



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Ohio's

**2008 Eight-Hour Ozone
Recommended Designations**

Prepared by:
The Ohio Environmental Protection Agency
Division of Air Pollution Control

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Acknowledgement

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Eight-Hour Ozone Designation Area	Metropolitan Statistical Area (MSA) and, if applicable, Combined Statistical Area (CSA)	Current Nonattainment Designation Counties for 1997 Standard	Ohio EPA Recommended Nonattainment Counties for 2008 Standard
(A) Canton-Massillon, OH	Stark Carroll		Stark
(B) Cincinnati-Middletown, OH-KY-IN¹	Brown Butler Clermont Clinton Hamilton Warren Indiana: Dearborn, Franklin and Ohio Kentucky: Boone, Bracken, Campbell, Gallatin, Grant, Kenton and Pendleton	Butler Clermont Clinton Hamilton Warren	Butler Clermont Clinton Hamilton Warren
(C) Cleveland-Akron-Lorain, OH²	Ashtabula Cuyahoga Geauga Lake Lorain Medina Portage Summit	Ashtabula Cuyahoga Geauga Lake Lorain Medina Portage Summit	Ashtabula Cuyahoga Geauga Lake Lorain Medina Portage Summit
(D) Columbus, OH²	Delaware Fairfield Fayette Franklin Knox Licking Madison Marion Morrow Pickaway Ross Union	Delaware Fairfield Franklin Knox Licking Madison	Delaware Fairfield Franklin Knox Licking Madison
(E) Dayton-Springfield, OH	Champaign Clark Darke Greene Miami Montgomery Preble		Clark Greene Montgomery

¹ Currently attaining the 1997 standard. Ohio EPA is preparing a redesignation request.

² Currently attaining the 1997 standard. Ohio EPA is preparing a redesignation request.

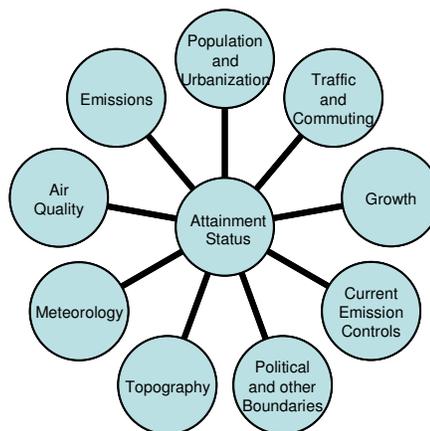
Eight-Hour Ozone Designation Area	Metropolitan Statistical Area (MSA) and, if applicable, Combined Statistical Area (CSA)	Current Nonattainment Designation Counties for 1997 Standard	Ohio EPA Recommended Nonattainment Counties for 2008 Standard
(F) Huntington-Ashland, WV-KY-OH	Lawrence Kentucky: Boyd and Greenup West Virginia: Cabell and Wayne		Lawrence
(G) Lima, OH	Allen Auglaize Van Wert		
(H) Parkersburg-Marietta, WV-OH	Washington West Virginia: Pleasants, Wirt and Wood		Washington
(I) Steubenville-Weirton, OH-WV	Jefferson West Virginia: Brooke and Hancock		Jefferson
(J) Toledo, OH	Fulton Lucas Ottawa Wood		
(K) Wheeling, WV-OH	Belmont West Virginia: Marshall and Ohio		Belmont
(L) Youngstown-Warren-Sharon, OH-PA	Columbiana Mahoning Trumbull Pennsylvania: Mercer		Mahoning Trumbull

An Explanation of Ohio EPA's Nine-Factor Analysis

U.S. EPA guidance (December 4, 2008) states that each area evaluated for attainment should be assessed on a case-by-case basis considering the metropolitan statistical area (MSA) and combined statistical area (CSA) (Appendix G). A nonattainment area must include not only the area that is violating the standard, but also nearby areas that contribute to the violation. Boundary recommendations should be based on an evaluation of the nine factors used in the designation process, as well as any other relevant factors or circumstances specific to a particular area.

The nine designation factors used to evaluate the attainment status of an area for the eight-hour ozone NAAQS are:

- Air quality
- Emissions
- Population and urbanization
- Traffic & commuting
- Growth
- Current emission controls
- Political and other boundaries
- Topography
- Meteorology



Ohio EPA has included all of the nine factors for each area; however, two are combined, population/urbanization and growth. Meteorology information is not included with each respective area's discussion but is provided as one document in Appendix E.

Factor 1: Air quality data

The air quality analysis looks at the three-year average of the annual fourth-highest daily maximum eight-hour average ozone values for each County based on data for 2006 to 2008. The eight-hour revised standard is 0.075 ppm. Counties without monitors are not listed. Data is retrieved from the U.S. EPA's Air Quality System (AQS) at <http://www.epa.gov/ttn/airs/airsaqs/> and is presented in ppb in all tables³. The three-year averages for monitors that are violating the standard are highlighted in red. Ohio EPA operates a large network of federally approved monitors primarily in urbanized areas and areas with expected maximum concentrations of ozone. Monitoring sites that have less than 75 percent capture in any one year or less than 90 percent capture for the 2006-2008 period are highlighted in yellow and green, respectively⁴. AQS data retrieval sheets and Ohio EPA summary sheets for 2006, 2007, and 2008 are

³ Please note that the standard is measured in ppm while the commonly used unit is ppb. For the remainder of this document, ppb will be used.

⁴ Not all data has been reported for 2008. Capture percentages will increase and be updated, along with any changes to the actual emissions data, upon entry into the AQS.

provided in Appendices A and B, respectively. The State and local air monitoring stations (SLAMS) data certification report for calendar year 2008 is provided in Appendix C.

Factor 2: Emissions data

The analysis for factor 2 looks at emissions of volatile organic compounds (VOC) and nitrogen oxides (NO_x). Emissions data from 2005 and 2009 are derived from Mid-West RPO and are contained in Appendix D.

The data are for 2005 (base year) and 2009 (attainment year for 1997 standard). The Counties in **bold** font are currently designated as nonattainment.

Tables presented under factor 2 show 2005 and 2009 VOC and NO_x emissions for each County. Also included in this factor are tables showing the major employers for each County.

Emissions data indicate the potential for a County to contribute to observed violations, often making the emissions data one of the most important factors in assessing a County to be designated as nonattainment for ozone.

Factor 3: Population and projected growth

Tables presented under factor 3 show the past, present, and projected population for each County. Population data and expected growth indicate the likelihood of population-based emissions that may contribute to violations. The Counties in **bold** are currently designated as nonattainment. The population data are provided by the Ohio Department of Development, Office of Strategic Research <http://www.odod.state.oh.us/research/>. Appendix H provides population data for all 88 Counties in Ohio.

Factor 4: Traffic and commuting patterns

The traffic and commuting analysis looks at the number of commuters in each County who drive to another County, the number of total commuters in each County who commute to other Counties, as well as the estimated daily vehicle miles traveled (kDVMT) for each County in thousands of miles. Commuting information is provided by the Ohio Department of Development, Office of Strategic Research <http://www.odod.state.oh.us/research/>, and the kDVMT data estimates are provided by the Ohio Department of Transportation, Office of Technical Services. Appendix H provides traffic and commuting data for all 88 Counties in Ohio.

A County with a significant amount of traffic commuting to an area with a violating monitor is generally an integral part of the area, and would be an appropriate part of the domain of some mobile source strategies; thus, it may warrant inclusion in the nonattainment area. In this document, a County that has a high level of

commuting into a County with a violating monitor is identified as a contributing County. Ohio EPA also took the level of emissions, population, and growth into consideration for determining whether a County is contributing.

Factor 5: Meteorology

The meteorology review looks at wind data gathered at stations in and near Ohio by the National Weather Service (NWS). Figures presented for factor 5 indicate the annual average winds for each NWS site. These data may also suggest that emissions in some directions relative to the violation may be more prone to contribute than emissions in other directions. A discussion of relevant meteorological factors is discussed in Appendix E rather than for the individual areas.

Factor 6: Topography and land use/land cover

The topography and land use/land cover analysis looks at physical features and land use or cover that might have an effect on the airshed, and therefore, the distribution of pollutants over an area. Ohio does not have significant topographic features that significantly influence the regional transport of pollutants within the multi-County study areas. Tables presented under factor 6 show the land use/land cover for each County in percentage of urban (residential, commercial, industrial, transportation, grasses), cropland, pasture, forest, and wetlands (all types). Maps for this section are provided in Appendix F. The sources for the information provided in this section are:

Ohio EPA, Division of Surface Water

[ftp://ftp-gis.epa.state.oh.us/gisdepot/gisdata/dsw/LandCover/Statewide Land Cover DSW pub 2005.pdf](ftp://ftp-gis.epa.state.oh.us/gisdepot/gisdata/dsw/LandCover/Statewide_Land_Cover_DSW_pub_2005.pdf)

Ohio Department of Natural Resources, Division of Soil and Water

<http://www.dnr.state.oh.us/default/soils/surveysupplements/tabid/17839/Default.aspx>

Ohio Department of Development, Office of Strategic Research

<http://www.odod.state.oh.us/research/files/s0.htm>

Factor 7: Jurisdictional boundaries

The analysis of jurisdictional boundaries looks at the planning and organizational structure of an area to determine if the implementation of controls in a potential nonattainment area can be carried out in a cohesive manner. MSA and CSA boundaries were considered for these recommendations. A map showing the MSAs and CSAs in Ohio and an MPO map are provided in Appendix G. For information on the metropolitan planning organizations referenced in this document, please see:

<http://www.odotnet.net/Planning/ACCESS%20OHIO/Final/AppendixB.pdf>.

Factor 8: Level of control of emission sources

The level of control analysis looks at what controls are currently implemented in each area. Emission reductions which have recently occurred or are expected to occur in the near future affect both the current ozone design values, the potential future design values, and, ultimately, attainment of the standards. In Ohio, the emission reduction programs which have had or will have the greatest potential impact on ozone concentrations are:

Statewide Control Programs:

- Federal Motor Vehicle Control Program
- On-road and off-road diesel control programs
- NO_x SIP Call rules (emissions trading program) for electric generating units (EGUs) and internal combustion engines (ICEs)
- Clean Air Interstate Rule (CAIR)
- RACT rules for various VOC source categories
- Portable Fuel Containers requirements
- Architectural and Industrial Maintenance (AIM) Coatings rules
- Consumer Products rules
- Aerosol Coatings rules
- Ohio Clean Diesel Initiative
- USEPA and State enforcement activities at major facilities

Additional Control Programs in the Cleveland-Akron-Lorain 1997 Ozone Nonattainment Designation Area (eight Counties):

- NO_x Reasonably Available Control Technology (RACT) rules
- RACT rules for additional VOC source categories
- Motor Vehicle Inspection and Maintenance Program (E-Check)

Of the above-mentioned control programs, the NO_x SIP Call rules and the CAIR program have had and will continue to cause the greatest reductions in NO_x emissions throughout the State. Huge reductions in NO_x emissions have occurred at EGUs due to the implementation of these rules. Large reductions in VOC emissions are expected with the full implementation of the rules for AIM coatings, consumer products, aerosol coatings and portable fuel containers, as well as the ongoing implementation of the Federal Motor Vehicle Control Program.

On March 10, 2005, the USEPA announced CAIR. On July 11, 2008, the U.S. Court of Appeals for D.C. Circuit vacated USEPA's CAIR rule. The reductions in NO_x and SO₂ emissions associated with this rule are a key part of Ohio's attainment demonstrations for ozone and PM_{2.5} and the reasonable progress determinations for regional haze. On December 23, 2008, the U.S. Court of Appeals for D.C. Circuit issued its mandate deciding to remand CAIR back to USEPA without vacatur. This decision allows implementation of CAIR, and the benefit of CAIR emission reductions, while USEPA continues work to address the Court's prior opinions contained in the original vacatur.

CAIR will bring about large reductions in emissions of NO_x. In Ohio, all of the major utilities located along the Ohio River Valley (Miami Fort, Zimmer (previously controlled), Killen, Stuart, Gavin, Keiger Creek, Burger, Cardinal and Sammis) and the largest units within the interior of Ohio (Muskingum River and Conesville) will be controlling NO_x. The units along Lake Erie are partially controlled for NO_x. There are similar EGU control programs in all of the states bordering Ohio as well. These regional and State control programs are expected to further reduce future ozone concentrations Statewide. Throughout this document you will see significant reductions of NO_x between 2005 and 2009 emissions levels for counties where major utilities are located. These reductions are a result of the CAIR program. Because of these significant reductions for utilities, Ohio is not proposing recommended designations for these counties based solely on the fact of a utility being located within the county. Rather, Ohio analyzed these counties based on the nine factors as discussed in this section. Therefore, Ohio is not recommending any partial nonattainment counties based solely on the location of a utility.

Mobile source control measures (on-road and off-road) provide emission reductions proportional to the vehicle miles traveled and levels of construction and other major industrial activities. As such, areas nearest the highest reading urban/industrial ambient monitors will benefit the most from these controls, in particular the Federal Motor Vehicle Control Program. These areas, though, will continue to have the highest emission levels for these source categories.

In some cases, enforcement activities may result in VOC and/or NO_x emissions reductions that could have beneficial impacts on ambient ozone concentrations. However, the potential reductions are not quantified, nor are the ambient impacts estimated. There are no instances we can identify where reductions in emissions from enforcement activities would result in an area becoming an attainment area for the ozone NAAQS.

Another area where Ohio is placing significant effort is in clean diesel programs. These programs can accelerate the turnover of the dirtiest portions of the diesel fleet by several years by controlling emissions from units that otherwise would not be replaced for several years. The benefits of these programs can be magnified when specific fleets are targeted which are located and operate primarily in the highest monitored areas. These programs will not result in an area becoming insignificant for emissions contributing to high ozone concentrations, but they are valuable nonetheless.

**Factor Analysis for
Current and Recommended
Ozone Nonattainment Counties
in Ohio**

Canton-Massillon, OH

Current County nonattainment: none

Current nonattainment Counties

Recommended County nonattainment: Stark

 Recommended nonattainment Counties



Discussion

There is one County in this existing ozone designation area, Stark County. Stark County was designated nonattainment for the 1997 ozone standard and then redesignated as attainment in June of 2007. With respect to the new standard, Ohio EPA recommends designating Stark County as nonattainment for the Canton-Massillon area. Stark County contains three monitors, all of which are violating the revised standard. There are eight Counties that are adjacent to Stark County: Wayne, Holmes, Tuscarawas, Carroll, Columbiana, Mahoning, Summit, and Portage Counties. Columbiana and Mahoning Counties are discussed in the Youngstown-Warren section while Summit and Portage Counties are discussed in the Cleveland-Akron-Lorain section.

The three-year average of the annual fourth-highest daily maximum eight-hour average concentrations at the three sites not attaining the revised standard are identified under factor 1 below. Emissions of VOC and NO_x in Stark County and the adjacent Counties are small, and future emissions are projected to decline, as identified under factor 2 below. Comparatively, emissions in all Counties adjacent to Stark County are significantly lower than Stark County emissions.

Although Carroll County is part of the MSA, Ohio EPA is recommending to exclude Carroll County, a rural upwind area with the lowest emissions of all adjacent Counties and a 2007 population of 28,156. Emissions in Carroll County are projected to decrease by approximately 10% for VOC and 8% for NO_x from 2005 to 2009. The projected growth for Carroll County is minimal in number, increasing by 7,204 for a 2030 population of 35,720, compared to the 2030 projected population of Stark County, 368,900. Daily miles traveled by vehicles in Carroll County has been steadily declining. While some workers do travel to Stark County for employment purposes, the number is minimal in comparison to the number of workers in Stark County, 3.0%.

Wayne County is not part of the MSA; however, it is adjacent to Stark County. Although Wayne County does have the highest overall emissions when compared to the other counties adjacent to Stark County, Ohio EPA is not recommending inclusion of Wayne County. Emissions in Wayne County are projected to decrease by approximately 14% for VOC and 22% for NO_x from 2005 to 2009. The projected 2009 emissions for Stark County are more than double the projected 2009 emissions of Wayne County. The projected growth for Wayne County is minimal in number, increasing by 23,136 for a 2030 population of 136,690, compared to the 2030 projected population of Stark County, 368,900. Daily miles traveled by vehicles in Wayne County has been steadily declining. While some workers from Wayne County do travel to Stark County for employment purposes, the number is minimal in comparison to the number of workers in Stark County, 1.0%.

Factor 1: Air quality data

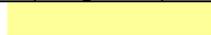
 = Exceeds standard

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4

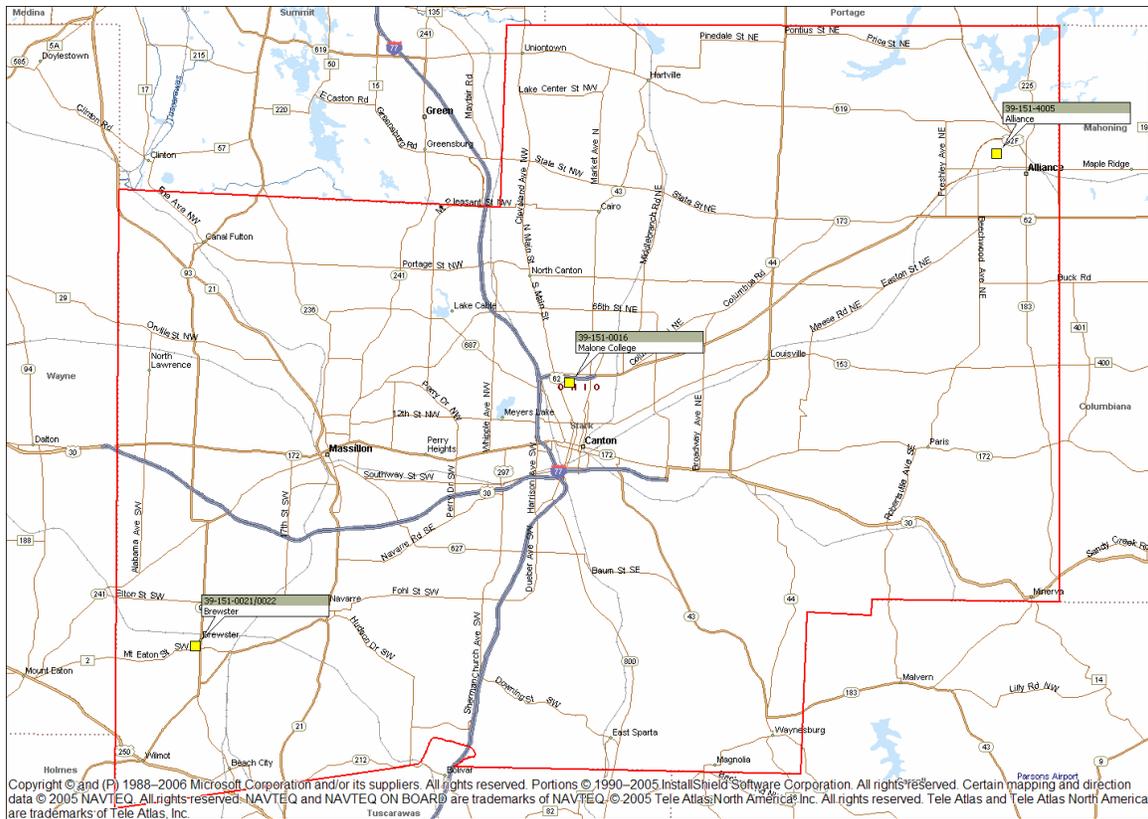
39-151-0016 Canton Stark Co.	2006	83	81	80	78
	2007	89	87	86	84
	2008	82	80	78	77
	Avg				 79.7
39-151-0021, - 0022 ⁵ Canton Stark Co.	2006	85	81	79	79
	2007	91	87	86	85
	2008	81	79	77	76
	Avg				 80.0

39-151-4005 Canton Stark Co.	2006	82	78	75	75
	2007	98	94	88	87
	2008	79	79	77	77
	Avg				 79.7

 Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

⁵ Mid 2007 monitor location changed

Stark County Ozone Monitor Locations and Site ID Numbers



Factor 2: Emissions Data (tons per day)

2005		
County	VOC	NO _x
STARK	46.80	39.14
Wayne	17.08	23.62
Holmes	7.33	4.52
Tuscarawas	12.98	14.34
Carroll	3.96	4.84

2009		
County	VOC	NO _x
STARK	38.26	30.39
Wayne	14.73	18.45
Holmes	6.80	3.79
Tuscarawas	10.38	13.01
Carroll	3.58	4.44

Major Employers

Source: Ohio Department of Development, 2007

Most of the major employers in Stark County and the surrounding Counties are in the categories of manufacturing, service and government as shown below.

Carroll County

American Axle & Manufacturing Holding	Manufacturing
Ashi Tec Corp/Metaldyne Corp	Service
Atwood Lake Resort	Service
Carroll Health Care Center Inc	Service
Carrollton Exempted Village Bd of Ed	Government
GBS Corporation	Manufacturing
Summitville Tiles Inc	Manufacturing

Holmes County

Case Foods Inc	Manufacturing
Collins & Aikman Corp	Manufacturing
East Holmes Local Bd of Ed	Government
Owens-Illinois Inc	Manufacturing
Pomerene Hospital	Service
Sperry & Rice Mfg Co LLC	Manufacturing
Wayne-Dalton Corp	Manufacturing
Weaver Leather Goods Inc	Manufacturing
West Holmes Local Bd of Ed	Government
Robin Industries	Manufacturing

Stark County

Aultman Hospital	Service
Canton City Bd of Ed	Government
Fisher Food Inc	Trade
General Electric Co	Finance
Mercy Medical Center	Service
Precision Castparts Corp	Manufacturing
Republic Engineered Products	Manufacturing
Timken Co	Manufacturing
Wal-Mart Stores Inc	Trade

Tuscarawas County

Alamo Group/Gradall Industries	Manufacturing
Allied Machine & Engineering	Manufacturing
Dover City Bd of Ed	Government
New Philadelphia City Bd of Ed	Government
Sanwa Shutter Corp/Genie Co	Manufacturing
Smurfit-Stone Container Corp	Manufacturing
Union Hospital	Service
Wal-Mart Stores Inc	Trade
Zimmer Holdings Inc	Manufacturing

Wayne

College of Wooster	Service
Frito-Lay Inc	Manufacturing
JM Smucker Co	Manufacturing
LuK Inc	Manufacturing
State of Ohio	Government
Will-Burt Co	Manufacturing
Wooster Brush Co	Manufacturing
Wooster City Bd of Ed	Government
Wooster Community Hospital	Service
Worthington Ind/Gerstenslager Co	Manufacturing

Factor 3: Population and Projected Growth

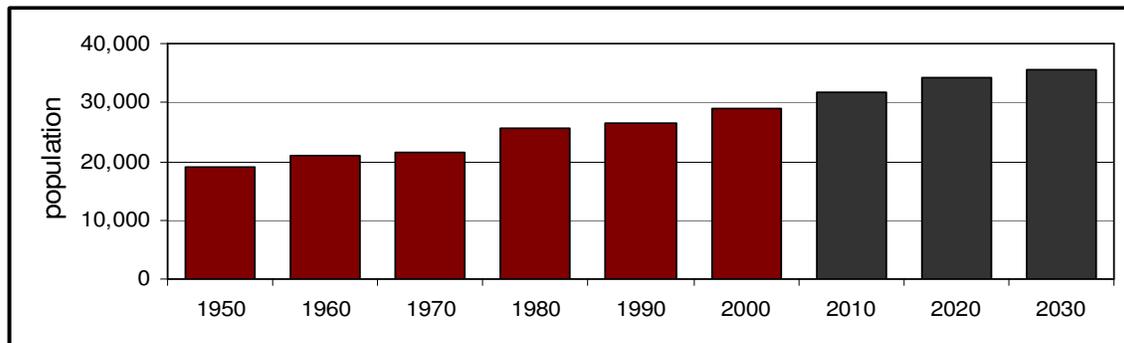
Sources: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau Population Estimates Program 2007

The primary urban areas in Stark County are Canton, Massillon, and Alliance; in Wayne County, Wooster, Rittman and Orrville; in Holmes County, Millersburg; in Tuscarawas County, New Philadelphia, Dover, Uhrichsville and Sugarcreek; and in Carroll County, Carrollton.

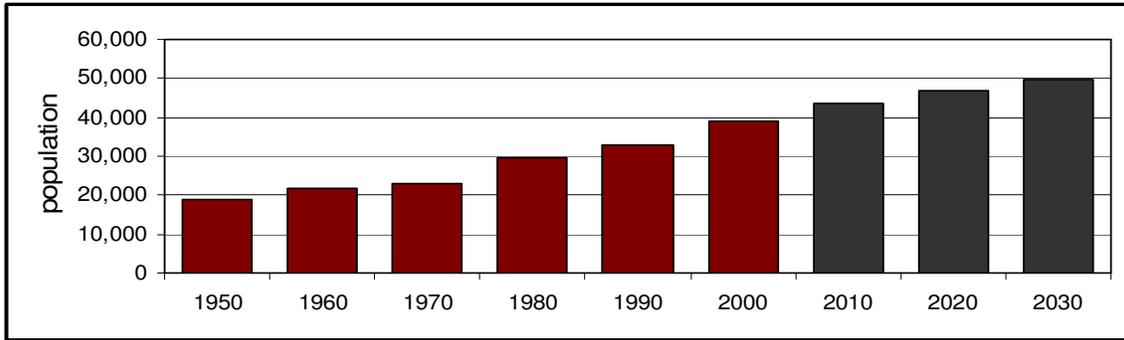
As indicated in the following table and graphs, Stark County has the highest population in this area and it is projected to steadily decrease. The population in the surrounding Counties is projected to gradually increase.

County	2004	2005	2006	2007	2010	2020	2030
Stark	380,421	380,275	380,575	378,664	376,470	372,490	368,900
Wayne	113,086	113,496	113,950	113,554	119,850	128,670	136,690
Holmes	41,165	41,424	41,574	41,369	43,440	47,010	49,690
Tuscarawas	91,956	91,791	91,766	91,398	93,160	96,080	98,220
Carroll	29,448	29,252	29,189	28,516	31,820	34,170	35,720

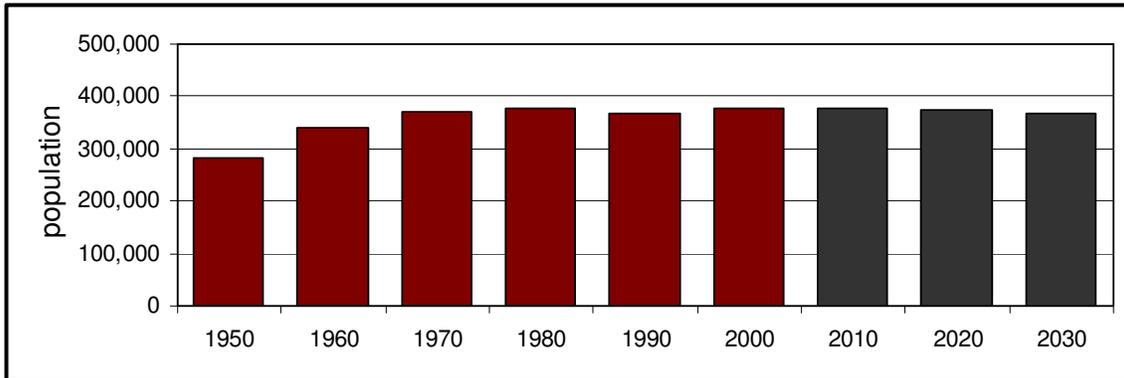
Carroll County



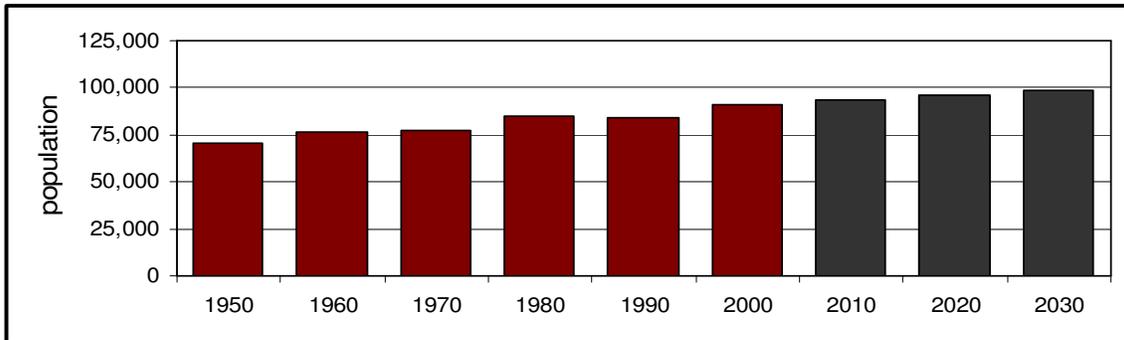
Holmes County



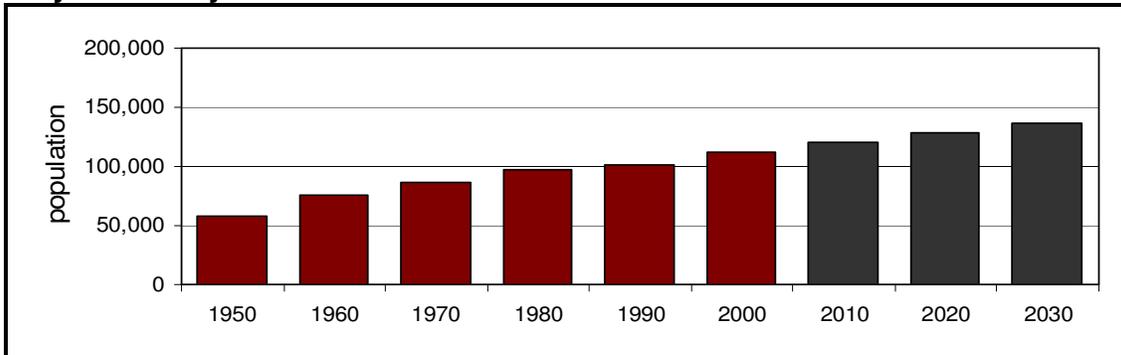
Stark County



Tuscarawas County



Wayne County

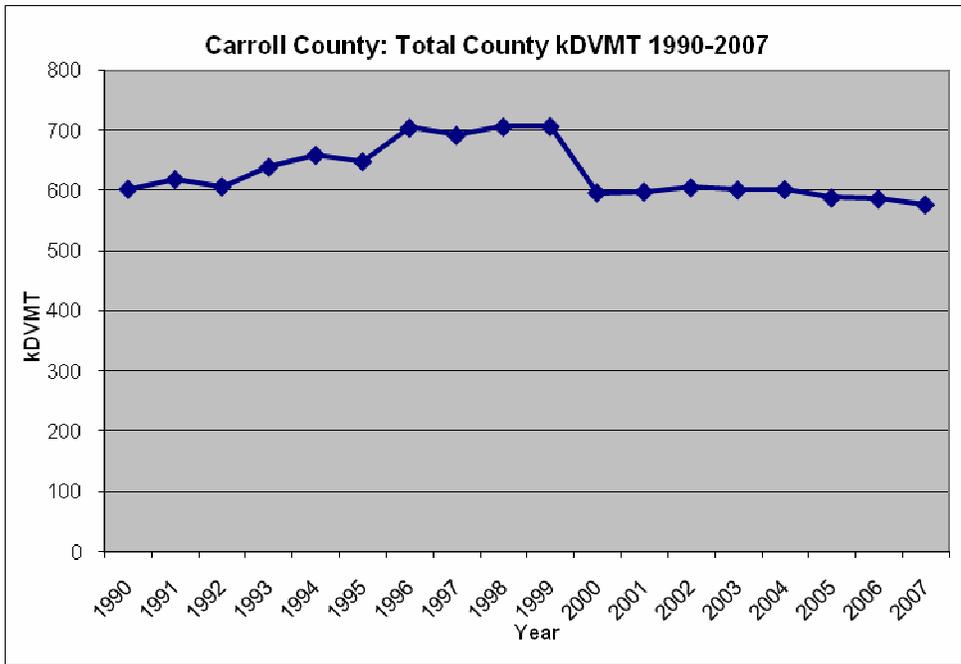


Factor 4: Traffic and commuting patterns

While the kDVMT in Stark County have had upward trend, the surrounding Counties have experienced a downward trend in kDVMT between 2005 and 2007, as shown in the graphs below.

Estimated Daily Vehicle Miles Traveled (kDVMT =in thousands)

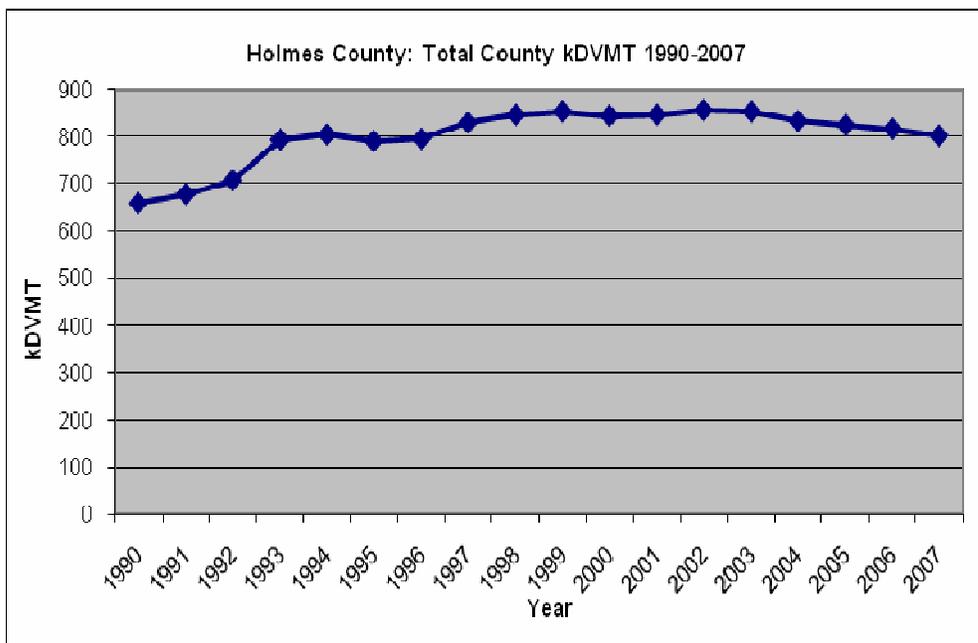
Source: Ohio Department of Transportation, Office of Technical Services



2005 = 588.35

2006 = 586.54

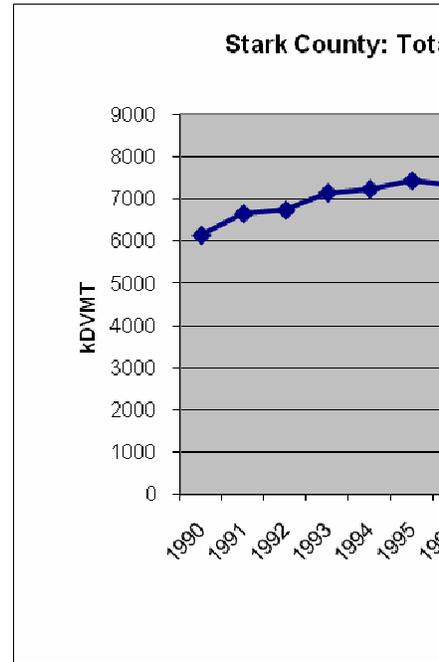
2007 = 576.76



2005 = 824.54

2006 = 816.84

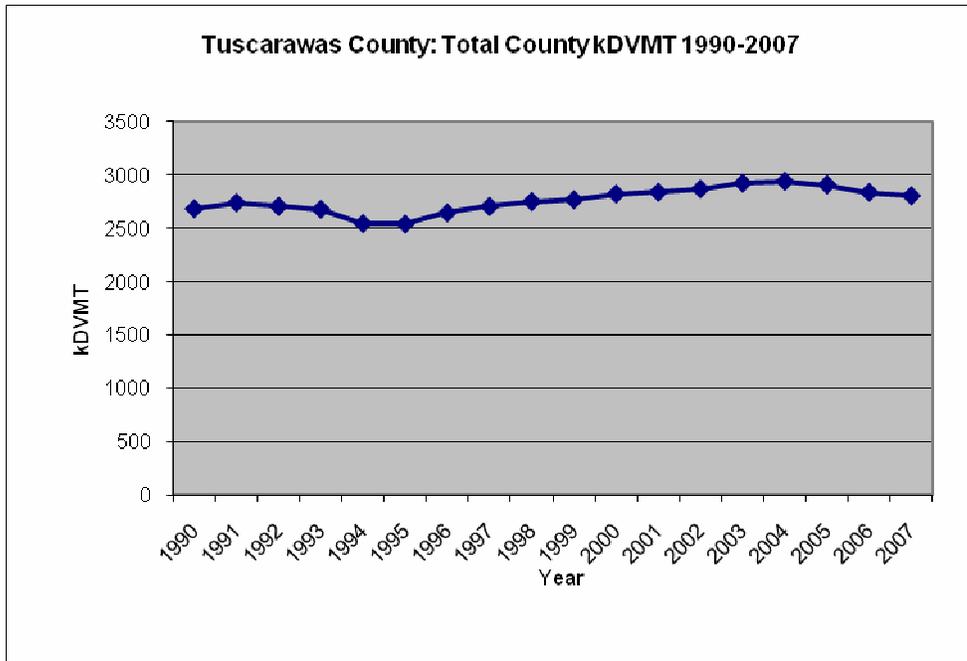
2007 = 802.52



2005 = 8136.66

2006 = 8405.65

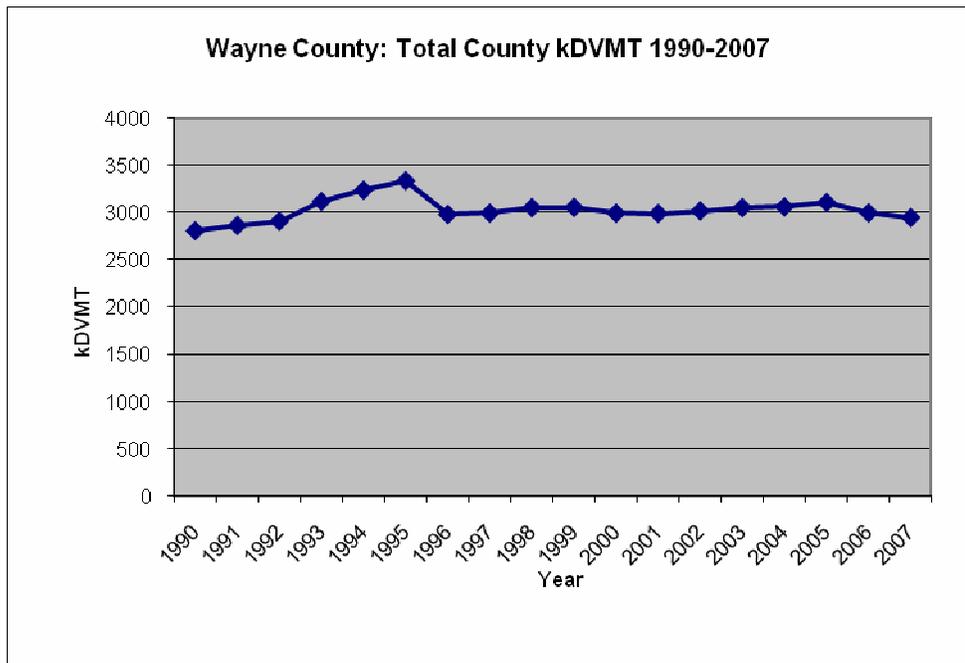
2007 = 8315.26



2005 = 2907.78

2006 = 2835.37

2007 = 2803.41



2005 = 3111.7

2006 = 3003.18

2007 = 2954.55

Commuting Patterns

Source: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau, 2000

Over 5,000 workers from Tuscarawas County and Carroll County commute to Stark County. The majority of Stark County workers commuting outside the County, travel to Summit County. The largest portion of Wayne County workers commuting outside the County, travel to Medina and Summit Counties. Most of the commuting workers from Holmes County drive to Wayne County.

Carroll		Percent of workers that work outside the County	57.0%
		Average commute time in minutes -	27.5
Number of workers 16+ years of age living in Carroll County		12,882	
Commute Out To	Number	Percent	
Stark Co. OH	5,125	39.8%	
Tuscarawas Co. OH	840	6.5%	
Columbiana Co. OH	297	2.3%	
Summit Co. OH	271	2.1%	
Jefferson Co. OH	178	1.4%	
Harrison Co. OH	160	1.2%	
Cuyahoga Co. OH	73	0.6%	
Wayne Co. OH	73	0.6%	
Mahoning Co. OH	47	0.4%	
Portage Co. OH	37	0.3%	
Percent is of workers living in County.			
Number of workers 16+ years of age working in Carroll County		7,947	
Commute In From	Number	Percent	
Stark Co. OH	956	12.0%	
Columbiana Co. OH	453	5.7%	
Tuscarawas Co. OH	289	3.6%	
Jefferson Co. OH	265	3.3%	
Harrison Co. OH	188	2.4%	
Holmes Co. OH	76	1.0%	
Mahoning Co. OH	44	0.6%	
Mercer Co. PA	16	0.2%	
Clark Co. OH	13	0.2%	
Geauga Co. OH	12	0.2%	
Percent is of workers working in County.			

Holmes	Percent of workers that work outside the County		26.1%
	Average commute time in minutes -		21.6
Number of workers 16+ years of age living in Holmes County			16,456
Number of workers 16+ years of age working in Holmes County			17,493
Commute Out To	Number	Percent	
Wayne Co. OH	2,411	14.7%	
Tuscarawas Co. OH	538	3.3%	
Ashland Co. OH	352	2.1%	
Stark Co. OH	200	1.2%	
Summit Co. OH	104	0.6%	
Carroll Co. OH	76	0.5%	
Medina Co. OH	72	0.4%	
Knox Co. OH	70	0.4%	
Coshocton Co. OH	68	0.4%	
Percent is of workers living in County.			
Commute In From	Number	Percent	
Tuscarawas Co. OH	1,983	11.3%	
Wayne Co. OH	1,247	7.1%	
Coshocton Co. OH	774	4.4%	
Stark Co. OH	480	2.7%	
Ashland Co. OH	437	2.5%	
Knox Co. OH	106	0.6%	
Richland Co. OH	96	0.5%	
Summit Co. OH	39	0.2%	
Harrison Co. OH	34	0.2%	
Percent is of workers working in County.			

Stark	Percent of workers that work outside the County		20.7%
	Average commute time in minutes -		21.3
Number of workers 16+ years of age living in Stark County			177,234
Number of workers 16+ years of age working in Stark County			171,642
Commute Out To	Number	Percent	
Summit Co. OH	21,094	11.9%	
Wayne Co. OH	3,026	1.7%	
Cuyahoga Co. OH	2,443	1.4%	
Portage Co. OH	2,256	1.3%	
Tuscarawas Co. OH	1,679	0.9%	
Mahoning Co. OH	1,158	0.7%	
Carroll Co. OH	956	0.5%	
Medina Co. OH	770	0.4%	
Columbiana Co. OH	640	0.4%	
Holmes Co. OH	480	0.3%	
Percent is of workers living in County.			
Commute In From	Number	Percent	
Summit Co. OH	7,665	4.5%	
Tuscarawas Co. OH	5,707	3.3%	
Carroll Co. OH	5,125	3.0%	
Columbiana Co. OH	3,306	1.9%	
Mahoning Co. OH	2,548	1.5%	
Wayne Co. OH	1,672	1.0%	
Portage Co. OH	1,578	0.9%	
Cuyahoga Co. OH	565	0.3%	
Medina Co. OH	445	0.3%	
Harrison Co. OH	292	0.2%	
Percent is of workers working in County.			

Tuscarawas	Percent of workers that work outside the County		26.8%
	Average commute time in minutes		21.6
Number of workers 16+ years of age living in Tuscarawas County		42,093	
Number of workers 16+ years of age working in Tuscarawas County		37,247	
Commute Out To	Number	Percent	
Stark Co. OH	5,707	13.6%	
Holmes Co. OH	1,983	4.7%	
Coshocton Co. OH	709	1.7%	
Wayne Co. OH	688	1.6%	
Summit Co. OH	606	1.4%	
Carroll Co. OH	289	0.7%	
Harrison Co. OH	182	0.4%	
Guernsey Co. OH	153	0.4%	
Cuyahoga Co. OH	128	0.3%	
Percent is of workers living in County.			
Commute In From	Number	Percent	
Stark Co. OH	1,679	4.5%	
Harrison Co. OH	1,410	3.8%	
Carroll Co. OH	840	2.3%	
Coshocton Co. OH	780	2.1%	
Holmes Co. OH	538	1.4%	
Guernsey Co. OH	249	0.7%	
Summit Co. OH	150	0.4%	
Wayne Co. OH	125	0.3%	
Jefferson Co. OH	89	0.2%	
Percent is of workers working in County.			

Wayne	Percent of workers that work outside the County		27.1%
	Average commute time in minutes -		19.4
Number of workers 16+ years of age living in Wayne County		54,487	
Number of workers 16+ years of age working in Wayne County		52,259	
Commute Out To	Number	Percent	
Medina Co. OH	4,667	8.6%	
Summit Co. OH	3,948	7.2%	
Stark Co. OH	1,672	3.1%	
Holmes Co. OH	1,247	2.3%	
Cuyahoga Co. OH	1,193	2.2%	
Ashland Co. OH	565	1.0%	
Richland Co. OH	297	0.5%	
Lorain Co. OH	145	0.3%	
Tuscarawas Co. OH	125	0.2%	
Percent is of workers living in County.			
Commute In From	Number	Percent	
Stark Co. OH	3,026	5.8%	
Holmes Co. OH	2,411	4.6%	
Medina Co. OH	1,726	3.3%	
Ashland Co. OH	1,712	3.3%	
Summit Co. OH	1,095	2.1%	
Tuscarawas Co. OH	688	1.3%	
Richland Co. OH	443	0.8%	
Coshocton Co. OH	178	0.3%	
Cuyahoga Co. OH	163	0.3%	
Percent is of workers working in County.			

Factor 5: Meteorology

Please refer to Appendix E for applicable meteorology information for the Canton-Massillon area.

Factor 6: Topography/Land use/Land cover

Stark County is in the Appalachian Plateau Physiographic Province (see

Appendix F). The northern two-thirds of the County are located in the glacial part of the Appalachian Plateau, and the rest of the County is in the unglaciated part. Elevations range from a little less than 900 feet above sea level to about 1,350 feet above sea level. The topography of the unglaciated portion of the County is hilly and steep and variations in relief average about 200 feet within one-half mile. The glaciated part of the County is undulating and rolling, with an average relief varying less than 100 feet within a mile.

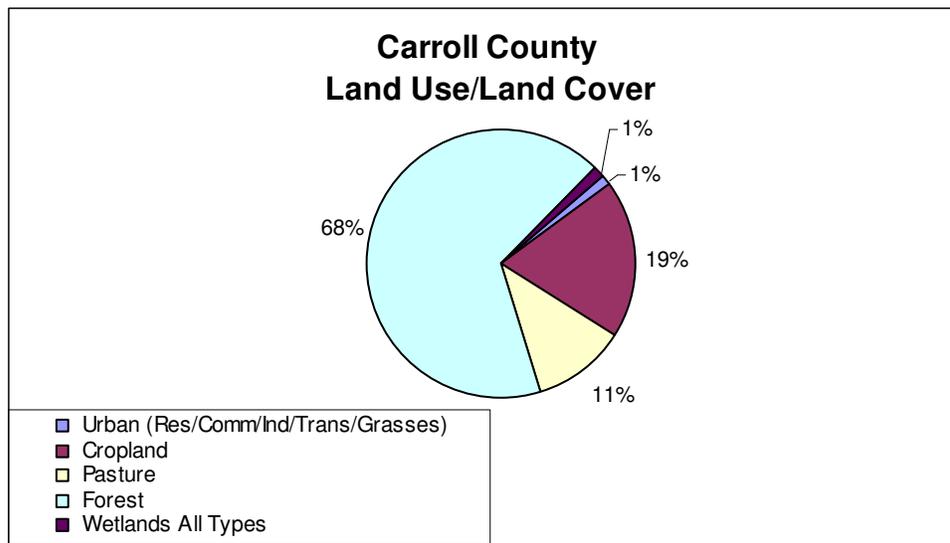
Wayne County is a County of contrasts. Although the entire area has been glaciated, the landforms are very diverse including flat wetlands, steep slopes and hilly areas. The elevation ranges from about 850 feet to 1260 feet above sea level.

Holmes County lies in the Appalachian Plateau Province, both the glaciated and unglaciated sections. The northern glaciated landscape is gently rolling while the southern unglaciated portion retains its rough, bedrock relief. The highest elevation is 1,410 feet and the lowest is 790 feet above sea level.

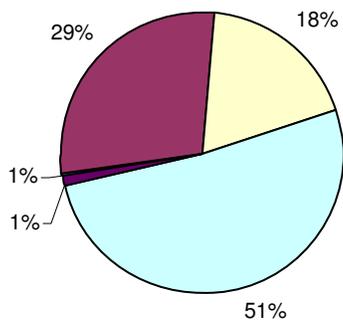
Tuscarawas County is in the unglaciated part of the Allegheny Plateau region except for the northwest corner. Most areas in the southern and eastern parts of the County have deep valleys and narrow ridgetops while the western part of the County, the hills are not as steep. The elevation ranges from 795 feet to 1,340 feet above sea level.

Carroll County is on the unglaciated, dissected Allegheny Plateau. The highest point in the County is near the northern border at 1,375 feet and the lowest point 900 feet.

As shown in the following pie charts, the land use/land cover in Stark County and all the surrounding Counties except for Wayne County is predominately classified as forest. Wayne County is nearly 60 percent cropland. As expected, in comparison to the surrounding Counties, Stark County has the largest percentage of urbanized area at 23 percent.

