54.2	54.8	55.1	57.2	58.6	60.5
POPACH085	LAKE Population	203.4	209.3	209.8	210	211.2	212.5	213.1	213.7	214.5	214.7	213.7	212.7	213.4	213.9	214.2	215
SEEMOH085	LAKE Services employment	0	0	0	0	0	0	11.6	12	12.4	13.5	14.9	15.6	16.9	17.5	17.7	18.1
TNEMOH085	LAKE Total Non-Agricultural employment	0	0	0	0	0	0	0	0	0	0	78.6	78.7	78.3	80.2	82.1	85.2
TPEMCH085	LAKE Transp., Commun. and Pub. Util. employment	0	0	0	0	0	0	1.4	1.5	1.6	1.5	1.7	1.8	2	2.1	2.1	1.9
WREMOH085	LAKE Wholesale/Retail Trade employment	0	0	0	0	0	0	0	0	0	0	18.8	19.5	20	20.6	21.8	22.2
YRADJOH085	LAKE Income Adjustment	318382.1	311022.2	359885.1	432172.1	499407.2	514588.2	530120	564084.9	543906.9	527594	558810	629363.7	684269.7	722510.6	778427.7	807914.7
YRDROH085	LAKE Property Income	117717.9	122662.9	133555.9	148120.9	174317.9	205450.9	257097	318903.9	353769.9	374041.9	429839.9	460716.8	479973.9	4834		

Table B-2 WEFA County Forecasts For Cleveland PMSA (cont.)

COUNTY	All employment and income in thousands	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
COEMOH007	ASHTABULA Construction employment	1.6	1.5	1.4	1.5	1.6	1.6	1.6	1.7	1.8	1.8	1.9	2	2	2.1	2.1	2.1
FEMOH007	ASHTABULA Finance, Insurance, Real Estate employment	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
GOEMOH007	ASHTABULA Government employment	4.8	4.8	4.9	5	5	5.1	5.1	5.2	5.2	5.3	5.3	5.4	5.4	5.4	5.4	5.4
MFEMOH007	ASHTABULA Manufacturing employment	8.8	8	8.4	8.3	8.2	8.1	8	7.9	7.9	7.8	7.7	7.7	7.7	7.7	7.6	7.5
MIEMOH007	ASHTABULA Mining employment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NMEMOH007	ASHTABULA Non-Manufacturing employment	24.4	24.4	24.6	24.8	25.1	25.4	25.7	26	26.3	26.6	26.8	27.1	27.3	27.5	27.7	28
POPACH007	ASHTABULA Population	99.9	100.4	100.9	101.6	101.9	102.2	102.6	103.1	103.5	103.9	104.3	104.8	105.2	105.6	106.1	106.5
SEEMOH007	ASHTABULA Services employment	7.3	7.3	7.3	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
TNEMOH007	ASHTABULA Total Non-Agricultural employment	33.2	32.4	33.1	33.1	33.3	33.6	33.8	34	34.3	34.5	34.7	34.8	35	35.1	35.3	35.5
TPEM007	ASHTABULA Transp., Comm., and Pub. Util. employment	2.1	2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.8	1.7	1.7	1.7
WREM007	ASHTABULA Wholesale/Retail Trade employment	7.5	7.5	7.8	7.7	7.7	7.8	7.9	8	8	8.1	8.1	8.1	8.2	8.2	8.3	8.3
YRADJOH007	ASHTABULA Income Adjustment	197157.9	198381.9	209730.9	216761	237993.1	253984.2	267743.7	285374.1	304555	322095	342620.3	365670	390494.2	414973	439177.4	464050.6
YRDROH007	ASHTABULA Property Income	204432	193421.9	201778.5	213677.7	230405.2	244290.5	259547.2	279835.4	297835.4	320781.3	342603.6	365529.2	390494.2	414973	439177.4	464050.6
YRPRCOH007	ASHTABULA Personal Income	1412988	1447610	1540077	1595935	1702914	1784831	1868126	1966576	2072336	2176168	2296944	2430907	2575861	2721861	2870171	3022054
YRTRTOH007	ASHTABULA Transfer Payments	325846.9	360997.9	391609.9	414374.8	430794.6	440724.9	462648.3	484592.5	503475.2	524745.6	552541.3	583967.7	618325.3	654470	691921.8	730352