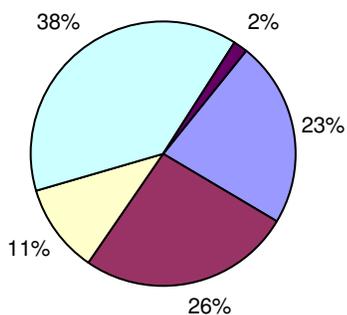


Holmes County Land Use/Land Cover



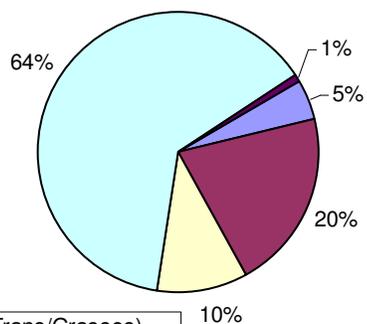
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Stark County Land Use/Land Cover

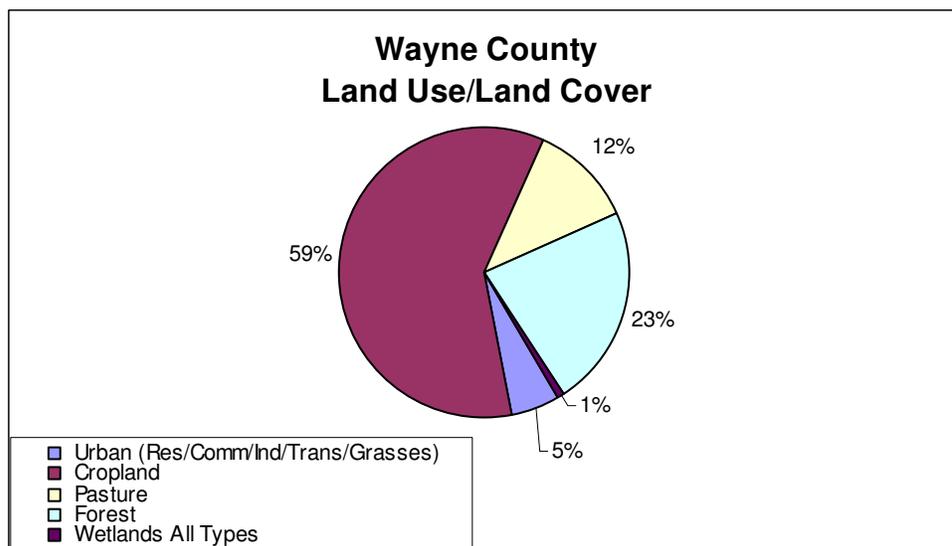


- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Tuscarawas County Land Use/Land Cover



- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types



Factor 7: Jurisdictional boundaries

The Canton-Massillon, OH MSA include Stark and Carroll Counties and the principal cities of Canton and Massillon. There is no CSA for this area.

The Stark County Transportation Study (SCATS) is the planning agency designated as the Metropolitan Planning Organization (MPO) for Stark County. The SCATS region is composed of Stark County.

The surrounding Counties, Wayne, Holmes, Tuscarawas, and Carroll, are not part of an MPO. Columbiana and Mahoning Counties also border Stark County; however, they are discussed in the Youngstown-Warren section. Summit and Portage Counties also border Stark County; however, they are discussed in the Cleveland-Akron-Lorain section.

Factor 8: Level of control of emission sources

Please refer to the factor 8 general discussion at the beginning of this document for applicable control information for this area.

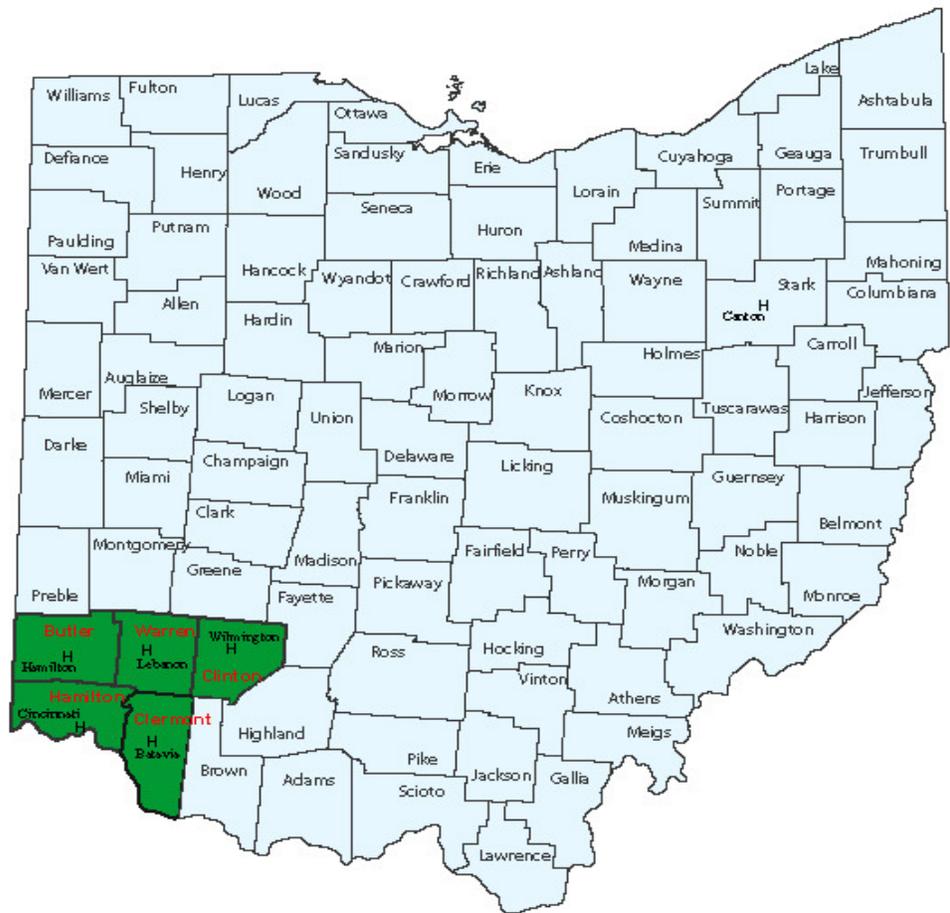
Cincinnati-Hamilton, OH-KY-IN

Current County nonattainment: Butler, Clermont, Clinton, Hamilton and Warren

Current nonattainment Counties

Recommended County nonattainment: Butler, Clermont, Clinton, Hamilton and Warren

 Recommended nonattainment Counties



Discussion

There are five Ohio Counties in this existing ozone nonattainment area: Butler, Clermont, Clinton, Hamilton, and Warren Counties; one Indiana County: Dearborn; and three Kentucky Counties: Boone, Campbell, and Kenton. Ohio EPA recommends retaining the five Ohio Counties as nonattainment for the new ozone standard for the Cincinnati-Hamilton area. All five Ohio Counties contain violating monitors. Fayette, Highland and Brown are adjacent Counties. Only Brown County, adjacent to the existing nonattainment area, but included in the MSA, is discussed in this section. Fayette and Highland Counties are not part of the MSA or CSA and are excluded due to very low emissions and population. Preble, Montgomery, and Green Counties are also adjacent Counties and are discussed in the Dayton-Springfield area section.

The three-year average of the annual fourth-highest daily maximum eight-hour average concentrations at sites in Butler, Clermont, Clinton, Hamilton, and Warren Counties are not attaining the revised standards as indicated under factor 1 below. Also, neighboring Kenton, and Campbell Counties in Kentucky contain violating monitors as identified under factor 1 below. Emissions of VOC in all Indiana, Kentucky, and Ohio Counties, except Hamilton, OH are not significant. Emissions of NOx in all Indiana, Kentucky and Ohio Counties, except Clermont, and Hamilton are relatively small.

Although Brown County is part of the MSA, Ohio EPA is recommending to exclude Brown County, a rural upwind area, due to very low emissions and a 2007 population of only 43,956. Brown County has the lowest emissions of the MSA Counties. Emissions in Brown County are projected to decrease by approximately 10% for VOC and 18% for NOx from 2005 to 2009. The projected growth for Brown County is minimal in number, increasing by 12,624 for a 2030 population of 56,580, compared to the 2030 projected populations of larger Counties in the MSA, ranging from 338,350 to 439,740. Daily miles traveled by vehicles in Brown County have been steadily declining since 2002. There are also minimal workers traveling from Brown County to neighboring Counties. The largest number of commuters from Brown County is to Clermont County, but that only accounts for 8.6% of Clermont’s workforce. In comparison, the majority of Clermont County’s commuters come from Hamilton County, 14.7%.

Factor 1: Air quality

 = Exceeds standard

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4
39-017-0004 Cincinnati Butler Co.	2006	87	82	82	79
	2007	97	96	91	91
	2008	89	75	72	71
	Avg				80.3

39-017-1004 Cincinnati Butler Co.	2006	85	84	77	76
	2007	104	97	95	91
	2008	91	87	82	79
	Avg				82.0

39-025-0022 Cincinnati Clermont Co.	2006	87	81	77	77
	2007	93	92	90	86
	2008	72	71	71	71
	Avg				78.0

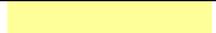
39-027-1002 Wilmington Clinton Co	2006	90	85	84	81
	2007	91	89	85	82
	2008	87	80	77	76
	Avg				79.7

39-061-0006 Cincinnati Hamilton Co.	2006	84	84	82	81
	2007	100	92	91	89
	2008	93	89	87	86
	Avg				85.3

39-061-0010 Cincinnati Hamilton Co.	2006	98	92	82	81
	2007	93	91	88	86
	2008	85	79	78	77
	Avg				81.3

39-061-0040 Cincinnati Hamilton Co.	2006	89	80	79	78
	2007	97	93	88	86
	2008	86	83	81	80
	Avg				81.3

39-165-0007 Cincinnati Warren Co.	2006	92	90	88	86
	2007	103	89	88	88
	2008	92	87	84	82
	Avg				85.3

 Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

Kentucky

 = Exceeds standard

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4
21-105-0003 Boone Co.	2006	72	72	72	71
	2007	81	79	78	78
	2008	65	64	64	64
	Avg				71.0

21-117-0007 Covington Kenton Co.	2006	82	81	79	75
	2007	93	89	85	85
	2008	80	77	74	73
	Avg				77.7

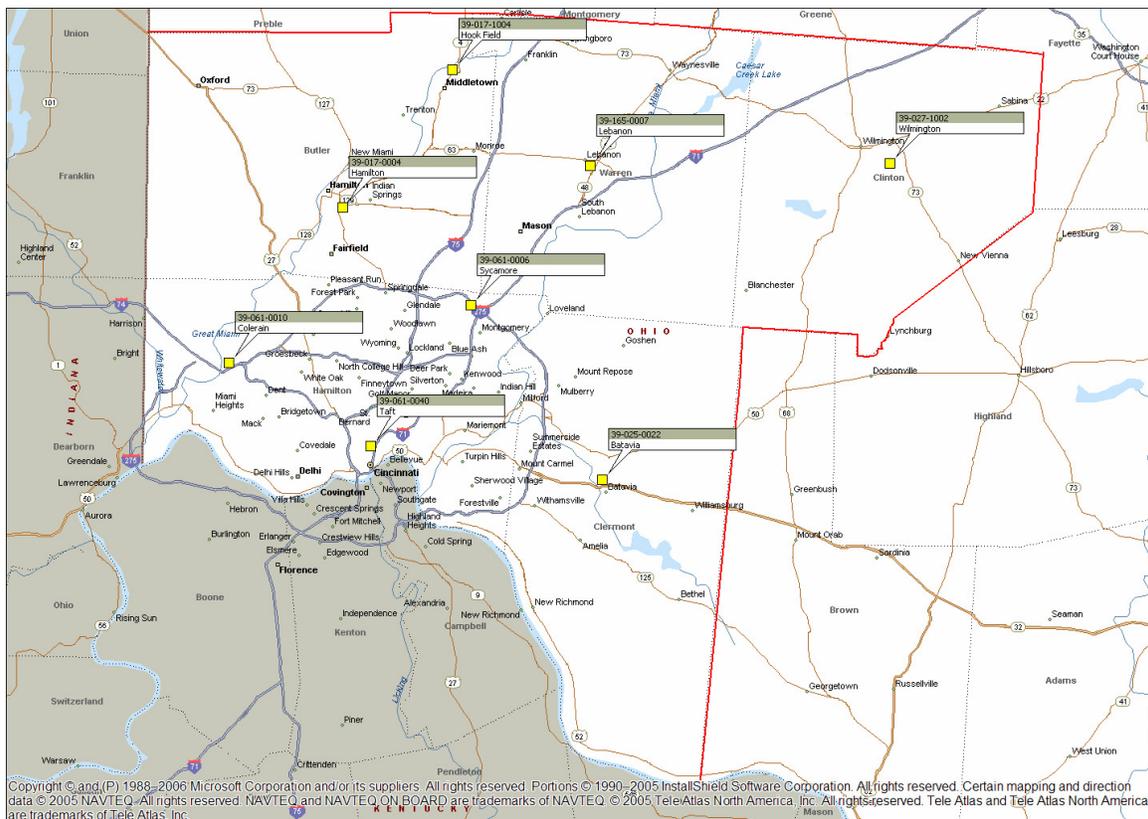
21-037-3002, - 0003⁶ Highland Heights Campbell Co.	2006	41	40	38	36
	2007	95	92	88	86
	2008	84	83	75	75
	Avg				80.5

 Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

Indiana

There are no monitors in applicable areas of Indiana.

Cincinnati-Hamilton Area Ozone Monitor Locations and Site ID Numbers



⁶ The Fort Thomas monitor in Campbell County (21-037-0003), Kentucky was not operating for the full year (only 12 measurements taken); therefore, its highest daily maximum concentrations are not being considered in the 3-year average. It was later replaced by the monitor at Highland Heights.

Factor 2: Emissions data
(tons per day)

2005		
County	VOC	NO_x
CLINTON	8.56	7.98
HAMILTON	84.37	132.53
BUTLER	34.06	44.72
WARREN	19.36	24.86
CLERMONT	17.91	95.98
Brown	6.05	5.65

2009		
County	VOC	NO_x
CLINTON	7.15	6.64
HAMILTON	51.39	80.32
BUTLER	21.83	34.58
WARREN	13.91	20.66
CLERMONT	11.94	54.28
Brown	5.44	4.65

Indiana

2005		
County	VOC	NO_x
DEARBORN	7.88	35.08
Franklin	3.07	2.83
Ohio	0.68	0.85

2009		
County	VOC	NO_x
DEARBORN	7.58	41.90
Franklin	2.69	2.17
Ohio	0.58	0.58

Kentucky (Does not include on-road data)

2005		
County	VOC	NO_x
BOONE	14.56	26.54
CAMPBELL	6.55	6.79
KENTON	11.25	11.64
Bracken	0.96	0.78
Gallatin	1.38	3.45
Grant	2.15	2.91
Pendleton	1.48	8.36

2009		
County	VOC	NO_x
BOONE	8.68	13.11
CAMPBELL	2.98	4.20
KENTON	4.96	6.64
Bracken	0.55	0.51
Gallatin	1.00	2.43
Grant	1.33	1.88
Pendleton	0.77	7.47

Major Employers

Source: Ohio Department of Development 2007

Most of the major employers in the greater Cincinnati area the surrounding Counties (in Ohio) are in the categories of manufacturing, government and service as shown in the following tables.

Brown

Brown County General Hospital	Service
Eastern Local Bd of Ed	Government
Milacron Inc	Manufacturing
Ohio Valley Manor	Service
RUHL Local Bd of Ed	Government
Stanley Works	Manufacturing
Surgical Appliance Industries	Trade
Western Brown Local Bd of Ed	Government

Butler County

AK Steel Holding Corp	Manufacturing
Amylin Pharmaceuticals Inc	Manufacturing
Armor Holdings Inc	Manufacturing
Butler County Government	Government
Cincinnati Financial Corp	Insurance
Cornerstone Brands Inc	Trade
Fairfield City Bd of Ed	Government
Ft Hamilton Memorial Hospital	Service
Hamilton City Bd of Ed	Government
Lakota Local Bd of Ed	Government
Liberty Mutual/Ohio Casualty Corp	Insurance
Mercy regional Hospital	Service
Miami University	Government
Middletown regional Health System	Service

Clermont County

Clermont County Government	Government
Duke Energy Corp	Utility
Fifth Third Bank	Finance
International Paper Co	R&D
Meijer Inc	Trade
Mercy Health Partners	Service

Midland Co/American Modern Ins	Insurance
Milacron Inc	Manufacturing
Milford Exempted Village Bd of Ed	Government
Siemens AG/UGS Corp	Service
Total Quality Logistics	Service
West Clermont Local Bd of Ed	Government

Clinton

ABX Air Inc	Transportation
Ahresty Wilmington Corp	Manufacturing
Alkermes Inc	Manufacturing
Clinton Memorial Hospital	Service
Ferno-Washington Inc	Manufacturing
Nippon Seiki/New Sabina Industries	Manufacturing
R & L Carriers	Transportation
Showa Corp/American Showa	Manufacturing
Textron Company	Manufacturing
Wilmington City Bd of Ed	Government
Wilmington College	Service

Hamilton County

American Financial Group Inc	Insurance
Chiquita Brands International Inc	Trade
Convergys Corp	Service
Duke Energy Corp	Utility
Fifth Third Bancorp	Finance
Ford Motor Co	Manufacturing
General Electric Co	Manufacturing
Health Alliance of Greater Cincinnati	Service
Johnson & Johnson/Ethicon	Manufacturing
Kroger Co	Trade
Macy's Inc	Trade
Mercy Health Partners	Service
Procter & Gamble Co	Manufacturing
TriHealth Inc	Service
University of Cincinnati	Government

Warren County

Aisin Seiki/ADVICS Co Ltd	Manufacturing
Blackhawk Automotive Plastics Inc	Manufacturing
Cedar Fair/Kings Island	Service
Cintas Corp	Manufacturing
HJ Heinz/Portion Pac Inc	Manufacturing
Luxottica Group SpA	Manufacturing
Macy's Inc	Trade
Mason Local Bd of Ed	Government
Procter & Gamble Co	R&D
State of Ohio	Government
Sumco Phoenix	Manufacturing
WellPoint Inc/Anthem	Insurance

Factor 3: Population and Projected Growth

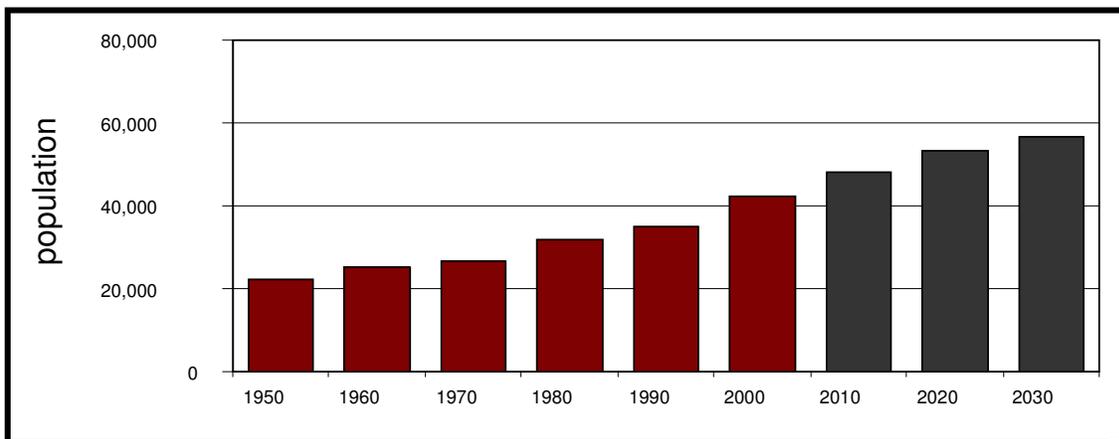
Sources: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau Population Estimates Program 2007

The largest populated places in the Cincinnati-Hamilton area are: the greater Cincinnati area in Hamilton County; Hamilton, Fairfield, and Middletown in Butler County; Lebanon, Mason, Franklin and Springboro in Warren County; and Batavia, Milford, and New Richmond in Clermont County.

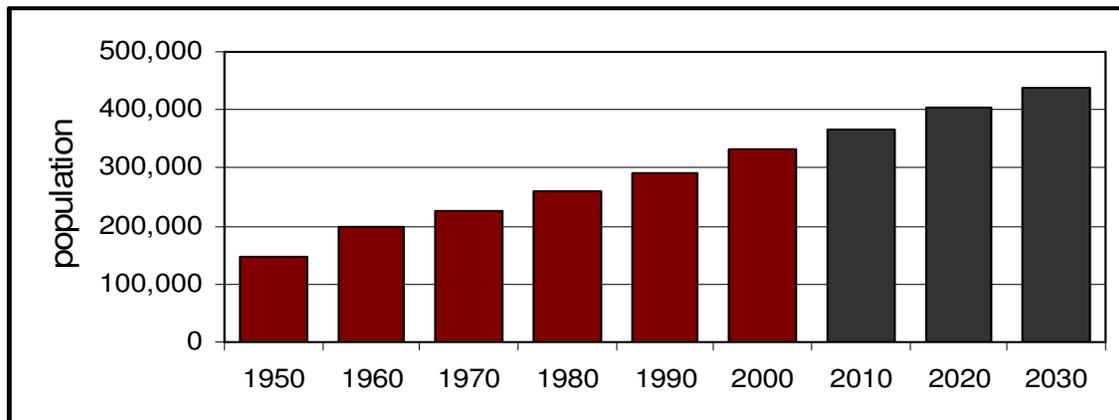
As indicated in the following table and graphs, Hamilton County has the highest population in this area; however, it is projected to steadily decrease. The population in the surrounding Counties is projected to increase.

COUNTY	2004	2005	2006	2007	2010	2020	2030
Butler	345,755	349,966	354,992	357,888	367,670	403,860	439,740
Clermont	188,025	190,329	192,706	193,490	202,830	225,340	245,000
Hamilton	832,250	828,487	822,596	842,369	807,560	771,540	730,570
Warren	189,823	196,793	201,871	204,390	215,020	276,250	338,350
Clinton	42,177	42,561	43,399	43,071	45,470	49,810	53,730
Brown	44,106	44,255	44,423	43,956	48,050	53,290	56,580

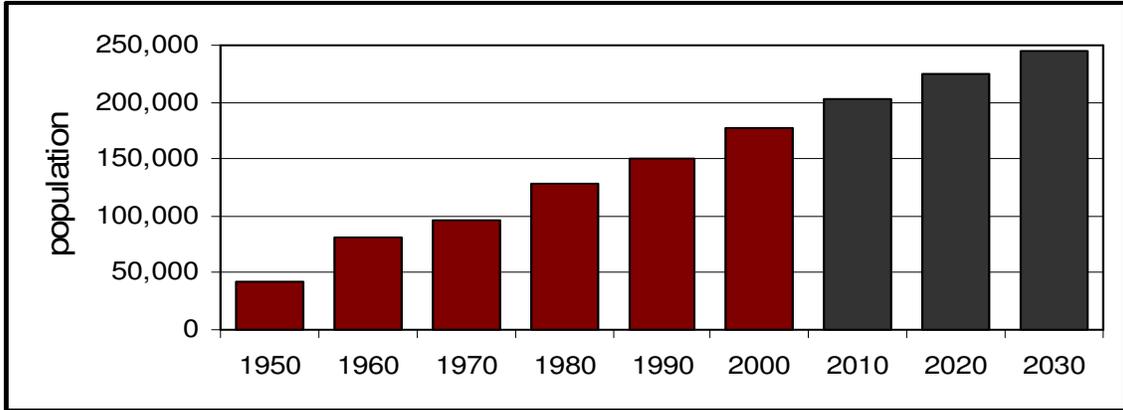
Brown County



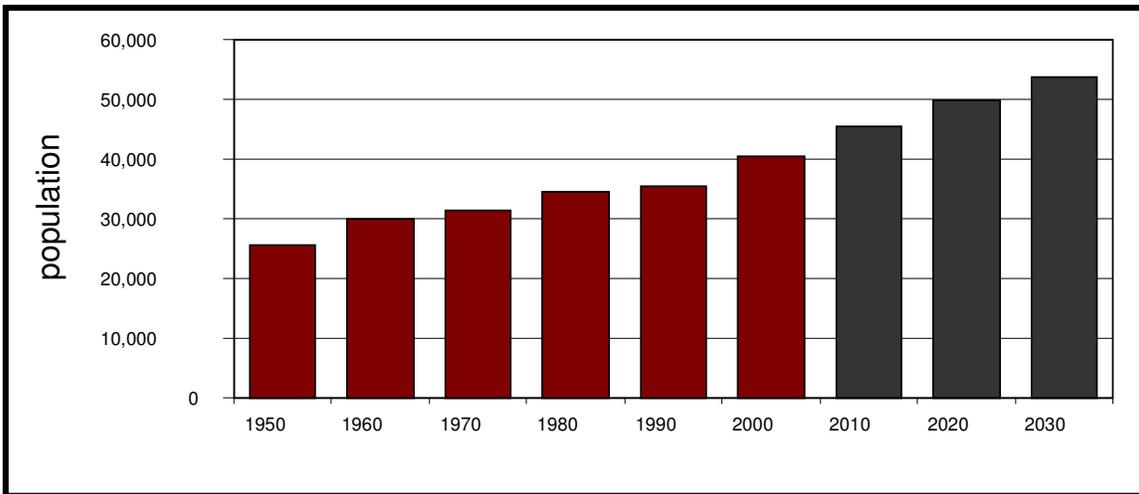
Butler County



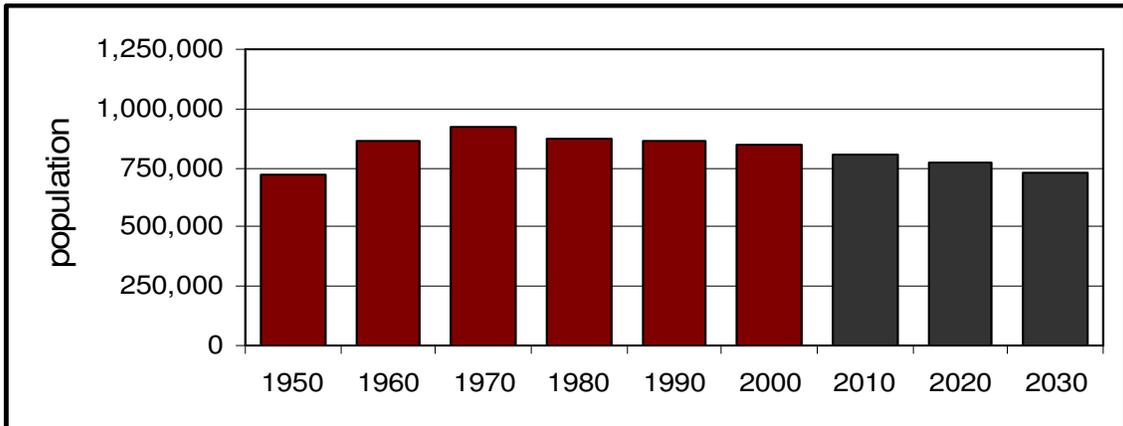
Clermont County



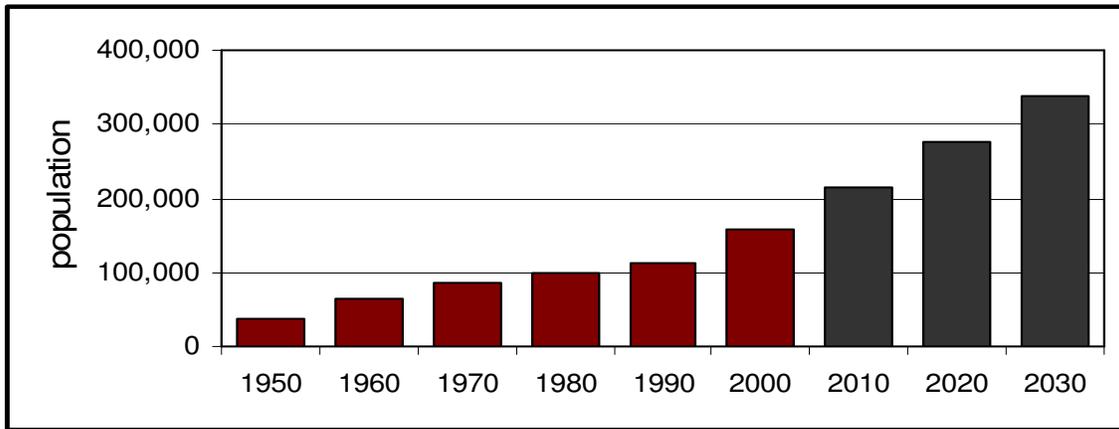
Clinton County



Hamilton County



Warren County

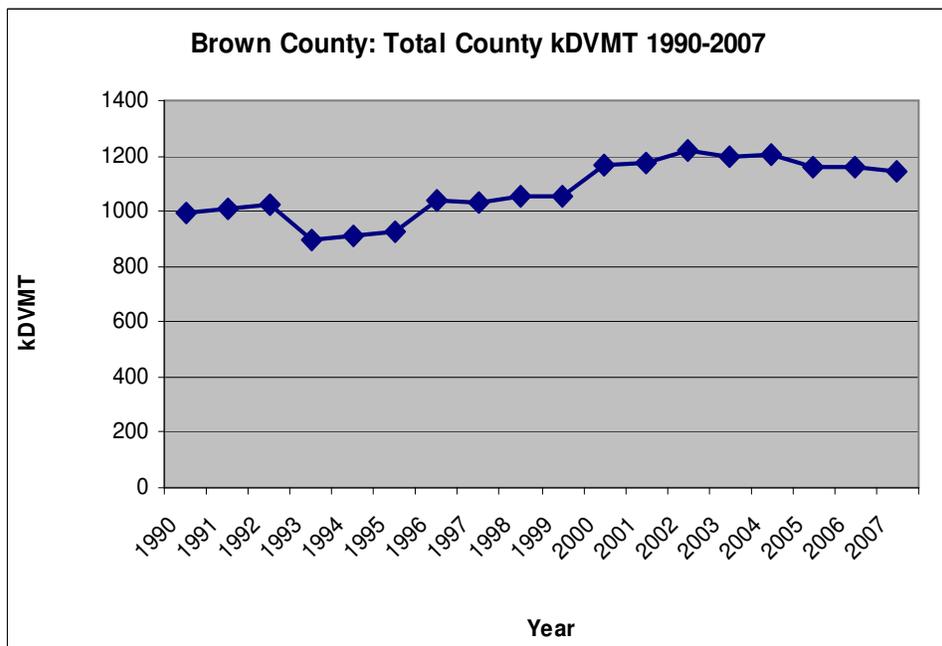


Factor 4: Traffic and commuting patterns

All six of the Counties (including Brown) in the Cincinnati-Hamilton area have shown an upward trend in the kDVMT since 1990 as shown in the following graphs. Hamilton County has the highest level of KDVT just under the 21,000 range and Warren County experienced the most significant increase in kDVMT of 328 miles from 2005 to 2007 although there was a slight decline from 2006 to 2007.

Estimated Daily Vehicle Miles Traveled (kDVMT = in thousands)

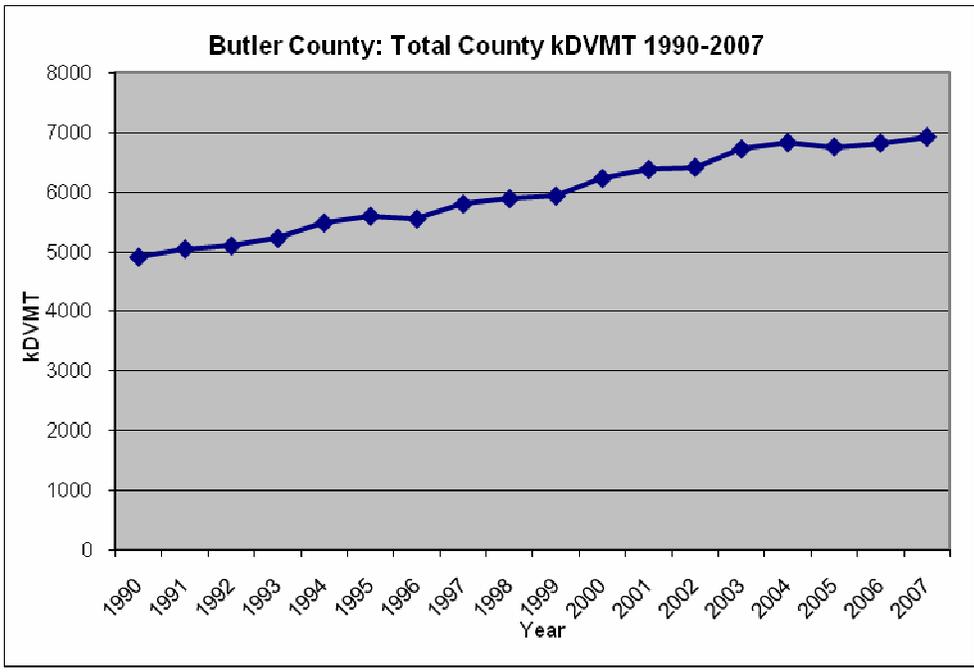
Source: Ohio Department of Transportation, Office of Technical Services



2005 = 1162.8

2006 = 1160.37

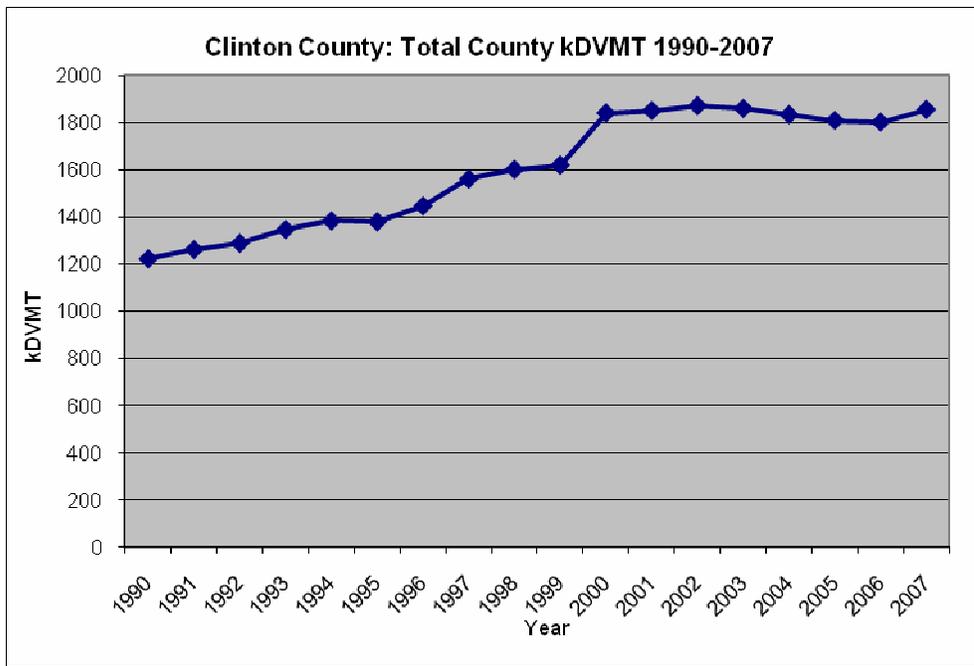
2007 = 1147.39



2005 = 6757.61

2006 = 6820.28

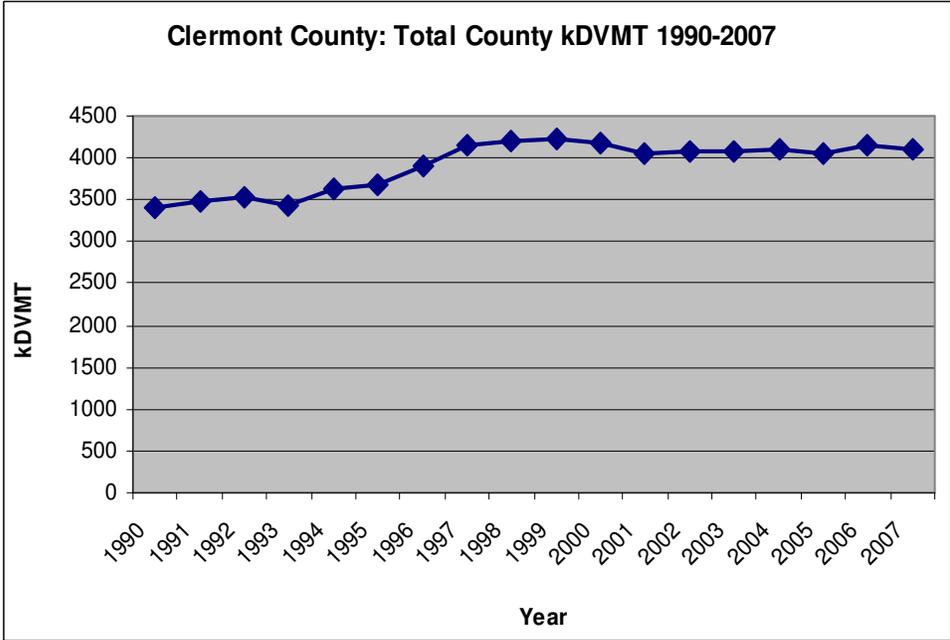
2007 = 6921.88



2005 = 1809.75

2006 = 1802.55

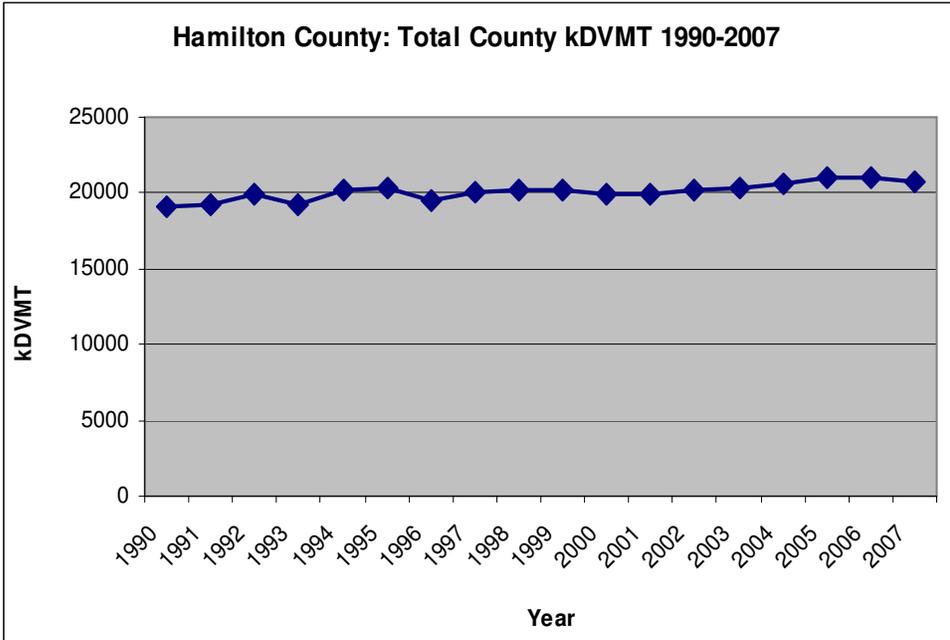
2007 = 1855.89



2005 = 4054.08

2006 = 4140.62

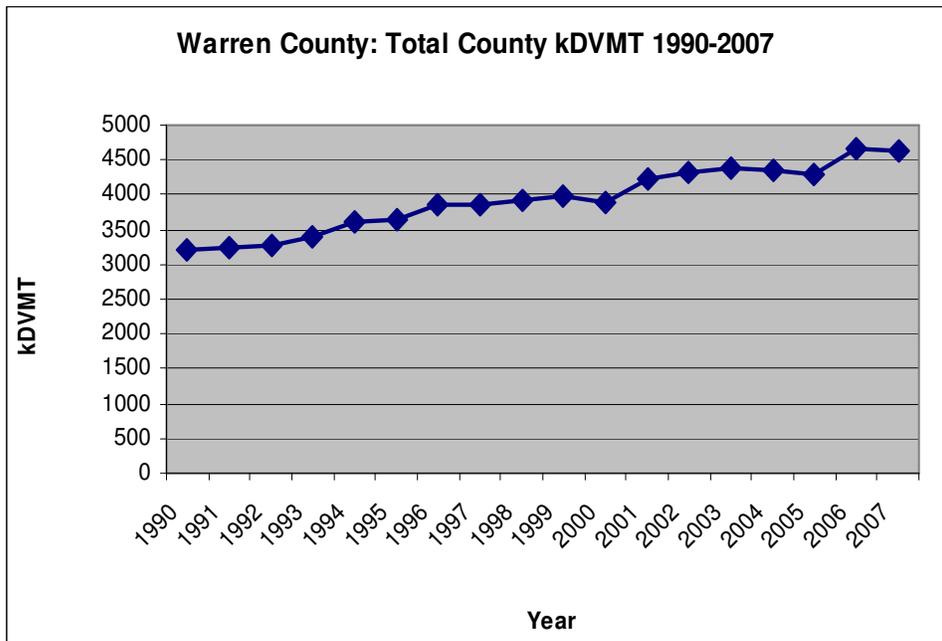
2007 = 4107.12



2005 = 20957.26

2006 = 21006.83

2007 = 20721.96



2005 = 4292.77

2006 = 4660.34

2007 = 4620.95

Commuter Patterns

Source: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau, 2000

The vast majority of workers (traveling out of County) from Butler, Warren and Clermont Counties commute to Hamilton County. Approximately 15 percent of Hamilton County workers commute outside the County, the majority traveling to Butler County, with Warren and Clermont coming in second and third.

Brown	Percent of workers that work outside the County -		63.8%
	Average commute time in minutes		35.0
Number of workers 16+ years of age living in Brown County			18,691
Commute Out To	Number	Percent	
Clermont Co. OH	4,802	25.7%	
Hamilton Co. OH	3,945	21.1%	
Mason Co. KY	780	4.2%	
Clinton Co. OH	466	2.5%	
Butler Co. OH	414	2.2%	
Warren Co. OH	347	1.9%	
Highland Co. OH	305	1.6%	
Adams Co. OH	252	1.3%	
Boone Co. KY	157	0.8%	
Kenton Co. KY	133	0.7%	
Percent is of workers living in County.			
Number of workers 16+ years of age working in Brown County			9,569
Commute In From	Number	Percent	
Adams Co. OH	793	8.3%	
Clermont Co. OH	529	5.5%	
Highland Co. OH	337	3.5%	
Mason Co. KY	316	3.3%	
Hamilton Co. OH	173	1.8%	
Clinton Co. OH	90	0.9%	
Fleming Co. KY	68	0.7%	
Kenton Co. KY	58	0.6%	
Warren Co. OH	47	0.5%	
Lewis Co. KY	44	0.5%	
Percent is of workers working in County.			

Butler	Percent of workers that work outside the County		43.6%
	Average commute time in minutes -		23.0
Number of workers 16+ years of age living in Butler County			160,314
Commute Out To	Number	Percent	
Hamilton Co. OH	47,984	29.9%	
Warren Co. OH	11,133	6.9%	
Montgomery Co. OH	4,635	2.9%	
Clermont Co. OH	1,072	0.7%	
Boone Co. KY	857	0.5%	
Kenton Co. KY	696	0.4%	
Greene Co. OH	400	0.2%	
Campbell Co. KY	318	0.2%	
Preble Co. OH	239	0.1%	
Clinton Co. OH	209	0.1%	
Percent is of workers living in County.			
Number of workers 16+ years of age working in Butler County			133,727
Commute In From	Number	Percent	
Hamilton Co. OH	18,452	13.8%	
Warren Co. OH	8,586	6.4%	
Clermont Co. OH	2,912	2.2%	
Montgomery Co. OH	2,622	2.0%	
Preble Co. OH	2,575	1.9%	
Kenton Co. KY	908	0.7%	
Dearborn Co. IN	750	0.6%	
Union Co. IN	698	0.5%	
Franklin Co. IN	677	0.5%	
Campbell Co. KY	652	0.5%	
Percent is of workers working in County.			

Clermont	Percent of workers that work outside the County		59.9%
	Average commute time in minutes -		28.2
Number of workers 16+ years of age living in Clermont County			88,372
Commute Out To	Number	Percent	
Hamilton Co. OH	40,090	45.4%	
Warren Co. OH	3,269	3.7%	
Butler Co. OH	2,912	3.3%	
Kenton Co. KY	1,630	1.8%	
Boone Co. KY	1,422	1.6%	
Campbell Co. KY	744	0.8%	
Brown Co. OH	529	0.6%	
Montgomery Co. OH	433	0.5%	
Clinton Co. OH	403	0.5%	
Dearborn Co. IN	154	0.2%	
Percent is of workers living in County.			
Number of workers 16+ years of age working in Clermont County			55,884
Commute In From	Number	Percent	
Hamilton Co. OH	8,240	14.7%	
Brown Co. OH	4,802	8.6%	
Warren Co. OH	1,448	2.6%	
Butler Co. OH	1,072	1.9%	
Kenton Co. KY	761	1.4%	
Campbell Co. KY	579	1.0%	
Adams Co. OH	527	0.9%	
Clinton Co. OH	483	0.9%	
Highland Co. OH	427	0.8%	
Boone Co. KY	350	0.6%	
Percent is of workers working in County.			

Clinton	Percent of workers that work outside the County		30.4%
	Average commute time in minutes -		23.8
Number of workers 16+ years of age living in Clinton County			19,949
Number of workers 16+ years of age working in Clinton County			24,277
Commute Out To	Number	Percent	
Hamilton Co. OH	1,498	7.5%	
Warren Co. OH	1,079	5.4%	
Montgomery Co. OH	782	3.9%	
Highland Co. OH	534	2.7%	
Clermont Co. OH	483	2.4%	
Greene Co. OH	451	2.3%	
Fayette Co. OH	351	1.8%	
Butler Co. OH	265	1.3%	
Franklin Co. OH	132	0.7%	
Boone Co. KY	104	0.5%	
Percent is of workers living in County.			Percent is of workers working in County.

Hamilton	Percent of workers that work outside the County		15.6%
	Average commute time in minutes -		23.0
Number of workers 16+ years of age living in Hamilton County			398,465
Number of workers 16+ years of age working in Hamilton County			519,981
Commute Out To	Number	Percent	
Butler Co. OH	18,452	4.6%	
Warren Co. OH	9,303	2.3%	
Clermont Co. OH	8,240	2.1%	
Kenton Co. KY	7,937	2.0%	
Boone Co. KY	6,505	1.6%	
Campbell Co. KY	2,739	0.7%	
Montgomery Co. OH	1,747	0.4%	
Dearborn Co. IN	1,335	0.3%	
Franklin Co. OH	472	0.1%	
Ripley Co. IN	295	0.1%	
Percent is of workers living in County.			Percent is of workers working in County.

Warren	Percent of workers that work outside the County		61.5%
	Average commute time in minutes		24.0665
Number of workers 16+ years of age living in Warren County		76,548	
Commute Out To	Number	Percent	
Hamilton Co. OH	21,347	27.9%	
Montgomery Co. OH	11,325	14.8%	
Butler Co. OH	8,586	11.2%	
Clermont Co. OH	1,448	1.9%	
Greene Co. OH	1,321	1.7%	
Clinton Co. OH	1,038	1.4%	
Boone Co. KY	337	0.4%	
Franklin Co. OH	286	0.4%	
Kenton Co. KY	249	0.3%	
Clark Co. OH	125	0.2%	
Percent is of workers living in County.			
Number of workers 16+ years of age working in Warren County		62,714	
Commute In From	Number	Percent	
Butler Co. OH	11,133	17.8%	
Hamilton Co. OH	9,303	14.8%	
Montgomery Co. OH	4,488	7.2%	
Clermont Co. OH	3,269	5.2%	
Clinton Co. OH	1,079	1.7%	
Greene Co. OH	797	1.3%	
Brown Co. OH	347	0.6%	
Preble Co. OH	336	0.5%	
Campbell Co. KY	322	0.5%	
Kenton Co. KY	297	0.5%	
Percent is of workers working in County.			

Factor 5: Meteorology

Please refer to Appendix E for applicable meteorology information for the Cincinnati-Hamilton area.

Factor 6: Topography/Land use/Land cover

The eastern portion of Hamilton County lies in the Till Plains section of the Central Lowland physiographic Province while the western portion of the County lies in the Bluegrass section of the Interior Low Plateau (see Appendix F). The landscape of the County is characterized by wide terraces, flood plains, steep hillsides along the major rivers and tributary stream valleys, and gently rolling glacial till plains. The altitude varies from about 962 feet down to 455 feet above sea level.

The surface relief in the uplands in Brown County is that of a broad plan that has been dissected by numerous streams. Significant rises or knolls are quite rare in the areas away from the stream valleys. Elevation ranges from about 1,120 feet above sea level near Ash Ridge to about 463 feet, which is the water level of the Ohio River.

Butler County lies in the Till Plains section of the Central Lowland Province. The topography of the County is rolling hills, river terraces and outwash plains.

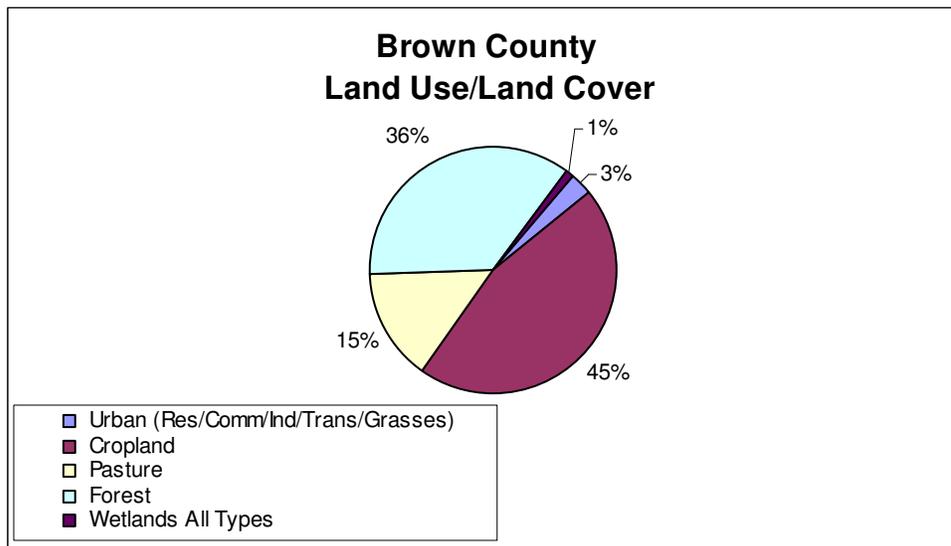
Like Butler County, Warren County is located in the Till Plains section of the Central Lowland Province. The western and northern parts of the County are nearly level to gently rolling hills. In the southern and southeastern parts of the County the topography is gently sloping but highly dissected due to numerous streams that are narrow and deeply entrenched.

Clermont County lies in the Till Plains section of the Central Lowland Province. The surface of the County is characterized by deep, narrow valleys and by level interstream areas. From the Ohio River, along the East Fork of the Little Miami River the surface is very broken and hilly.

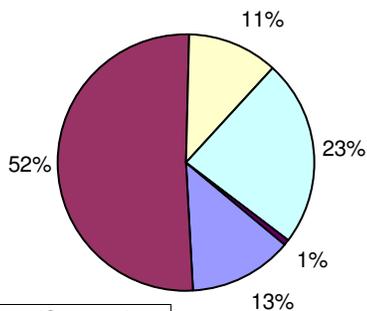
Clinton County lies entirely within the glaciated region of Ohio. Three-fourths of the County lies within the Indiana and Ohio Till Plain. The local name for this area is "pin-oak flats". The maximum elevation is in Green Township, at about 1190 feet above mean sea level, about 1 mile north of New Vienna. The lowest elevation is about 790 feet, in Vernon Township near Clarksville, where Todds Fork enters Warren County.

Warren County is nearly level to undulating in the western and northern parts. The southern and southeastern parts are in the Illinoian-age till plain and nearly level to gently sloping.

As shown in the following pie charts, the land use/land cover in Butler and Warren Counties is predominately characterized as cropland. Clermont County is nearly 50 percent forest while Hamilton County is split between urban and forest. As expected, Hamilton County has the highest percentage of urban area at 41 percent.

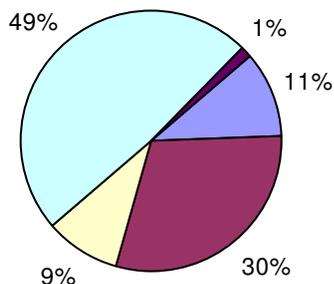


Butler County Land Use/Land Cover



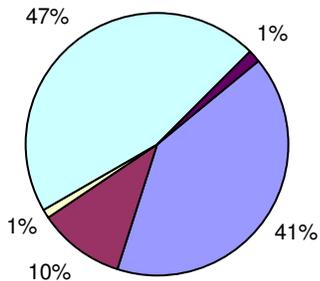
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Clermont County Land Use/Land Cover

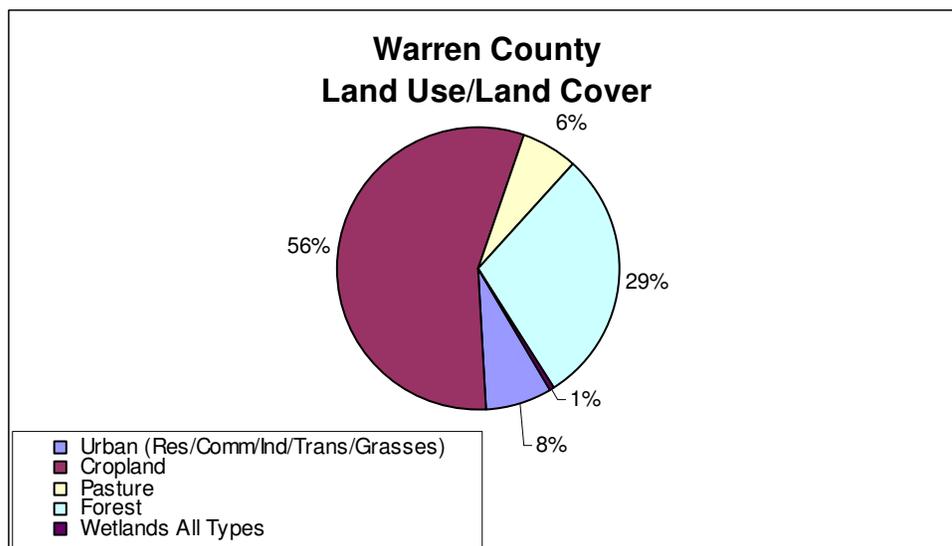


- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Hamilton County Land Use/Land Cover



- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types



Factor 7: Jurisdictional boundaries

The Cincinnati-Middletown, OH-KY-IN MSA includes the following Counties in Indiana: Dearborn, Franklin and Ohio; in Kentucky: Boone, Bracken, Campbell, Gallatin, Grant, Kenton and Pendleton; and in Ohio: Brown, Butler, Clermont, Hamilton, and Warren. The Cincinnati-Middletown-Wilmington, OH-KY-IN CSA includes the above along with Clinton County. The principal cities are Cincinnati and Middletown, Ohio.

The Ohio-Kentucky-Indiana regional Council of Governments (OKI) is the planning agency designated as the Metropolitan Planning Organization for the greater Cincinnati area. The OKI region is composed of eight Counties in three states: Butler, Clermont, Hamilton, and Warren Counties in Ohio; Boone, Campbell, and Kenton Counties in Kentucky; and Dearborn County in Indiana. *Please note that the cities of Franklin and Carlisle in Warren County are part of the Miami Valley Regional Planning Commission (MVRPC) planning area.*

Factor 8: Level of control of emission sources

Please refer to the factor 8 general discussion at the beginning of this document for applicable control information for this area.

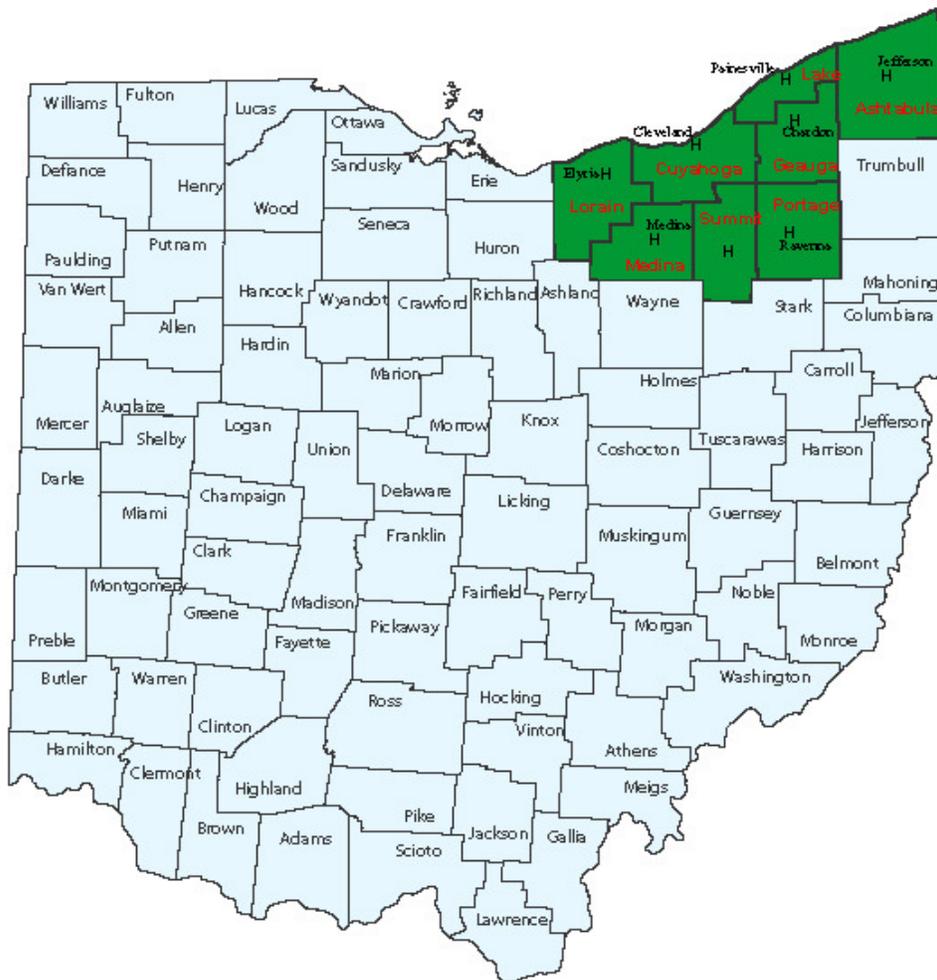
Cleveland-Akron-Lorain, OH

Current County nonattainment: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage and Summit

Current nonattainment Counties

Recommended County nonattainment: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage and Summit

 Recommended nonattainment Counties



Discussion:

There are eight Counties in this existing ozone nonattainment area: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit Counties. However, based on 2005-2007 emissions data, the area is now in attainment with the 1997 standard and Ohio EPA is preparing a redesignation request. With respect to the new ozone standard, Ohio EPA recommends designating the eight Counties as nonattainment for the Cleveland-Akron-Lorain area; Ashtabula, Cuyahoga, Lake, and Summit Counties have violating monitors. The Counties of Erie, Huron, Ashland, Wayne, Stark, Mahoning and Trumbull are adjacent to this nonattainment area. Mahoning, and Trumbull are discussed in the Youngstown-Warren section while Stark is discussed in the Canton-Massillon section. The remaining adjacent Counties, Erie, Huron, Ashland and Wayne, are not a part of the MSA or CSA, and are excluded due to low emissions and low population. Although Wayne County's 2007 population is 113,554, it is largely agricultural and forested.

Wayne County is not part of the MSA; however, it is an adjacent County. Although Wayne County does have overall emissions comparable to other counties in the MSA, Ohio EPA is not recommending inclusion of Wayne County. Emissions in Wayne County are projected to decrease by approximately 14% for VOC and 22% for NOx from 2005 to 2009. The projected 2009 emissions for Cuyahoga, Lake, Lorain and Summit counties are far more significant than the projected 2009 emissions of Wayne County. The projected growth for Wayne County is minimal in number, increasing by 23,136 for a 2030 population of 136,690, compared to the 2030 projected population of Cuyahoga County, 1,274,020. Daily miles traveled by vehicles in Wayne County have been steadily declining. While some workers from Wayne County do travel to other MSA Counties for employment purposes, the numbers are minimal. The most significant of those is to Medina County but is low in comparison to the number of workers in Medina County, 8.4%. Also, Medina County's monitor is currently showing attainment of the new standard.

The three-year average of the annual fourth-highest daily maximum eight-hour average concentrations are not attaining the revised standard at four of the eight monitors as identified under factor 1 below.

Factor 1: Air quality data

 = Exceeds standard

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4
39-007-1001 Conneaut Ashtabula Co.	2006	99	99	90	86
	2007	98	95	92	92
	2008	81	81	78	75
	Avg				 84.3

39-035-0034 Cleveland Cuyahoga Co.	2006	79	77	77	74
	2007	84	84	83	80
	2008	88	85	84	81
	Avg				78.3

39-035-0064 Cleveland Cuyahoga Co.	2006	72	71	71	68
	2007	103	95	87	83
	2008	87	81	77	72
	Avg				74.3

39-035-5002 Cleveland Cuyahoga Co.	2006	90	85	83	81
	2007	86	84	82	80
	2008	90	87	86	83
	Avg				81.3

39-055-0004 Cleveland Geauga Co.	2006	76	72	71	70
	2007	71	69	68	68
	2008	88	83	82	82
	Avg				73.3

39-085-0003 Cleveland Lake Co.	2006	88	84	83	83
	2007	79	76	75	74
	2008	84	84	84	78
	Avg				78.3

39-085-3002 Cleveland Lake Co.	2006	80	76	75	75
	2007	93	84	82	79
	2008	81	77	77	76
	Avg				76.7

39-093-0018 Elyria Lorain Co.	2006	77	72	69	69
	2007	84	82	79	78
	2008	88	76	76	75
	Avg				74.0

39-103-0003 Cleveland Medina Co.	2006	76	75	74	73
	2007	73	71	70	69
	2008	80	79	77	75
	Avg				72.3

39-133-1001 Akron Portage Co.	2006	80	79	74	70
	2007	90	85	85	84
	2008	75	71	69	69
	Avg				74.3

Factor 2: Emissions data
(tons per day)

2005		
County	VOC	NO_x
ASHTABULA	19.60	22.93
CUYAHOGA	105.89	131.85
LAKE	24.62	61.81
SUMMIT	45.86	60.55
PORTAGE	17.75	21.14
MEDINA	16.90	20.05
LORAIN	30.81	51.67
GEAUGA	16.91	8.40
Wayne	17.08	23.62

2009		
County	VOC	NO_x
ASHTABULA	16.52	19.35
CUYAHOGA	85.01	107.51
LAKE	20.71	48.87
SUMMIT	36.19	44.53
PORTAGE	14.74	15.94
MEDINA	14.33	15.55
LORAIN	26.06	43.48
GEAUGA	16.09	6.67
Wayne	14.73	18.45

Major Employers

Source: Ohio Department of Development 2007

Most of the major employers in the Cleveland-Akron area are in the categories of manufacturing, government and service as shown below.

Ashtabula County

Ashtabula Area City Bd of Ed	Government
Ashtabula County Govt	Government
Ashtabula County Medical Center	Service
General Aluminum Mfg Co	Manufacturing
Kennametal Inc	Manufacturing
Lyondell Chemical Co	Manufacturing
Masco/KraftMaid Cabinetry	Manufacturing
Molded Fiber Glass Companies	Manufacturing
Premix Inc	Manufacturing

Cuyahoga County

American Greetings Corp	Manufacturing
Case Western Reserve University	Service
Cleveland Clinic Health System	Service
Continental Airlines	Transportation
Ford Motor Co	Manufacturing
General Motors Corp	Manufacturing
KeyCorp	Finance
Lincoln Electric Holding Inc	Manufacturing
National City Corp	Finance
Parker Hannifin Corp	Manufacturing
Progressive Corp	Insurance
Sherwin-Williams Co	Manufacturing
University Hospitals Health System	Service

Geauga County

Chardon Local Bd of Ed	Government
Duramax Inc/Johnson Rubber	Manufacturing
Geauga County Government	Government
Great Lakes Cheese Company	Manufacturing
Kenston Local Bd of Ed	Government
Masco Corp/KraftMaid Cabinetry Inc	Manufacturing
Myers Holding Corp	Manufacturing
Pentair Inc	Manufacturing
Tarkett/Johnsonite Inc	Manufacturing
University Hospitals Health System	Service

Lake County

ABB Inc	Manufacturing
Avery Dennison Corp	Manufacturing
Cleveland Clinic Health System	Service
FirstEnergy Corp	Utility
Lake County Government	Government
Lake Hospital System	Service
Lubrizol Corp	Manufacturing
Mentor Exempted Village Bd of Ed	Government
STERIS Corp	Manufacturing
Willoughby-Eastlake City Bd of Ed	Government

Lorain County

Community Health Partners	Service
Elyria City Bd of Ed	Government
Emerson Electric/Ridge Tool	Manufacturing
EMH regional Medical Center	Service
Ford Motor Co	Manufacturing
Invacare Corp	Manufacturing
Lorain City Bd of Ed	Government
Lorain County Government	Government
Nordson Corp	Manufacturing
Oberlin College	Service
PolyOne Corp	Manufacturing
Republic Engineered Products Inc	Manufacturing
State of Ohio	Government

Medina County

Brunswick City Bd of Ed	Government
Discount Drug Mart Inc	Trade
Medina City Bd of Ed	Government
Medina County Government	Government
Medina General Hospital	Service
MTD Products Inc	Manufacturing
Schneider National Inc	Transportation
Wadsworth City Bd of Ed	Government
Wadsworth-Rittman Hospital	Service
Westfield Group	Insurance

Portage County

East Manufacturing Corp	Manufacturing
General Electric Co	Manufacturing
Kent City Board of Education	Government
Kent State University	Government
McMaster-Carr Supply Co	Trade
Ravenna City Bd of Ed	Government
Robinson Memorial Hospital	Service
State of Ohio	Government
Step2 Company	Manufacturing

Summit County

Akron City Bd of Ed	Government
Akron General Health System	Service
Children's Hospital Medical Center	Service
Chrysler LLC	Manufacturing
Diebold Inc	Manufacturing
FirstEnergy Corp	Utility
Goodyear Tire & Rubber Co	Manufacturing
Jo-Ann Stores Inc	Trade
McDermott Int'l/Babcock & Wilcox	Manufacturing
Signet Group plc/Sterling Inc	Trade
Summa Health System	Service
University of Akron	Government

Wayne County

College of Wooster	Service
Frito-Lay Inc	Manufacturing
JM Smucker Co	Manufacturing
LuK Inc	Manufacturing
State of Ohio	Government
Will-Burt Co	Manufacturing
Wooster Brush Co	Manufacturing
Wooster City Bd of Ed	Government
Wooster Community Hospital	Service
Worthington Ind/Gerstenslager Co	Manufacturing

Factor 3: Population and Projected Growth

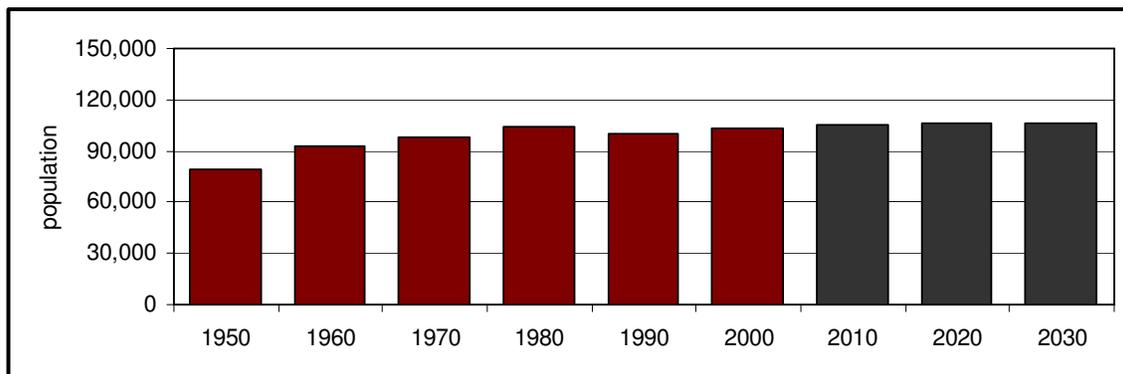
Sources: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau Population Estimates Program 2007

The largest populated places in the Cleveland-Akron-Lorain area are: the greater Cleveland area in Cuyahoga County; Elyria, Avon and North Ridgeville in Lorain County; Medina, Brunswick and Wadsworth in Medina County; Akron, Barberton, Cuyahoga Falls and Stow in Summit County; Kent and Ravenna in Portage County; Chardon and Middlefield in Geauga County; Mentor, Willoughby and Eastlake in Lake County; and Conneaut and Ashtabula in Ashtabula County.

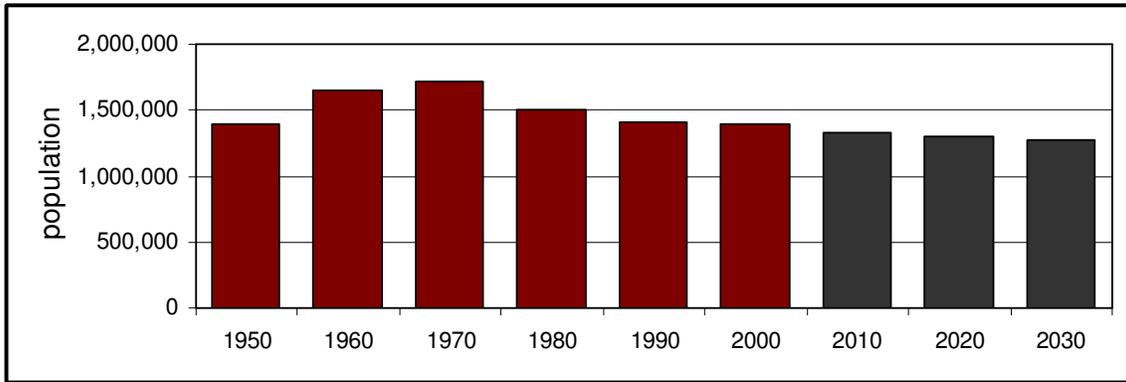
As indicated in the following table and graphs, Cuyahoga County has the highest population in this area; however, it is projected steadily decrease. The population in the surrounding Counties is remaining generally constant with slight trends upward with Medina County having the most significant upward trend.

COUNTY	2004	2005	2006	2007	2010	2020	2030
Cuyahoga	1,346,194	1,330,428	1,314,241	1,295,958	1,332,540	1,301,870	1,274,020
Lake	232,059	232,416	232,892	233,392	233,890	234,520	232,350
Lorain	296,717	300,266	301,993	302,260	290,840	299,630	312,540
Medina	164,644	166,968	169,353	169,832	173,760	191,850	206,770
Portage	155,079	155,150	155,012	155,869	158,160	161,660	161,880
Summit	546,366	546,285	545,931	543,487	557,660	564,810	564,210
Wayne	113,086	113,496	113,950	113,554	119,850	128,670	136,690
Ashtabula	102,960	103,044	102,703	101,141	104,970	106,090	106,420
Geauga	94,379	95,060	95,676	95,029	98,820	104,810	109,180

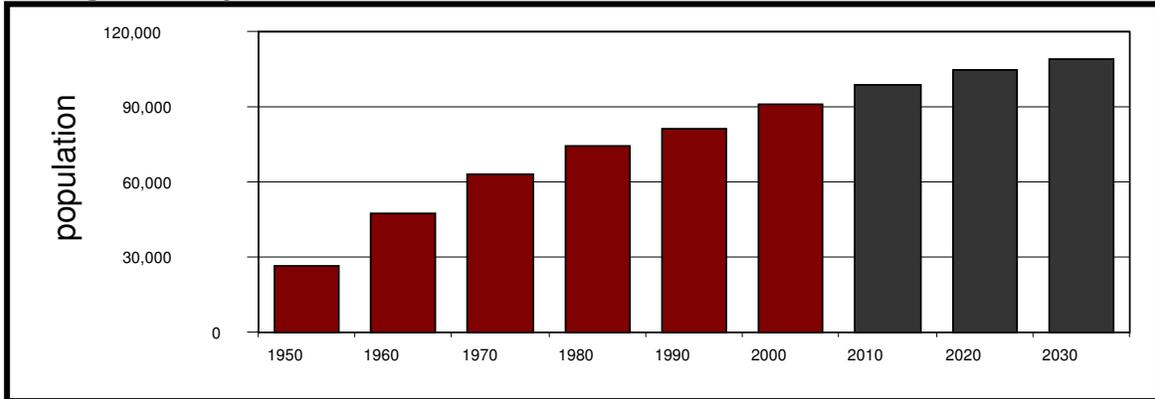
Ashtabula County



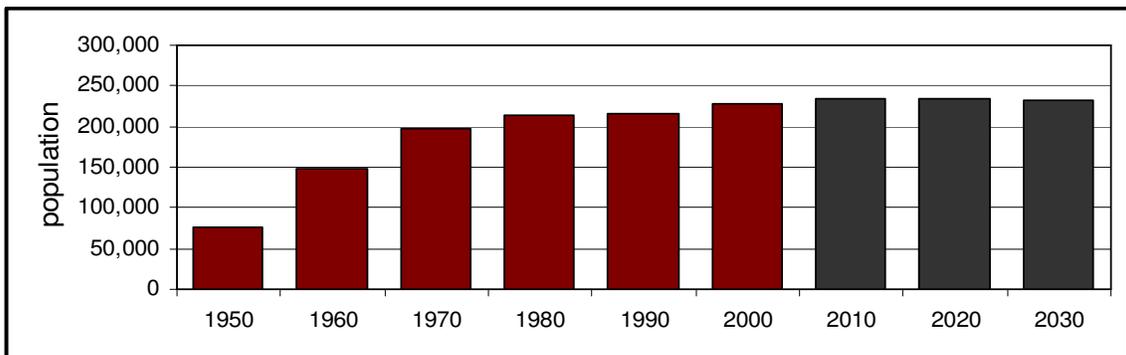
Cuyahoga County



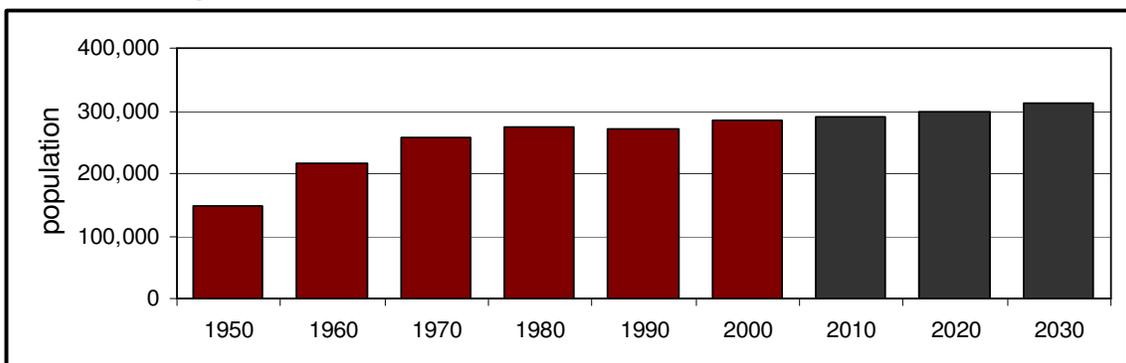
Geauga County



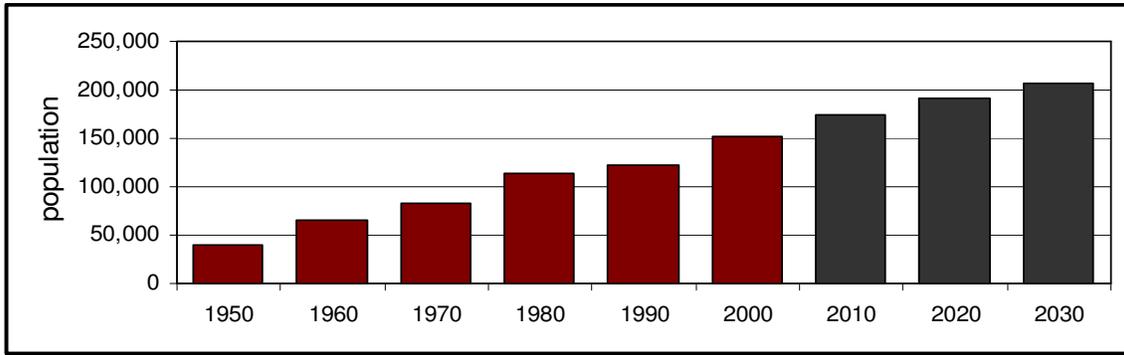
Lake County



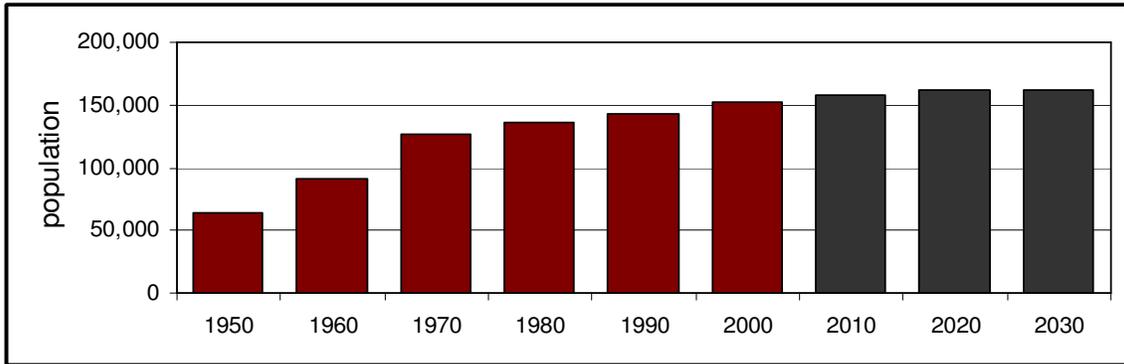
Lorain County



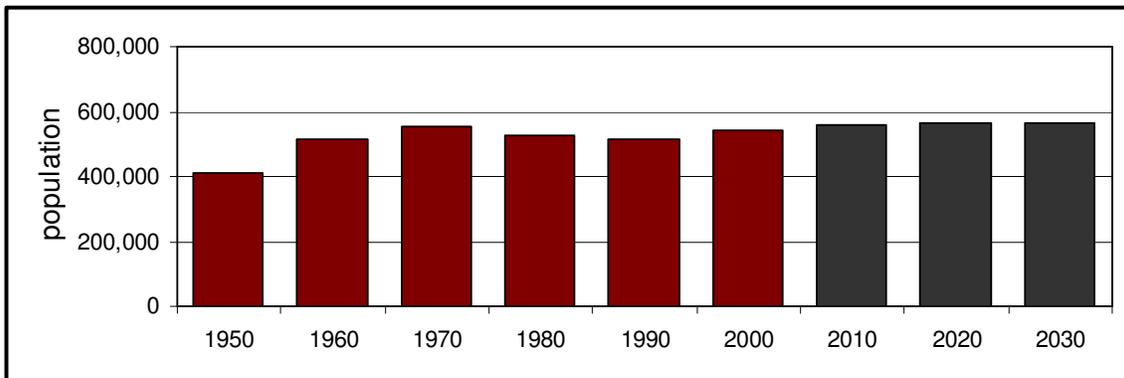
Medina County



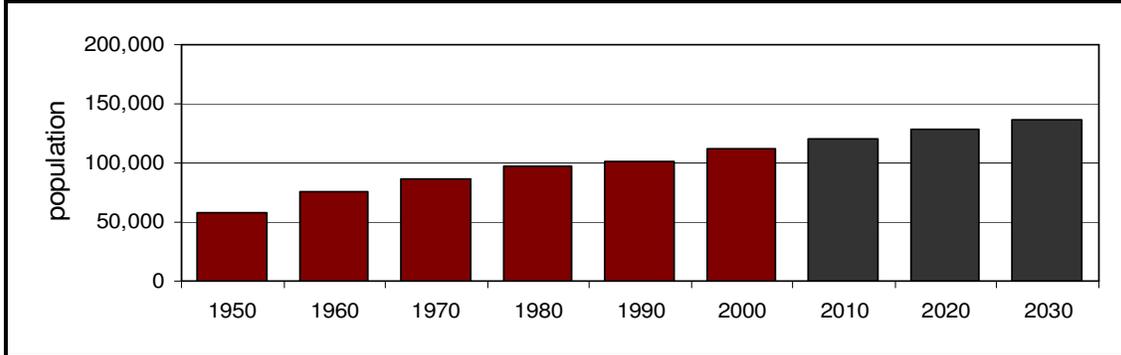
Portage County



Summit County



Wayne County

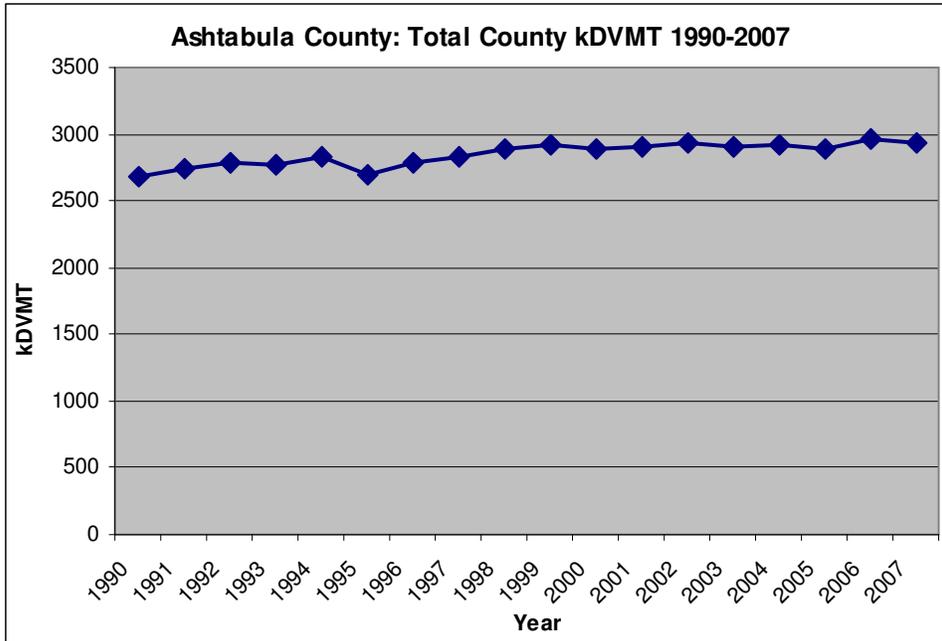


Factor 4: Traffic and commuting patterns

The kDVMT within the Cleveland-Akron-Lorain area have had an upward trend with the exception of Lorain County that has had a slight downward trend since 2004. Ashtabula experienced the most increase between 2005 and 2007 with 39.44 kDVMT. As expected, Cuyahoga has the overall highest kDVMT in the 28,000 range and Ashtabula has the lowest kDVMT in the 2,900 range as shown in the following graphs.

Estimated Daily Vehicle Miles Traveled (kDVMT = in thousands)

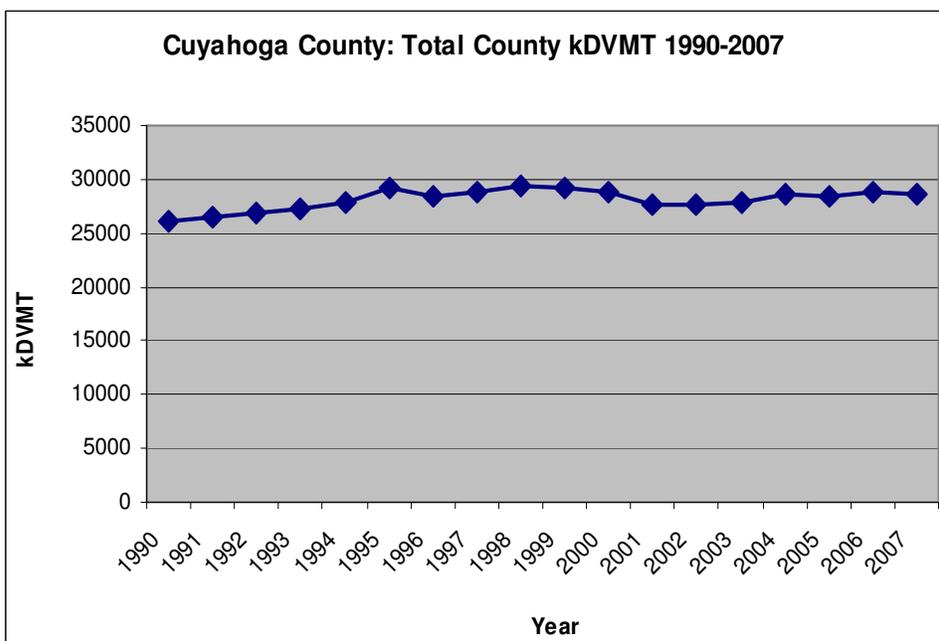
Source: Ohio Department of Transportation, Office of Technical Services

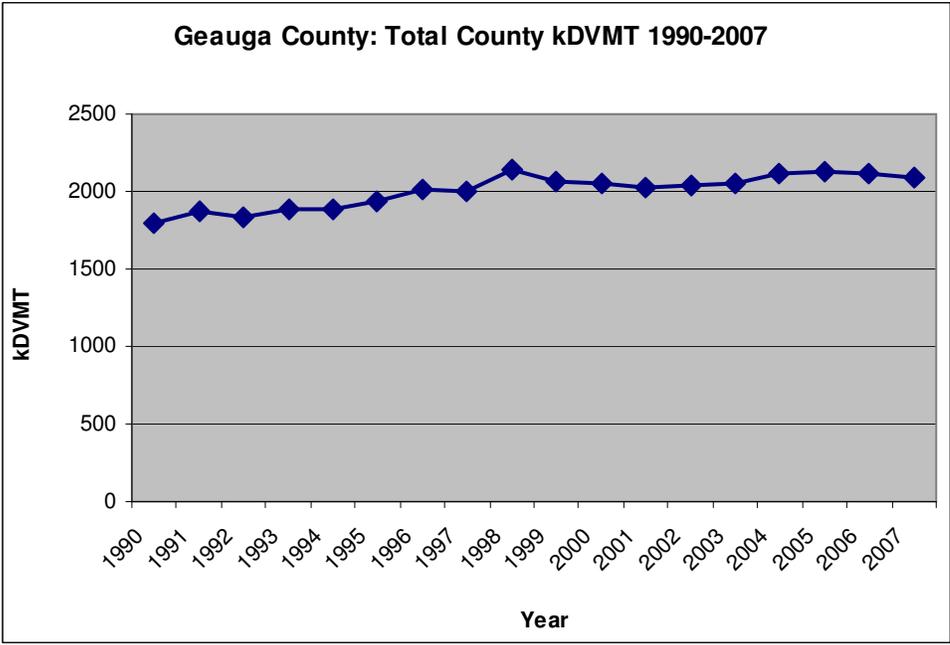


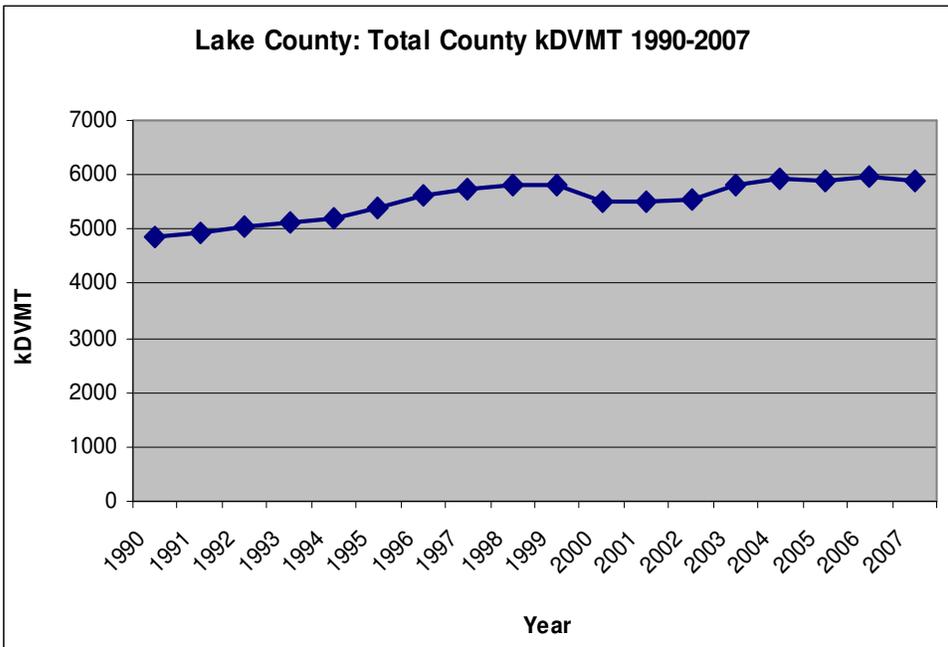
2005 = 2887.77

2006 = 2959.53

2007 = 2927.21



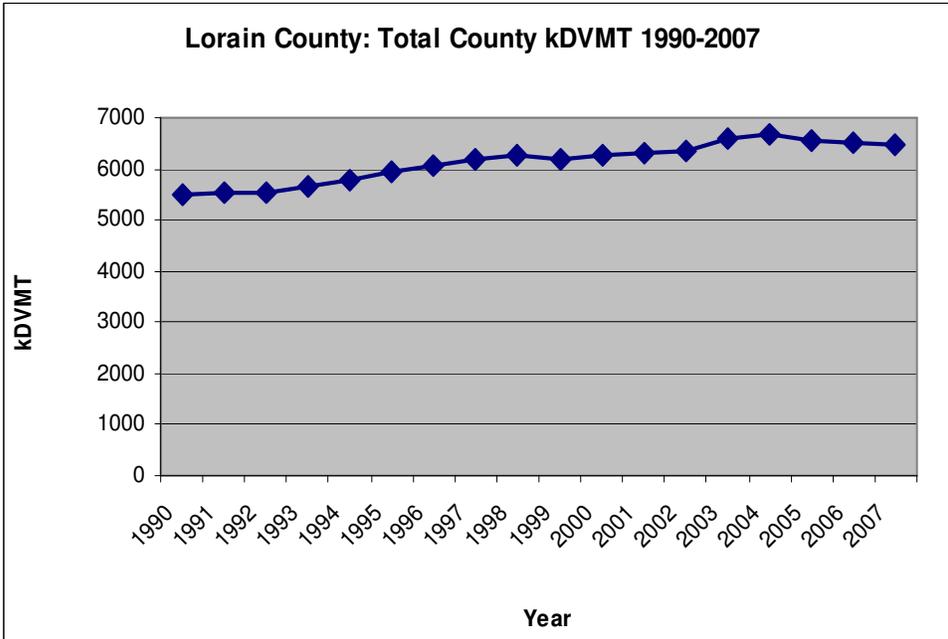




2005 = 5903.28

2006 = 5980.35

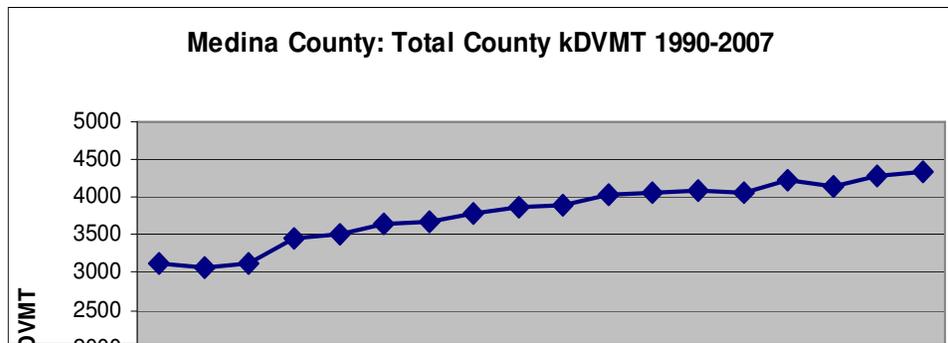
2007 = 5897.34



2005 = 6568.15

2006 = 6514.41

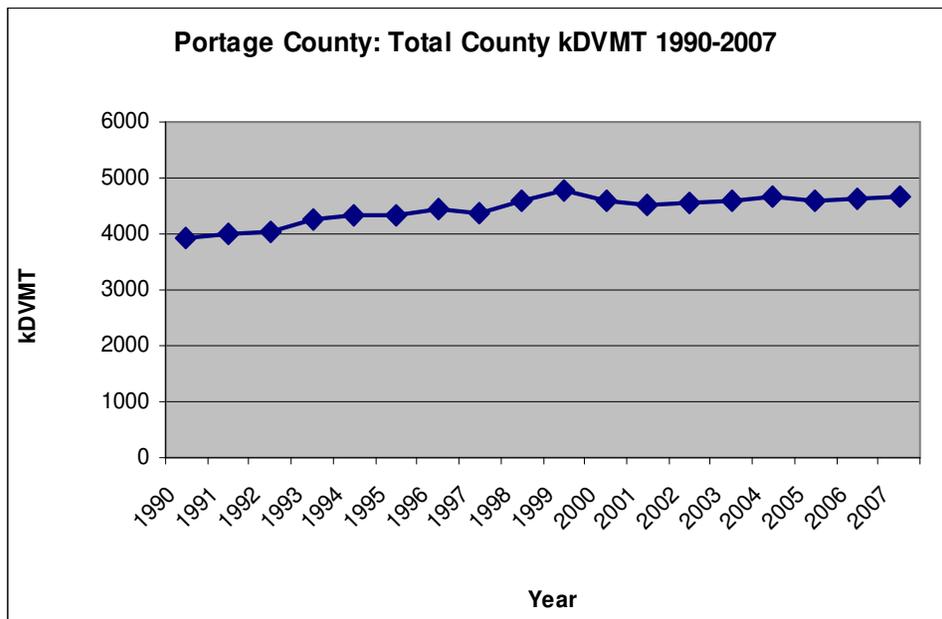
2007 = 6460.55



2005 = 4146.97

2006 = 4289.86

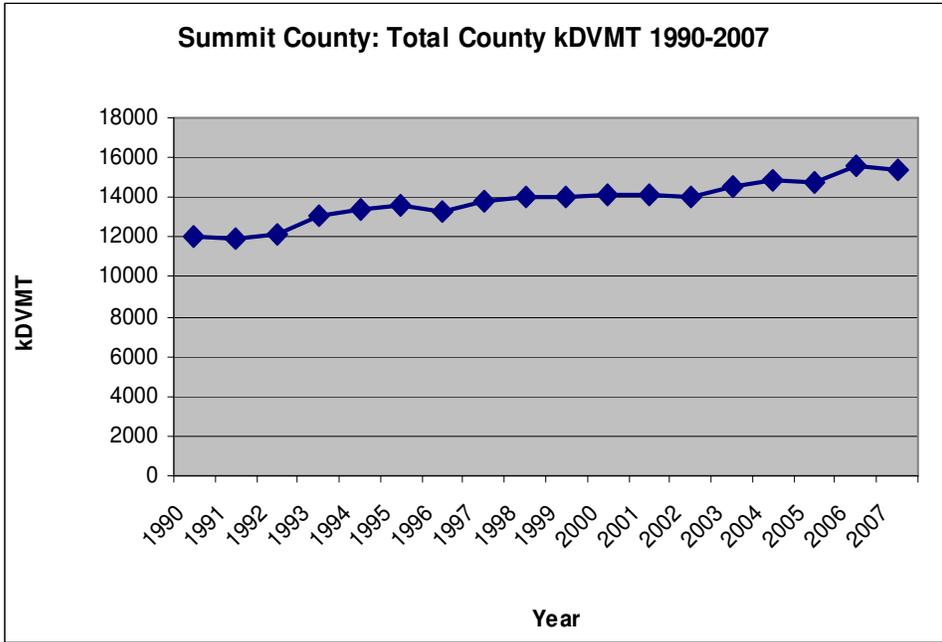
2007 = 4324.9



2005 = 4609.22

2006 = 4644.6

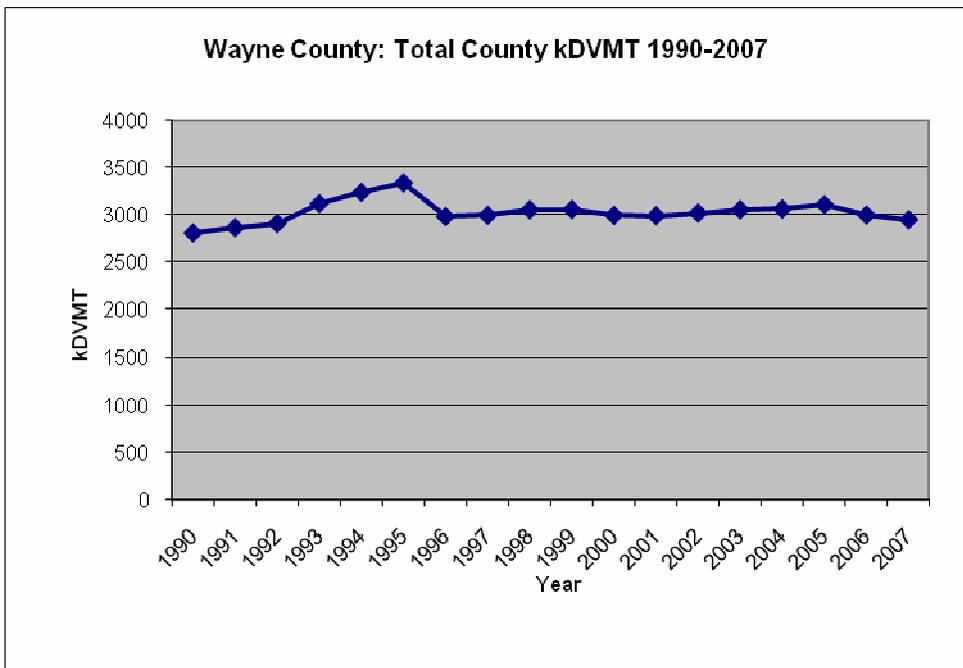
2007 = 4659.45



2005 = 14751.41

2006 = 15549.13

2007 = 15367.21



2005 = 3111.7

2006 = 3003.18

2007 = 2954.55

Commuter Patterns

Source: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau, 2000

Cuyahoga County receives the most of its work-commuters from Lorain, Lake, and Summit Counties, and the least from Wayne County. Portage and Cuyahoga Counties provide the most commuters to Summit County and Ashtabula has the least as shown in the tables below.