YWLOUOH007	ASHTABULA Other Labor Income	63523	67333	72380	78123.6	85311.2	94366.2	101924.5	109474.1	117446.9	124301.6	131269.9	138657.1	147335.8	155981.3	165072.1	174393.1
YWPPTOH007	ASHTABULA Proprietors Income	77384.9	79805.9	81641.9	86520.8	111858.7	120919	123283.8	131467.1	138480.8	145084.4	149676.9	161705	174217.1	186292.8	194084.8	201218.1
YWSDCOH007	ASHTABULA Contributions to Social Insurance	65247	61769	64671.8	67526	73053.3	76717.3	79456	83307.1	89061.7	95522.7	102249.8	109285.1	116635.4	124274.4	132478.3	141590.3
YWWSDOH007	ASHTABULA Wage Bill	603490.6	609227.8	644951.6	657404.2	695372.2	720644.8	747701.7	779428.4	817604.8	857825	900022.1	945642.8	990097.8	1038662	1089418	1142904
COEMOH035	CUYAHOGA Construction employment	24.9	22.5	21.4	22.4	22.8	22.9	23.1	23.6	24.4	25.2	25.9	26.4	26.8	27.2	27.5	27.9
FEMOH035	CUYAHOGA Finance, Insurance, Real Estate employment	50.2	51	51.1	52.2	53.9	54.4	54.9	55.4	56	56.6	57.3	58	58.8	59.7	60.8	61.9
GOEMOH035	CUYAHOGA Government employment	100.5	100.3	101.4	101.9	102.2	103.2	103.5	104	104.5	104.9	105.5	106	106.5	107	107.6	108
MFEMOH035	CUYAHOGA Manufacturing employment	162.7	153.6	144.6	140.7	136.6	137.4	134.4	131.8	130.5	128.6	126.4	124.2	122.1	119.9	117.4	114.7
MIEMOH035	CUYAHOGA Mining employment	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NMEMOH035	CUYAHOGA Non-Manufacturing employment	618	604.3	602.7	609.2	616.7	625.2	634.4	642.5	649.7	656.1	662.2	667.9	673.4	679.3	685.9	693.1
POPACH035	CUYAHOGA Population	1411.8	1411.3	1411.3	1406.7	1397.2	1387.8	1379.4	1371.1	1362.7	1354	1345.2	1336.4	1327.5	1318.6	1309.5	1300.3
SEEMOH035	CUYAHOGA Services employment	220.3	217.4	220.4	226.2	232.9	238.1	245.1	250.7	255.3	259.9	263.8	267.3	270.7	274.6	279.3	284.6
TNEMOH035	CUYAHOGA Total Non-Agricultural employment	760.7	757.9	747.3	749.9	755.3	762.8	768.8	774.3	780.2	784.6	788.5	792.1	795.5	799.2	803.2	807.7
TPEM035	CUYAHOGA Transp., Comm., and Pub. Util. employment	37	33.8	32.7	31.7	31.6	31.5	31.4	31.3	31.2	31.1	31	30.9	30.8	30.7	30.6	30.4
WREM035	CUYAHOGA Wholesale/Retail Trade employment	184.6	178.9	175.4	174.4	173.2	174.7	175.9	176.9	177.7	178.1	178.5	178.9	179.3	179.6	179.9	180.2
YRADJOH035	CUYAHOGA Income Adjustment	-4474130	-4438832	-4537308	-4682051	-5133216	-5468610	-5759934	-6132062	-6537091	-6906526	-7339606	-7826324	-8305041	-8866906	-9376991	-9900965
YRDROH035	CUYAHOGA Property Income	5950185	6102788	6068023	6304255	6651297	7147608	7554266	8002512	8604499	9266622	10079140	11079740	12036980	12843330	13660930	1450927
YRPRCOH035	CUYAHOGA Personal Income	29944500	3105310	3263890	33874810	35917230	37631860	39287330	41253370	43427700	45575300	48024270	50722820	53639530	56574020	59647160	62628190
YRTRTOH035	CUYAHOGA Transfer Payments	5099180	5496702	6043896	6386166	6730562	7104092	7533118	7715117	8033460	8451772	8925461	9442905	9987670	10551930	11130720	11730720
YWLOUOH035	CUYAHOGA Other Labor Income	2037954	2153745	2295556	2450362	2713469	3218570	3438556	3723099	3947384	4175667	4417663	4701249	4984266	5281926	5581016	5881016