Ashtabula			Percent of workers that work outside the County		27.9%		
			Average commute time in minutes -		23.9		
Number of workers 16+ years of age living in Ashtabula County			45,689				
Number of workers 16+ years of age working in Ashtabula County			37,925				
Commute Out To		Number	Percent	Commute In From		Number	Percent
Lake Co. OH	5,775	12.6%	Lake Co. OH	1,200	3.2%		
Cuyahoga Co. OH	2,683	5.9%	Trumbull Co. OH	892	2.4%		
Geauga Co. OH	2,265	5.0%	Crawford Co. PA	644	1.7%		
Trumbull Co. OH	485	1.1%	Erie Co. PA	569	1.5%		
Erie Co. PA	412	0.9%	Cuyahoga Co. OH	397	1.0%		
Mahoning Co. OH	151	0.3%	Geauga Co. OH	257	0.7%		
Lorain Co. OH	134	0.3%	Summit Co. OH	196	0.5%		
Summit Co. OH	113	0.2%	Mercer Co. PA	146	0.4%		
Portage Co. OH	100	0.2%	Lorain Co. OH	138	0.4%		
Crawford Co. PA	91	0.2%	Portage Co. OH	127	0.3%		
Percent is of workers living in County.			Percent is of workers working in County.				
Cuyahoga			Percent of workers that work outside the County		9.1%		
			Average commute time in minutes -		24.4		
Number of workers 16+ years of age living in Cuyahoga County			622,876				
Number of workers 16+ years of age working in Cuyahoga County			748,630				
Commute Out To		Number	Percent	Commute In From		Number	Percent
Lake Co. OH	15,692	2.5%	Lorain Co. OH	36,888	4.9%		
Summit Co. OH	14,207	2.3%	Lake Co. OH	36,741	4.9%		
Lorain Co. OH	9,289	1.5%	Summit Co. OH	34,476	4.6%		
Medina Co. OH	4,795	0.8%	Medina Co. OH	26,572	3.5%		
Geauga Co. OH	2,973	0.5%	Geauga Co. OH	16,676	2.2%		
Portage Co. OH	2,632	0.4%	Portage Co. OH	11,934	1.6%		
Stark Co. OH	565	0.1%	Ashtabula Co. OH	2,683	0.4%		
Franklin Co. OH	524	0.1%	Stark Co. OH	2,443	0.3%		
Ashtabula Co. OH	397	0.1%	Trumbull Co. OH	1,976	0.3%		
Cook Co. IL	298	0.0%	Wayne Co. OH	1,193	0.2%		
Percent is of workers living in County.			Percent is of workers working in County.				
Geauga			Percent of workers that work outside the County		57.2%		
			Average commute time in minutes -		27.0		

Number of workers 16+ years of age living in Geauga County			Number of workers 16+ years of age working in Geauga County		
		44,499			34,417
Commute Out To	Number	Percent	Commute In From	Number	Percent
Cuyahoga Co. OH	16,676	37.5%	Trumbull Co. OH	3,900	11.3%
Lake Co. OH	5,276	11.9%	Lake Co. OH	3,147	9.1%
Summit Co. OH	1,130	2.5%	Cuyahoga Co. OH	2,973	8.6%
Portage Co. OH	1,002	2.3%	Ashtabula Co. OH	2,265	6.6%
Trumbull Co. OH	310	0.7%	Portage Co. OH	1,989	5.8%
Ashtabula Co. OH	257	0.6%	Summit Co. OH	563	1.6%
Mahoning Co. OH	105	0.2%	Mahoning Co. OH	107	0.3%
Stark Co. OH	82	0.2%	Lorain Co. OH	70	0.2%
Lorain Co. OH	68	0.2%	Mercer Co. PA	40	0.1%

Percent is of workers living in County. Percent is of workers working in County.

Lake	Percent of workers that work outside the County	37.6%
	Average commute time in minutes -	22.9

Number of workers 16+ years of age living in Lake County		
		116,830
Commute Out To	Number	Percent
Cuyahoga Co. OH	36,741	31.4%
Geauga Co. OH	3,147	2.7%
Ashtabula Co. OH	1,200	1.0%
Summit Co. OH	1,157	1.0%
Portage Co. OH	307	0.3%
Lorain Co. OH	277	0.2%
Trumbull Co. OH	119	0.1%
Stark Co. OH	108	0.1%
Medina Co. OH	65	0.1%

Percent is of workers living in County.

Number of workers 16+ years of age working in Lake County		
		102,913
Commute In From	Number	Percent
Cuyahoga Co. OH	15,692	15.2%
Ashtabula Co. OH	5,775	5.6%
Geauga Co. OH	5,276	5.1%
Summit Co. OH	1,148	1.1%
Portage Co. OH	436	0.4%
Lorain Co. OH	342	0.3%
Medina Co. OH	307	0.3%
Stark Co. OH	142	0.1%
Trumbull Co. OH	135	0.1%

Percent is of workers working in County.

Lorain	Percent of workers that work outside the County	33.2%
	Average commute time in minutes -	22.8

Number of workers 16+ years of age living in Lorain County.		
		132,895
Commute Out To	Number	Percent
Cuyahoga Co. OH	36,888	27.8%
Medina Co. OH	1,874	1.4%
Erie Co. OH	1,594	1.2%
Summit Co. OH	970	0.7%
Huron Co. OH	421	0.3%
Lake Co. OH	342	0.3%
Portage Co. OH	182	0.1%
Ashtabula Co. OH	138	0.1%
Franklin Co. OH	135	0.1%

Percent is of workers living in County.

Number of workers 16+ years of age working in Lorain County		
		108,001
Commute In From	Number	Percent
Cuyahoga Co. OH	9,289	8.6%
Erie Co. OH	3,923	3.6%
Huron Co. OH	1,501	1.4%
Medina Co. OH	1,418	1.3%
Ashland Co. OH	648	0.6%
Summit Co. OH	588	0.5%
Lake Co. OH	277	0.3%
Portage Co. OH	152	0.1%
Wayne Co. OH	145	0.1%

Percent is of workers working in County.

Medina	Percent of workers that work outside the County	53.4%
	Average commute time in minutes -	26.4

Number of workers 16+ years of age living in Medina County		
		76,548
Commute Out To	Number	Percent
Cuyahoga Co. OH	26,572	34.7%
Summit Co. OH	8,647	11.3%
Wayne Co. OH	1,726	2.3%
Lorain Co. OH	1,418	1.9%
Stark Co. OH	445	0.6%
Portage Co. OH	322	0.4%
Ashland Co. OH	307	0.4%
Lake Co. OH	307	0.4%
Richland Co. OH	148	0.2%

Percent is of workers living in County.

Number of workers 16+ years of age working in Medina County		
		55,311
Commute In From	Number	Percent
Summit Co. OH	5,248	9.5%
Cuyahoga Co. OH	4,795	8.7%
Wayne Co. OH	4,667	8.4%
Lorain Co. OH	1,874	3.4%
Stark Co. OH	770	1.4%
Ashland Co. OH	720	1.3%
Portage Co. OH	314	0.6%
Huron Co. OH	102	0.2%
Richland Co. OH	89	0.2%

Percent is of workers working in County.

Portage	Percent of workers that work outside the County	49.6%
	Average commute time in minutes -	25.1

Number of workers 16+ years of age living in Portage County		
		78,023
Commute Out To	Number	Percent
Summit Co. OH	19,049	24.4%
Cuyahoga Co. OH	11,934	15.3%
Geauga Co. OH	1,989	2.5%
Stark Co. OH	1,578	2.0%
Trumbull Co. OH	1,449	1.9%
Mahoning Co. OH	603	0.8%
Lake Co. OH	436	0.6%
Medina Co. OH	314	0.4%
Columbiana Co. OH	182	0.2%
Lorain Co. OH	152	0.2%

Percent is of workers living in County.

Number of workers 16+ years of age working in Portage County		
		60,123
Commute In From	Number	Percent
Summit Co. OH	9,702	16.1%
Cuyahoga Co. OH	2,632	4.4%
Stark Co. OH	2,256	3.8%
Trumbull Co. OH	1,863	3.1%
Mahoning Co. OH	1,171	1.9%
Geauga Co. OH	1,002	1.7%
Medina Co. OH	322	0.5%
Columbiana Co. OH	316	0.5%
Lake Co. OH	307	0.5%
Lorain Co. OH	182	0.3%

Percent is of workers working in County.

Summit	Percent of workers that work outside the County	25.0%
	Average commute time in minutes -	22.4

Number of workers 16+ years of age living in Summit County		
		258,414
Commute Out To	Number	Percent
Cuyahoga Co. OH	34,476	13.3%
Portage Co. OH	9,702	3.8%
Stark Co. OH	7,665	3.0%
Medina Co. OH	5,248	2.0%
Lake Co. OH	1,148	0.4%
Wayne Co. OH	1,095	0.4%
Lorain Co. OH	588	0.2%
Geauga Co. OH	563	0.2%
Mahoning Co. OH	460	0.2%

Percent is of workers living in County.

Number of workers 16+ years of age working in Summit County		
		270,431
Commute In From	Number	Percent
Stark Co. OH	21,094	7.8%
Portage Co. OH	19,049	7.0%
Cuyahoga Co. OH	14,207	5.3%
Medina Co. OH	8,647	3.2%
Wayne Co. OH	3,948	1.5%
Lake Co. OH	1,157	0.4%
Geauga Co. OH	1,130	0.4%
Mahoning Co. OH	1,096	0.4%
Trumbull Co. OH	1,038	0.4%

Percent is of workers working in County.

Wayne	Percent of workers that work outside the County		27.1%
	Average commute time in minutes -		19.4
Number of workers 16+ years of age living in Wayne County			54,487
Commute Out To	Number	Percent	
Medina Co. OH	4,667	8.6%	
Summit Co. OH	3,948	7.2%	
Stark Co. OH	1,672	3.1%	
Holmes Co. OH	1,247	2.3%	
Cuyahoga Co. OH	1,193	2.2%	
Ashland Co. OH	565	1.0%	
Richland Co. OH	297	0.5%	
Lorain Co. OH	145	0.3%	
Tuscarawas Co. OH	125	0.2%	
Percent is of workers living in County.			
Number of workers 16+ years of age working in Wayne County			52,259
Commute In From	Number	Percent	
Stark Co. OH	3,026	5.8%	
Holmes Co. OH	2,411	4.6%	
Medina Co. OH	1,726	3.3%	
Ashland Co. OH	1,712	3.3%	
Summit Co. OH	1,095	2.1%	
Tuscarawas Co. OH	688	1.3%	
Richland Co. OH	443	0.8%	
Coshocton Co. OH	178	0.3%	
Cuyahoga Co. OH	163	0.3%	
Percent is of workers working in County.			

Factor 5: Meteorology

Please refer to Appendix E for applicable meteorology information for the Cleveland-Akron area.

Factor 6: Topography/Land use/Land cover

Cuyahoga County is one of the most highly urbanized Counties in Ohio. It is located within two physiographic Provinces: the glaciated Allegheny Plateau of the Appalachian Plateaus Province on the south and east and the Huron-Erie Lake Plains and Till Plains sections of the Central Lowland Province on the west and north (see Appendix F). The shore of Lake Erie is 569 feet above sea level. The City of Cleveland lies on a series of irregular bluffs lying roughly parallel to the lake. The land rises quickly from the lakeshore with an elevation of 791 feet above sea level at the Hopkins Airport five miles inland from the lake.

Lorain County is located on the eastern fringe of the till plain area of the Great Central Lowlands. The topography is generally flat to gently rolling. Exceptions to the nearly flat topography are the gorges of the Black River near Elyria and the Vermillion River at Mill Hollow.

Medina County includes parts of two physiographic Provinces: the Great Central Lowlands and the glaciated part of the Appalachian Plateau, each making up about half the County. The topography is generally level to sloping along stream valleys. The elevation ranges from 765 to 1,325 feet above sea level.

Summit County lies entirely within the glaciated Allegheny Plateau region. In the southern portion of the County, the topography is made up of a series of glacial till-covered plateaus and outwash-filled valleys. Elevations of the plateau are between 1,100 and 1,200 feet above sea level and the valleys are about 950 to

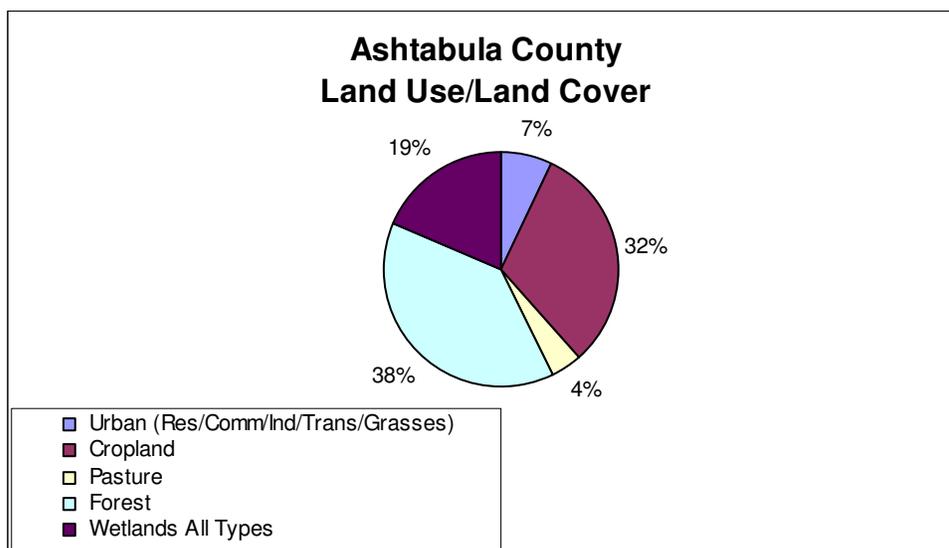
1,000 feet. The northern portion of the County has greater elevation because the old valley fill has been dissected by the Cuyahoga River and its tributaries. The highest point in Summit County is 1,320 feet near West Richfield. The lowest point is about eight miles away, along the Cuyahoga River where the river leaves the County.

Portage County is located in the northwestern part of the glaciated Allegheny Plateau and lies on the divide between the Lake Erie and the Ohio River basins. The relief of the County is generally level with gently rolling plateaus. Elevation ranges from 910 feet to 1,340.

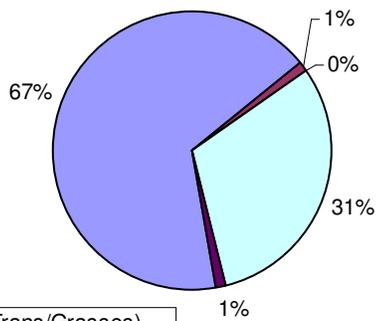
Geauga County is part of the Appalachian Plateau region. The relief of the County is primarily gently sloping and steeper slopes along streams. The lowest elevation is 770 feet along the Chagrin River at the Geauga-Lake County line, and the highest elevation is 1,396 feet at Sugarloaf Mountain in the south-central part of the County.

Ashtabula County is in two contrasting major physiographic Provinces. The northern part of the County is in the Eastern Lake Section of the Central Lowland Province while the southern part of the County is in the Southern New York Section of the Appalachian Plateau Province. The relief of the County is primarily level and gently undulating in the northern, western and south central parts of the County. Elevation ranges from 572 feet to 1,100 feet above sea level, with steep areas along the streams.

As shown in the following pie charts, the land use/land cover in Cuyahoga and Summit Counties, as expected is predominately residential, commercial and industrial. However, both have fairly large percentages of forest areas like Portage, Lake and Ashtabula Counties. Lorain County has the largest percentage of cropland with Ashtabula and Portage coming in a close second and third.

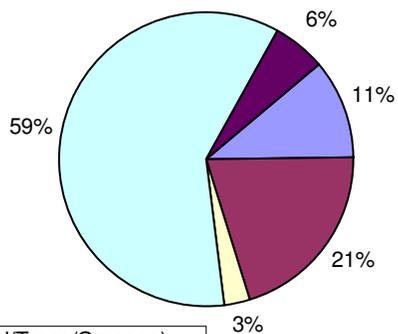


Cuyahoga County Land Use/Land Cover



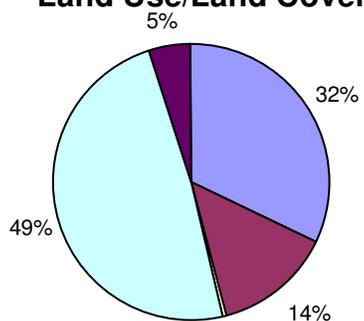
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Geauga County Land Use/Land Cover



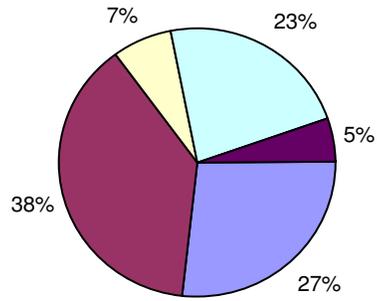
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Lake County Land Use/Land Cover



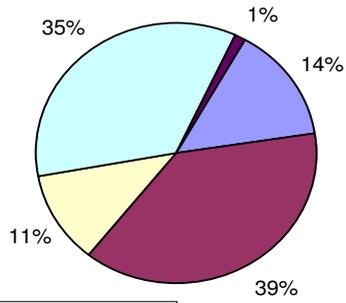
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Lorain County Land Use/Land Cover



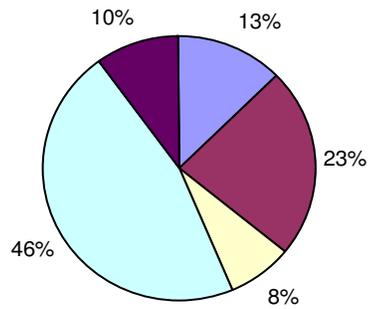
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Medina County Land Use/Land Cover

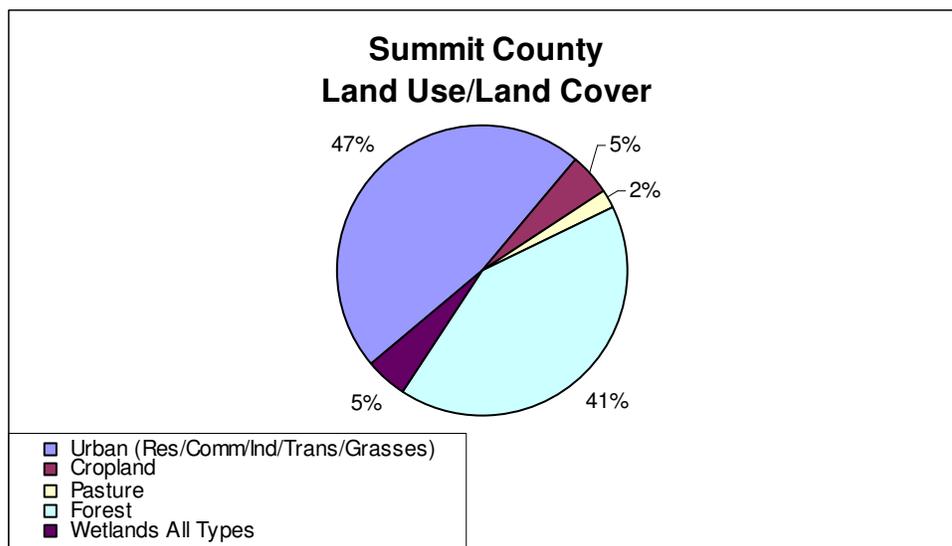


- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Portage County Land Use/Land Cover



- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types



Factor 7: Jurisdictional boundaries

The Cleveland-Elyria-Mentor, OH MSA includes Cuyahoga, Geauga, Lake, Lorain and Medina Counties in Ohio. The principal cities are Cleveland, Elyria and Mentor. The CSA also includes Ashtabula, Portage and Summit Counties.

The Northeast Ohio Areawide coordinating Agency (NOACA) is the planning agency designated as the Metropolitan Planning Organization for the greater Cleveland area. The NOACA region is composed of five Counties: Cuyahoga, Geauga, Lake, Lorain, and Medina.

The Akron Metropolitan Area Transportation Study (AMATS) is the planning agency designated as the MPO for the Akron area. The AMATS region is composed of two Counties: Summit and Portage.

Factor 8: Level of control of emission sources

Please refer to the factor 8 general discussion at the beginning of this document for applicable control information for this area.

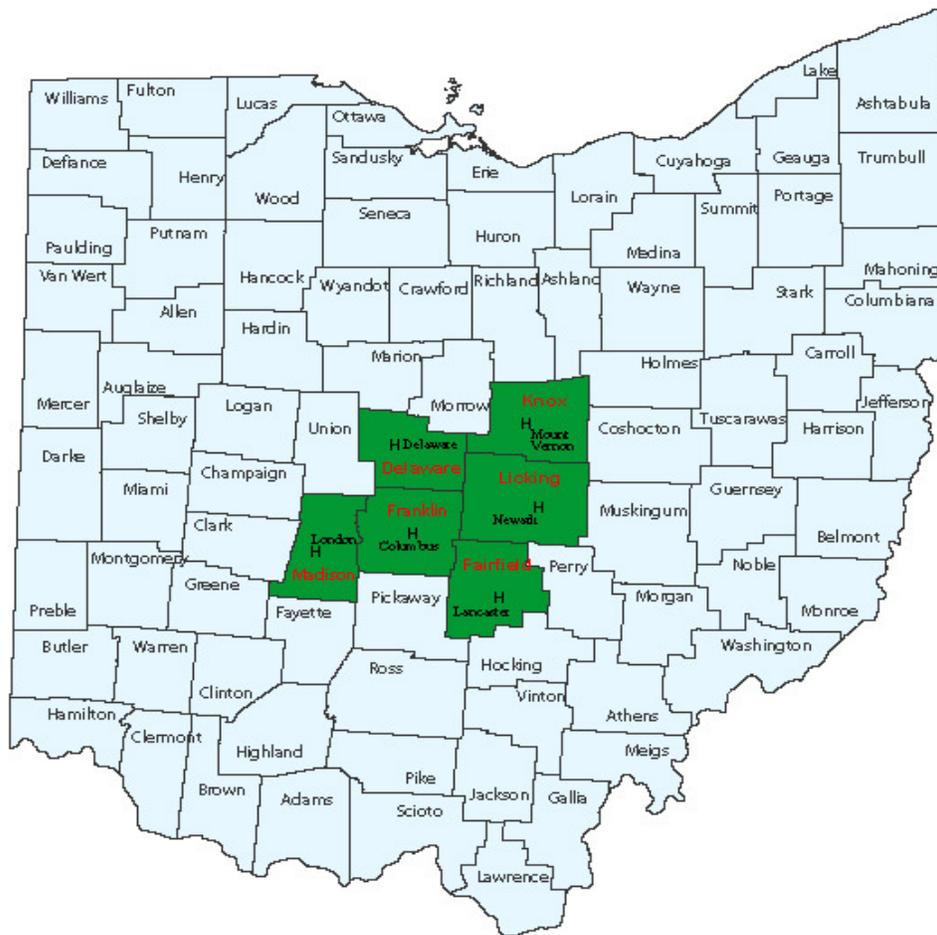
Columbus, OH

Current County nonattainment: Delaware, Fairfield, Franklin, Knox, Licking, and Madison

Current nonattainment Counties

Recommended County nonattainment: Delaware, Fairfield, Franklin, Knox, Licking, and Madison

 Recommended nonattainment Counties



Discussion

There are six Counties in the existing ozone nonattainment area: Delaware, Fairfield, Franklin, Knox, Licking, and Madison. Based on 2005-2007 emissions data, the area is now in attainment with the 1997 standard and Ohio EPA is preparing a redesignation request. With respect to the new ozone standard, Ohio EPA recommends designating the six Counties as nonattainment for the Columbus area; Delaware, Franklin, Knox, and Madison Counties have violating monitors. The Counties of Fayette, Greene, Clarke, Champaign, Union, Marion, Morrow, Richland, Ashland, Holmes, Coshocton, Muskingum, Perry, Hocking, and Pickaway are adjacent to this nonattainment area. Union, Marion, Morrow and Pickaway Counties are discussed under this section. Greene, Clarke and Champaign Counties are discussed in the Dayton-Springfield section. The remaining adjacent Counties, Richland, Ashland, Holmes, Coshocton, Muskingum, Perry, and Hocking, are not a part of the MSA or CSA, and are excluded due to low emissions and low population. Although Richland County's 2007 population is 113,554, it is largely agricultural/forested and workers that commute primarily commute to Crawford, Huron, and Ashland Counties. Although Coshocton County has 2005 NO_x emissions of 64.93 tons per day, projections show emissions are decreasing significantly (2009, 15.72 tons per day). This is due to a power plant where projected emissions are anticipated to significantly decrease due to CAIR.

The three-year average of the annual fourth-highest daily maximum eight-hour average concentrations are not meeting the revised standard at two of the four monitors in Franklin County, and at the Delaware, Knox, and Madison County monitors. The emissions of VOC and NO_x in Franklin County are much larger than any of the other Counties.

Although Morrow, Pickaway (up-wind), and Union Counties are part of the MSA, Ohio EPA is recommending to exclude these Counties. These Counties have small 2007 populations ranging from 24,520 to 53,809. The 2030 population growth projections for all of these Counties are minimal, with the exception of Union County (projected to increase from 47,239 in 2007 to 85,190 in 2030). Very little commuting is occurring between these Counties and the existing nonattainment Counties: 0.9% of Fairfield County workers, 1.5% of Franklin County workers and 3.0% of Madison County workers commute from Pickaway County; 0.5% of Franklin County workers, 2.0% of Knox County workers and 4.6% of Delaware County workers commute from Morrow County; and 0.8% of Franklin County workers, 2.0% of Delaware County workers and 3.3% of Madison County workers commute from Union County. Lastly, VOC and NO_x emissions from all of these Counties are small, and emission projections between 2005 and 2009 all show declines.

Although Fayette (up-wind), Ross (up-wind), and Marion Counties are part of the CSA but not the MSA, Ohio EPA is recommending to exclude these Counties. The relatively small 2007 populations of the other CSA Counties, which are more outlying, range from 28,308 to 75,398. The 2030 population growth projections for these Counties are minimal. For the CSAs, coupled with the relatively low population, is the fact that very little commuting is occurring between these

Counties and the existing nonattainment Counties: 4.3% of Madison County workers commute from Fayette County; 0.5% of Fairfield County workers and 0.4% of Franklin County workers commute from Ross County; and 3.7% of Delaware County workers commute from Marion County.

For all MSA and CSA Counties adjacent to the existing nonattainment Counties, VOC and NOx emissions are small, and emission projections between 2005 and 2009 all show declines. Lastly, for all Counties in this CSA, kDMVT over the past few years has remained constant with only Madison County showing a slight increase between 2006 and 2007.

Factor 1: Air quality data

 = Exceeds standard

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4
39-041-0002 Columbus Delaware Co.	2006	86	84	76	75
	2007	87	83	81	80
	2008	80	76	75	75
	Avg				76.7

39-049-0028 Columbus Franklin Co.	2006	86	80	76	76
	2007	85	82	81	78
	2008	78	70	69	69
	Avg				74.3

39-049-0029 Columbus Franklin Co.	2006	87	85	85	82
	2007	94	88	88	87
	2008	95	85	83	83
	Avg				84.0

39-049-0037 Columbus Franklin Co.	2006	86	84	80	79
	2007	89	81	81	79
	2008	87	81	72	71
	Avg				76.3

39-049-0081 Columbus Franklin Co.	2006	85	84	80	77
	2007	86	83	80	79
	2008	88	73	66	66
	Avg				74.0

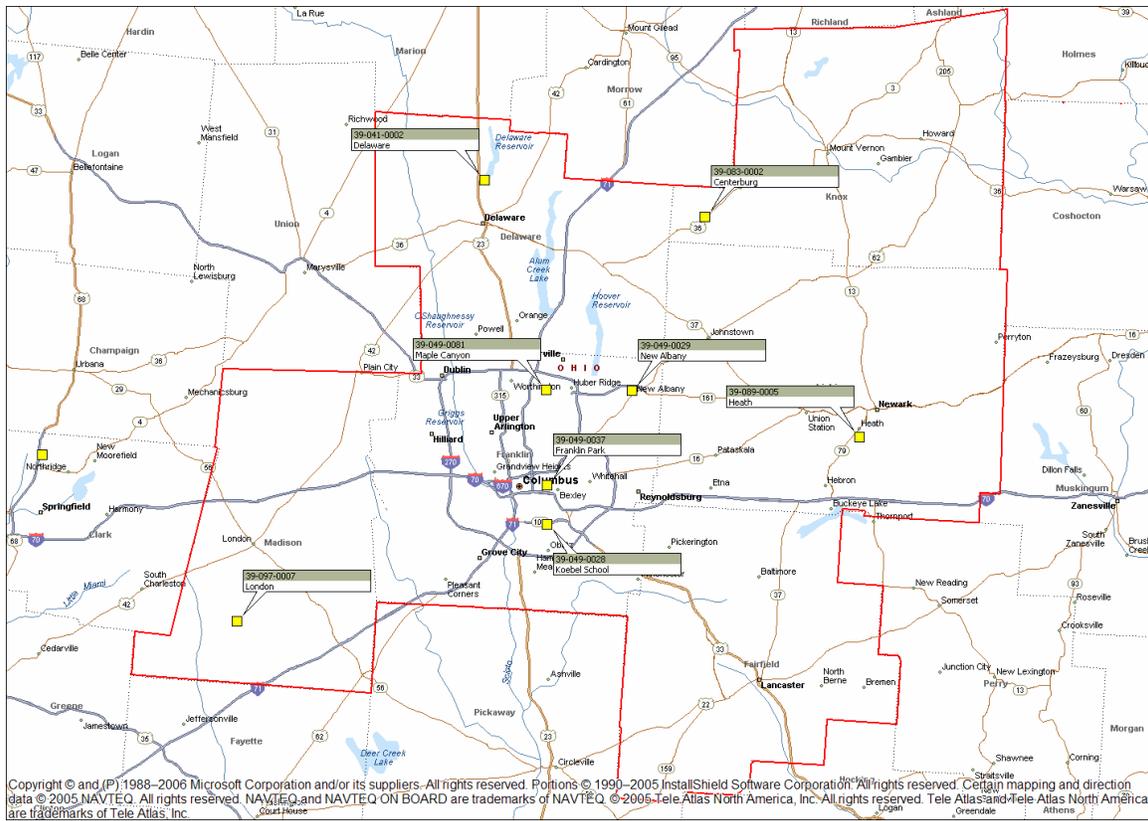
39-083-0002 Columbus Knox Co.	2006	85	82	76	75
	2007	88	82	82	80
	2008	77	75	75	74
	Avg				76.3

39-089-0005 Columbus Licking Co.	2006	82	77	74	72
	2007	85	82	81	78
	2008	78	76	75	74
	Avg				74.7

39-097-0007 Columbus Madison Co.	2006	84	81	79	76
	2007	91	86	84	83
	2008	77	75	73	71
	Avg				76.7

Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

Columbus Ozone Monitor Locations and Site ID Numbers



Factor 2: Emission data
(tons per day)

2005		
County	VOC	NO_x
FRANKLIN	124.11	133.86
DELAWARE	18.19	22.63
KNOX	7.38	5.65
MADISON	7.79	9.53
FAIRFIELD	14.40	16.78
LICKING	19.71	22.03
Morrow	6.92	7.64
Marion	11.07	12.41
Union	15.91	8.96
Fayette	6.25	6.85
Pickaway	9.51	12.33
Ross	13.07	20.13

2009		
County	VOC	NO_x
FRANKLIN	87.60	101.90
DELAWARE	14.55	17.30
KNOX	6.45	4.56
MADISON	6.06	7.93
FAIRFIELD	10.83	13.61
LICKING	15.95	18.33
Morrow	5.76	6.26
Marion	9.39	9.77
Union	16.14	7.22
Fayette	5.07	5.64
Pickaway	8.10	10.36
Ross	11.96	18.08

Major Employers

Source: Ohio Department of Development 2007

Most of the major employers in the Columbus area are in the categories of manufacturing, government, service and trade as shown below.

Delaware County

Delaware City Bd of Ed	Government
JP Morgan Chase & Co	Finance
Kroger Co	Trade
McGraw Hill Companies	Manufacturing
Ohio Wesleyan University	Service
OhioHealth/Grady Memorial Hospital	Service
Olentangy Local Bd of Ed	Government

PPG Industries Inc	Manufacturing
Showa Corp/American Showa Inc	Manufacturing
State of Ohio	Government

Fairfield County

Anchor Hocking Corp	Manufacturing
Cyril-Scott Co	Manufacturing
Fairfield Medical Center	Service
Kroger Co	Trade
Lancaster City Bd of Ed	Government
McDermott Int'l/Diamond Power	Manufacturing
Meijer Inc	Trade
Pickerington Local Bd of Ed	Government
Ralcorp/Ralston Foods	Manufacturing
State of Ohio	Government

Fayette County

Fayette County Memorial Hospital	Service
McKesson Corp	Trade
Miami Trace Local Bd of Ed	Government
Saint-Gobain/Calmar Inc	Manufacturing
Sugar Creek Packing Co	Manufacturing
Wal-Mart Stores Inc	Trade
Washington CH City Bd of Ed	Government
Yamashita Rubber/YUSA Corp	Manufacturing

Franklin County

Abbott Laboratories/Ross Products	Manufacturing
American Electric Power Co	Utility
Battelle Memorial Institute	R&D
Cardinal Health Inc	Trade
Huntington Bancshares Inc	Finance
JP Morgan Chase & Co	Finance
Limited Brands Inc	Trade
National City Corp	Finance
Nationwide Mutual Insurance Co	Insurance
Ohio State University	Government
OhioHealth	Service
Schottenstein Stores Corp	Trade
State of Ohio	Government
Wendy's International Inc	Trade

Knox County

Ariel Ltd	Manufacturing
JELD-WEN Inc	Manufacturing
Kenyon College	Service
Knox Community Hospital	Service
Kokosing Construction Co	Construction
Mount Vernon Nazarene University	Service
Mt Vernon City Bd of Ed	Government
Rolls-Royce plc	Manufacturing
State of Ohio	Government
TRW Automotive Holdings	Manufacturing

Licking County

Anomatic Corp	Manufacturing
ArvinMeritor Inc	Manufacturing
Boeing Co	Service
Denison University	Service
Kroger Co	Trade
Licking Memorial Health Systems	Service
Newark City Bd of Ed	Government
Owens-Corning	Manufacturing
State Farm Mutual Automobile Ins Co	Insurance

Madison County

Battelle Memorial Institute	R&D
Kikuchi Metal et al/Jefferson Industries	Manufacturing
London City Bd of Ed	Government
Madison County Hospital	Service
Nissen Chemitec/London Industries	Manufacturing
Showa Demko KK/Showa Aluminum Corp	Manufacturing
Stanley Electric U S Co Inc	Manufacturing
Staples Inc	Trade
State of Ohio	Government
Target Corp	Trade

Marion County

Andersen Corp/Silver Line	Manufacturing
Marion City Bd of Ed	Government
Marion County Government	Government
Marion General Hospital Inc	Service
Meijer Inc	Trade
Nucor Corp	Manufacturing
Smith Clinic	Service
State of Ohio	Government
Verizon Communications Inc	Utility
Whirlpool Corp	Manufacturing
Wyandot Inc	Manufacturing

Morrow County

Berkshire Hathaway/Scott Fetzer/Stahl	Manufacturing
Cardington-Lincoln Local Bd of Ed	Government
Core Systems LLC	Manufacturing
Highland Local Bd of Ed	Government
Kroger Co	Trade
Morrow County Hospital	Service
Mt Gilead Exempted Village Bd of Ed	Government
Northmor Local Bd of Ed	Government
Taylor's Industrial Services/HPM	Manufacturing
Yutaka Giken/Cardington Yutaka Corp	Manufacturing

Pickaway County

ALSCO Metals Corp	Manufacturing
Berger Health System	Service
Circleville City Bd of Ed	Government
E I du Pont de Nemours & Co	Manufacturing

General Electric Co	Manufacturing
Logan Elm Local Bd of Ed	Government
PPG Industries Inc	Manufacturing
State of Ohio	Government
Teays Valley Local Bd of Ed	Government
Wal-Mart Stores Inc	Trade

Ross County

Adena Regional Health system	Service
Chillicothe City Bd of Ed	Government
Commercial Vehicle Grp/Trim Systems	Manufacturing
Horizon Telcom Inc	Utility
PACCAR/Kenworth Truck Co	Manufacturing
PH Glatfelter Co	Manufacturing
Ross County Government	Government
State of Ohio	Government
US Fed Government/Veterans Admin	Government
Wal-Mart Stores Inc	Trade
Yanagawa Seiki/YSK Corp	Manufacturing

Union County

EDP Inc/Goodyear Tire & Rubber Co	Manufacturing
Honda Motor Co Ltd	Manufacturing
Marysville Exempted Village Bd of Ed	Government
Memorial Hospital of Union County	Service
Nestle R&D	R&D
Parker Hannifin Corp	Manufacturing
Scotts Miracle-Gro Co	Manufacturing
State of Ohio	Government
Union County Government	Government

Factor 3: Population and Projected Growth

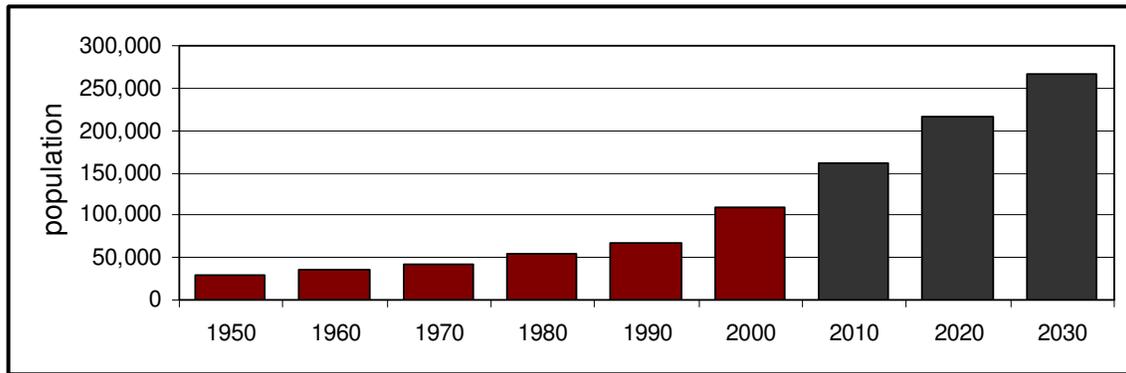
Sources: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau Population Estimates Program 2007

The largest populated places in the Columbus area are: the greater Columbus area in Franklin County; Delaware, Powell and Sunbury in Delaware County; Lancaster, Canal Winchester, and Pickerington in Fairfield County; and Newark, Pataskala, Heath, and Hebron in Licking County.

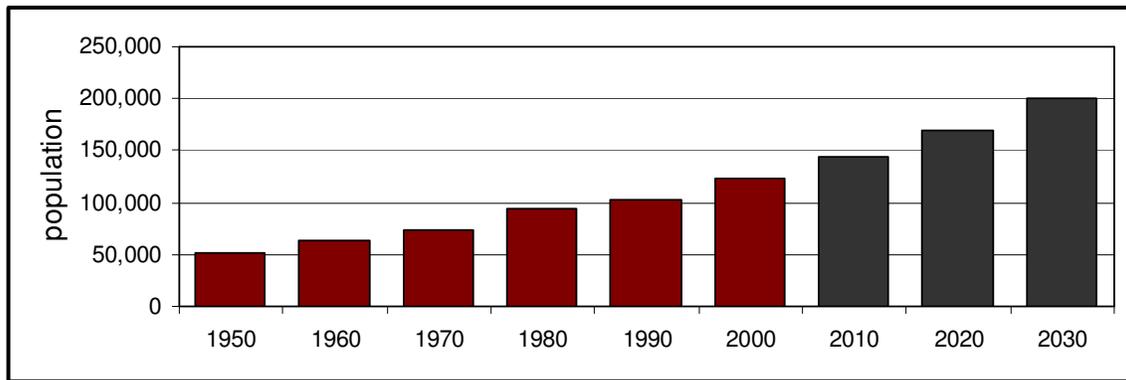
As expected, Franklin County has the highest population in this area. All of the surrounding Counties are projected to experience an upward trend in population as shown in the table below.

COUNTY	2004	2005	2006	2007	2010	2020	2030
Delaware	142,849	150,496	156,697	160,865	161,730	215,480	266,200
Fairfield	135,857	138,403	140,591	141,318	143,860	169,540	201,010
Franklin	1,086,152	1,089,365	1,095,662	1,118,107	1,155,910	1,238,250	1,326,180
Licking	152,699	154,683	156,287	156,985	161,280	179,050	198,760
Knox	57,676	58,207	58,561	58,961	60,600	65,940	69,890
Morrow	34,080	34,309	34,529	34,520	34,410	36,890	38,650
Marion	66,031	65,834	65,583	65,248	66,210	67,190	68,200
Union	44,689	45,600	46,702	47,234	50,740	64,570	85,190
Madison	40,927	41,220	41,496	41,499	43,130	45,190	46,520
Fayette	28,044	28,193	28,305	28,308	28,680	29,570	30,290
Pickaway	52,010	52,837	53,606	53,809	55,680	58,200	59,980
Ross	74,749	75,135	75,556	75,398	78,380	82,930	87,430

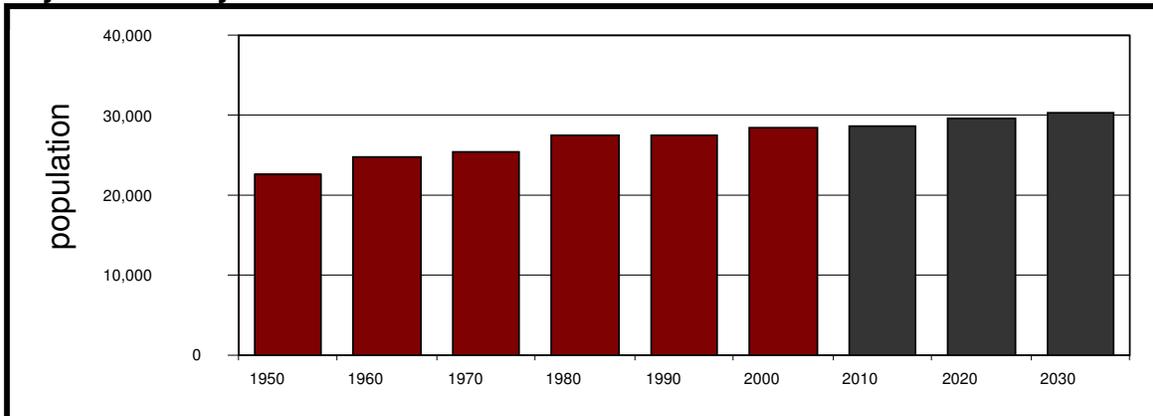
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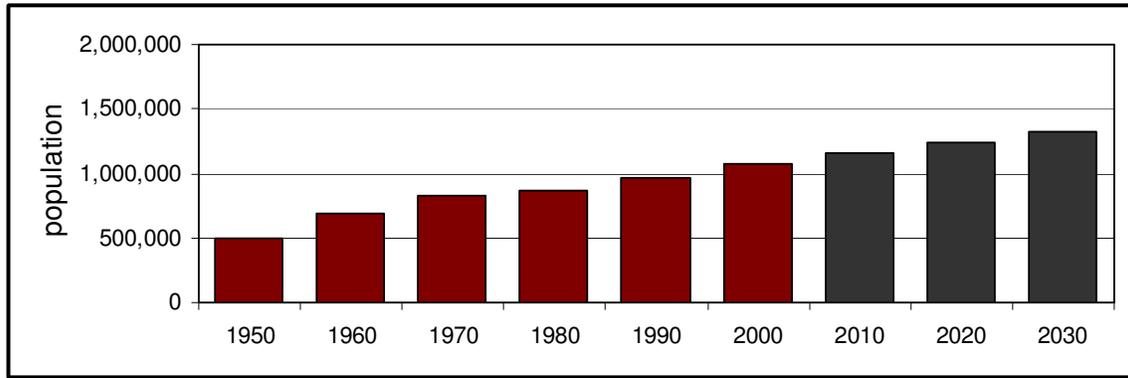
Fairfield County



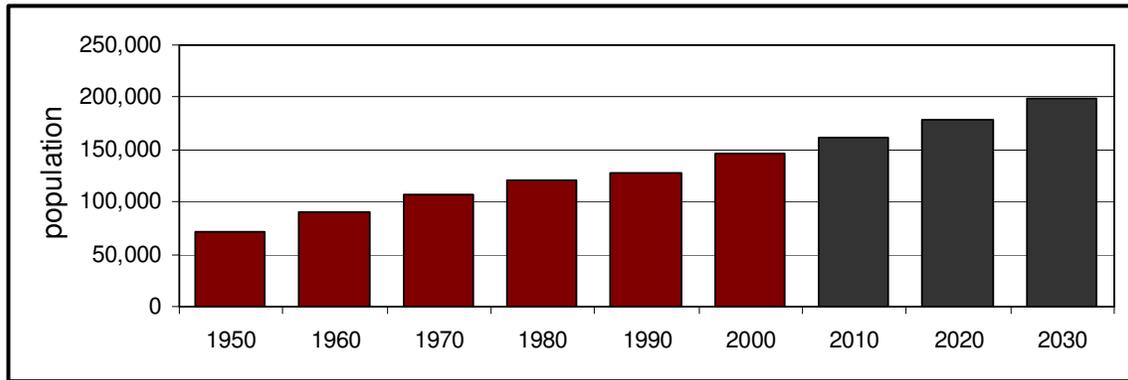
Fayette County



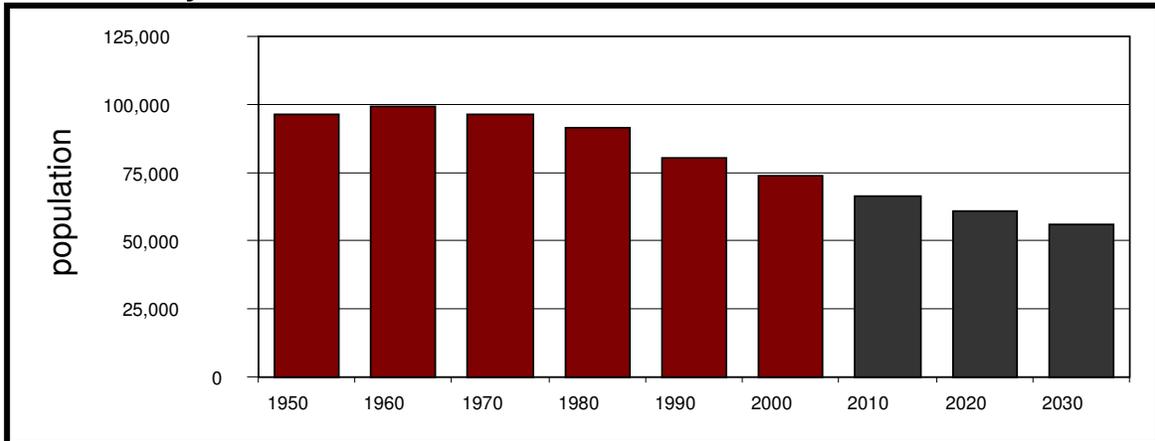
Franklin County



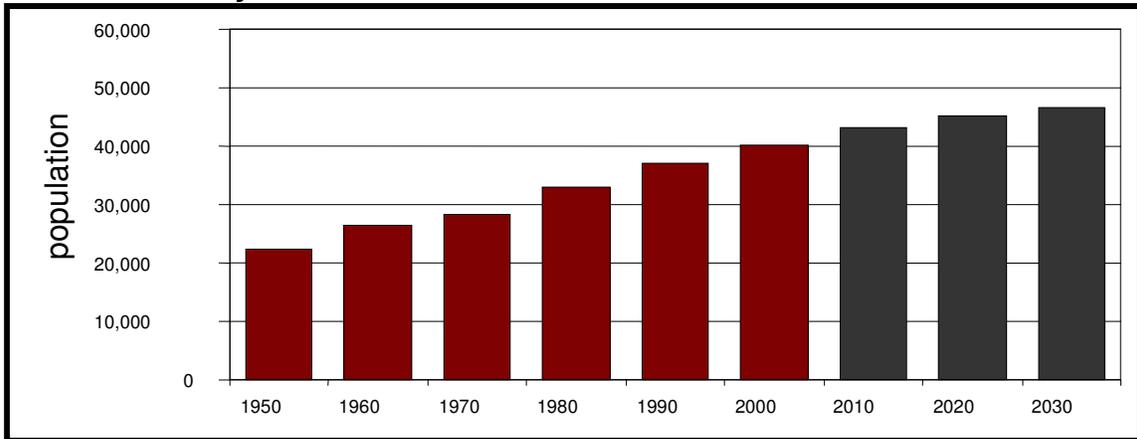
Licking County



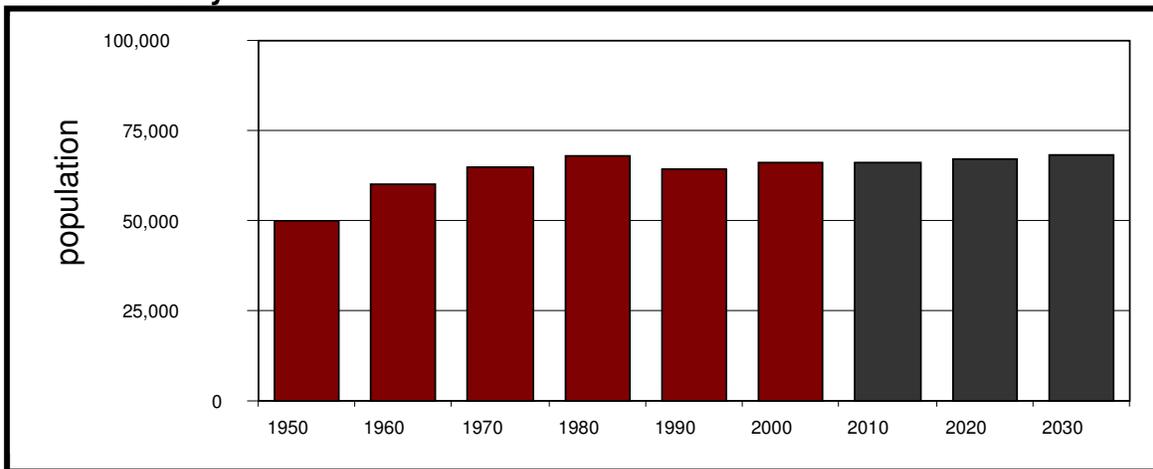
Knox County



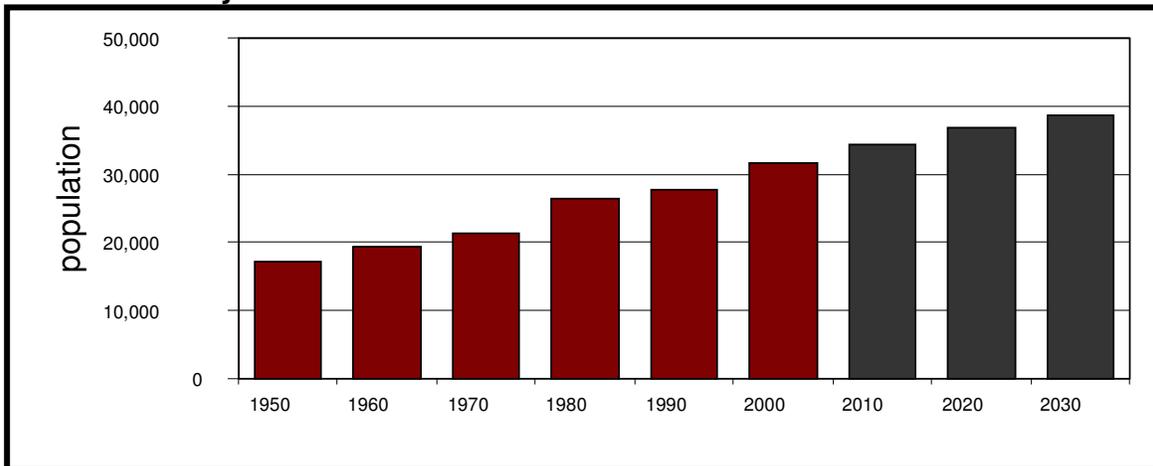
Madison County



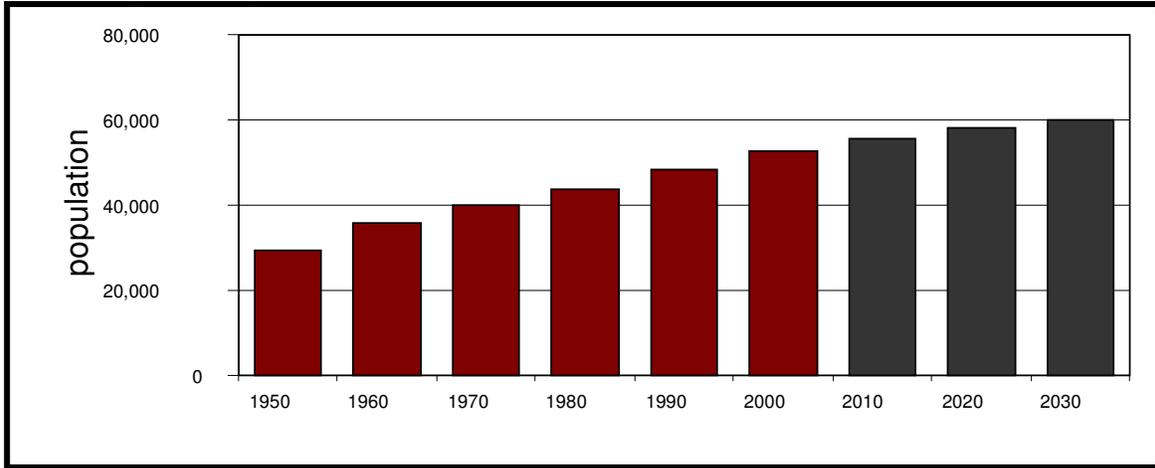
Marion County



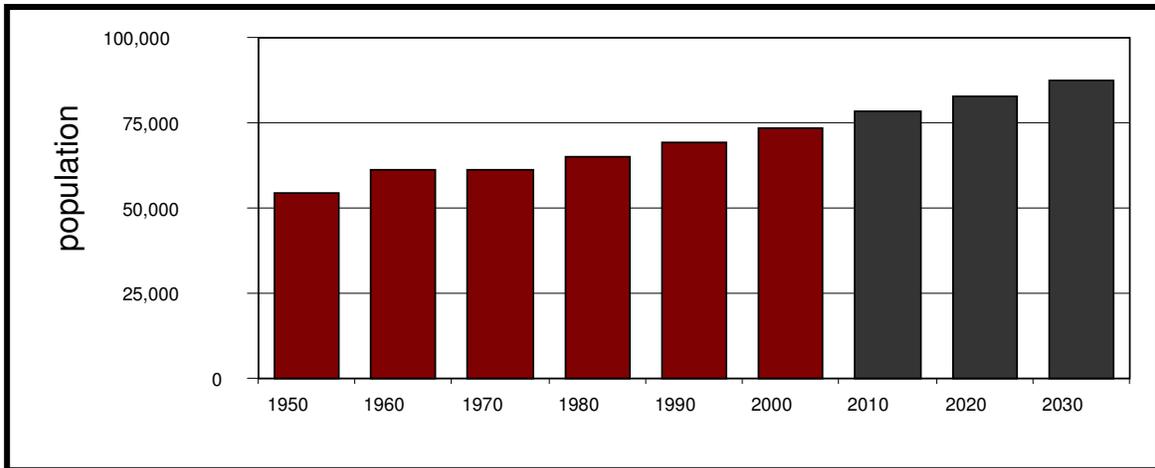
Morrow County



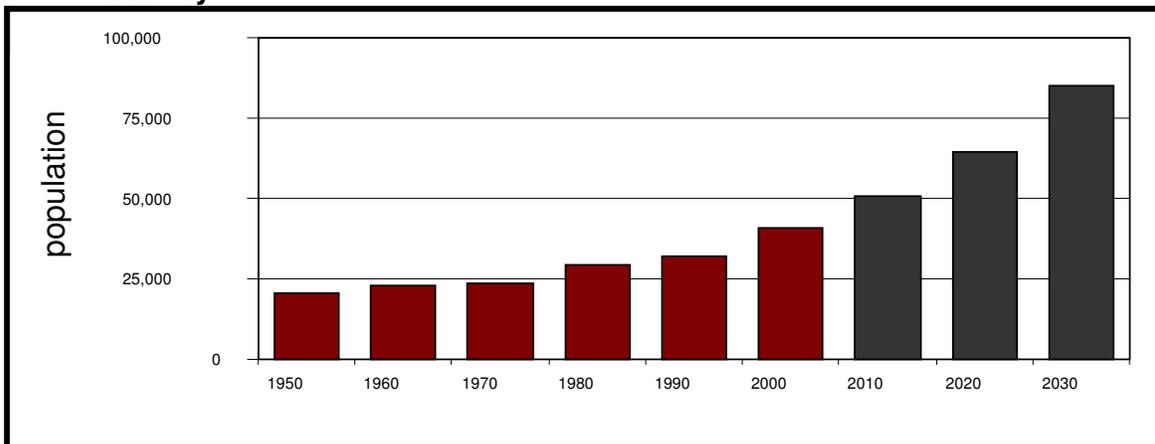
Pickaway County



Ross



Union County



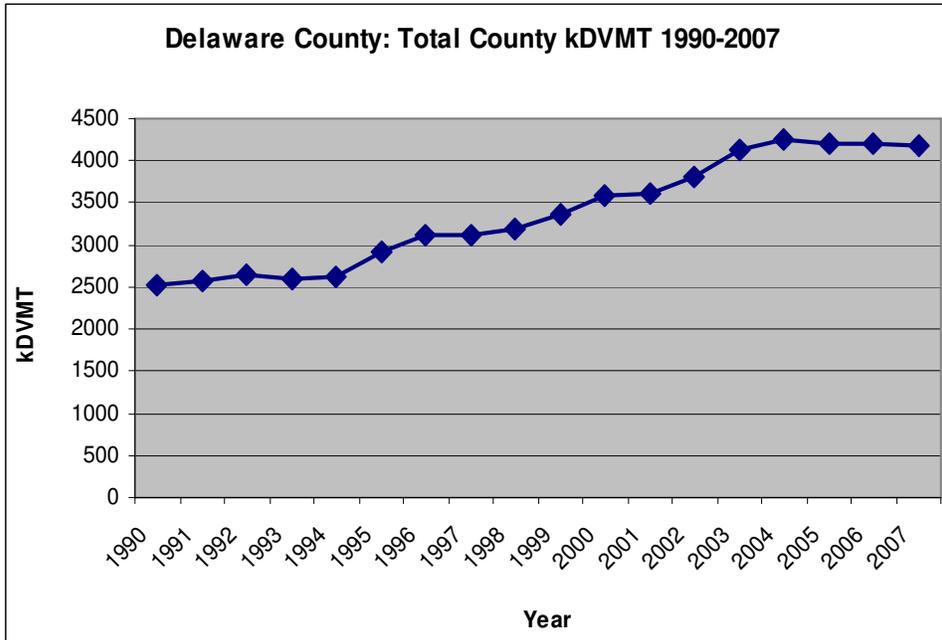
Factor 4: Traffic and commuting patterns

The kDVMT between 2005 and 2007 in the Columbus area have remained fairly constant as shown in the graphs below. Franklin County has the highest level of

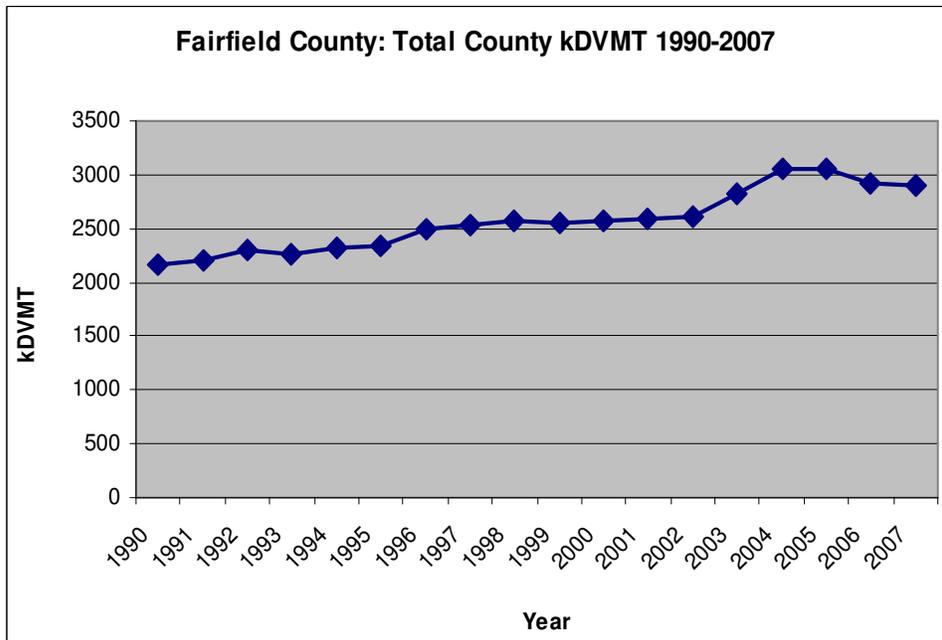
kDVMT and Knox has the lowest. Madison County was the only County in this area to have an increase in kDMVT between 2006 and 2007.

Estimated Daily Vehicle Miles Traveled (kDVMT = in thousands)

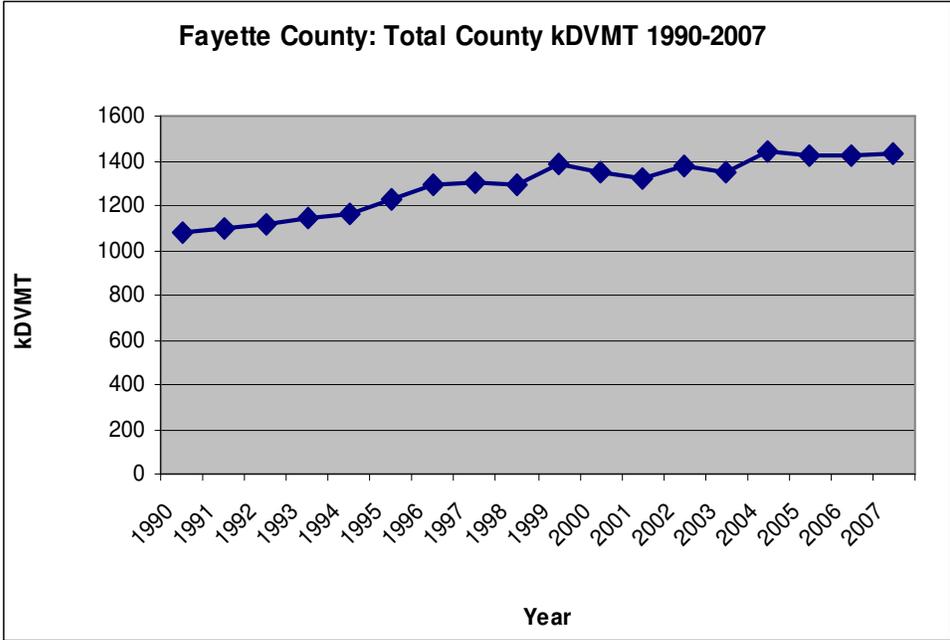
Source: Ohio Department of Transportation, Office of Technical Services



2005 = 4211.03 2006 = 4207.91 2007 = 4175.9



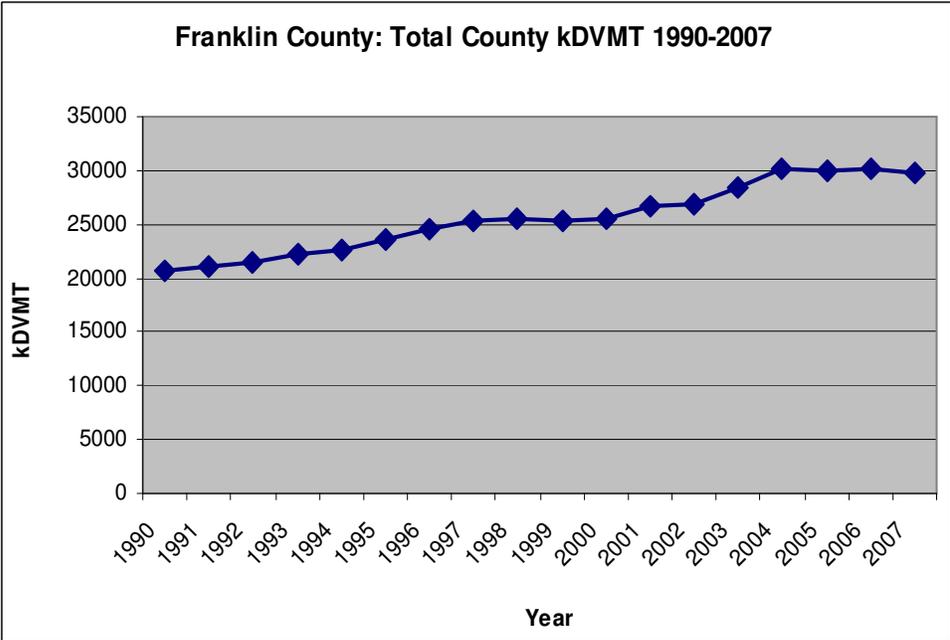
2005 = 3060.66 2006 = 2916.9 2007 = 2899.88



2005 = 1421.65

2006 = 1419.55

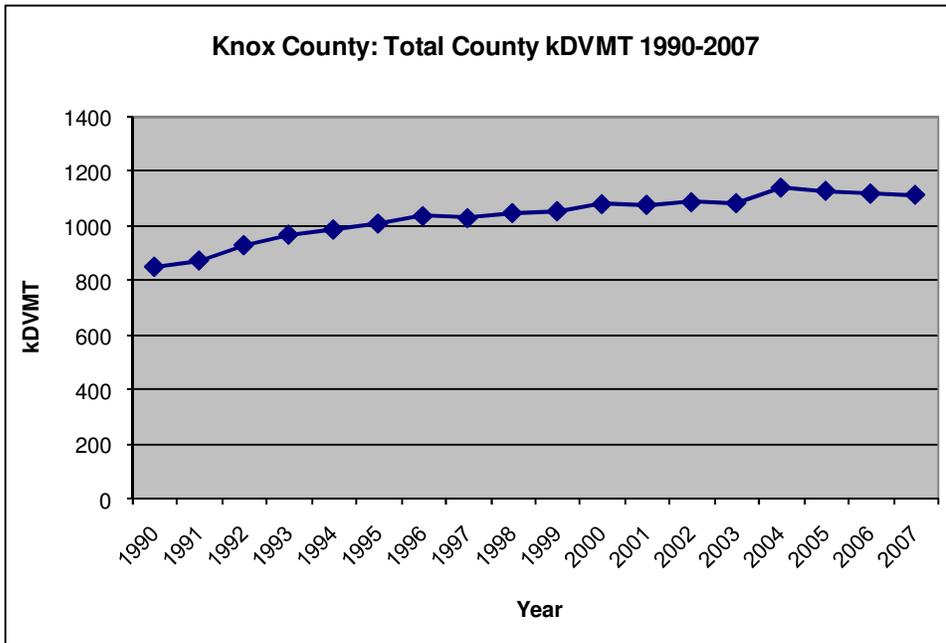
2007 = 1432.57



2005 = 1421.65

2006 = 1419.55

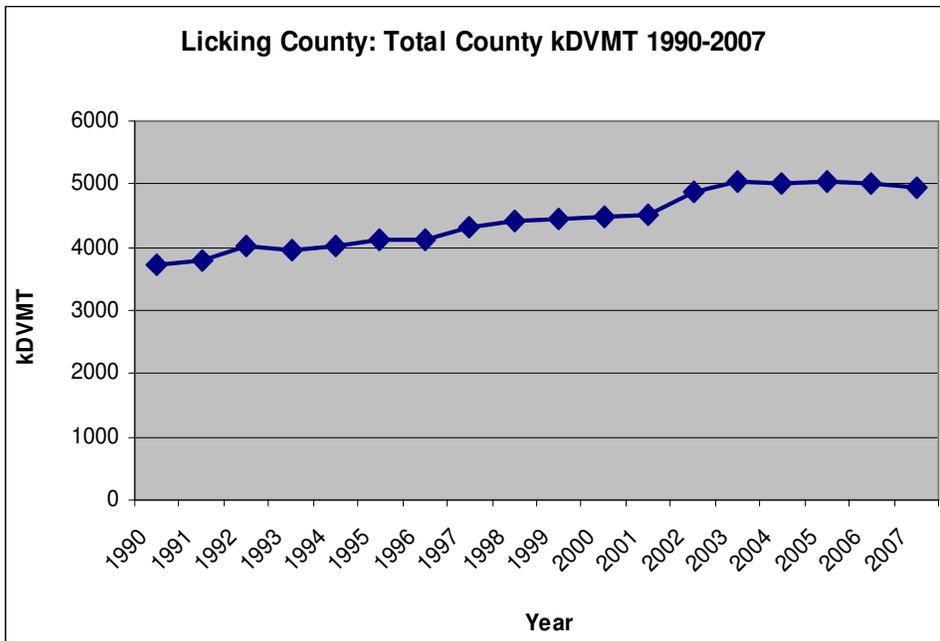
2007 = 1432.57



2005 = 1133.74

2006 = 1123.68

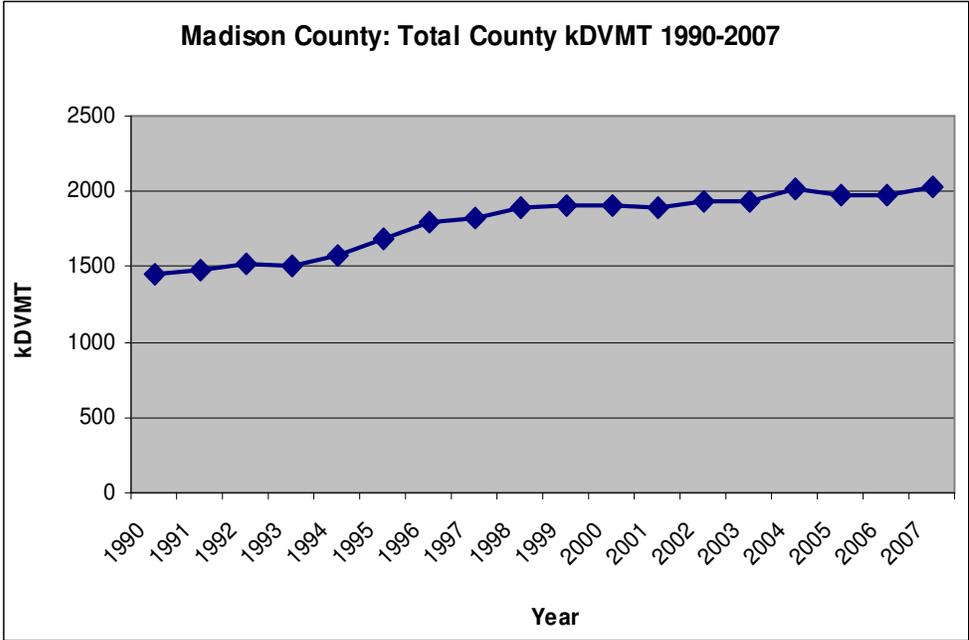
2007 = 1119.12



2005 = 5030.4

2006 = 4994.54

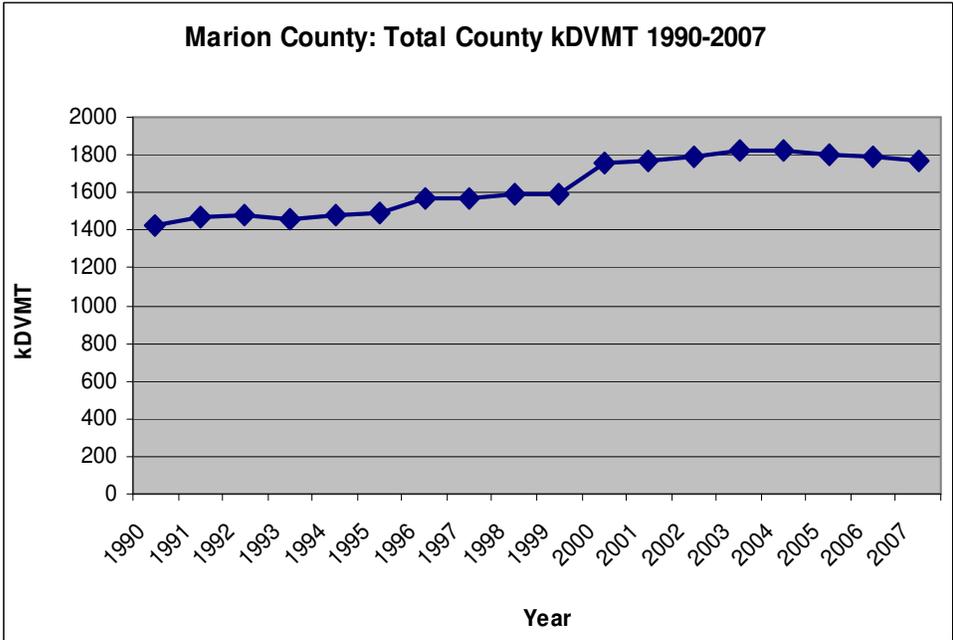
2007 = 4933.41



2005 = 1971.49

2006 = 1970.93

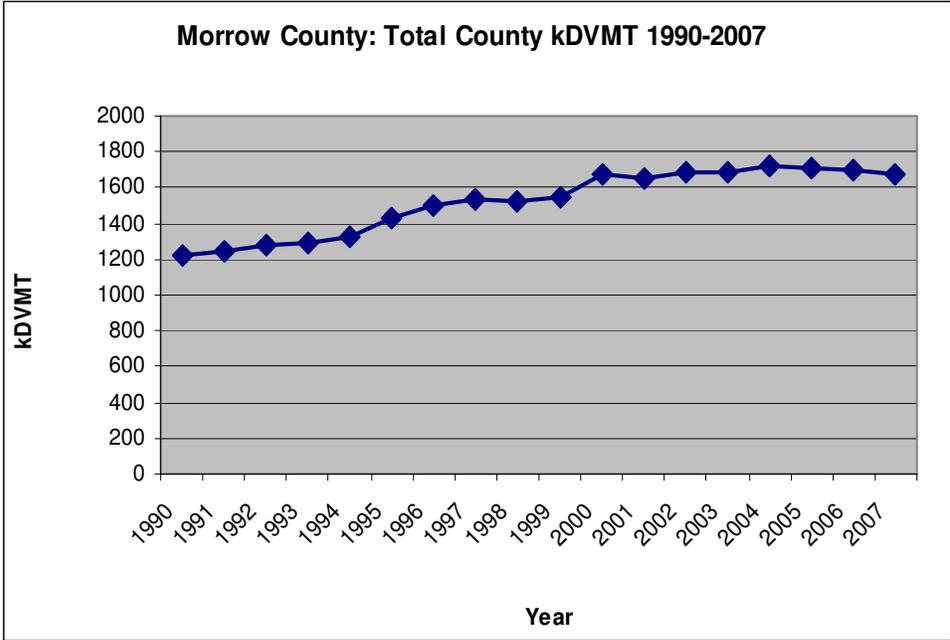
2007 = 2031.16



2005 = 1798.75

2006 = 1793.51

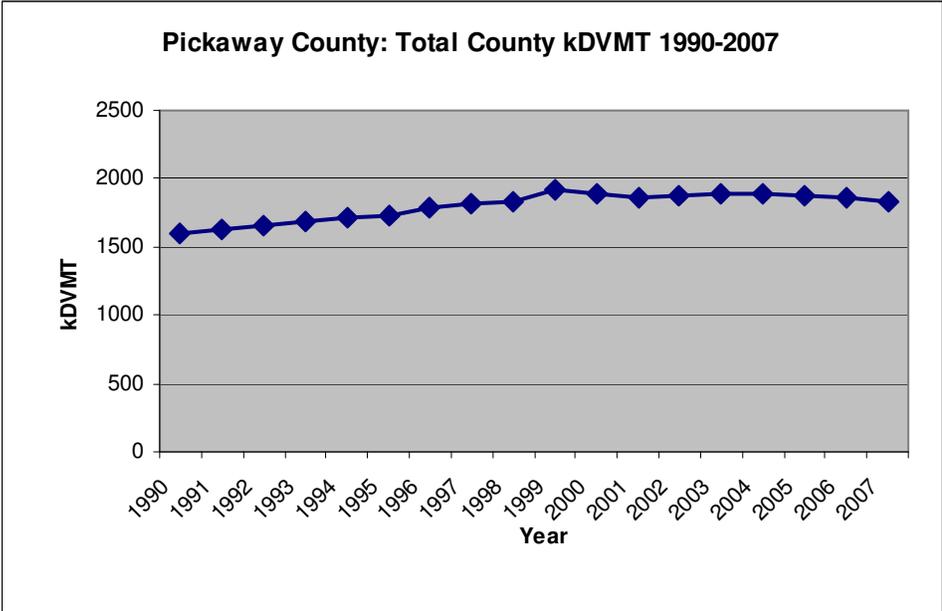
2007 = 1769.62



2005 = 1703.58

2006 = 1697.03

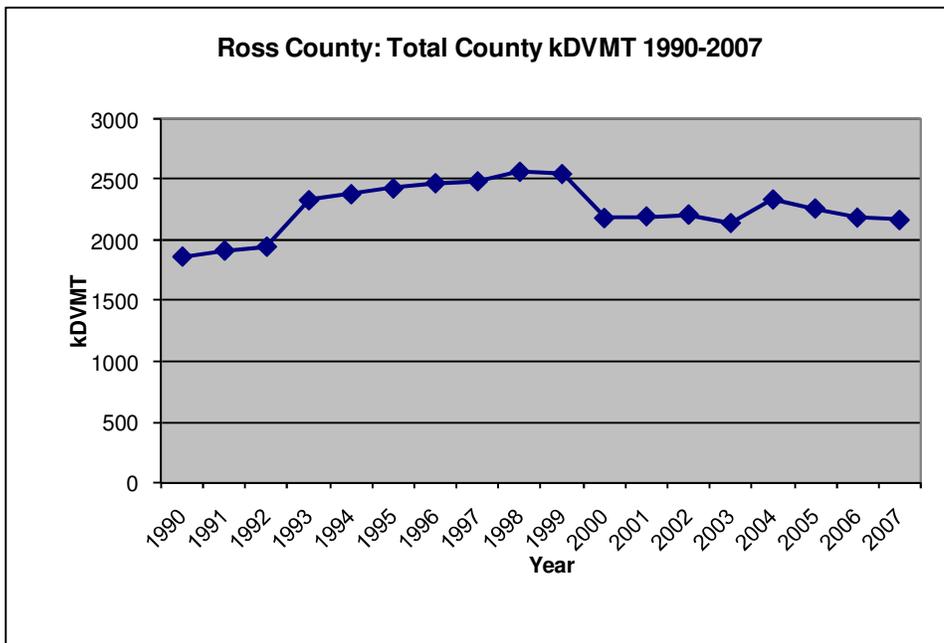
2007 = 1670.99



2005 = 1873.26

2006 = 1861.37

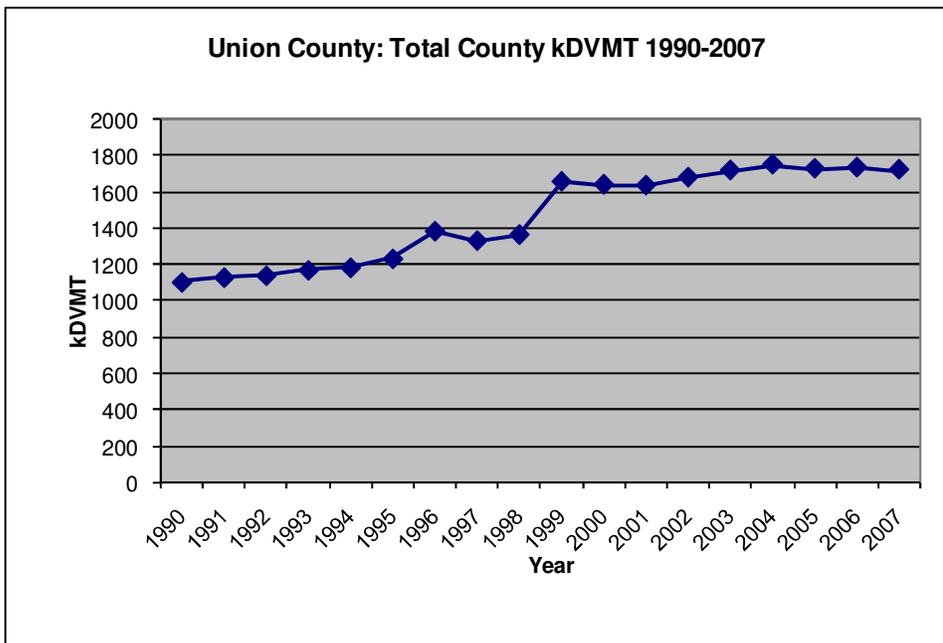
2007 = 1829.2



2005 = 2264.49

2006 = 2189.2

2007 = 2169.06



2005 = 1728.72

2006 = 1734.56

2007 = 1722.58

Commuter Patterns

Source: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau, 2000

Delaware, Fairfield and Licking Counties each have a high level of commuters traveling into Franklin County. The majority of Franklin County workers commuting outside the County, travel to Delaware County. Coshocton County has a low level of commuting and a very insignificant number traveling to Franklin County.

Delaware	Percent of workers that work outside the County		63.5%
	Average commute time in minutes -		26.5
Number of workers 16+ years of age living in Delaware County			57,840
Commute Out To	Number	Percent	
Franklin Co. OH	31,708	54.8%	
Union Co. OH	1,782	3.1%	
Marion Co. OH	839	1.5%	
Licking Co. OH	374	0.6%	
Knox Co. OH	218	0.4%	
Logan Co. OH	200	0.3%	
Morrow Co. OH	172	0.3%	
Madison Co. OH	111	0.2%	
Fairfield Co. OH	102	0.2%	
Percent is of workers living in County.			
Number of workers 16+ years of age working in Delaware County			43,463
Commute In From	Number	Percent	
Franklin Co. OH	14,222	32.7%	
Morrow Co. OH	1,983	4.6%	
Marion Co. OH	1,609	3.7%	
Licking Co. OH	900	2.1%	
Union Co. OH	890	2.0%	
Knox Co. OH	831	1.9%	
Fairfield Co. OH	395	0.9%	
Madison Co. OH	174	0.4%	
Richland Co. OH	129	0.3%	
Percent is of workers working in County.			

Fairfield	Percent of workers that work outside the County		55.8%
	Average commute time in minutes		27.7
Number of workers 16+ years of age living in Fairfield County			60,465
Commute Out To	Number	Percent	
Franklin Co. OH	28,259	46.7%	
Licking Co. OH	1,563	2.6%	
Pickaway Co. OH	1,289	2.1%	
Delaware Co. OH	395	0.7%	
Hocking Co. OH	361	0.6%	
Perry Co. OH	273	0.5%	
Ross Co. OH	255	0.4%	
Muskingum Co. OH	158	0.3%	
Athens Co. OH	142	0.2%	
Percent is of workers living in County.			
Number of workers 16+ years of age working in Fairfield County			36,957
Commute In From	Number	Percent	
Franklin Co. OH	3,261	8.8%	
Perry Co. OH	1,980	5.4%	
Hocking Co. OH	1,897	5.1%	
Licking Co. OH	915	2.5%	
Athens Co. OH	431	1.2%	
Pickaway Co. OH	349	0.9%	
Muskingum Co. OH	211	0.6%	
Ross Co. OH	191	0.5%	
Delaware Co. OH	102	0.3%	
Percent is of workers working in County.			

Fayette	Percent of workers that work outside the County		35.1%
	Average commute time in minutes -		24.4
Number of workers 16+ years of age living in Fayette County			13,433
Commute Out To	Number	Percent	
Franklin Co. OH	1,250	9.3%	
Clinton Co. OH	1,229	9.1%	
Madison Co. OH	563	4.2%	
Highland Co. OH	457	3.4%	
Pickaway Co. OH	248	1.8%	
Greene Co. OH	190	1.4%	
Ross Co. OH	153	1.1%	
Clark Co. OH	124	0.9%	
Montgomery Co. OH	78	0.6%	
Hamilton Co. OH	52	0.4%	
Percent is of workers living in County.			
Number of workers 16+ years of age working in Fayette County			11,415
Commute In From	Number	Percent	
Highland Co. OH	645	5.7%	
Ross Co. OH	503	4.4%	
Clinton Co. OH	351	3.1%	
Greene Co. OH	350	3.1%	
Pickaway Co. OH	244	2.1%	
Franklin Co. OH	152	1.3%	
Madison Co. OH	145	1.3%	
Montgomery Co. OH	55	0.5%	
Clark Co. OH	54	0.5%	
Pike Co. OH	34	0.3%	
Percent is of workers working in County.			

Franklin	Percent of workers that work outside the County		7.3%
	Average commute time in minutes -		21.9
Number of workers 16+ years of age living in Franklin County			548,655
Number of workers 16+ years of age working in Franklin County			652,261
Commute Out To	Number	Percent	Commute In From
Delaware Co. OH	14,222	2.6%	Delaware Co. OH
Union Co. OH	4,527	0.8%	Fairfield Co. OH
Licking Co. OH	4,089	0.7%	Licking Co. OH
Fairfield Co. OH	3,261	0.6%	Pickaway Co. OH
Madison Co. OH	1,903	0.3%	Madison Co. OH
Pickaway Co. OH	1,517	0.3%	Union Co. OH
Montgomery Co. OH	612	0.1%	Morrow Co. OH
Marion Co. OH	590	0.1%	Knox Co. OH
Hamilton Co. OH	552	0.1%	Perry Co. OH
Logan Co. OH	506	0.1%	Ross Co. OH
Percent is of workers living in County.			Percent is of workers working in County.

Licking	Percent of workers that work outside the County		40.4%
	Average commute time in minutes -		24.8
Number of workers 16+ years of age living in Licking County			71,213
Number of workers 16+ years of age working in Licking County			56,215
Commute Out To	Number	Percent	Commute In From
Franklin Co. OH	23,755	33.4%	Franklin Co. OH
Muskingum Co. OH	1,100	1.5%	Muskingum Co. OH
Fairfield Co. OH	915	1.3%	Perry Co. OH
Delaware Co. OH	900	1.3%	Fairfield Co. OH
Knox Co. OH	744	1.0%	Knox Co. OH
Perry Co. OH	107	0.2%	Coshocton Co. OH
Percent is of workers living in County.			Percent is of workers working in County.

Knox	Percent of workers that work outside the County -		29.5%
	Average commute time in minutes -		25.8
Number of workers 16+ years of age living in Knox County			25,064
Number of workers 16+ years of age working in Knox County			20,823
Commute Out To	Number	Percent	Commute In From
Franklin Co. OH	3,014	12.0%	Licking Co. OH
Licking Co. OH	1,304	5.2%	Richland Co. OH
Richland Co. OH	865	3.5%	Morrow Co. OH
Delaware Co. OH	831	3.3%	Franklin Co. OH
Ashland Co. OH	271	1.1%	Delaware Co. OH
Morrow Co. OH	220	0.9%	Coshocton Co. OH
Holmes Co. OH	106	0.4%	Ashland Co. OH
Cuyahoga Co. OH	89	0.4%	Holmes Co. OH
Wayne Co. OH	74	0.3%	Wayne Co. OH
Coshocton Co. OH	71	0.3%	Muskingum Co. OH
Percent is of workers living in County.			Percent is of workers working in County.

Madison	Percent of workers that work outside the County -	57.5%
	Average commute time in minutes -	25.8

Number of workers 16+ years of age living in Madison County			17,828
Commute Out To	Number	Percent	
Franklin Co. OH	7,921	44.4%	
Union Co. OH	763	4.3%	
Clark Co. OH	373	2.1%	
Delaware Co. OH	174	1.0%	
Pickaway Co. OH	172	1.0%	
Fayette Co. OH	145	0.8%	
Greene Co. OH	107	0.6%	
Champaign Co. OH	91	0.5%	
Montgomery Co. OH	79	0.4%	
Licking Co. OH	73	0.4%	

Number of workers 16+ years of age working in Madison County			13,180
Commute In From	Number	Percent	
Franklin Co. OH	1,903	14.4%	
Clark Co. OH	1,092	8.3%	
Fayette Co. OH	563	4.3%	
Union Co. OH	439	3.3%	
Pickaway Co. OH	392	3.0%	
Ross Co. OH	289	2.2%	
Champaign Co. OH	265	2.0%	
Delaware Co. OH	111	0.8%	
Greene Co. OH	71	0.5%	
Montgomery Co. OH	66	0.5%	

Percent is of workers living in County.

Percent is of workers working in County.

Marion	Percent of workers that work outside the County	22.1%
	Average commute time in minutes -	21.5

Number of workers 16+ years of age living in Marion County			29,138
Commute Out To	Number	Percent	
Delaware Co. OH	1,609	5.5%	
Franklin Co. OH	1,371	4.7%	
Union Co. OH	1,041	3.6%	
Morrow Co. OH	585	2.0%	
Crawford Co. OH	513	1.8%	
Wyandot Co. OH	305	1.0%	
Logan Co. OH	251	0.9%	
Hardin Co. OH	156	0.5%	
Richland Co. OH	153	0.5%	
Seneca Co. OH	46	0.2%	

Number of workers 16+ years of age working in Marion County			29,138
Commute In From	Number	Percent	
Morrow Co. OH	1,565	5.4%	
Crawford Co. OH	1,060	3.6%	
Delaware Co. OH	839	2.9%	
Wyandot Co. OH	729	2.5%	
Franklin Co. OH	590	2.0%	
Union Co. OH	508	1.7%	
Richland Co. OH	312	1.1%	
Hardin Co. OH	178	0.6%	
Montgomery Co. OH	47	0.2%	
Seneca Co. OH	41	0.1%	

Morrow	Percent of workers that work outside the County	67.0%
	Average commute time in minutes -	30.4

Number of workers 16+ years of age living in Morrow County			15,083
Commute Out To	Number	Percent	
Franklin Co. OH	3,108	20.6%	
Delaware Co. OH	1,983	13.1%	
Marion Co. OH	1,565	10.4%	
Richland Co. OH	1,519	10.1%	
Crawford Co. OH	882	5.8%	
Knox Co. OH	426	2.8%	
Union Co. OH	131	0.9%	
Licking Co. OH	82	0.5%	
Ashland Co. OH	45	0.3%	
Huron Co. OH	34	0.2%	

Number of workers 16+ years of age working in Morrow County			6,803
Commute In From	Number	Percent	
Marion Co. OH	585	8.6%	
Crawford Co. OH	301	4.4%	
Richland Co. OH	293	4.3%	
Knox Co. OH	220	3.2%	
Delaware Co. OH	172	2.5%	
Franklin Co. OH	110	1.6%	
Ashland Co. OH	32	0.5%	
Logan Co. OH	25	0.4%	
Licking Co. OH	22	0.3%	
Hardin Co. OH	15	0.2%	

Percent is of workers living in County.

Percent is of workers working in County.

Pickaway	Percent of workers that work outside the County		55.4%
	Average commute time in minutes -		26.7
Number of workers 16+ years of age living in Pickaway County			21,921
Commute Out To	Number	Percent	
Franklin Co. OH	9,613	43.9%	
Ross Co. OH	847	3.9%	
Madison Co. OH	392	1.8%	
Fairfield Co. OH	349	1.6%	
Fayette Co. OH	244	1.1%	
Licking Co. OH	86	0.4%	
Hocking Co. OH	62	0.3%	
Union Co. OH	60	0.3%	
Delaware Co. OH	58	0.3%	
Clinton Co. OH	51	0.2%	
Number of workers 16+ years of age working in Pickaway County			17,332
Commute In From	Number	Percent	
Ross Co. OH	2,617	15.1%	
Franklin Co. OH	1,517	8.8%	
Fairfield Co. OH	1,289	7.4%	
Hocking Co. OH	564	3.3%	
Fayette Co. OH	248	1.4%	
Pike Co. OH	241	1.4%	
Madison Co. OH	172	1.0%	
Vinton Co. OH	128	0.7%	
Jackson Co. OH	108	0.6%	
Delaware Co. OH	55	0.3%	
Percent is of workers living in County.			Percent is of workers working in County.

Ross	Percent of workers that work outside the County		29.6%
	Average commute time in minutes -		25.9
Number of workers 16+ years of age living in Ross County			30,409
Commute Out To	Number	Percent	
Pickaway Co. OH	2,617	8.6%	
Franklin Co. OH	2,335	7.7%	
Pike Co. OH	1,071	3.5%	
Highland Co. OH	671	2.2%	
Fayette Co. OH	503	1.7%	
Jackson Co. OH	325	1.1%	
Madison Co. OH	289	1.0%	
Clinton Co. OH	222	0.7%	
Fairfield Co. OH	191	0.6%	
Vinton Co. OH	97	0.3%	
Number of workers 16+ years of age working in Ross County			28,140
Commute In From	Number	Percent	
Pike Co. OH	1,450	5.2%	
Jackson Co. OH	917	3.3%	
Pickaway Co. OH	847	3.0%	
Vinton Co. OH	538	1.9%	
Franklin Co. OH	497	1.8%	
Scioto Co. OH	494	1.8%	
Highland Co. OH	347	1.2%	
Fairfield Co. OH	255	0.9%	
Fayette Co. OH	153	0.5%	
Hocking Co. OH	126	0.4%	
Percent is of workers living in County.			Percent is of workers working in County.

Union	Percent of workers that work outside the County		42.7%
	Average commute time in minutes -		23.0
Number of workers 16+ years of age living in Union County			20,416
Commute Out To	Number	Percent	
Franklin Co. OH	5,473	26.8%	
Delaware Co. OH	890	4.4%	
Logan Co. OH	869	4.3%	
Marion Co. OH	508	2.5%	
Madison Co. OH	439	2.2%	
Hardin Co. OH	82	0.4%	
Champaign Co. OH	80	0.4%	
Licking Co. OH	54	0.3%	
Summit Co. OH	41	0.2%	
Knox Co. OH	38	0.2%	
Number of workers 16+ years of age working in Union County			26,376
Commute In From	Number	Percent	
Franklin Co. OH	4,527	17.2%	
Logan Co. OH	2,470	9.4%	
Champaign Co. OH	1,802	6.8%	
Delaware Co. OH	1,782	6.8%	
Marion Co. OH	1,041	3.9%	
Clark Co. OH	775	2.9%	
Madison Co. OH	763	2.9%	
Hardin Co. OH	542	2.1%	
Morrow Co. OH	131	0.5%	
Fairfield Co. OH	91	0.3%	
Percent is of workers living in County.			Percent is of workers working in County.

Factor 5: Meteorology

Please refer to Appendix E for applicable meteorology information for the Columbus area.

Factor 6: Topography/Land use/Land cover

Delaware County is in the Central Lowland Province (see Appendix F). The highest elevation is 1,239 feet and the lowest is 754 feet above sea level. The western and central parts of the County consist of an almost level plain at about 950 feet. The eastern part of the County rises to about 1,200 feet.

Fairfield County is in the Allegheny Plateau and the Central Lowland Provinces. Relief of the County can be nearly level to strongly undulating with steep-sided ridges. In the southeastern part of the County, in the unglaciated section of the Allegheny Plateau, the relief from the ridgetops to the flood plains can be about 250 to 300 feet.

Franklin County is within the glaciated till plains of the Central Lowland Province. The elevation in the County ranges from 1,130 feet in the northeast corner to about 670 feet along the southern border where the Scioto River leaves the County. The relief is nearly level to gently rolling.

Knox County is on the outer edge of an area that was covered by continental glaciers. The highest point is 1,420 feet above sea level in Liberty Township. The lowest point, where the Kokosing River leaves the County, is 840 feet above sea level.

Licking County is in two physiographic Provinces. The eastern third is part of the Allegheny Plateau Province, and the rest is on the eastern edge of the glaciated section of the Central Lowlands Province. The elevation ranges from about 1,360 feet to 740 feet above sea level. Relief throughout the west-central part of the County is gently undulating and rolling to moderately steep to very steep. The eastern part of the County has hilly topography with a relief of about 200 feet between ridgetops and flood plains.

Madison County is nearly level from the Wisconsin Glacier retreat. The highest point, along the west-central County line, is slightly more than 1,200 feet above sea level. The lowest point, in the extreme southeast corner along Deer Creek, is slightly less than 800 feet above sea level.

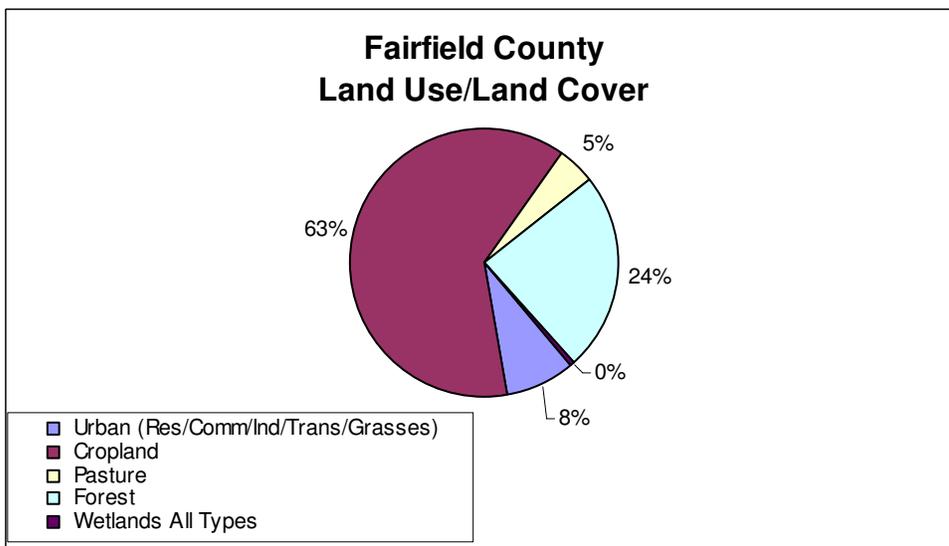
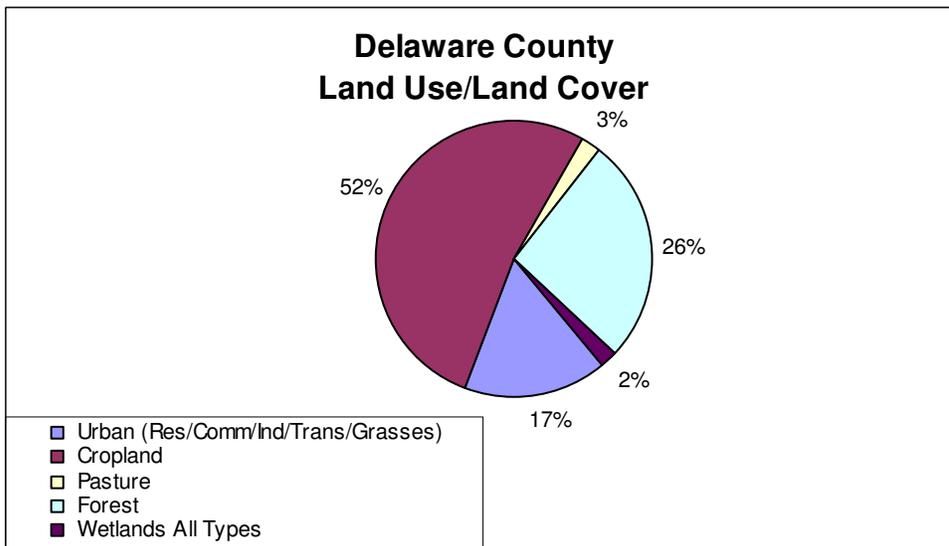
Marion County has generally uniform level plains and basins and lies in the Scioto Lobe of the Indiana-Ohio Till Plain. The highest elevation is about 1,105 feet above sea level in Tully Township. The lowest elevation is about 870 feet in Grand Township.