YWPPTOH035	CUYAHOGA Proprietors Income	2443916	2900499	3172309	3429324	3906189	4238490	4338732	4643248	4907492	4998004	5301782	5763306	6290846	689214	7495534	7270282
YWSDCOH035	CUYAHOGA Contributions to Social Insurance	1884078	1971746	2023720	2142930	2298010	2382719	2493363	2615933	2798194	3002749	3215802	3438654	3671528	3918423	4198054	4462292
YWWSDOH035	CUYAHOGA Wage Bill	20771520	20660100	21623280	22101380	23439600	24351910	25325490	26458630	27812780	29238970	30734430	32228490	33925900	35652250	37451690	39348600
COEMOH055	GEAUGA Construction employment	2	1.9	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5
FEMOH055	GEAUGA Finance, Insurance, Real Estate employment	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8
GOEMOH055	GEAUGA Government employment	3.2	3.2	3.2	3.3	3.3	3.4	3.4	3.5	3.5	3.6	3.6	3.7	3.7	3.8	3.8	3.9
MFEMOH055	GEAUGA Manufacturing employment	9	8.4	8.3	8.5	8.9	9.4	9.8	10.2	10.7	11.3	11.8	12.4	13	13.7	14.4	15.1
MIEMOH055	GEAUGA Mining employment	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0
NMEMOH055	GEAUGA Non-Manufacturing employment	20	21	21	21.7	22.3	23.1	23.8	24.6	25.3	26	26.8	27.3	27.9	28.5	29.2	29.8
POPACH055	GEAUGA Population	81.4	82.2	83.2	84.7	85.8	87	88.3	89.5	90.8	92.2	93.5	94.8	96.1	97.5	98.8	100.2
SEEMOH055	GEAUGA Services employment	7	7.3	7.7	8	8.3	8.6	9	9.3	9.6	9.8	10.1	10.3	10.5	10.8	11.1	11.4
TNEMOH055	GEAUGA Total Non-Agricultural employment	29	28.8	29.2	30.2	31.4	32.5	33.6	34.8	36	37.2	38.5	39.7	40.9	42.2	43.5	44.8
TPEM055	GEAUGA Transp., Comm., and Pub. Util. employment	0.9	0.9	0.9	0.9	1	1	1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2
WREM055	GEAUGA Wholesale/Retail Trade employment	5.7	5.7	5.9	6	6.1	6.3	6.5	6.7	6.9	7	7.2	7.3	7.5	7.6	7.8	7.9
YRADJOH055	GEAUGA Income Adjustment	621294.8	620606.8	642600.6	642523.8	725780	772622.3	813213.6	865188.2	921772.2	973307.4	103373.8	1101779	1176501	1247110	1312898	1381398
YRDROH055	GEAUGA Property Income	333629.9	327878.9	327605.9	342116.2	362659	391420.6	415358.4	441649.1	476522	514852.6	562599.9	591224	633022	676168	723162	77097.1
YRPRCOH055	GEAUGA Personal Income	1738908	1765188	1860825	1934304	2086294	2212233	2324827	2463149	2616565	2763392	2931856	3119028	3320799	3527160	3724096	3931208
YRTRTOH055	GEAUGA Transfer Payments	146536	165932	169592	196560.6	204162.6	200701.6	218920	229144.4	237918.6	247818.1	260797	275491.4	291542.2	308436	325939.8	343896.5
YWLOUOH055	GEAUGA Other Labor Income	61338	65443	60790	64762.8	72956.8	78299.8	86178.3	93097.8	100420.4	106826.7	113367	120437.1	128360.2	136448	144958.1	153630.4
YWPPTOH055	GEAUGA Proprietors Income	107093.8	106372.8	106372.8	123611.6	137815.6	163847.4	176566.4	193464.4	210420.4	227450.4	244730.4	262450.4	280950.4	299450.4	318950.4	338450.4
YWSDCOH055	GEAUGA Contributions to Social Insurance	51444	53312	57016	59721.1	64330.8	67894.6	70849.6	74447.3	78763.2	82723.7	87364.4	92458.6	98123.7	104444.4	111244.4	118770.4