Morrow County was covered by several large continental glaciers during the Pleistocene epoch. The average relief in the western half is about 15 feet with a

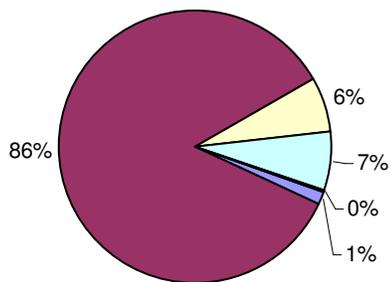
maximum of about 50 feet. In the eastern half the average relief is about 50 feet with a maximum relief of about 100 feet.

Ross County consists of rolling plains in the northern one-third of the County and low hills of the glaciated portion of the Central Lowlands Province. The central and southern parts of Ross County rise 200 to 300 feet above the lowlands. The maximum is 1,342 feet on Horseback Knob, 1.8 miles northeast of Summithill in Huntington Township. The lowest elevation, 559 feet, is along the Scioto River on the Ross County-Pike County boundary.

As shown in the following pie charts, the land use/land cover in Franklin County has the highest percentage of urban area. All other Counties have a significant percentage of cropland and forest.

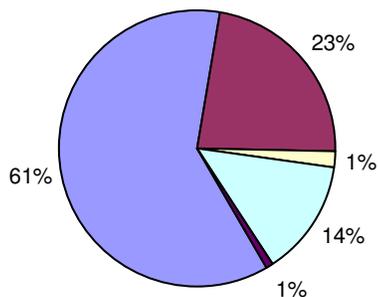


Fayette County Land Use/Land Cover



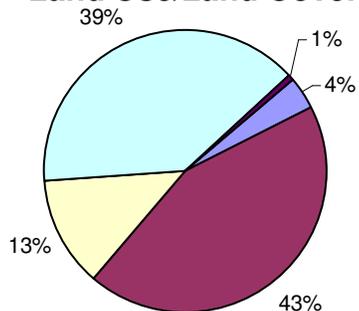
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Franklin County Land Use/Land Cover



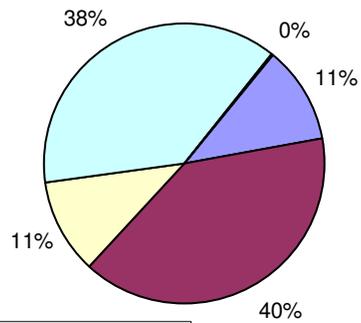
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Knox County Land Use/Land Cover



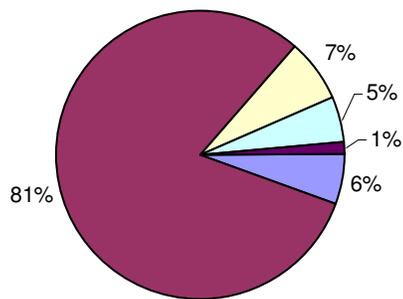
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Licking County Land Use/Land Cover



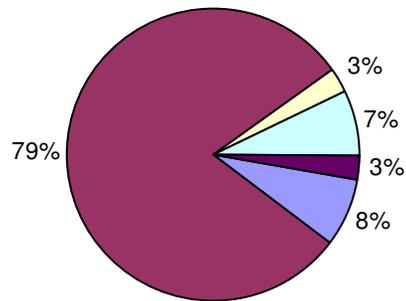
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Madison County Land Use/Land Cover



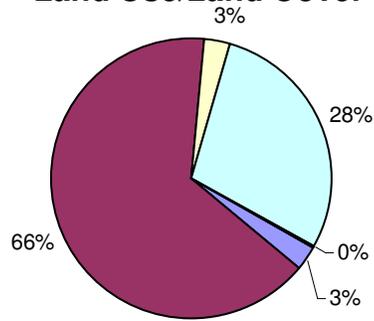
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Marion County Land Use/Land Cover



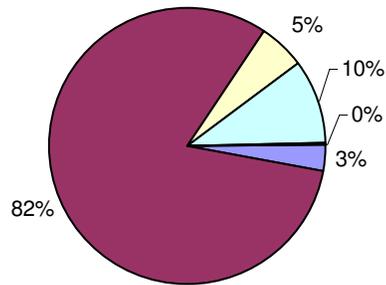
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Morrow County Land Use/Land Cover



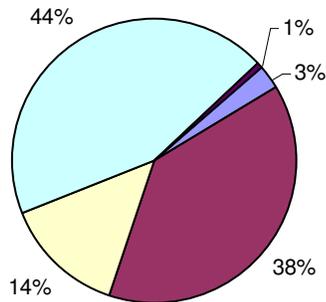
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Pickaway County Land Use/Land Cover

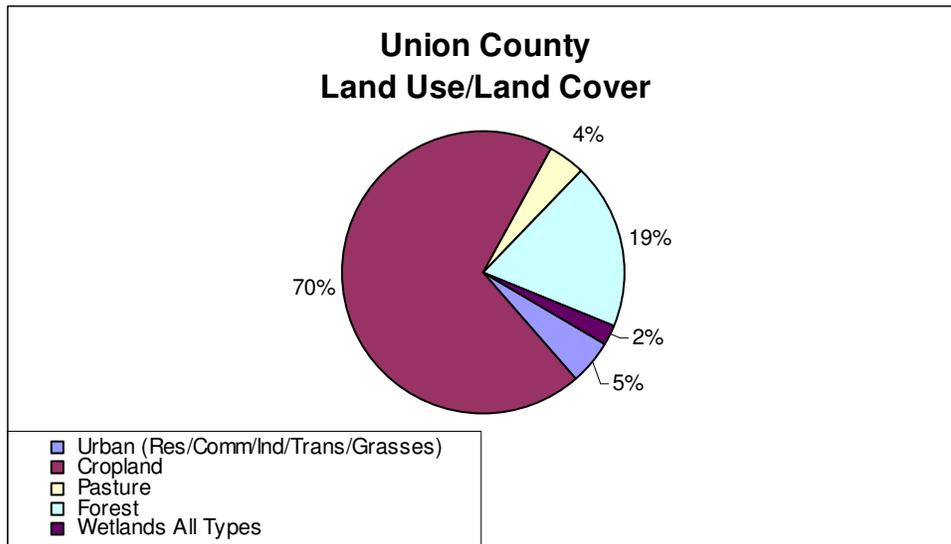


- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Ross County Land Use/Land Cover



- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types



Factor 7: Jurisdictional boundaries

The Columbus, OH MSA includes: Delaware, Fairfield, Franklin, Licking, Madison, Morrow, Pickaway, and Union Counties. The principal city is Columbus. The CSA also includes Fayette, Knox, Marion, and Ross Counties.

The Mid-Ohio Regional Planning Commission (MORPC) is the planning agency designated as the Metropolitan Planning Organization for the greater Columbus area. The MORPC region is composed of two Counties: Delaware and Franklin and portions of Fairfield and Licking Counties.

The Licking County Area Transportation Study (LCATS) is the planning agency designated as the MPO for Licking County.

Factor 8: Level of control of emission sources

Please refer to the Factor 8 general discussion at the beginning of this document for applicable control information for this area.

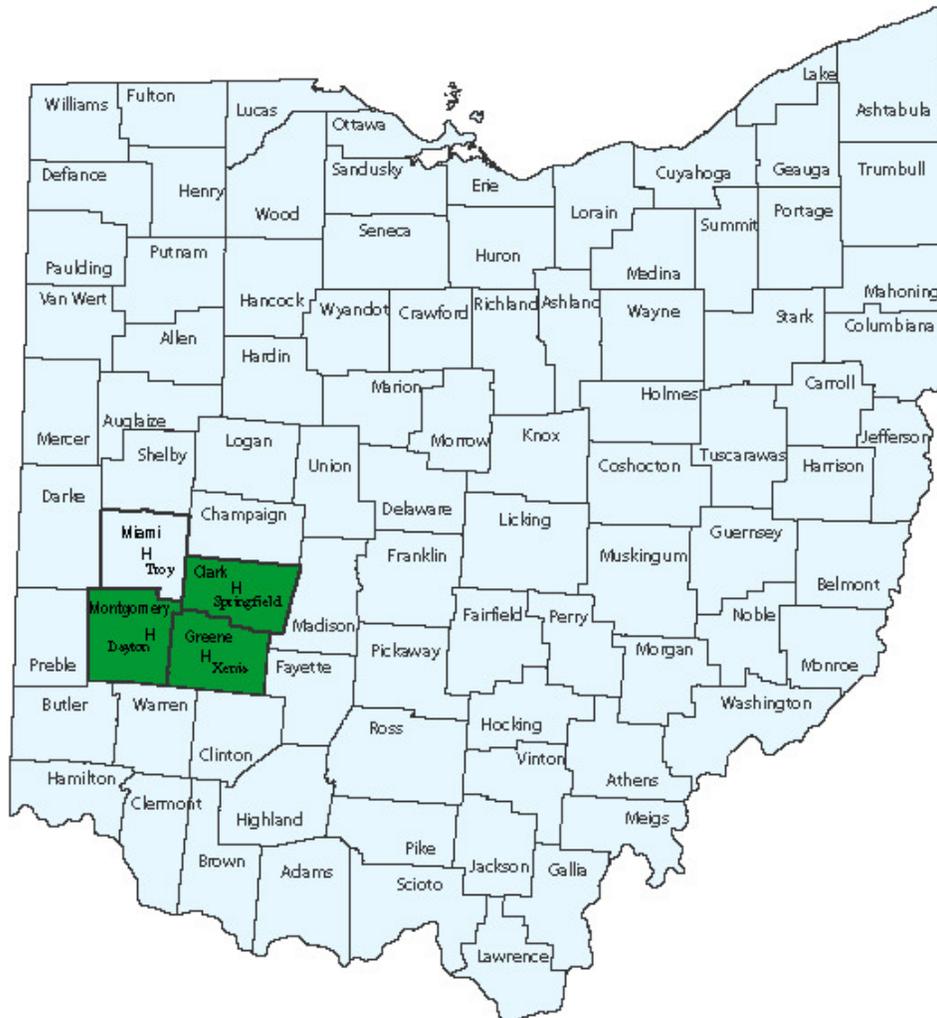
Dayton-Springfield, OH

Current County nonattainment: none

Current nonattainment Counties

Recommended County nonattainment: Clark, Greene, and Montgomery

 Recommended nonattainment Counties



Discussion

There are four Counties in the existing ozone designation area: Clark, Greene, Miami, and Montgomery. This area initially was designated nonattainment for the 1997 ozone standard and then was redesignated as attainment in August of 2007. With respect to the new standard, Ohio EPA recommends designating three of these Counties as nonattainment for the Dayton-Springfield area. Three of six monitors in the area are violating the standard, two in Clark County and one in Greene County. Montgomery County's monitor is not violating the standard, but the County does have a significant population. The Cincinnati-Hamilton MSA and Columbus MSA both border this area and are discussed under their sections. Five other Counties are adjacent to this area: Miami, Preble, Darke, Shelby and Champaign Counties. Shelby County is not a part of the MSA or CSA, and is excluded due to low emissions and low population.

The three-year averages of the annual fourth-highest daily maximum eight-hour average concentrations at three of six monitors are not attaining the revised standard as identified under factor 1 below. Emissions of VOC and NO_x in Montgomery County are substantially greater than all other Counties in the area.

Although Preble and Miami Counties are a part of the MSA, Ohio EPA is recommending to exclude these Counties. Preble County contains one monitor with a value significantly lower than the revised standard, 71 ppb. Preble County is also most closely located to, and up-wind from Miami and Montgomery Counties, which also contain monitors showing attainment for the revised standard. Preble County has significantly lower population (41,739 in 2007) and lower emissions than the other existing ozone designation Counties. Emissions of VOC and NO_x are projected to decrease by 15% and 19%, respectively, from 2005 to 2009. Population projections show minimal growth in Preble County, increasing to 45,380 in 2030. All of the existing ozone designation Counties have had fairly constant kDMVT values with slight declines from 2005 to 2007. Preble County has had the most significant decline during this period - 5.6%. Very little commuting is occurring between Preble County and the existing ozone designation Counties, with the highest percentage being 1.7% of Montgomery County workers commuting from Preble County. Miami County's monitor also shows a value significantly lower than the revised standard, 72 ppb. Miami County has significantly lower population (101,038 in 2007) and lower emissions than the other existing ozone designation Counties. With respect to the existing ozone designation Counties, emission projections for 2009 show the combined VOC and NO_x emissions from Miami County will be the lowest. They will be nearly 15% lower than those of Clark County, the which has the lowest projected emissions of those Counties Ohio EPA is recommending for nonattainment designation. Population projections show minimal growth in Miami County, increasing to 107,930 in 2030. With respect to the original ozone designation Counties, Miami County has the lowest population by nearly 40,000. Miami County has had the second most significant decline in kDMVT values from 2005 to 2007 - 5.4%. Very little commuting is occurring between Miami County and the existing ozone designation Counties, with the highest percentage being 3.9% of Montgomery County workers commuting from Miami County. Recall, Montgomery County does not contain a violating monitor.

Although Darke and Champaign Counties are part of the CSA but not the MSA, Ohio EPA is recommending to exclude these Counties. Darke and Champaign Counties have significantly lower 2007 populations than the existing ozone designation Counties, 52,205 and 39,522, respectively. Darke and Champaign Counties also have lower emissions than the other existing ozone designation Counties. Emissions of VOC are projected to decrease by 9.0% in Darke County and 9.4% in Champaign County from 2005 to 2009. Emissions of NOx are projected to decrease by 18.5% in Darke County and 15.6% in Champaign County from 2005 to 2009. Population projections show minimal growth in Darke and Champaign Counties, increasing to 52,710 and 47,020, respectively, in 2030. Both Counties have seen a slight decline in kDMVT values over the past several years. There is little commuting occurring between these Counties and the existing ozone designation Counties. The most significant for each being 6.1% of Clark County workers commuting from Champaign County and 5.5% of Miami County workers commuting from Darke County.

Factor 1: Air quality data

████████ = Exceeds standard

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4
39-023-0001 Dayton Clark Co.	2006	91	81	77	76
	2007	96	86	81	78
	2008	90	84	78	75
	Avg				76.3

39-023-0003 Dayton Clark Co.	2006	87	81	78	74
	2007	89	84	80	78
	2008	89	77	76	75
	Avg				75.7

39-057-0006 Dayton Greene Co.	2006	85	82	81	79
	2007	92	85	81	77
	2008	83	78	76	75
	Avg				77.0

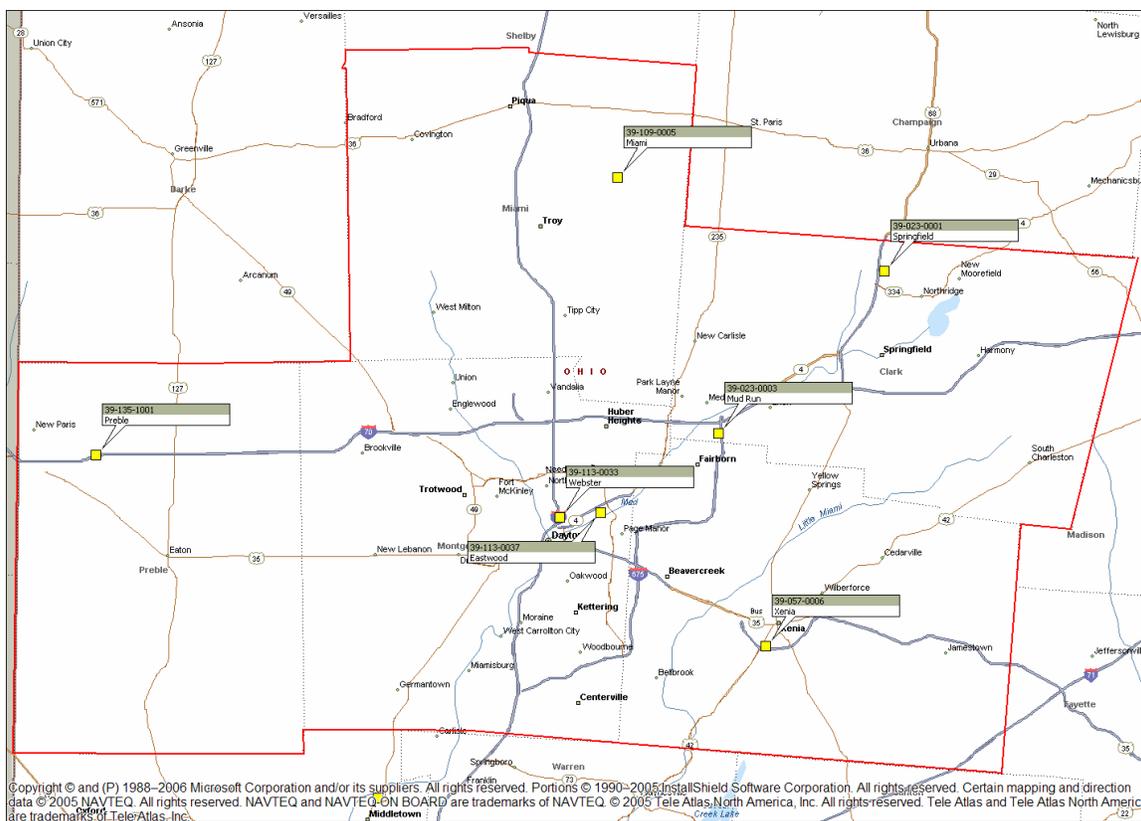
39-109-0005 Dayton Miami Co.	2006	88	76	74	73
	2007	83	79	78	73
	2008	74	74	71	70
	Avg				72.0

39-113-0033 , -0037 Dayton Montgomery Co.	2006	84	77	74	71
	2007	84	84	84	74
	2008	95	81	80	77
	Avg				74.0

39-135-1001 Dayton Preble Co.	2006	78	75	73	72
	2007	79	79	78	73
	2008	72	69	68	68
	Avg				71.0

Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

Dayton-Springfield Area Ozone Monitor Locations and Site ID Numbers



Factor 2: Emissions data
(tons per day)

2005		
County	VOC	NO_x
CLARK	15.42	16.28
GREENE	12.22	21.19
MONTGOMERY	53.47	61.13
MIAMI	13.42	13.13
Preble	7.21	7.34
Darke	8.63	6.93
Champaign	5.67	4.75

2009		
County	VOC	NO_x
CLARK	12.49	12.96
GREENE	9.07	18.57
MONTGOMERY	38.02	48.34
MIAMI	10.68	13.45
Preble	6.13	5.93
Darke	7.82	5.65
Champaign	5.16	4.01

Major Employers:

Source: Ohio Department of Development 2007

Most of the major employers in the Dayton-Springfield area are in the categories of service, government and manufacturing as shown below.

Champaign County

Community Mercy Health Partners	Service
Graham Local Bd of Ed	Government
Honeywell International Inc	Manufacturing
KTH Parts Industries Inc	Manufacturing
Menasha Corp/ORBIS	Manufacturing
Urbana City Bd of Ed	Government
Urbana University	Service
Wal-Mart Stores Inc	Trade

Clark County

Assurant Inc	Insurance
Community Mercy Health Partners	Service
Dole Fresh Vegetables	Manufacturing
Gordon Food Service	Trade
International Truck and Engine Corp	Manufacturing
Marathon/Speedway SuperAmerica LLC	Trade
Mercy Medical Center	Service
Ohio Masonic Home	Service
Springfield City Bd of Ed	Government
Wittenberg University	Service

Darke County

Brethren Retirement Community	Service
Ernie Green/Florida Production Eng	Manufacturing
Greenville City Bd of Ed	Government
Honeywell International	Manufacturing
Midmark Corp	Manufacturing
Morioku Co/Greenville Technology	Manufacturing
Wal-Mart Stores Inc	Trade
Wayne Hospital	Service
Whirlpool Corp/KitchenAid	Manufacturing
Whiteford Food Products Inc	Manufacturing

Greene County

Beavercreek Local Bd of Ed	Government
Cedarville University	Service
Fairborn City Bd of Ed	Government
Fifth Third Bank	Finance
General Electric Co/Unison Industries	Manufacturing
Greene Memorial Hospital	Service
SAIC Inc	Service
Supervalu Inc	Trade
US Federal Govt/Wright Patterson AFB	Government
Wright State University	Government
Xenia Community City Board of Education	Government

Miami County

AO Smith Corp	Manufacturing
Crane Co	Manufacturing
Evenflo Company Inc	Manufacturing
Faurecia SA	Manufacturing
F-Tech Inc/F&P America	Manufacturing
Goodrich Corp	Manufacturing
Illinois Tool Works Inc/Hobart	Manufacturing
Jackson Tube Service	Manufacturing
Meijer Inc	Trade
Troy City Bd of Ed	Government
Upper Valley Medical Center	Service

Montgomery County

Behr Dayton Thermal Products LLC	Manufacturing
Dayton City Bd of Ed	Government
DPL Inc/Dayton Power & Light Co	Utility
General Motors Corp	Manufacturing
Kettering Medical Center	Service
NCR Corp	Manufacturing
Premier Health Partners Inc	Service
Reed Elsevier/LexisNexis	Service
Reynolds & Reynolds Co Inc	Manufacturing
University of Dayton	Service
US Federal Government	Government

Preble County

Akey Inc	Manufacturing
Bullen Ultrasonics Inc	Manufacturing
Eaton City Bd of Ed	Government
Henny Penny Corp	Manufacturing
Nihon Plast/Neaton Auto Products	Manufacturing
Parker-Hannifin Corp	Manufacturing
Pratt Industries/Love Box Co	Manufacturing
Procter & Gamble/Iams Co	Manufacturing
Weyerhaeuser Co	Manufacturing
Zumstein Inc	Transportation

Factor 3: Population and Projected Growth

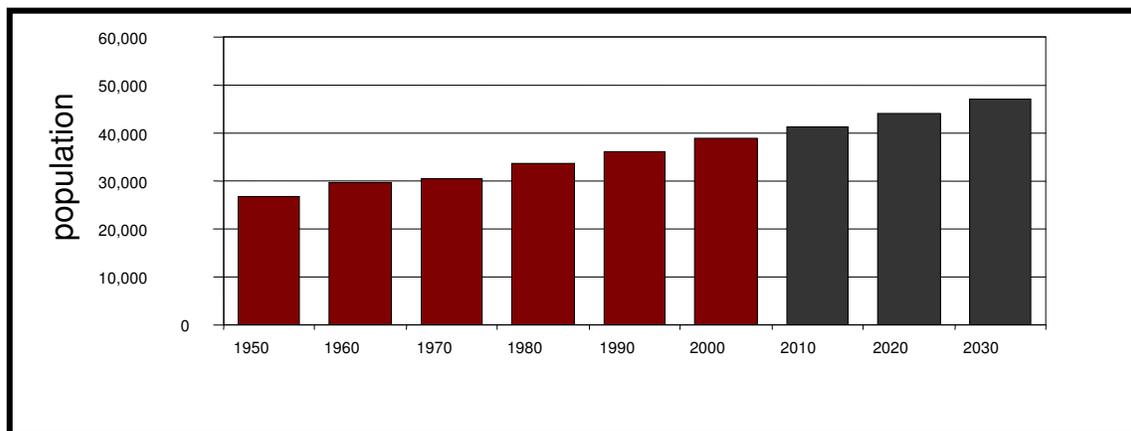
Sources: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau Population Estimates Program 2007

The primary urban areas in the Dayton-Springfield area are; Springfield and Enon in Clark County; Xenia, Beavercreek and Fairborn in Greene County; Dayton and Kettering in Montgomery County.

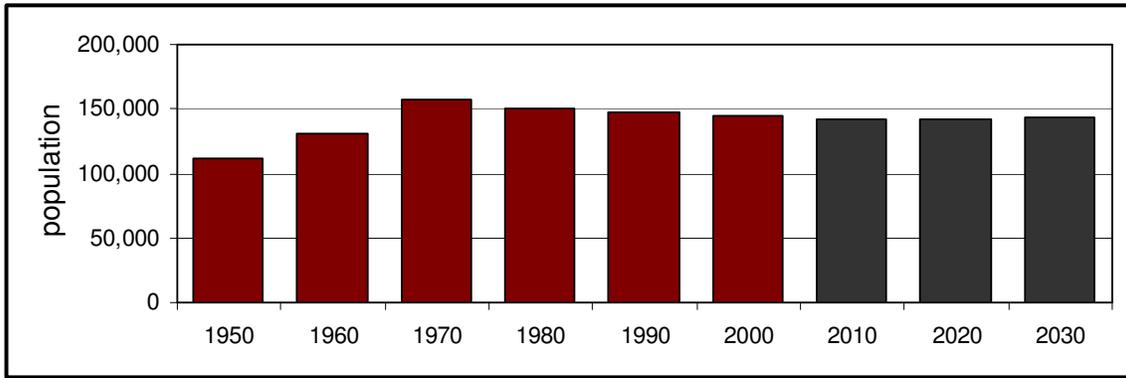
As indicated in the following table and graphs, Montgomery County has the highest population in this area and it is projected to steadily decrease. The population in Clark, Preble and Darke Counties is projected remain fairly constant with only slight increases. Greene, Miami and Champaign are projected to experience gradual increases.

COUNTY	2004	2005	2006	2007	2010	2020	2030
Clark	142,230	141,908	141,872	140,477	142,300	141,660	143,960
Greene	151,892	151,823	152,298	154,656	151,760	156,590	158,860
Montgomery	548,561	545,603	542,237	538,104	540,420	528,800	524,060
Miami	100,670	101,414	101,914	101,038	103,460	106,770	107,930
Preble	42,423	42,400	42,491	41,739	44,200	45,070	45,380
Darke	53,074	52,967	52,780	52,205	52,730	52,550	52,710
Champaign	39,540	39,692	39,921	39,522	41,270	44,050	47,020

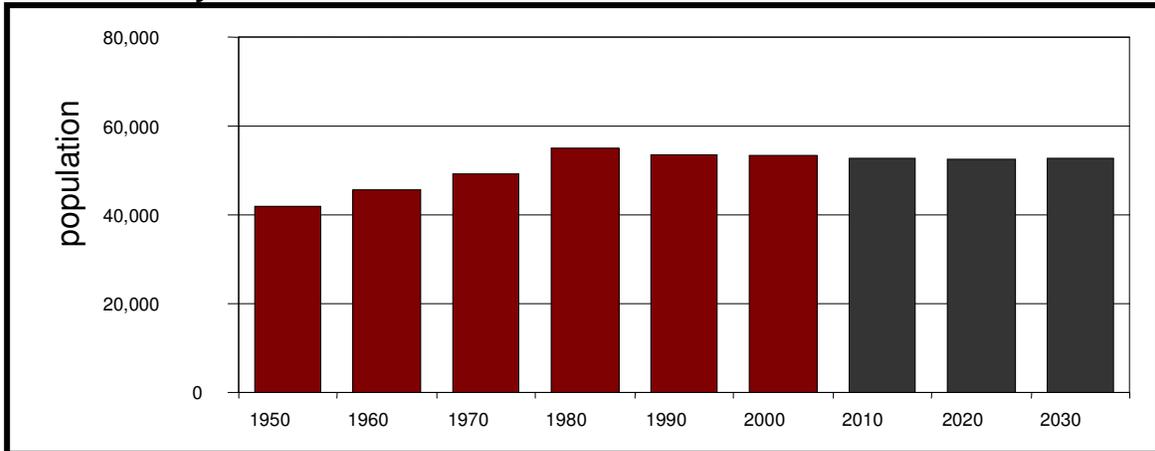
Champaign County



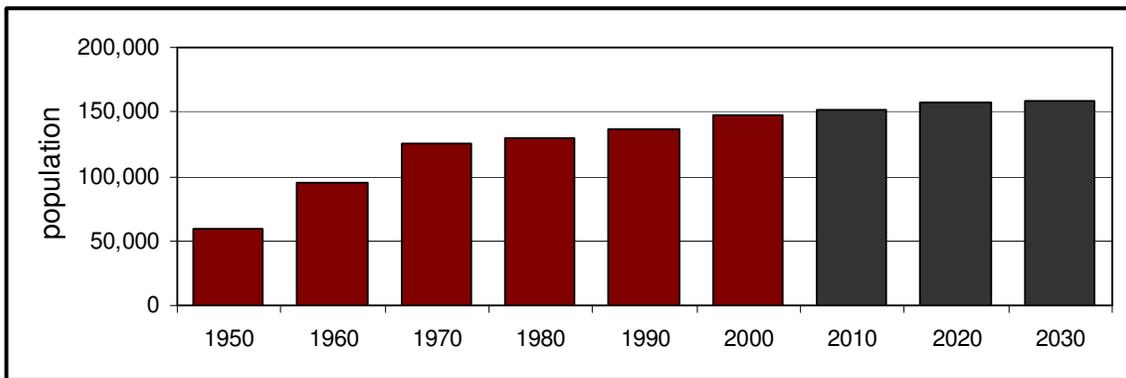
Clark County



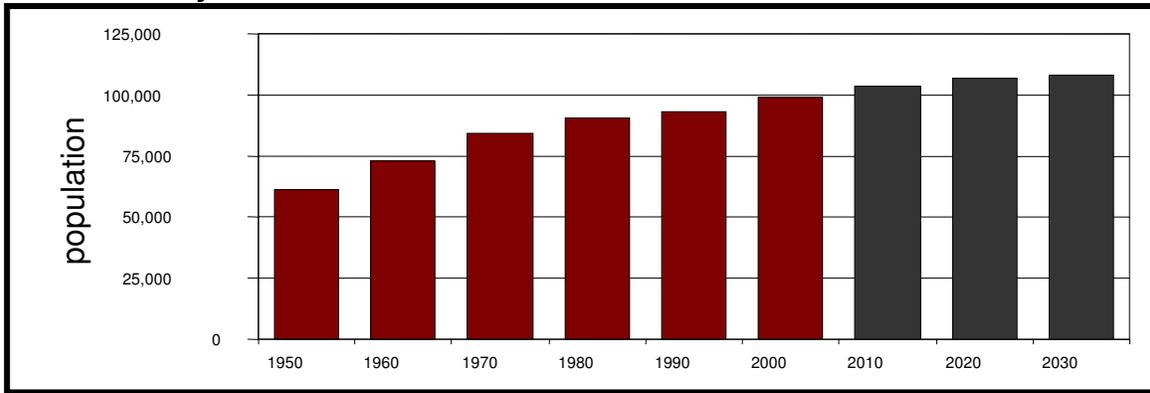
Darke County



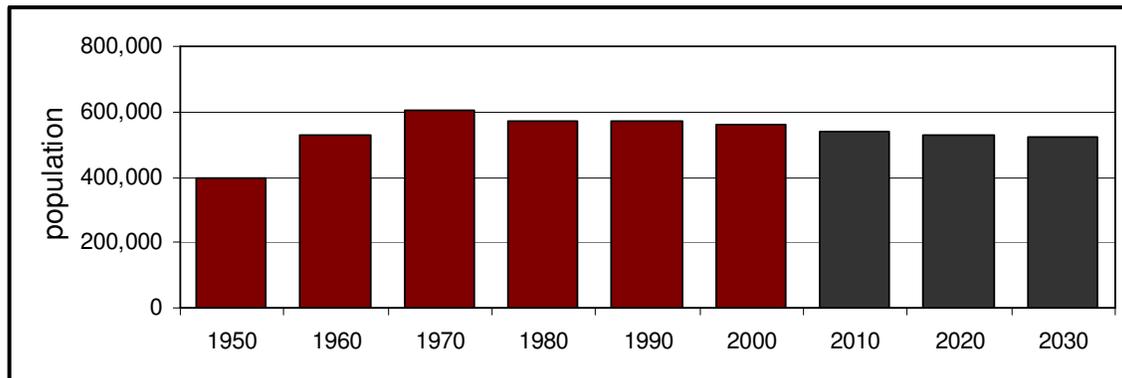
Greene County



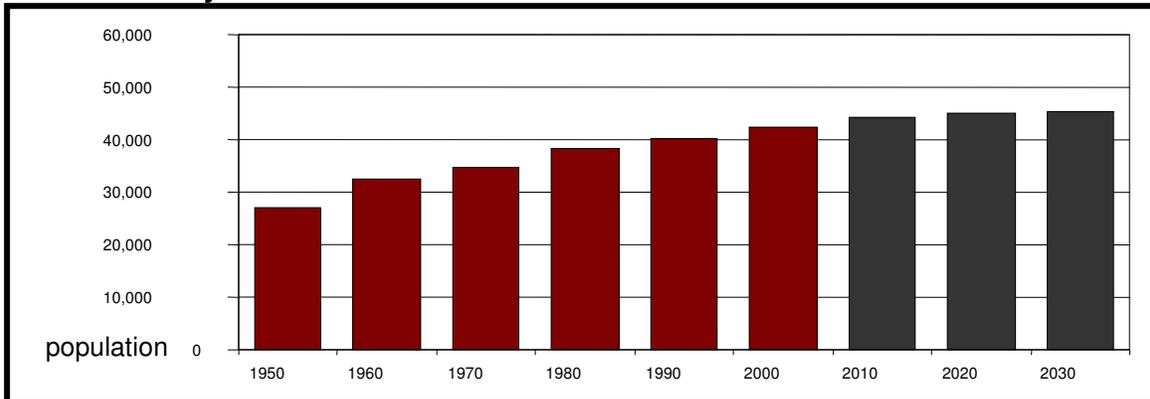
Miami County



Montgomery County



Preble County

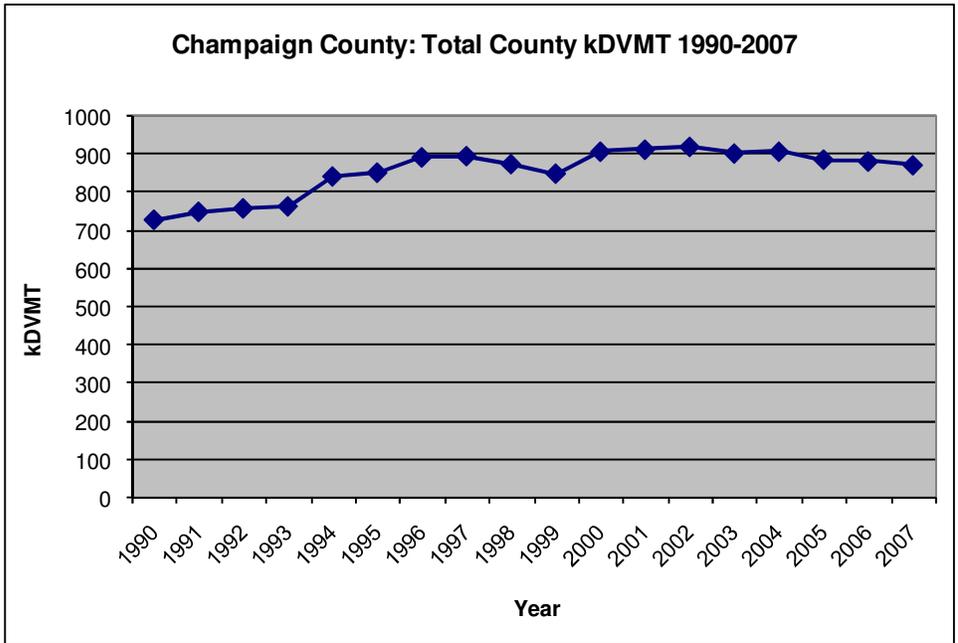


Factor 4: Traffic and commuting patterns

The kDVMT in the Dayton-Springfield area have remained generally constant with only minor declines from 2005 to 2007, as shown in the graphs below. Preble County has had the most significant decline during this period -5.6%. Montgomery County has the highest level of kDVMT and Champaign has the lowest.

Estimated Vehicle Miles Traveled (kDVMT = in thousands)

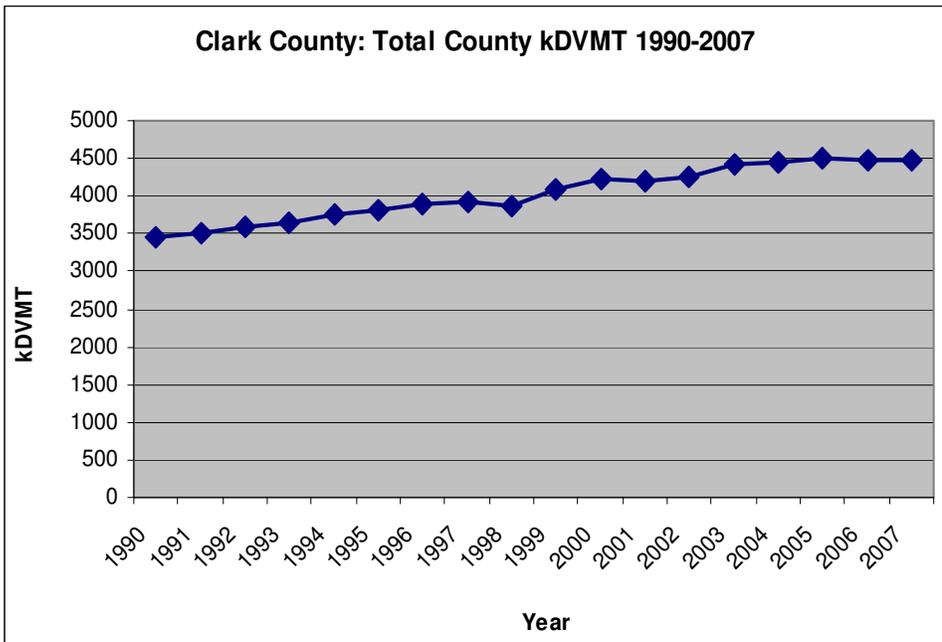
Source: Ohio Department of Transportation, Office of Technical Services



2005 = 886.6

2006 = 881.67

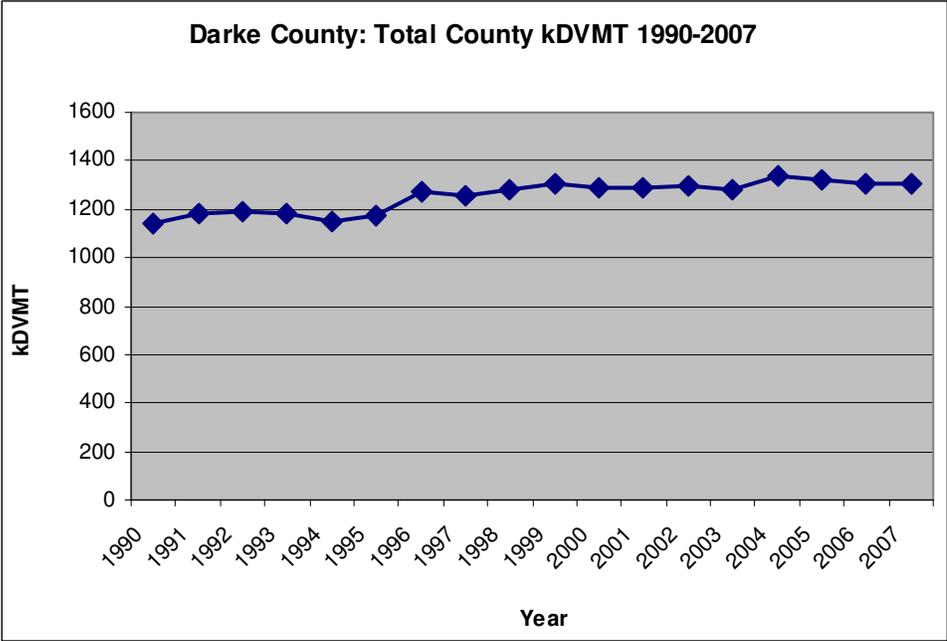
2007 = 872.23



2005 = 4498.94

2006 = 4475.04

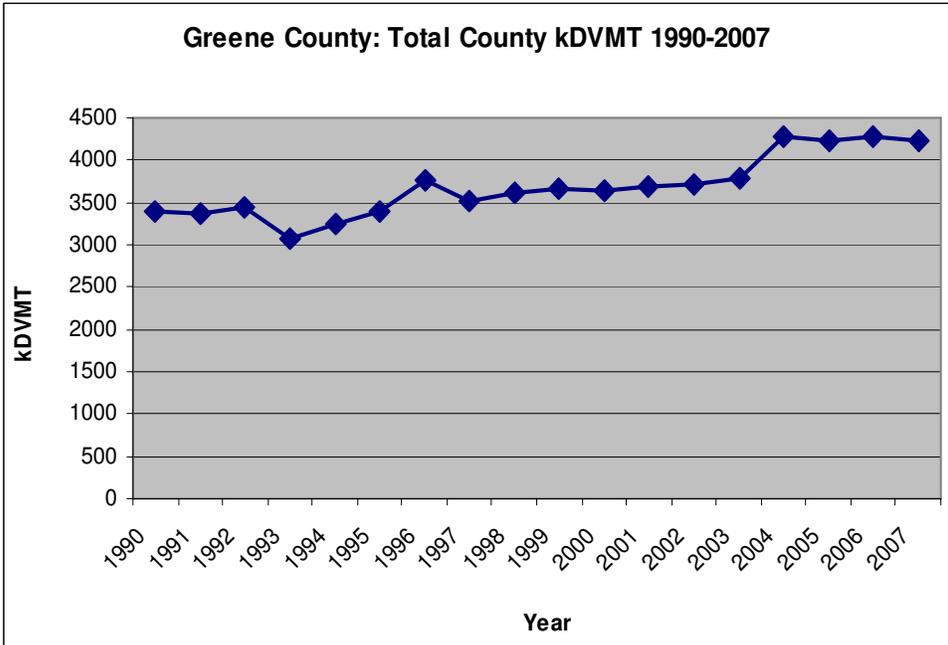
2007 = 4477.6



2005 = 1319.59

2006 = 1308.51

2007 = 1308.49

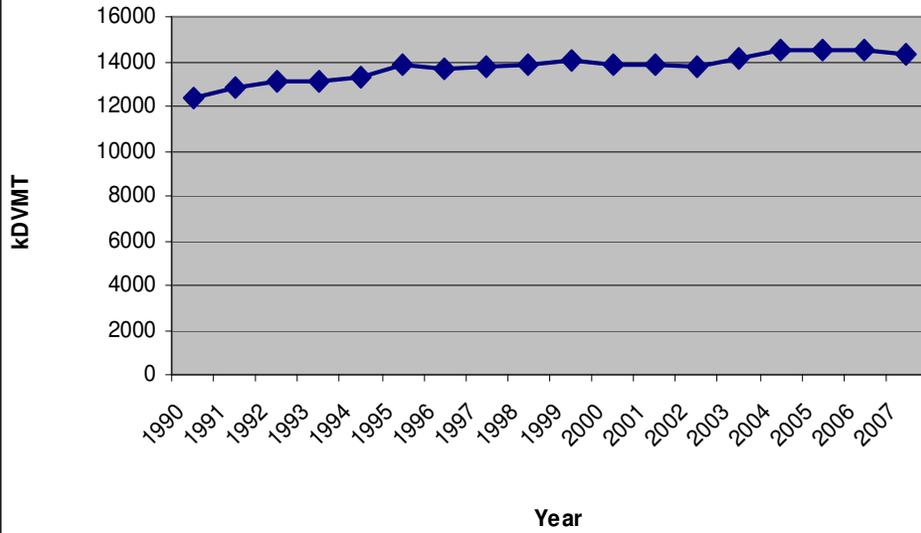


2005 = 4238.33

2006 = 4281.29

2007 = 4218.93

Montgomery County: Total County kDVMT 1990-2007

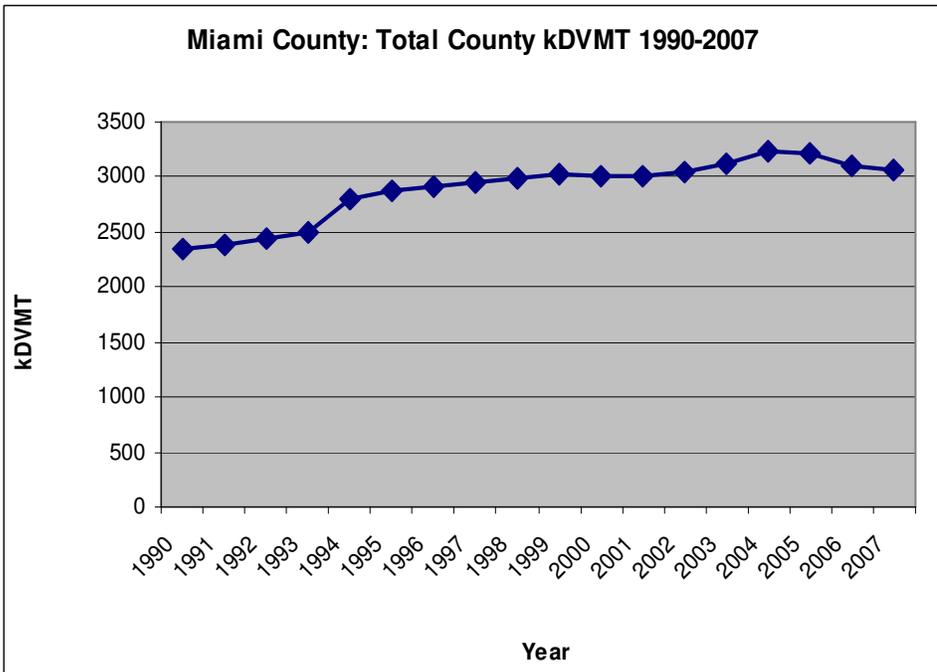


2005 = 14506.09

2006 = 14541.39

2007 = 14345.87

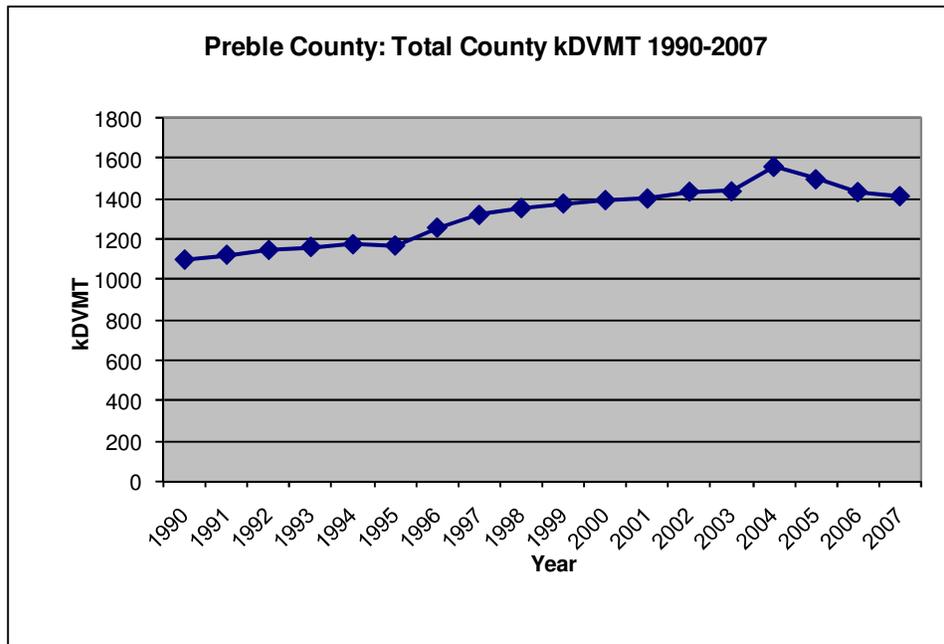
Miami County: Total County kDVMT 1990-2007



2005 = 3211.95

2006 = 3110.98

2007 = 3072.25



2005 = 1496.2

2006 = 1432.92

2007 = 1412.27

Commuter Patterns

Source: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau, 2000

Montgomery County receives a high number of commuters from Greene County, and in turn, Greene County receives a similar number of commuters from Montgomery County. Clark County commuters travel to Montgomery and Greene Counties, but in lower numbers as shown in the following tables.

Champaign		Percent of workers that work outside the County -		53.1%
		Average commute time in minutes -		25.0
Number of workers 16+ years of age living in Champaign County			18,905	
Commute Out To	Number	Percent		
Clark Co. OH	3,493	18.5%		
Union Co. OH	1,802	9.5%		
Logan Co. OH	1,118	5.9%		
Franklin Co. OH	886	4.7%		
Miami Co. OH	827	4.4%		
Montgomery Co. OH	662	3.5%		
Shelby Co. OH	354	1.9%		
Madison Co. OH	265	1.4%		
Greene Co. OH	239	1.3%		
Summit Co. OH	47	0.2%		
Number of workers 16+ years of age working in Champaign County			12,897	
Commute In From	Number	Percent		
Clark Co. OH	1,299	10.1%		
Logan Co. OH	707	5.5%		
Montgomery Co. OH	675	5.2%		
Miami Co. OH	426	3.3%		
Franklin Co. OH	163	1.3%		
Greene Co. OH	121	0.9%		
Shelby Co. OH	104	0.8%		
Madison Co. OH	91	0.7%		
Union Co. OH	80	0.6%		
Jefferson Co. OH	42	0.3%		
Percent is of workers living in County.			Percent is of workers working in County.	

Clark	Percent of workers that work outside the County		31.5%
	Average commute time in minutes -		21.6
Number of workers 16+ years of age living in Clark County			65,887
Number of workers 16+ years of age working in Clark County			57,637
Commute Out To	Number	Percent	
Montgomery Co. OH	7,856	11.9%	
Greene Co. OH	5,508	8.4%	
Franklin Co. OH	1,437	2.2%	
Champaign Co. OH	1,299	2.0%	
Miami Co. OH	1,240	1.9%	
Madison Co. OH	1,092	1.7%	
Union Co. OH	775	1.2%	
Hamilton Co. OH	205	0.3%	
Logan Co. OH	186	0.3%	
Shelby Co. OH	132	0.2%	
Percent is of workers living in County.			
Commute In From	Number	Percent	
Champaign Co. OH	3,493	6.1%	
Montgomery Co. OH	2,517	4.4%	
Greene Co. OH	2,516	4.4%	
Miami Co. OH	882	1.5%	
Franklin Co. OH	446	0.8%	
Madison Co. OH	373	0.6%	
Logan Co. OH	256	0.4%	
Preble Co. OH	142	0.2%	
Warren Co. OH	125	0.2%	
Fayette Co. OH	124	0.2%	
Percent is of workers working in County.			