YWWSDOH055	GEAUGA Wage Bill	530462.7	541011.8	579031.6	595710.3	641812.6	664189.3	694449.3	729170.6	770112.1	813203.8	856382.1	905190.8	954938.2	1006930	1061381	1118708
COEMOH085	LAKE Construction employment	4.9	4.1	3.9	4	4	3.9	3.9	3.9	3.9	3.9	3.9	4	3.9	3.9	3.8	3.8
FEMOH085	LAKE Finance, Insurance, Real Estate employment	3.6	3.7	3.8	3.9	4	4	4.1	4.1	4.1	4.2	4.3	4.3	4.4	4.4	4.4	4.5
GOEMOH085	LAKE Government employment	10.4	10.7	11.1	11.1	11.3	11.3	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
MFEMOH085	LAKE Manufacturing employment	25.6	24.7	24.8	24.8	25.1	25.6	25.8	26.1	26.7	27.2	27.7	28.3	28.9	29.6	30.2	30.8
MIEMOH085	LAKE Mining employment	0.1	0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NMEMOH085	LAKE Non-Manufacturing employment	63.7	64	65.6	67.1	68.5	70.2	71.9	73.6	75.1	76.8	78	79.4	80.8	82.1	83.5	85
POPACH085	LAKE Population	215.9	216.1	220.4	222.8	224.3	226	227.8	229.7	231.5	233.4	235.2	237.1	239	240.9	242.9	244.8
SEEMOH085	LAKE Services employment	19.1	19.1	20.9	21.7	22.6	23.3	24.3									

CSU suggests a downward modification of WFFA's lower-end employment forecasts for this study's purposes. WFFA's projections should be viewed as optimistic and could be used as an upper limit of projected employment for Geauga county. In general, CSU believes employment will continue to grow favorably in the county over the next decade, but this growth is unlikely to reach the levels forecasted by WFFA given the cautious attitude toward growth in the county and the lack of in-place utility and infrastructure services to support this growth. Our assessment of the employment forecasts is similar to the population forecasts; which is that the county could only attain these high growth levels if major changes occurred in the county's growth policies.

Commercial Sector Growth Trends and Factors

Interviews with local experts point to the following general trends in each major employment sector. In the commercial sector:

1. Retail and service enterprises in the county serve both individual and business consumers. Most services appear to be more oriented to individual consumers. Retail activity is believed to follow population growth, as illustrated by the location of strip shopping centers and other retail developments within the county.
2. Chardon Village recently voted against a zoning change request to allow construction of a Wal-Mart Superstore. Many residents have expressed fears that these type commercial developments will increase traffic congestion and cause other problems within the county. While some residents view new retailing as positive to the county's quality of life, others express serious reservations about this type growth.
3. Much of the commercial development within the county has occurred along major state highways running through the county (Routes 322, 422, 87, 306, others). Many commercial businesses in the county are small in size and they are family-owned and operated. Strict zoning requirements, limited utilities and infrastructure, and general