Darke	Percent of workers that work outside the County		36.8%
	Average commute time in minutes -		22.8
Number of workers 16+ years of age living in Darke County			25,303
Number of workers 16+ years of age working in Darke County			19,871
Commute Out To	Number	Percent	
Montgomery Co. OH	2,557	10.1%	
Miami Co. OH	2,429	9.6%	
Shelby Co. OH	1,131	4.5%	
Randolph Co. IN	582	2.3%	
Mercer Co. OH	545	2.2%	
Preble Co. OH	468	1.8%	
Wayne Co. IN	455	1.8%	
Auglaize Co. OH	278	1.1%	
Greene Co. OH	154	0.6%	
Clark Co. OH	115	0.5%	
Percent is of workers living in County.			
Commute In From	Number	Percent	
Miami Co. OH	813	4.1%	
Randolph Co. IN	659	3.3%	
Montgomery Co. OH	647	3.3%	
Mercer Co. OH	519	2.6%	
Preble Co. OH	311	1.6%	
Shelby Co. OH	238	1.2%	
Auglaize Co. OH	121	0.6%	
Wayne Co. IN	109	0.5%	
Greene Co. OH	58	0.3%	
Clark Co. OH	58	0.3%	
Percent is of workers working in County.			

Greene	Percent of workers that work outside the County		44.5%
	Average commute time in minutes -		20.3
Number of workers 16+ years of age living in Greene County			72,958
Number of workers 16+ years of age working in Greene County			76,312
Commute Out To	Number	Percent	
Montgomery Co. OH	24,925	34.2%	
Clark Co. OH	2,516	3.4%	
Clinton Co. OH	808	1.1%	
Warren Co. OH	797	1.1%	
Hamilton Co. OH	610	0.8%	
Miami Co. OH	522	0.7%	
Franklin Co. OH	441	0.6%	
Butler Co. OH	358	0.5%	
Fayette Co. OH	350	0.5%	
Champaign Co. OH	121	0.2%	
Percent is of workers living in County.			
Commute In From	Number	Percent	
Montgomery Co. OH	24,214	31.7%	
Clark Co. OH	5,508	7.2%	
Miami Co. OH	1,514	2.0%	
Warren Co. OH	1,321	1.7%	
Clinton Co. OH	451	0.6%	
Butler Co. OH	400	0.5%	
Hamilton Co. OH	245	0.3%	
Champaign Co. OH	239	0.3%	
Franklin Co. OH	236	0.3%	
Preble Co. OH	220	0.3%	
Percent is of workers working in County.			

Miami	Percent of workers that work outside the County		37.4%
	Average commute time in minutes -		20.1
Number of workers 16+ years of age living in Miami County			49,799
Number of workers 16+ years of age working in Miami County			44,378
Commute Out To	Number	Percent	
Montgomery Co. OH	11,368	22.8%	
Shelby Co. OH	2,438	4.9%	
Greene Co. OH	1,514	3.0%	
Clark Co. OH	882	1.8%	
Darke Co. OH	813	1.6%	
Champaign Co. OH	426	0.9%	
Hamilton Co. OH	142	0.3%	
Preble Co. OH	130	0.3%	
Auglaize Co. OH	126	0.3%	
Butler Co. OH	95	0.2%	
Commute In From	Number	Percent	
Montgomery Co. OH	4,722	10.6%	
Darke Co. OH	2,429	5.5%	
Shelby Co. OH	1,902	4.3%	
Clark Co. OH	1,240	2.8%	
Champaign Co. OH	827	1.9%	
Greene Co. OH	522	1.2%	
Auglaize Co. OH	200	0.5%	
Preble Co. OH	182	0.4%	
Hamilton Co. OH	120	0.3%	
Logan Co. OH	117	0.3%	
Percent is of workers living in County.			Percent is of workers working in County.

Montgomery	Percent of workers that work outside the County		18.6%
	Average commute time in minutes -		21.2
Number of workers 16+ years of age living in Montgomery County			259,419
Number of workers 16+ years of age working in Montgomery County			288,140
Commute Out To	Number	Percent	
Greene Co. OH	24,214	9.3%	
Miami Co. OH	4,722	1.8%	
Warren Co. OH	4,488	1.7%	
Hamilton Co. OH	2,698	1.0%	
Butler Co. OH	2,622	1.0%	
Clark Co. OH	2,517	1.0%	
Franklin Co. OH	1,022	0.4%	
Preble Co. OH	933	0.4%	
Champaign Co. OH	675	0.3%	
Darke Co. OH	647	0.2%	
Commute In From	Number	Percent	
Greene Co. OH	24,925	8.7%	
Miami Co. OH	11,368	3.9%	
Warren Co. OH	11,325	3.9%	
Clark Co. OH	7,856	2.7%	
Preble Co. OH	4,837	1.7%	
Butler Co. OH	4,635	1.6%	
Darke Co. OH	2,557	0.9%	
Hamilton Co. OH	1,747	0.6%	
Clinton Co. OH	782	0.3%	
Champaign Co. OH	662	0.2%	
Percent is of workers living in County.			Percent is of workers working in County.

Preble	Percent of workers that work outside the County -		54.1%
	Average commute time in minutes -		26.7
Number of workers 16+ years of age living in Preble County			20,226
Commute Out To	Number	Percent	
Montgomery Co. OH	4,837	23.9%	
Butler Co. OH	2,575	12.7%	
Wayne Co. IN	1,499	7.4%	
Hamilton Co. OH	388	1.9%	
Warren Co. OH	336	1.7%	
Darke Co. OH	311	1.5%	
Greene Co. OH	220	1.1%	
Miami Co. OH	182	0.9%	
Clark Co. OH	142	0.7%	
Union Co. IN	50	0.2%	
Number of workers 16+ years of age working in Preble County			12,119
Commute In From	Number	Percent	
Montgomery Co. OH	933	7.7%	
Wayne Co. IN	588	4.9%	
Darke Co. OH	468	3.9%	
Butler Co. OH	239	2.0%	
Miami Co. OH	130	1.1%	
Randolph Co. IN	66	0.5%	
Greene Co. OH	58	0.5%	
Hamilton Co. OH	50	0.4%	
Warren Co. OH	35	0.3%	
Union Co. IN	35	0.3%	
Percent is of workers living in County.			Percent is of workers working in County.

Factor 5: Meteorology

Please refer to Appendix E for applicable meteorology information for the Dayton-Springfield area.

Factor 6: Topography/Land use/Land cover

Clark County lies within the glaciated till plains of the Central Lowlands Province. Relief ranges from nearly level to steep, but the land surface is predominately undulating. The highest elevation in the County is 1,250 feet above sea level close to Catawba near the Champaign County line. The lowest elevation is 820 feet in the southwest corner where the Mad River crosses the County line.

Darke County is in the Till Plains section of the Central Lowlands physiographic province. Maximum relief in the County is 310 feet. The highest point, about 1,240 feet above sea level, is on top of a knoll about 2 miles southwest of New Madison. The lowest point, about 930 feet above sea level, is on a flood plain about 2 miles north of Bradford, where the Stillwater River flows out of the County. The elevation in most of the County is 1,000 to 1,100 feet above sea level.

Greene County is located in the glaciated till plains of the Central Lowlands Province. Relief varies very little throughout the County. The eastern part is nearly level to gently undulating, while the central and western part of the County is more pronounced with undulating to rolling hills.

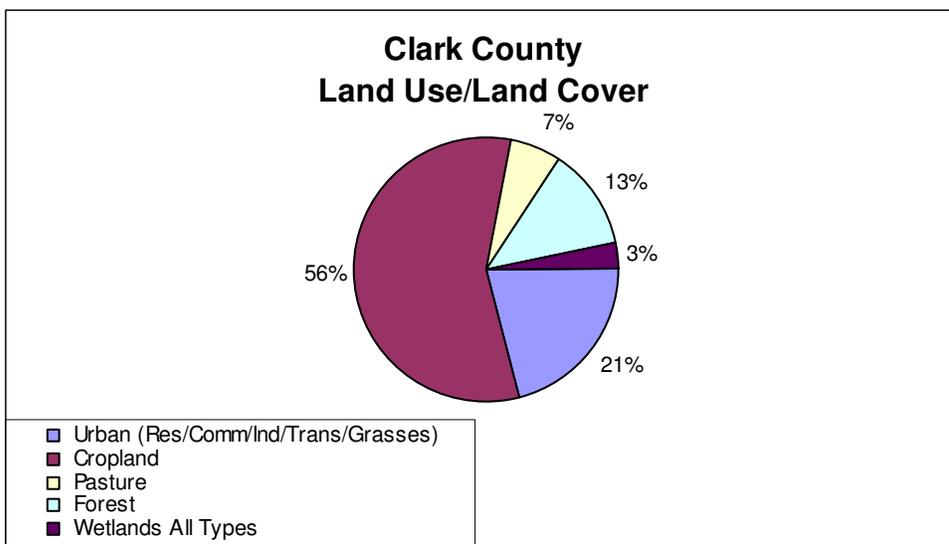
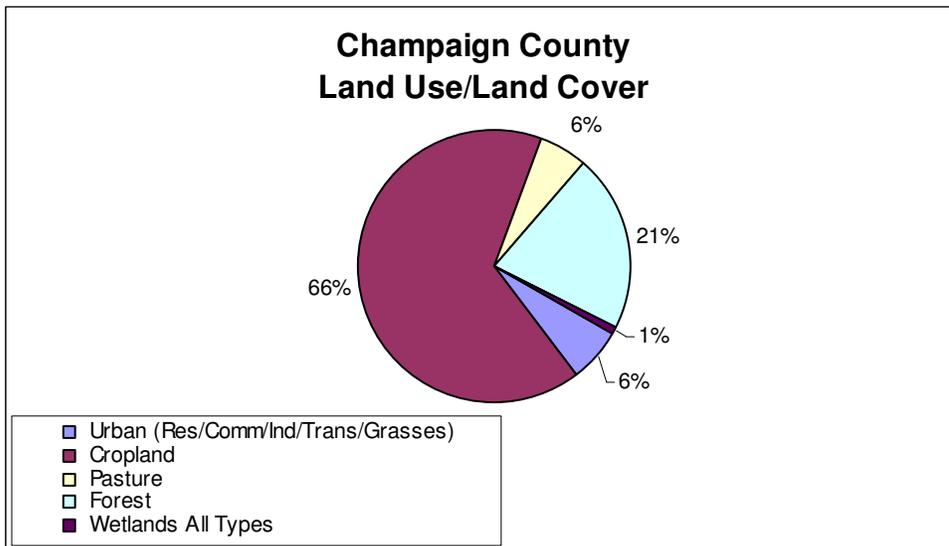
Miami County is in the Till Plains section of the Central Lowlands physiographic province. It is generally nearly level. The highest point in the County, 1,155 feet

above sea level, occurs along the County line, 1.75 miles north of Lena. The lowest spot, 770 feet above sea level, occurs along the eastern side of the Great Miami River on the Miami-Montgomery County line.

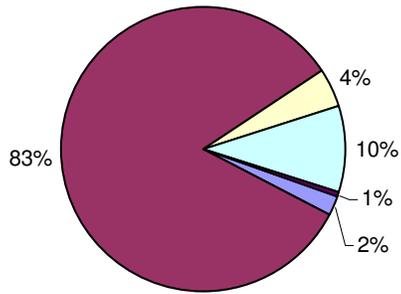
Montgomery County, like Greene and Clark Counties, lies within the glaciated till plains of the Central Lowlands Province. The relief varies greatly throughout the County, from nearly level to significant relief changes along the Great Miami River, Stillwater River and other drainageways.

Preble County lies entirely within the glaciated region of Ohio within the Indiana and Ohio Till Plain. The western quarter of the County has nearly level landscape and is known locally as the "Boston Plains".

As shown in the following pie charts, the land use/land cover in Montgomery County has the highest percentage of urban area. Clark and Greene Counties share very similar characteristics with nearly the same percentage of all categories.

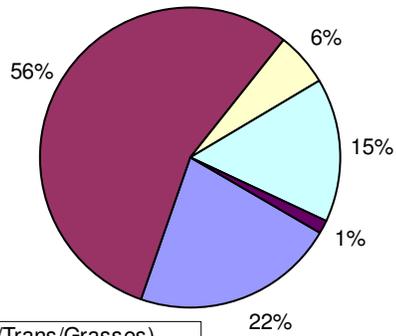


Darke County Land Use/Land Cover



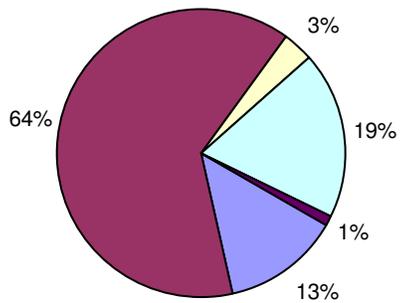
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Greene County Land Use/Land Cover

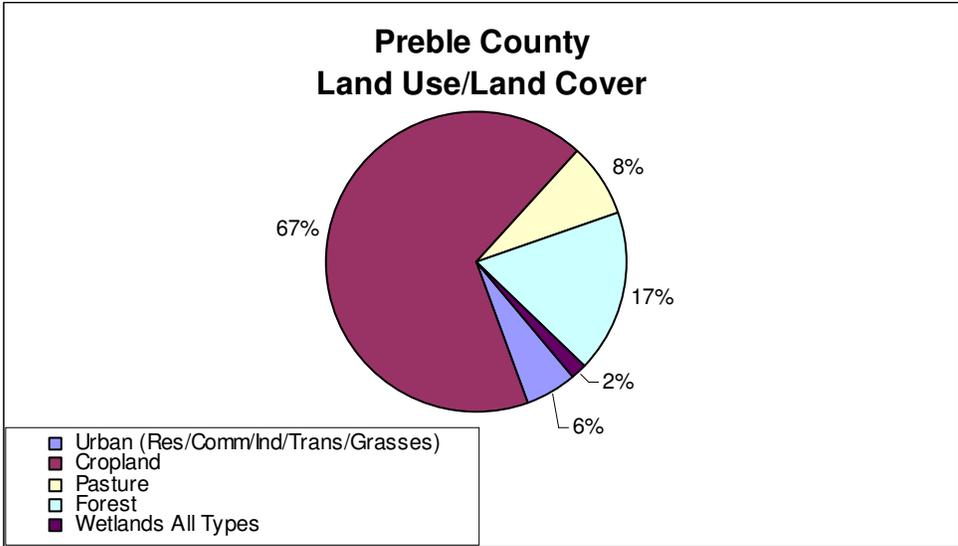
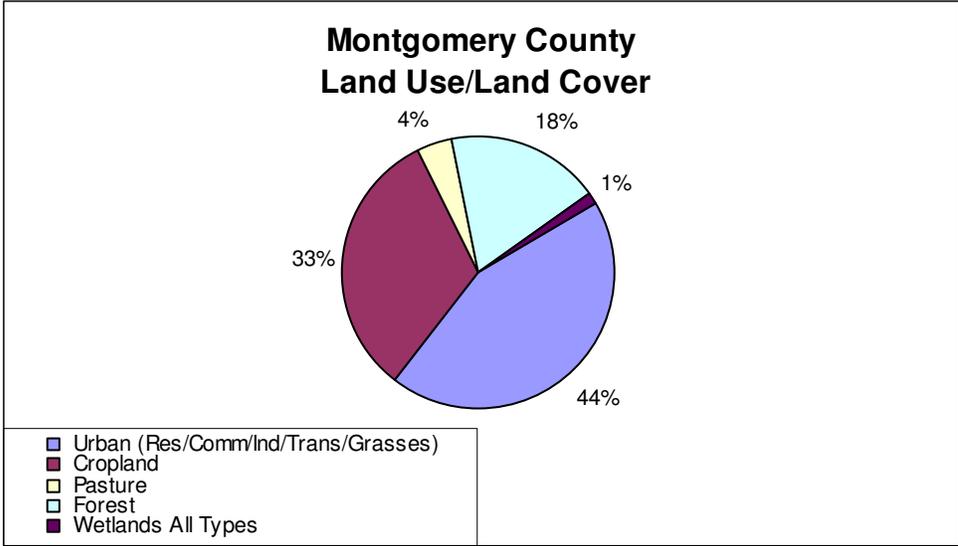


- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Miami County Land Use/Land Cover



- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types



Factor 7: Jurisdictional boundaries

The Dayton, OH MSA includes: Greene, Miami, Montgomery, and Preble Counties. The principal city is Dayton. The Springfield, OH MSA includes Clark County. The principal city is Springfield. The CSA also includes Champaign, Clark, and Darke Counties.

The Miami Valley Regional Planning Commission (MVRPC) is the planning agency designated as the Metropolitan Planning Organization for the region composed of three Counties: Greene, Miami, and Montgomery Counties. The cities of Franklin and Carlisle in Warren County are part of the Miami Valley Regional Planning Commission (MVRPC) planning area.

The Clark County-Springfield Transportation Coordinating Committee (CCSTCC) is the planning agency designated as the MPO for the region composed of Clark County.

Factor 8: Level of control of emission sources

Please refer to the factor 8 general discussion at the beginning of this document for applicable control information for this area.

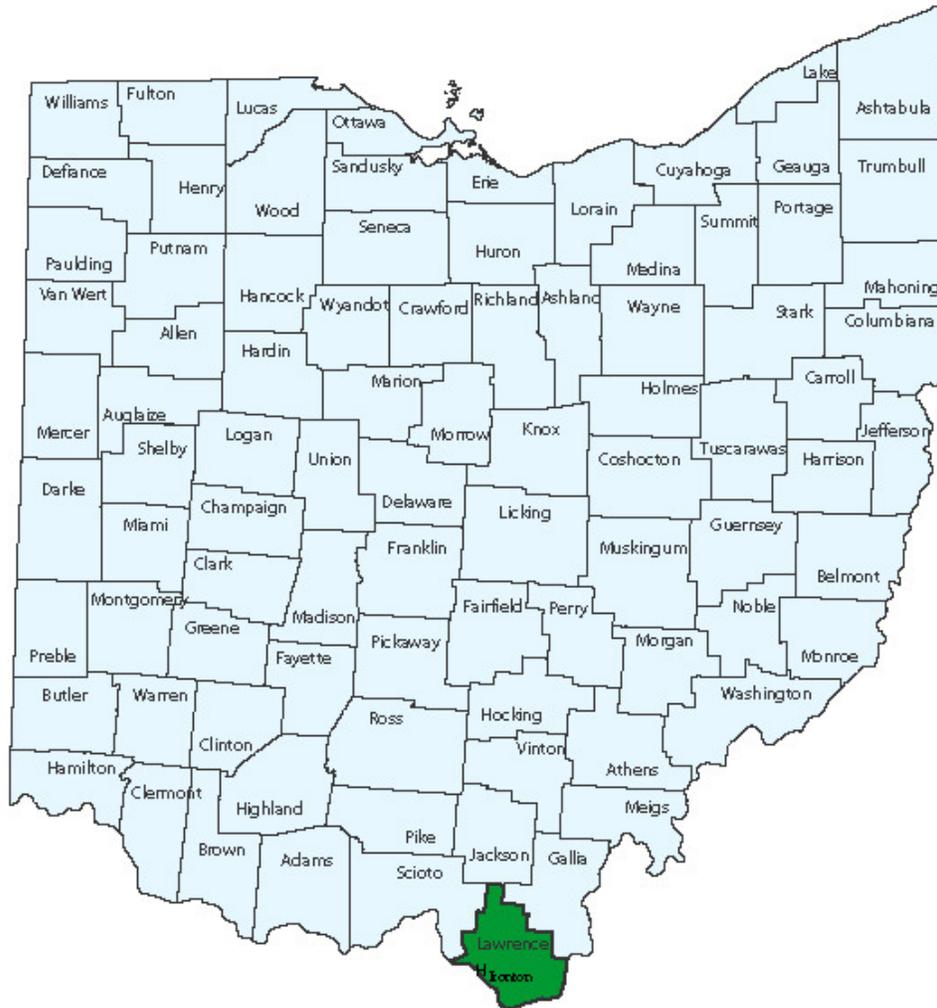
Huntington-Ashland, WV-KY-OH

Current County nonattainment: none

Current nonattainment Counties

Recommended County nonattainment: Lawrence

 Recommended nonattainment Counties



Discussion

There is one Ohio County in the existing ozone designation area- Lawrence; and one Kentucky County- Boyd. This area was designated attainment for the 1997 ozone standard. With respect to the new standard, Ohio EPA recommends designating Lawrence County as nonattainment for the Huntington-Ashland area due to violating monitors in the area. Three other Ohio Counties are adjacent to this area: Scioto, Jackson, and Gallia Counties.

The three-year average of the annual fourth-highest daily maximum eight-hour average concentration at one of two monitors in Lawrence County is not attaining the revised standard as identified under factor 1 below. Also, neighboring Cabell County in West Virginia and Greenup County in Kentucky contain violating monitors as identified under factor 1 below. Comparatively, emissions of VOC and NOx in all Counties are very small with the exception of NOx emissions in Gallia County, Ohio. This is due to a power plant, and projected emissions are anticipated to significantly decrease due to CAIR.

Ohio EPA is not recommending additional adjacent Counties for nonattainment designations in this area. The Counties in this area have low population and growth, low kDMVT with no significant levels of commuters.

Factor 1: Air quality data

Ohio

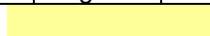
 = Exceeds standard

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4

39-087-0006 Portsmouth Lawrence Co.	2006	87	82	73	72
	2007	89	78	77	76
	2008	92	86	83	82
	Avg				 76.7

39-087-0011 Portsmouth Lawrence Co.	2006	72	68	68	67
	2007	89	87	84	82
	2008	87	81	77	74
	Avg				74.3

 Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

West Virginia

 = Exceeds standard

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4

54-011-0006 Huntington Cabell Co	2006	86	85	81	81
	2007	94	91	90	89
	2008	76	71	71	70
	Avg				 80.0

 Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

Kentucky

 = Exceeds standard

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

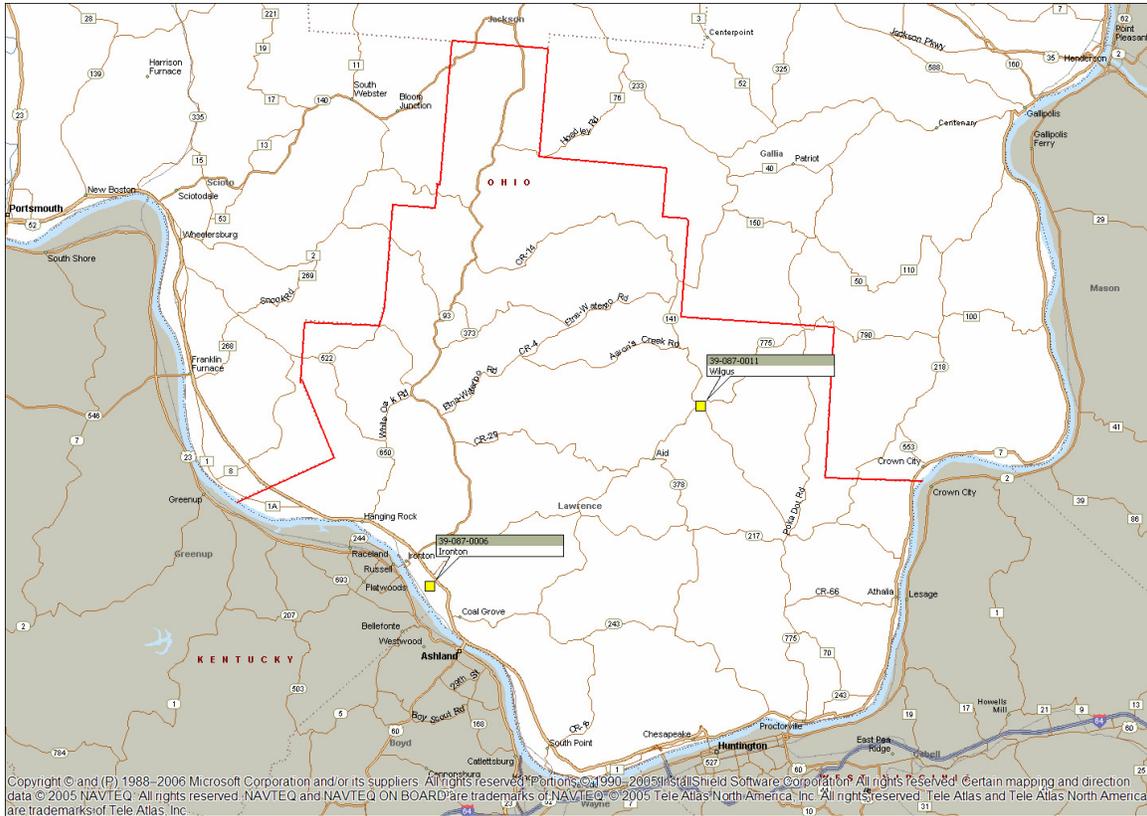
Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4

21-019-0017 Ashland Boyd Co	2006	87	83	81	79
	2007	80	76	76	72
	2008	80	79	77	73
	Avg				74.7

21-089-0007 Worthington Greenup Co.	2006	93	81	77	77
	2007	86	85	84	79
	2008	77	76	75	74
	Avg				 76.7

 Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

Huntington-Ashland Area Ozone Monitor Locations and Site ID Numbers



Factor 2: Emissions data (tons per day)

Ohio

2005		
County	VOC	NO _x
LAWRENCE	6.09	7.80
Scioto	10.20	12.54
Gallia	5.36	162.28
Jackson	5.12	4.29

2009		
County	VOC	NO _x
LAWRENCE	5.21	6.73
Scioto	9.00	9.54
Gallia	4.72	29.54
Jackson	4.96	3.55

West Virginia (Does not include on-road data)

2005		
County	VOC	NO_x
Cabell	11.72	7.70
Wayne	5.35	17.77

2009		
County	VOC	NO_x
Cabell	5.31	4.99
Wayne	2.62	13.16

Kentucky (Does not include on-road data)

2005		
County	VOC	NO_x
BOYD	11.22	28.03
Greenup	3.08	9.07

2009		
County	VOC	NO_x
BOYD	10.11	25.54
Greenup	1.64	6.61

Major Employers:

Source: Ohio Department of Development 2007

Most of the major employers in the Huntington-Ashland area are in the categories of manufacturing, government and service as shown below.

Gallia County

American Electric Power	Utility
DMI Technology/ElectroCraft	Manufacturing
Gallia County Local Bd of Ed	Government
Gallipolis City Bd of Ed	Government
GKN Sinter Metals	Manufacturing
Holzer Clinic	Service
Holzer Medical Center	Service
Infocision Management Corp	Service
Ohio Valley Bank	Finance
Ohio Valley Electric Corp	Utility
State of Ohio	Government
University of Rio Grande	Service
Wal-Mart Stores Inc	Trade

Jackson County

Galerie Au Chocolat	Service
General Mills Inc	Manufacturing
Holzer Medical Center	Service
Jackson City Bd of Ed	Government
Masco Corp/Merillat Inds Inc	Manufacturing
Michelina's Inc	Manufacturing
Ohio Precious Metals LLC	Manufacturing
Oscro Industries Inc	Manufacturing
Resco Products	Manufacturing
Wal-Mart Stores Inc	Trade
Wellston City Bd of Ed	Government

Lawrence County

Dow Chemical Co	Manufacturing
Duke Energy Corp	Manufacturing
Emerson Electric/Liebert Corp	Manufacturing
Engines Inc of Ohio	Manufacturing
Ironton City Bd of Ed	Government
Jo-Lin Health Center	Service
Lawrence County Government	Government
McGinnis Inc	Manufacturing
McSweeneys Inc	Manufacturing
Ohio University	Government
Rock Hill Local Bd of Ed	Government
South Point Local Bd of Ed	Government
Superior Marine Ways Inc	Service
Wal-Mart Stores Inc	Trade

Scioto County

G&J Pepsi-Cola Bottlers Inc	Manufacturing
Mitchellace Inc	Manufacturing
OSCO Industries	Manufacturing
Portsmouth City Bd of Ed	Government
Scioto County Government	Government
Shawnee State University	Government
Southern Ohio Medical Center	Service
State of Ohio	Government
Sunoco In/Sun Coke	Manufacturing
Taylor Lumber Inc	Manufacturing
Wal-Mart Stores Inc	Trade

Factor 3: Population and Projected Growth

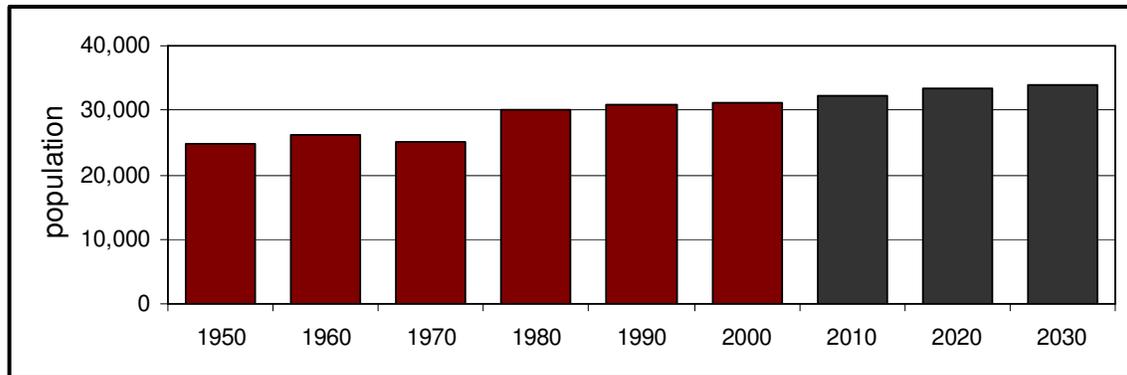
Sources: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau Population Estimates Program 2007

The primary urban areas in the Ohio portion of the Huntington-Ashland area are: Ironton in Lawrence County; Portsmouth in Scioto County; West Union and Seaman in Adams County; and Gallipolis in Gallia County.

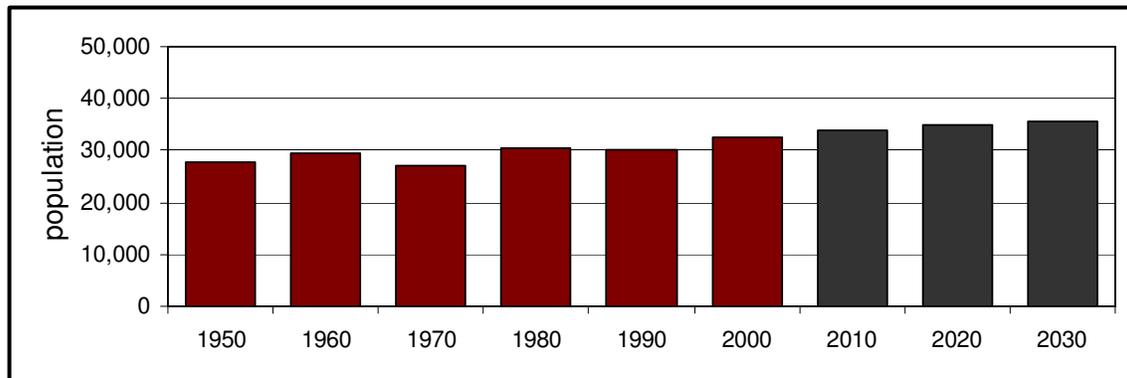
As indicated in the following table and graphs, Scioto County has the highest population in this area and it is projected to gradually decrease. The populations in the surrounding Counties are projected to gradually increase.

COUNTY	2004	2005	2006	2007	2010	2020	2030
Lawrence	62,573	62,946	63,179	62,609	62,910	63,830	64,060
Scioto	76,579	76,506	76,441	75,958	78,820	78,330	78,270
Gallia	31,232	31,241	31,313	30,841	32,230	33,360	34,020
Jackson	33,302	33,576	33,543	33,314	34,020	35,060	35,680

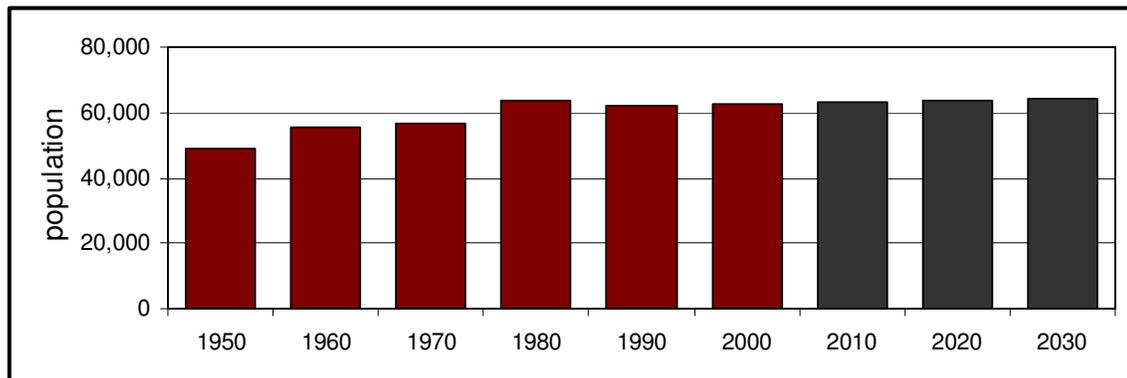
Gallia County



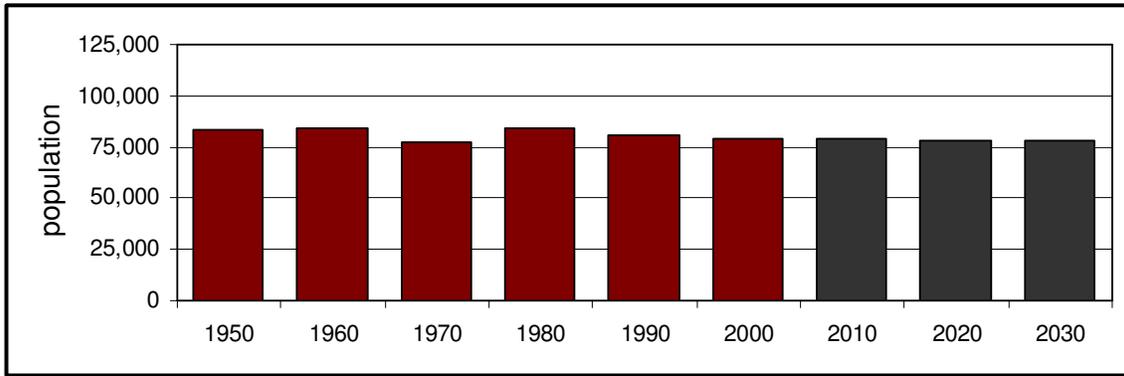
Jackson County



Lawrence County



Scioto County

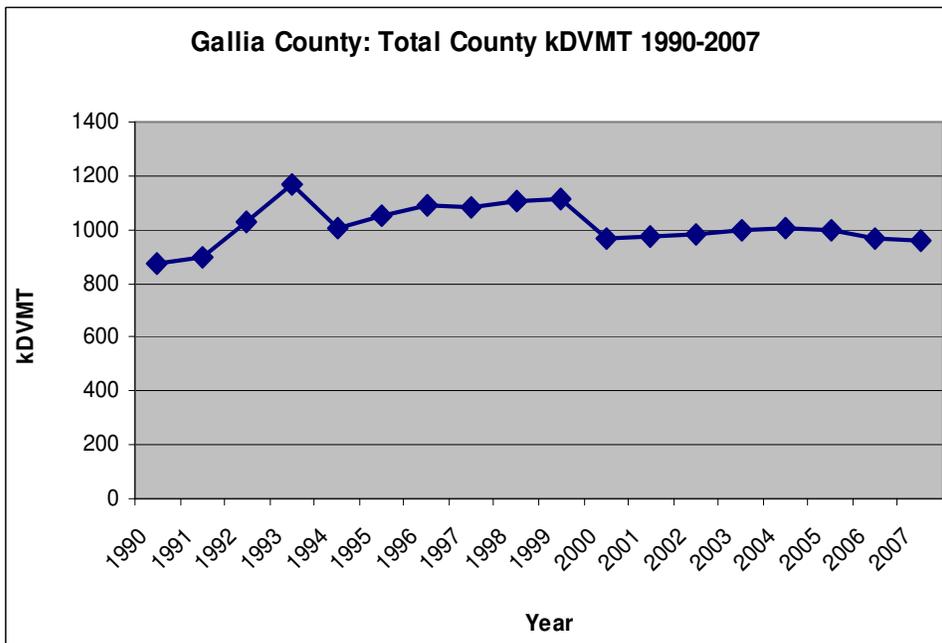


Factor 4: Traffic and commuting patterns

The kDVMT in the Huntington-Ashland area did not change significantly from 2005 to 2007 as shown in the following graphs. All Counties experienced a slight decrease in kDVMT from 2006 to 2007. Scioto County has the prestige of having the highest kDVMT in this area.

Estimated Daily Vehicle Miles Traveled (kDVMT = in thousands)

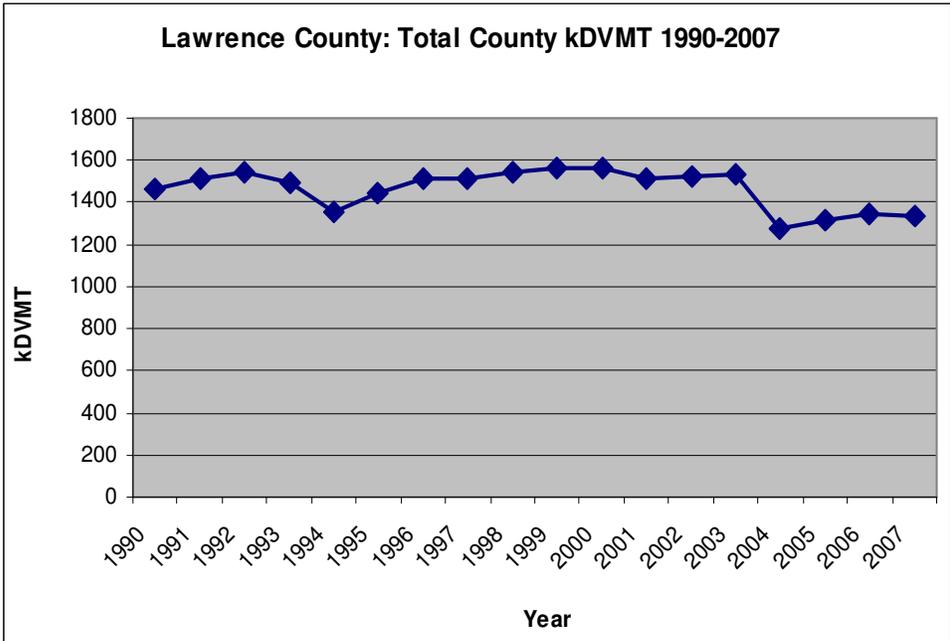
Source: Ohio Department of Transportation, Office of Technical Services



2005 = 997.03

2006 = 968.24

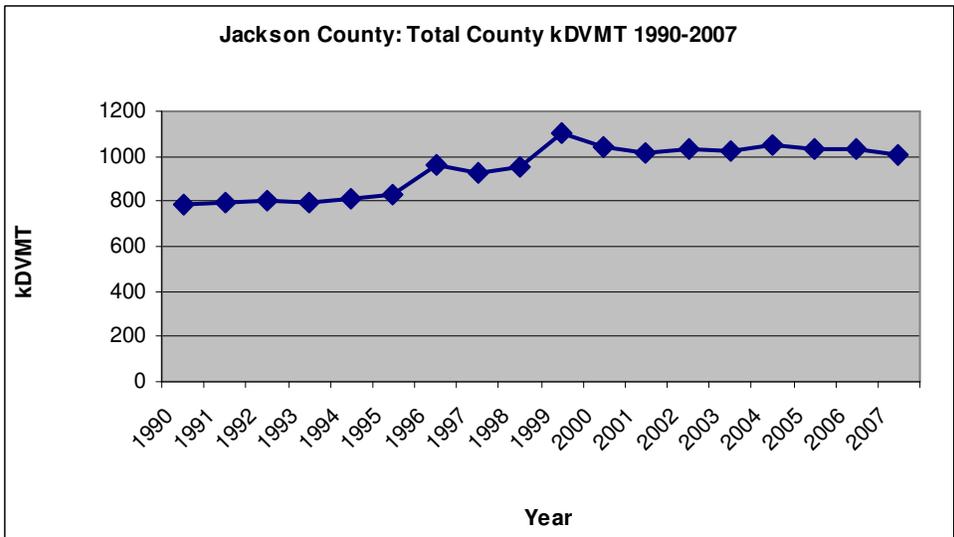
2007 = 957.3



2005 = 1315.02

2006 = 1345.98

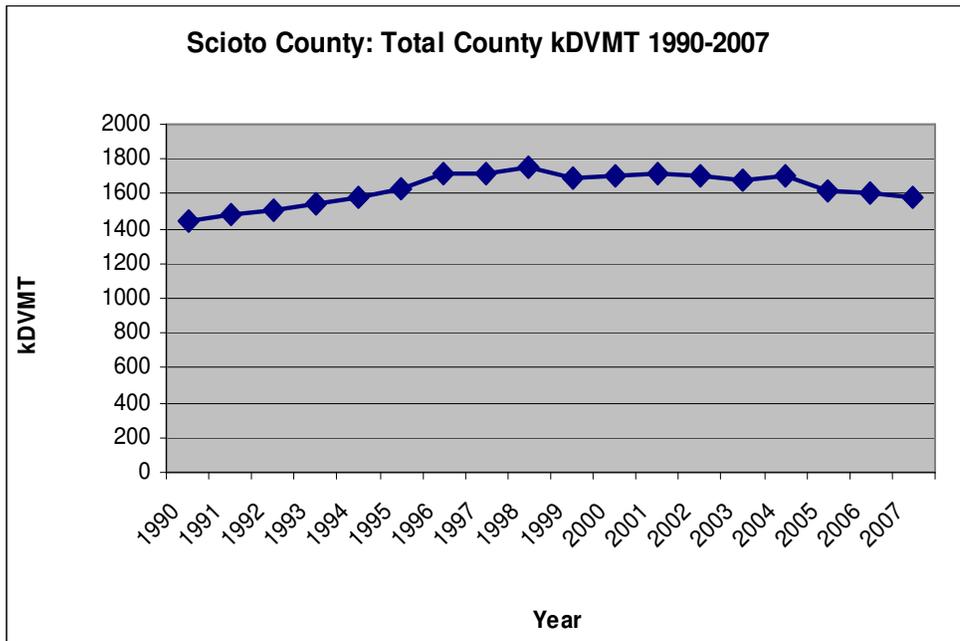
2007 = 1331.95



2005 = 1033.12

2006 = 1030.26

2007 = 1008.4



2005 = 1616.94

2006 = 1602.83

2007 = 1581.51

Commuter Patterns

Source: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau, 2000

The majority of Lawrence County workers commuting outside the County, travel to West Virginia and Kentucky. The largest portion of Scioto County workers commuting outside the County, travel to Pike County. Gallia County commuters drive to Jackson County and Mason County, West Virginia as shown in the tables below.

Gallia		Percent of workers that work outside the County		25.2%	
		Average commute time in minutes -		28.1	
Number of workers 16+ years of age living in Gallia County			11,813		
Commute Out To	Number	Percent			
Mason Co. WV	669	5.7%			
Jackson Co. OH	595	5.0%			
Franklin Co. OH	218	1.8%			
Cabell Co. WV	190	1.6%			
Meigs Co. OH	187	1.6%			
Athens Co. OH	165	1.4%			
Lawrence Co. OH	111	0.9%			
Ross Co. OH	108	0.9%			
Kanawha Co. WV	96	0.8%			
Jackson Co. WV	71	0.6%			
Percent is of workers living in County.					
Number of workers 16+ years of age working in Gallia County			12,073		
Commute In From	Number	Percent			
Mason Co. WV	1,358	11.2%			
Meigs Co. OH	844	7.0%			
Jackson Co. OH	403	3.3%			
Lawrence Co. OH	164	1.4%			
Putnam Co. WV	51	0.4%			
Vinton Co. OH	45	0.4%			
Athens Co. OH	44	0.4%			
Franklin Co. OH	37	0.3%			
Scioto Co. OH	36	0.3%			
Cabell Co. WV	35	0.3%			
Percent is of workers working in County.					

Jackson	Percent of workers that work outside the County		32.5%
	Average commute time in minutes -		28.3
Number of workers 16+ years of age living in Jackson County			13,026
Number of workers 16+ years of age working in Jackson County			11,892
Commute Out To	Number	Percent	Commute In From
Pike Co. OH	957	7.3%	Vinton Co. OH
Ross Co. OH	917	7.0%	Gallia Co. OH
Franklin Co. OH	540	4.1%	Scioto Co. OH
Gallia Co. OH	403	3.1%	Ross Co. OH
Vinton Co. OH	356	2.7%	Pike Co. OH
Athens Co. OH	220	1.7%	Lawrence Co. OH
Scioto Co. OH	211	1.6%	Meigs Co. OH
Pickaway Co. OH	108	0.8%	Athens Co. OH
Muskingum Co. OH	44	0.3%	Mason Co. WV
Fairfield Co. OH	38	0.3%	Franklin Co. OH
Percent is of workers living in County.			Percent is of workers working in County.

Lawrence	Percent of workers that work outside the County		58.0%
	Average commute time in minutes -		24.1
Number of workers 16+ years of age living in Lawrence County			23,136
Number of workers 16+ years of age working in Lawrence County			12,671
Commute Out To	Number	Percent	Commute In From
Cabell Co. WV	7,179	31.0%	Cabell Co. WV
Boyd Co. KY	2,926	12.6%	Boyd Co. KY
Greenup Co. KY	715	3.1%	Scioto Co. OH
Wayne Co. WV	622	2.7%	Greenup Co. KY
Scioto Co. OH	616	2.7%	Wayne Co. WV
Jackson Co. OH	179	0.8%	Gallia Co. OH
Kanawha Co. WV	175	0.8%	Carter Co. KY
Gallia Co. OH	164	0.7%	Lewis Co. KY
Putnam Co. WV	95	0.4%	Jackson Co. OH
Franklin Co. OH	82	0.4%	Lawrence Co. KY
Percent is of workers living in County.			Percent is of workers working in County.

Scioto	Percent of workers that work outside the County		22.7%
	Average commute time in minutes -		26.0
Number of workers 16+ years of age living in Scioto County			28,356
Number of workers 16+ years of age working in Scioto County			25,573
Commute Out To	Number	Percent	Commute In From
Pike Co. OH	2,453	8.7%	Greenup Co. KY
Franklin Co. OH	540	1.9%	Lawrence Co. OH
Ross Co. OH	494	1.7%	Pike Co. OH
Lawrence Co. OH	455	1.6%	Lewis Co. KY
Jackson Co. OH	428	1.5%	Jackson Co. OH
Boyd Co. KY	390	1.4%	Boyd Co. KY
Greenup Co. KY	332	1.2%	Adams Co. OH
Adams Co. OH	223	0.8%	Ross Co. OH
Cabell Co. WV	108	0.4%	Wayne Co. WV
Hamilton Co. OH	99	0.3%	Franklin Co. OH
Percent is of workers living in County.			Percent is of workers working in County.

Factor 5: Meteorology

Please refer to Appendix E for applicable meteorology information for the Huntington-Ashland area.

Factor 6: Topography/Land use/Land cover

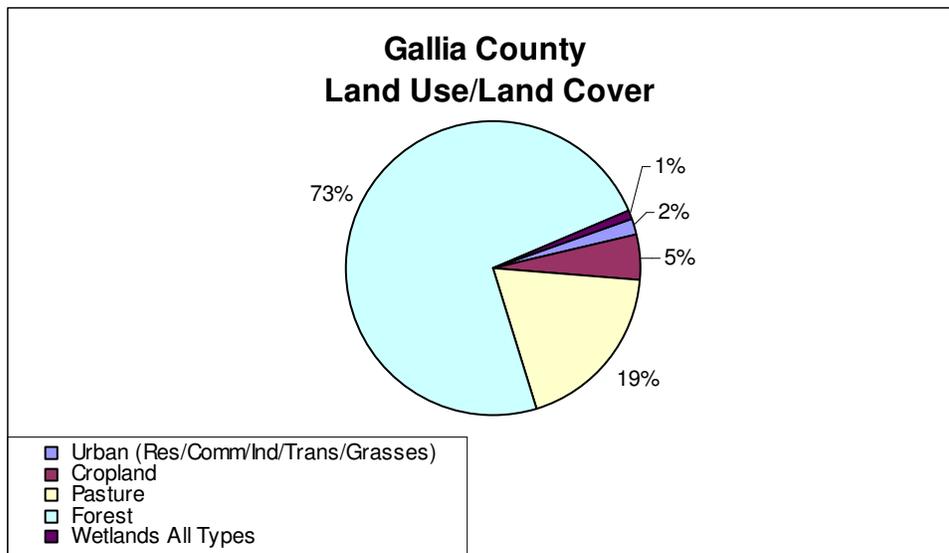
Scioto County is on the unglaciated Allegheny Plateau. The landscape consists of hills, narrow and wide ridgetops, and stream valleys. Elevation in the County ranges from 464 feet along the Adams-Scioto County line to 1,338 feet near Mt. Joy in the northwest part of the County.

Jackson County is in the unglaciated Allegheny Plateau Region with hilly and rough topography. The maximum difference in elevation is about 445 feet. The lowest point, about 595 feet above sea level, is in Little Salt Creek near the northwestern corner of the County. The highest point, about 1,040 feet above sea level, is on the western edge of the County near the Pike County line. The elevation of the main valleys is between 600 and 700 feet.

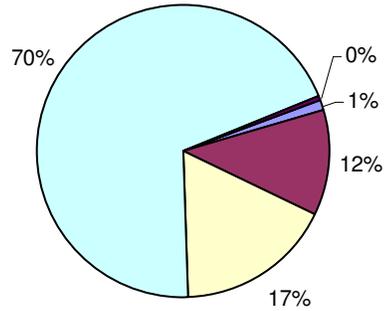
Lawrence County is the southernmost County in Ohio. The County is located on the unglaciated Allegheny Plateau. Relief consists of steep and very steep slopes and V-shaped valleys. The elevation ranges from 515 feet to 1,061 feet above sea level.

Gallia County is in the unglaciated Allegheny Plateau region. It is extensively dissected by drainageways and has hilly and rough topography. The highest point in the County is about 1,060 feet and the lowest is about 515 feet above sea level.

As shown in the following pie charts, the land use/land cover in this area is predominately characterized as forest area.

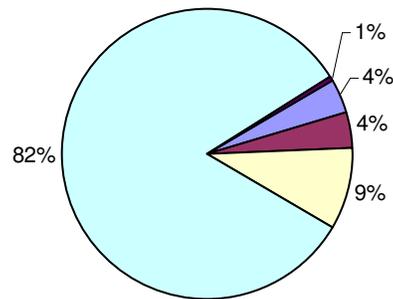


Jackson County Land Use/Land Cover



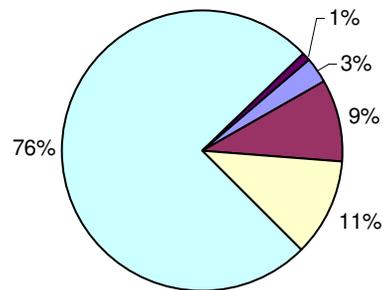
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Lawrence County Land Use/Land Cover



- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Scioto County Land Use/Land Cover



- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Factor 7: Jurisdictional Boundaries

The Huntington-Ashland, WV-KY-OH MSA includes: Boyd and Greenup Counties in Kentucky, Cabell and Wayne Counties in West Virginia, and Lawrence County in Ohio. The principal cities are Huntington, WV and Ashland, KY. There is no CSA for this area.

The KYOVA Interstate Planning Commission (KYOVA) is the planning agency designated as the Metropolitan Planning Organization for the Huntington-Ashland area. The KYOVA region is composed of three Counties: Cabell and Wayne Counties in KY and Lawrence County in Ohio.

Factor 8: Level of control of emission sources

Please refer to the factor 8 general discussion at the beginning of this document for applicable control information for this area.

Lima, OH

Current County nonattainment: none

Current nonattainment Counties

Recommended County nonattainment: none

 Recommended nonattainment Counties



Discussion

There is one County in this existing ozone designation area, Allen County. This area was initially designated nonattainment for the 1997 ozone standard and then was redesignated as attainment in June of 2007. With respect to the new standard, Ohio EPA recommends designating Allen County as attainment for the Lima area. Allen County contains one monitor which is not violating the revised standard. There are five Counties that are adjacent to Allen County: Putnam, Hancock, Hardin, Auglaize, and Van Wert Counties. None of these Counties contain monitors.

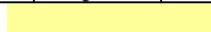
The three-year average of the annual fourth-highest daily maximum eight-hour average concentrations at the monitor is attaining the revised standard as identified under factor 1 below. Emissions in Allen County and the adjacent Counties are relatively small.

Factor 1: Air quality data

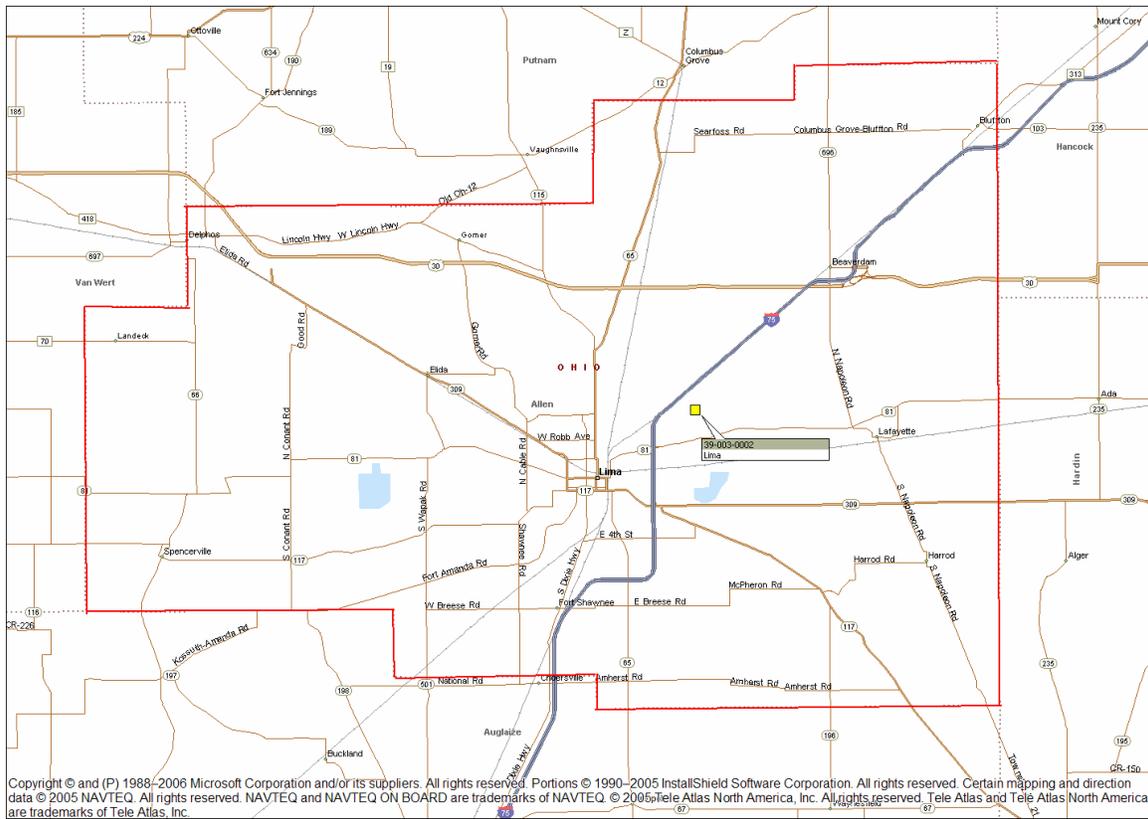
 = Exceeds standard

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4
39-003-0002 Lima Allen	2006	90	82	82	75
	2007	88	80	79	78
	2008	72	68	68	67
	Avg				73.3

 Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

Allen County Ozone Monitor Locations and Site ID Numbers



Factor 2: Emissions Data (tons per day)

2005		
County	VOC	NO _x
ALLEN	18.09	22.72
Auglaize	9.14	8.07
Hancock	16.79	14.44
Hardin	5.69	4.27
Putnam	7.18	6.29
Van Wert	6.17	5.00

2009		
County	VOC	NO _x
ALLEN	14.17	20.45
Auglaize	7.68	10.46
Hancock	13.72	11.12
Hardin	5.10	3.31
Putnam	6.88	4.91
Van Wert	5.59	4.26

Major Employers

Source: Ohio Department of Development, 2007

Most of the major employers in Allen County and the surrounding Counties are in the categories of manufacturing, service and government as shown below.

Allen County

BP Chemicals Inc	Manufacturing
Countryside Foods/I&K Distributors	Manufacturing
Dana Corp	Manufacturing
Ford Motor Co	Manufacturing
General Dynamics Corp	Manufacturing
Husky Energy Inc	Manufacturing
Lima City Bd of Ed	Government
Lima Memorial Health System	Service
MetoKote Corp	Manufacturing
Nash Finch Co	Trade
Procter & Gamble Co	Manufacturing
St. Rita's Medical Center	Service
Tokai Kogyo/DTR Industries	Manufacturing

Auglaize County

Crown Equipment Corp	Manufacturing
Danone Group/Dannon Co	Manufacturing
EDP Inc/Goodyear Tire & Rubber Co	Manufacturing
Hitachi Metals/AAP St. Mary's Corp	Manufacturing
Joint Township Dist Memorial Hosp	Service
Minster Machine Co	Manufacturing
Setex Inc	Manufacturing
St Mary's City Bd of Ed	Government
Wapakoneta City Bd of Ed	Government

Hardin County

Ada Technologies	Manufacturing
Amer Grp plc/Wilson Sporting Goods	Manufacturing
Hardin County Government	Government
Hardin Memorial Hospital	Service
International Paper Co	Manufacturing
Kenton City Bd of Ed	Government
Ohio Northern University	Service
Reliance Steel & Alum/Precision Strip Inc	Manufacturing
Sumitomo Chemical/Durez Corp	Manufacturing
Sypris Solutions Inc	Manufacturing
Triumph Group Inc	Manufacturing

Hancock County

Blanchard Valley Regional Health	Service
Consolidated Biscuit Co	Manufacturing
Cooper Tire & Rubber Co	Manufacturing
Findlay City Bd of Ed	Government
Kohl's Corp	Trade
Lowe's Companies Inc	Trade
Marathon Petroleum Co LLC	Trade
Nissin Brake Ohio	Manufacturing
Sanoh America Inc	Manufacturing
University of Findlay	Service
Whirlpool Corp	Manufacturing

Putnam County

Kalida Manufacturing Inc	Manufacturing
Midway Products/Progressive Stamping	Manufacturing
Ottawa-Glandorf Local Bd of Ed	Government
Procter & Gamble/lams Co	Manufacturing
Pro-Tec Coating Co Inc	Manufacturing
Putnam County Government	Government
Schnipke Engraving Co Inc	Manufacturing
Silgan Plastics Corp	Manufacturing
Unverferth Manufacturing Co Inc	Manufacturing
W C Wood Co Inc	Manufacturing
Wal-Mart Stores Inc	Trade

Van Wert County

Central Mutual Insurance Co	Insurance
Cooper Farms Inc	Manufacturing
Eaton Corp	Manufacturing
Federal-Mogul Corp	Manufacturing
Greif Inc	Manufacturing
KAM Manufacturing Inc	Manufacturing
Kennedy Manufacturing Co Inc	Manufacturing
Teleflex Inc	Manufacturing
Van Wert City Bd of Ed	Government
Van Wert County Hospital Association	Service

Factor 3: Population and Projected Growth

Sources: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau Population Estimates Program 2007

The primary urban area in Allen County is Lima; in Auglaize County, Wapakoneta; in Hardin County, Kenton; in Hancock County, Findlay; in Putnam County, Ottawa; and in Van Wert County, Van Wert.

As indicated in the following table and graphs, Allen County has the highest population in this area and it is projected to steadily decrease. The populations in the surrounding Counties are projected to gradually increase.

County	2004	2005	2006	2007	2010	2020	2030
Allen	106,195	106,051	105,788	105,233	105,990	105,880	105,788
Auglaize	46,883	47,179	47,060	46,429	47,690	49,740	52,060
Hardin	32,113	32,015	31,966	31,650	32,450	32,720	32,830
Hancock	73,470	73,508	73,824	74,204	74,180	76,910	79,040
Putnam	34,712	34,807	34,744	34,635	35,080	35,710	36,060
Van Wert	29,264	29,213	29,303	28,889	29,330	28,970	28,190

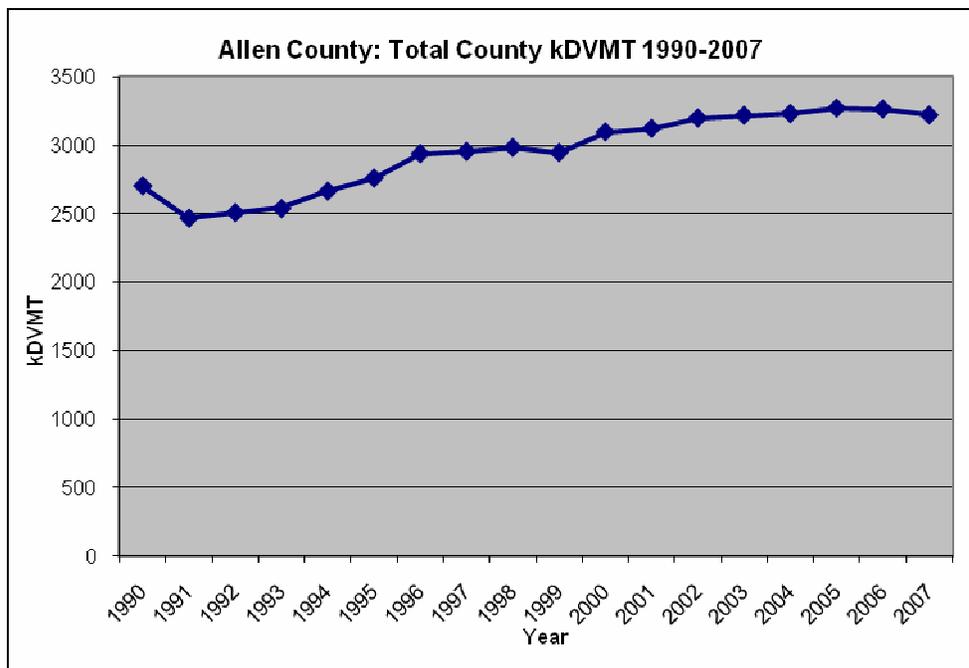
**graphs of population growth are omitted because this area is in attainment*

Factor 4: Traffic and commuting patterns

While the kDVMT in Auglaize County have had an upward trend, the surrounding Counties and Allen County have experienced a downward trend in kDVMT between 2005 and 2007, as shown in the graphs below.

Estimated Daily Vehicle Miles Traveled (kDVMT =in thousands)

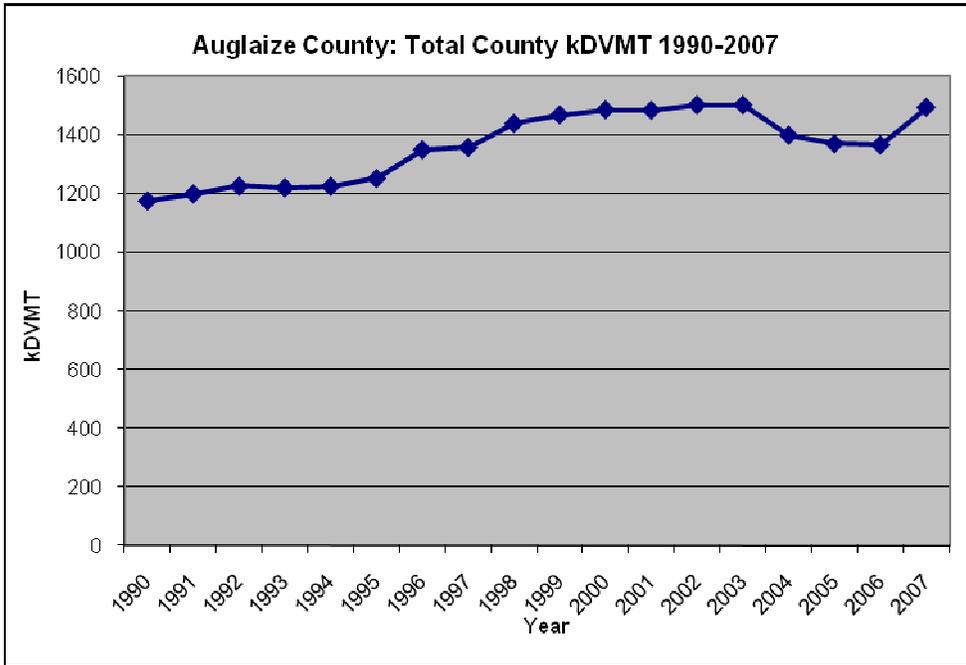
Source: Ohio Department of Transportation, Office of Technical Services



2005 = 3272.43

2006 = 3266.03

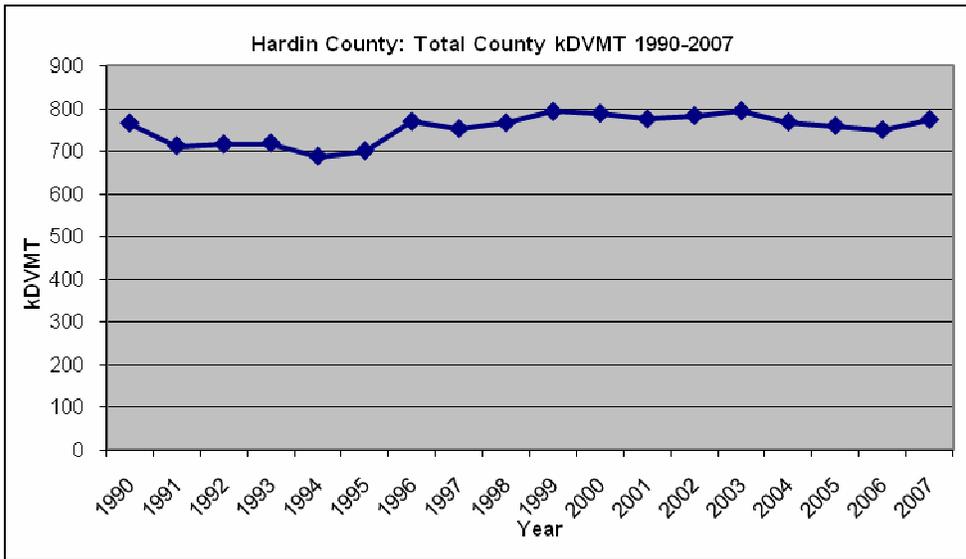
2007 = 3222.82



2005 = 1370.16

2006 = 1365.73

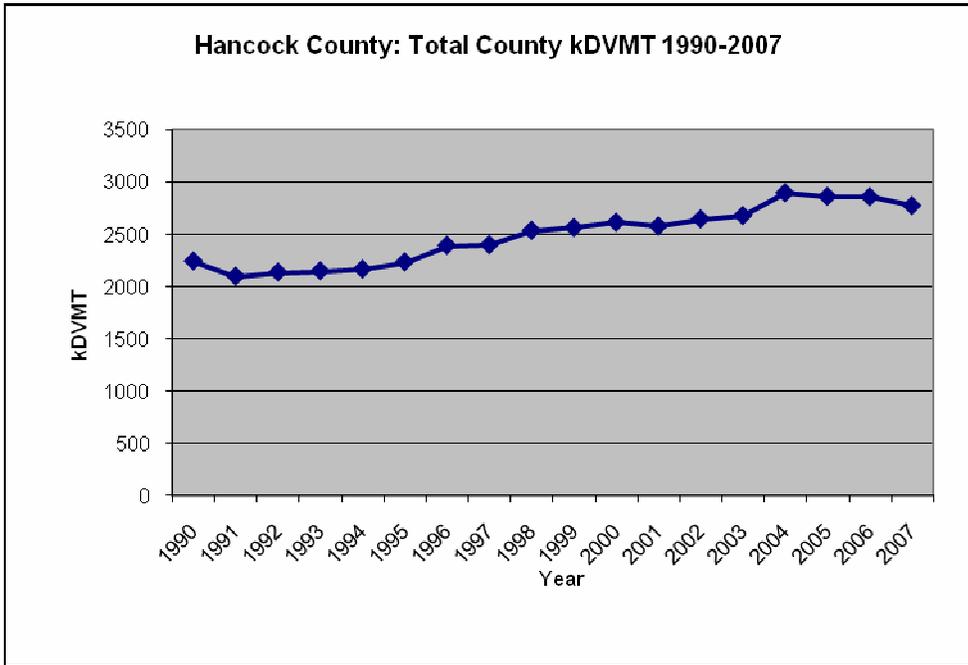
2007 = 1494.43



2005 = 759.78

2006 = 749.92

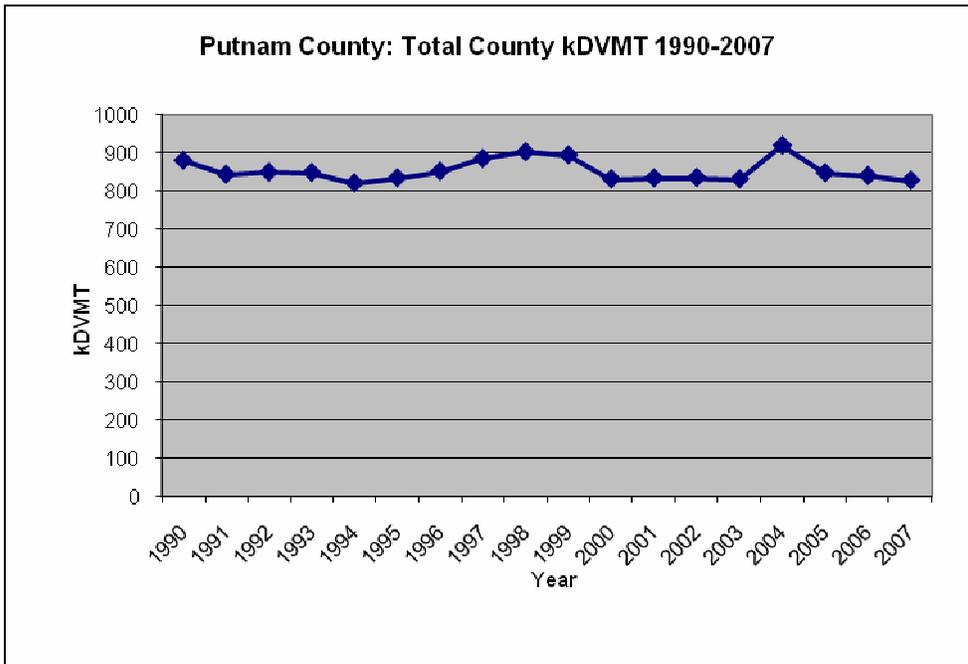
2007 = 774.34



2005 = 2866.29

2006 = 2861.8

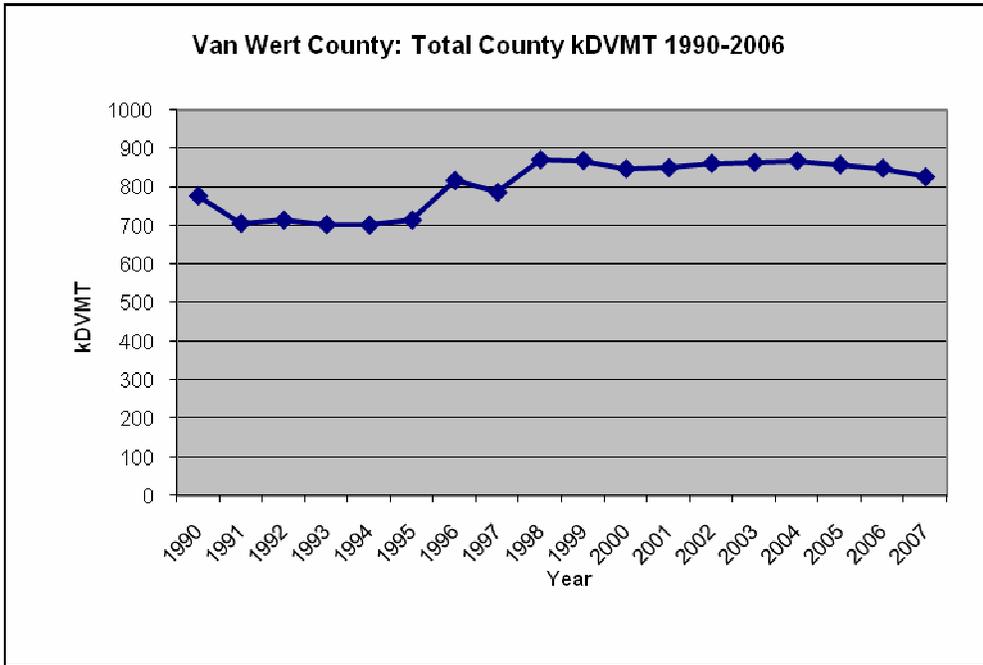
2007 = 2777.05



2005 = 847.87

2006 = 840.11

2007 = 828.32



2005 = 858.79

2006 = 849.7

2007 = 827.29

Commuting Patterns

Source: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau, 2000

A significant number of workers living in adjacent Counties, 3.0% to 18.8%, commute to Allen County. The majority of Allen County workers (3.3%) commuting outside the County, travel to Auglaize County.

Allen			Percent of workers that work outside the County -		15.7%
			Average commute time in minutes -		18.4
Number of workers 16+ years of age living in Allen County			47,096		
Commute Out To	Number	Percent			
Auglaize Co. OH	1,537	3.3%			
Hancock Co. OH	1,169	2.5%			
Shelby Co. OH	1,002	2.1%			
Van Wert Co. OH	919	2.0%			
Putnam Co. OH	910	1.9%			
Hardin Co. OH	514	1.1%			
Defiance Co. OH	147	0.3%			
Logan Co. OH	137	0.3%			
Mercer Co. OH	89	0.2%			
Montgomery Co. OH	65	0.1%			
Number of workers 16+ years of age working in Allen County			54,177		
Commute In From	Number	Percent			
Auglaize Co. OH	3,928	7.3%			
Putnam Co. OH	3,186	5.9%			
Van Wert Co. OH	1,947	3.6%			
Hardin Co. OH	1,495	2.8%			
Hancock Co. OH	1,074	2.0%			
Logan Co. OH	509	0.9%			
Mercer Co. OH	478	0.9%			
Shelby Co. OH	269	0.5%			
Paulding Co. OH	116	0.2%			
Wood Co. OH	101	0.2%			

Auglaize	Percent of workers that work outside the County		39.3%
	Average commute time in minutes -		18.1
Number of workers 16+ years of age living in Auglaize County			23,282
Number of workers 16+ years of age working in Auglaize County			21,159
Commute Out To	Number	Percent	
Allen Co. OH	3,928	16.9%	
Shelby Co. OH	3,002	12.9%	
Mercer Co. OH	930	4.0%	
Logan Co. OH	277	1.2%	
Miami Co. OH	200	0.9%	
Darke Co. OH	121	0.5%	
Montgomery Co. OH	113	0.5%	
Van Wert Co. OH	94	0.4%	
Hardin Co. OH	90	0.4%	
Hancock Co. OH	51	0.2%	
Commute In From	Number	Percent	
Mercer Co. OH	2,981	14.1%	
Allen Co. OH	1,537	7.3%	
Shelby Co. OH	1,370	6.5%	
Darke Co. OH	278	1.3%	
Van Wert Co. OH	130	0.6%	
Miami Co. OH	126	0.6%	
Hardin Co. OH	90	0.4%	
Putnam Co. OH	85	0.4%	
Logan Co. OH	84	0.4%	
Montgomery Co. OH	54	0.3%	
Percent is of workers living in County.			Percent is of workers working in County.

Hancock	Percent of workers that work outside the County		18.7%
	Average commute time in minutes -		17.5
Number of workers 16+ years of age living in Hancock County			35,845
Number of workers 16+ years of age working in Hancock County			41,331
Commute Out To	Number	Percent	
Wood Co. OH	1,603	4.5%	
Seneca Co. OH	1,296	3.6%	
Allen Co. OH	1,074	3.0%	
Lucas Co. OH	607	1.7%	
Wyandot Co. OH	491	1.4%	
Putnam Co. OH	382	1.1%	
Hardin Co. OH	379	1.1%	
Sandusky Co. OH	126	0.4%	
Ottawa Co. OH	50	0.1%	
Van Wert Co. OH	49	0.1%	
Commute In From	Number	Percent	
Seneca Co. OH	3,118	7.5%	
Wood Co. OH	2,177	5.3%	
Putnam Co. OH	1,722	4.2%	
Allen Co. OH	1,169	2.8%	
Wyandot Co. OH	1,107	2.7%	
Hardin Co. OH	1,082	2.6%	
Lucas Co. OH	514	1.2%	
Sandusky Co. OH	191	0.5%	
Henry Co. OH	189	0.5%	
Franklin Co. OH	91	0.2%	
Percent is of workers living in County.			Percent is of workers working in County.

Hardin	Percent of workers that work outside the County		38.3%
	Average commute time in minutes -		21.8
Number of workers 16+ years of age living in Hardin County			14,390
Commute Out To	Number	Percent	
Allen Co. OH	1,495	10.4%	
Hancock Co. OH	1,082	7.5%	
Logan Co. OH	964	6.7%	
Union Co. OH	542	3.8%	
Wyandot Co. OH	460	3.2%	
Marion Co. OH	178	1.2%	
Franklin Co. OH	121	0.8%	
Shelby Co. OH	96	0.7%	
Auglaize Co. OH	90	0.6%	
Summit Co. OH	57	0.4%	
Number of workers 16+ years of age working in Hardin County			11,044
Commute In From	Number	Percent	
Allen Co. OH	514	4.7%	
Hancock Co. OH	379	3.4%	
Logan Co. OH	303	2.7%	
Wyandot Co. OH	288	2.6%	
Marion Co. OH	156	1.4%	
Auglaize Co. OH	90	0.8%	
Union Co. OH	82	0.7%	
Putnam Co. OH	35	0.3%	
Crawford Co. OH	29	0.3%	
Delaware Co. OH	28	0.3%	
Percent is of workers living in County.			Percent is of workers working in County.

Putnam	Percent of workers that work outside the County -		42.8%
	Average commute time in minutes -		21.1
Number of workers 16+ years of age living in Putnam County			16,905
Commute Out To	Number	Percent	
Allen Co. OH	3,186	18.8%	
Hancock Co. OH	1,722	10.2%	
Defiance Co. OH	875	5.2%	
Van Wert Co. OH	395	2.3%	
Henry Co. OH	206	1.2%	
Paulding Co. OH	158	0.9%	
Lucas Co. OH	116	0.7%	
Wood Co. OH	109	0.6%	
Auglaize Co. OH	85	0.5%	
Allen Co. IN	51	0.3%	
Number of workers 16+ years of age working in Putnam County			12,059
Commute In From	Number	Percent	
Allen Co. OH	910	7.5%	
Hancock Co. OH	382	3.2%	
Van Wert Co. OH	244	2.0%	
Paulding Co. OH	198	1.6%	
Henry Co. OH	138	1.1%	
Defiance Co. OH	60	0.5%	
Summit Co. OH	40	0.3%	
Wood Co. OH	36	0.3%	
Hardin Co. OH	36	0.3%	
Mercer Co. OH	36	0.3%	
Percent is of workers living in County.			Percent is of workers working in County.

Van Wert	Percent of workers that work outside the County -		34.5%
	Average commute time in minutes -		19.0
Number of workers 16+ years of age living in Van Wert County			14,375
Commute Out To	Number	Percent	
Allen Co. OH	1,947	13.5%	
Adams Co. IN	858	6.0%	
Allen Co. IN	843	5.9%	
Paulding Co. OH	316	2.2%	
Putnam Co. OH	244	1.7%	
Mercer Co. OH	203	1.4%	
Auglaize Co. OH	130	0.9%	
Defiance Co. OH	54	0.4%	
Wells Co. IN	35	0.2%	
DeKalb Co. IN	34	0.2%	
Number of workers 16+ years of age working in Van Wert County			12,653
Commute In From	Number	Percent	
Allen Co. OH	919	7.3%	
Mercer Co. OH	814	6.4%	
Paulding Co. OH	478	3.8%	
Putnam Co. OH	395	3.1%	
Allen Co. IN	132	1.0%	
Auglaize Co. OH	94	0.7%	
Adams Co. IN	92	0.7%	
Hancock Co. OH	49	0.4%	
Franklin Co. OH	34	0.3%	
Shelby Co. OH	30	0.2%	
Percent is of workers living in County.			Percent is of workers working in County.

Factor 5: Meteorology

Please refer to Appendix E for applicable meteorology information for the Lima area.

Factor 6: Topography/Land use/Land cover

Allen County is in two parts of the Central Lowland Physiographic Province. The extreme northwestern part of the County is on the Erie-Huron Lake Plain, and the rest of the County is on the Indiana and Ohio Till Plain. The highest elevation in the County is about 1,061 feet above sea level, in Auglaize Township. The lowest elevation is about 760 feet, in Marion Township where the Auglaize River leaves the County. The relief in the County is quite variable. In the northwest, near Delphos, the landscape is more uniform.

Auglaize County is part of the Indiana and Ohio Till Plains, in the Central Lowland physiographic province. The highest elevation is about 1,100 feet above sea level, between Boundary Road and Wrestle Creek Road. The lowest elevation is 800 feet above sea level where the St. Marys River leaves the County.

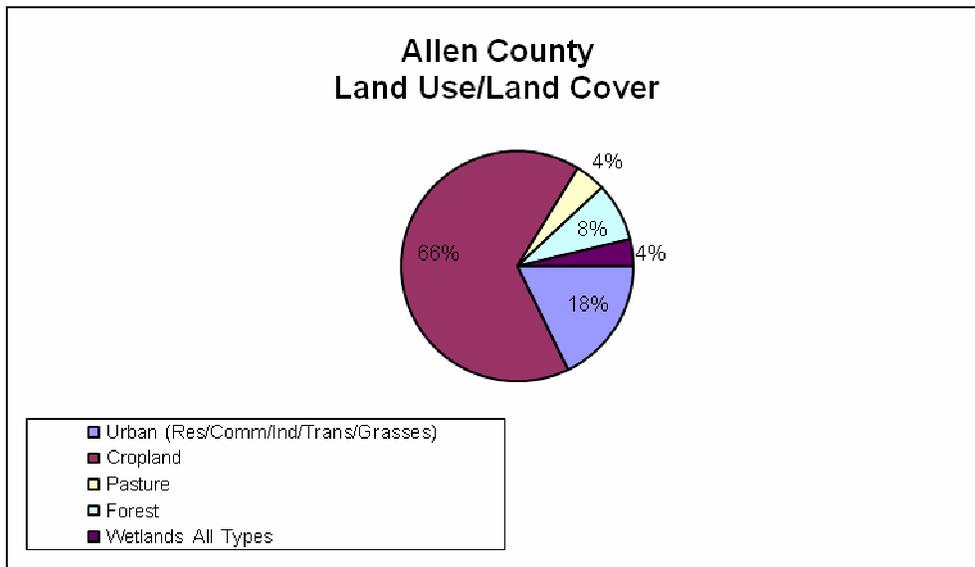
Hancock County is part of the Central Lowland Province. Most of the physiographic features in the County are a result of the Wisconsinan glaciation. As an area of lake plain and till plain physiography, Hancock County has a relatively uniform, level topography. The highest point in the County is about 955 feet above sea level, along the Hardin County line, in Orange Township. The lowest point in the County is about 715 feet above sea level, where the Rader Creek enters Wood County, in Pleasant Township.

Most of the physiographic features of Hardin County are a result of the Wisconsin Glaciation. The surface features range from gently rolling hills and a few steep valley walls to extensive nearly level plains and flat basins. Total relief is about 267 feet. The highest point is a ridge in an area near the Hardin-Logan County line where Treece Road enters Logan County. The lowest point is in an area where the Blanchard River enters Hancock County.

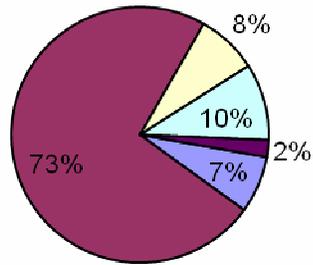
Putnam County landforms are mainly the result of glaciations during the Pleistocene epoch. Most of the County was affected by glacial lakes. Several of the more obvious beach ridges can be observed along State Route No. 12 and from Leipsic to the Hancock County line, along State Route No. 613, and along County Road Y in the vicinity of Belmore.

In Van Wert County, in areas south of U.S. Route 30, the soils formed mostly in glacial till deposited by the Wisconsin-age glacier. In areas north of this highway, the soils formed mostly in water-worked till, lacustrine sediments, and old beach-ridge deposits. These areas were covered by lake water after the glacier had retreated and are now part of the Lake Plain in northwestern Ohio. Elevations range from slightly less than 720 feet above sea level on the lake plain in the northeastern part of the County to slightly more than 960 feet on the Fort Wayne end moraine in the southern part of the County.

As shown in the following pie charts, the land use/land cover in Allen County and all the surrounding Counties is predominately classified as cropland. As expected, in comparison to the surrounding Counties, Allen County has the largest percentage of urbanized area at 18 percent.

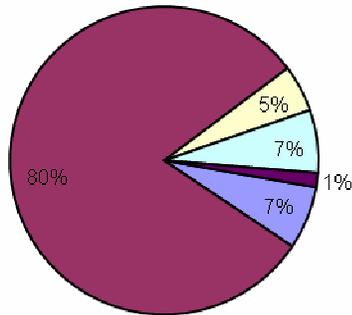


Auglaize County Land Use/Land Cover



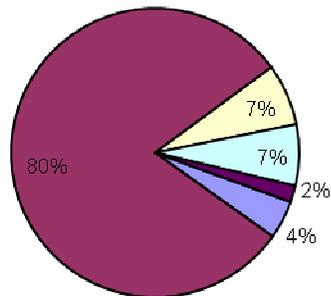
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Hancock County Land Use/Land Cover

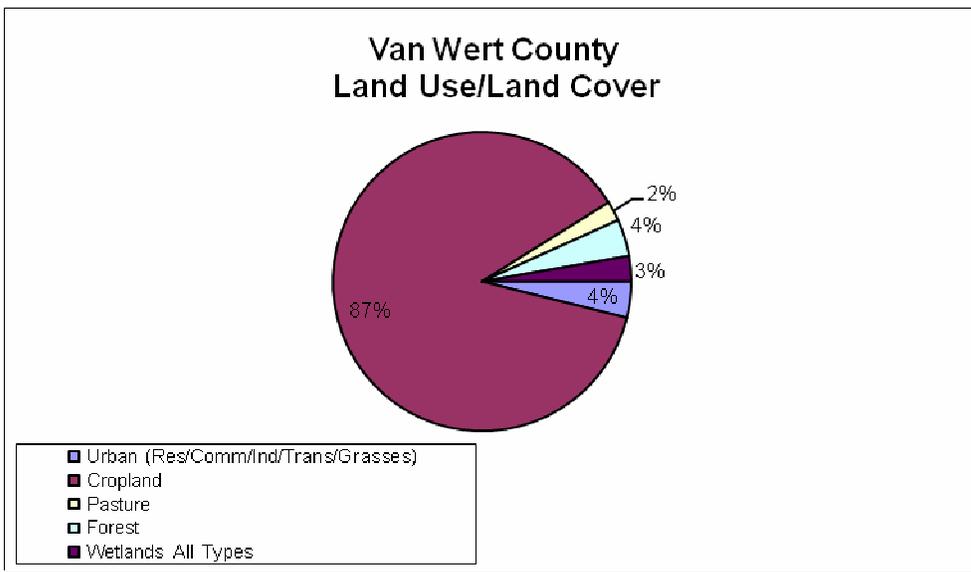
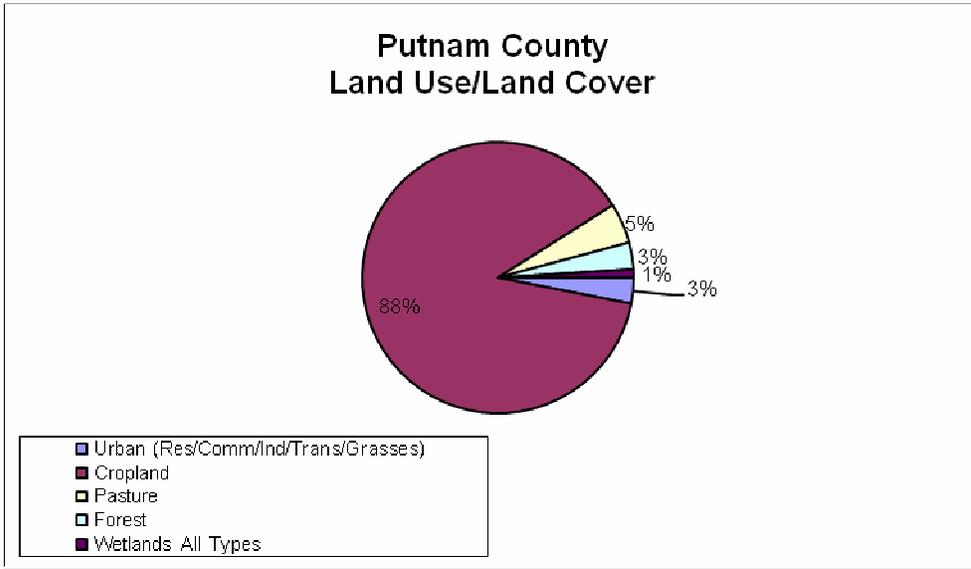


- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Hardin County Land Use/Land Cover



- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types



Factor 7: Jurisdictional boundaries

The Lima, OH MSA includes only Lima County and the principal city of Lima.

The Lima-Allen County Regional Planning Commission (LACRPC) is the planning agency designated as the Metropolitan Planning Organization (MPO) for Allen County. The LACRPC region is composed of Allen County. The surrounding Counties, Auglaize, Hancock, Hardin, Putnam, and Van Wert, are not part of an MPO. The CSA includes Van Wert and Auglaize Counties.

Factor 8: Level of control of emission sources

Please refer to the Factor 8 general discussion at the beginning of this document for applicable control information for this area.

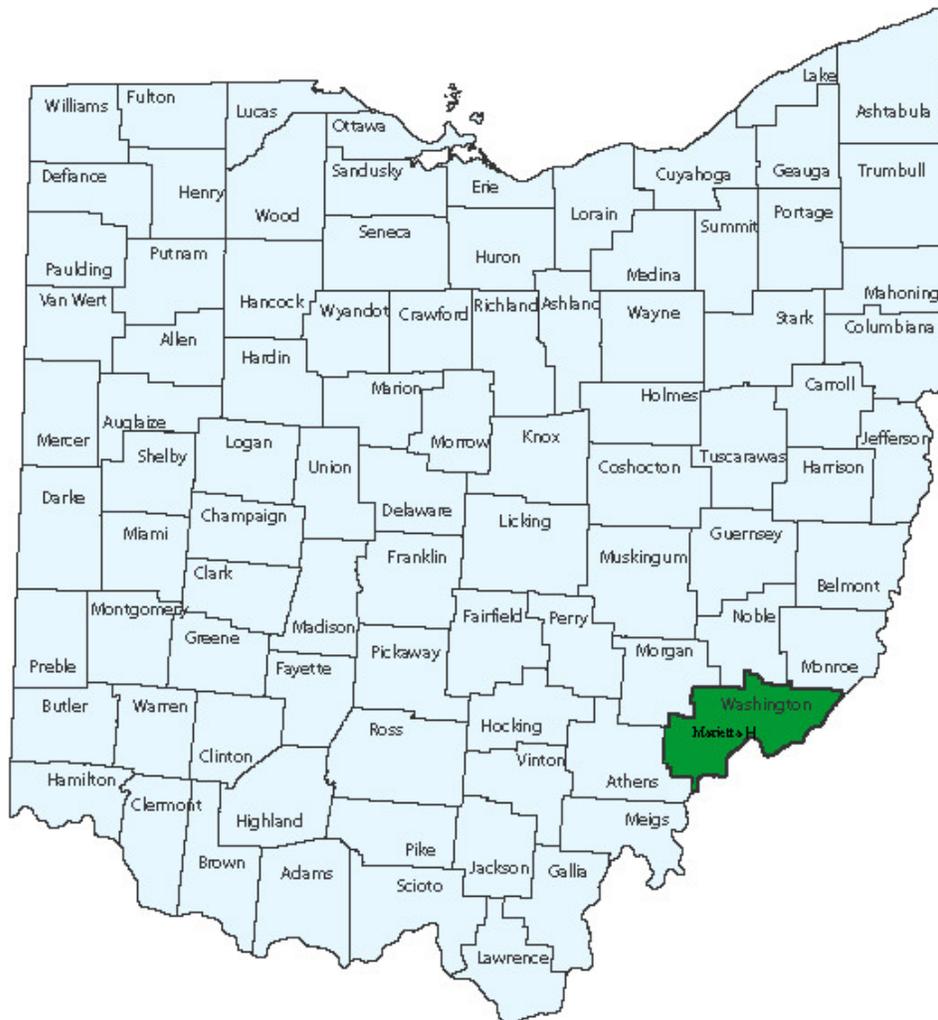
Parkersburg-Marietta, WV-OH:

Current County nonattainment: none

Current nonattainment Counties

***Recommended* County nonattainment:** Washington

 Recommended nonattainment Counties



Discussion:

There is one Ohio County and one West Virginia County in this existing ozone designation area: Washington County, Ohio and Wood County, WV. Washington County was initially designated nonattainment for the 1997 ozone standard and then was redesignated to attainment in June 2007. With respect to the new standard, Ohio EPA recommends designating Washington County as nonattainment for the Parkersburg-Marietta area. There is one violating monitor in Washington County and the monitor in Wood County, WV is also not meeting the revised standard. Athens and Morgan Counties are two of four adjacent Counties to Washington County. Athens and Morgan Counties are discussed in this section while Noble and Monroe Counties are discussed in the Wheeling, WV-OH section.

As shown under factor 1 below, the three-year averages of the annual fourth-highest daily maximum eight-hour average concentrations at in the Washington County, OH and Wood County, WV monitors are not attaining the revised standard. There is a monitor in Athens County. This is not a violating monitor (based on only 2007 and 2008 data) and is included for informational purposes. Emissions of VOC and NOx in all Counties are relatively small.

Ohio EPA is not recommending any additional adjacent Counties for nonattainment designations in this area. The Counties in this area have low population and growth, low kDVMT with no significant levels of commuters and low emissions.

Factor 1: Air quality data

 = Exceeds standard

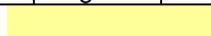
Ohio

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4

39-009-0004 Athens Athens Co.	2006				
	2007	86	81	81	80
	2008	75	74	73	69
	Avg				74.5

39-167-0004 Marietta Washington	2006	92	86	82	81
	2007	91	90	86	86
	2008	95	82	79	78
	Avg				 81.7

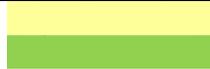
 Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

West Virginia

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

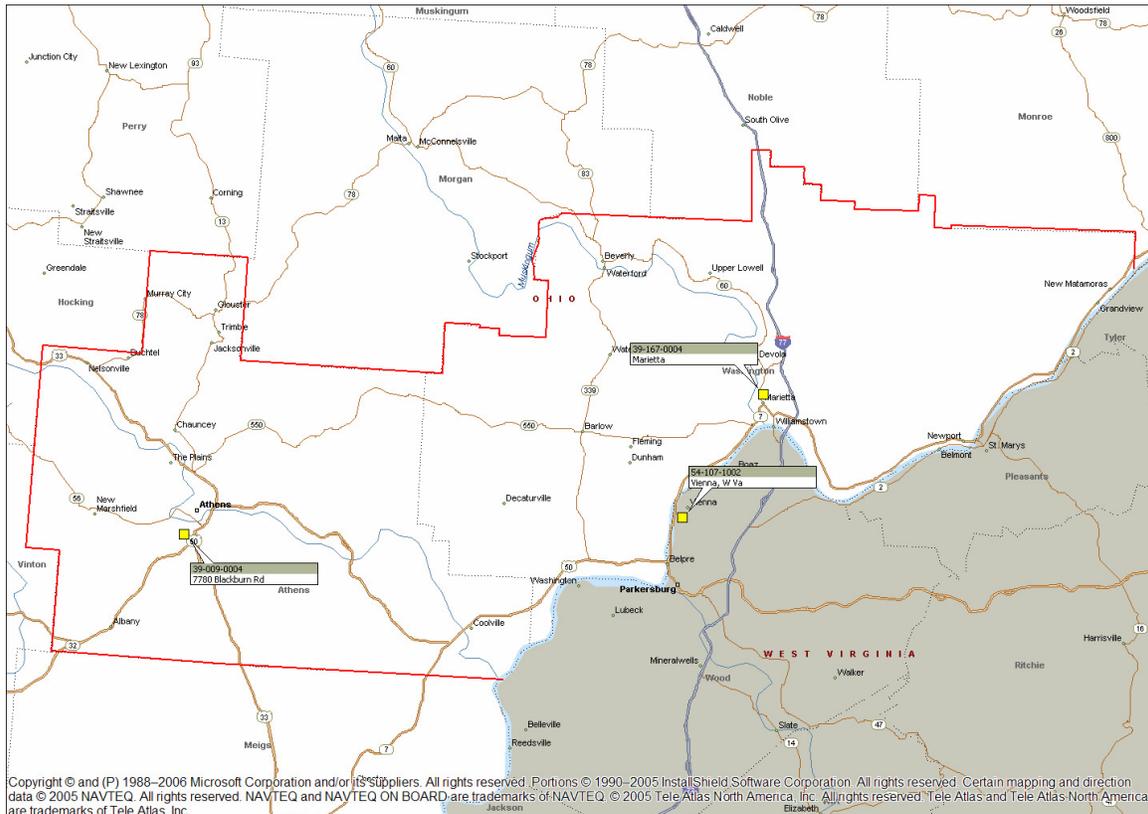
Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4

54-107-1002 Vienna Wood	2006	87	83	83	80
	2007	90	89	84	84
	2008	82	75	75	71
	Avg				78.3



Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

Parkersburg-Marietta Area Ozone Monitor Locations and Site ID Numbers



Factor 2: Emissions data
(tons per day)

Ohio

2005		
County	VOC	NO_x
WASHINGTON	10.33	58.00
Athens	6.93	7.90
Morgan	2.35	1.77

2009		
County	VOC	NO_x
WASHINGTON	9.10	20.34
Athens	5.28	6.59
Morgan	2.06	1.44

West Virginia (Does not include on-road data)

2005		
County	VOC	NO_x
Pleasants	3.35	39.62
WOOD	12.46	8.34
Wirt	1.08	0.17

2009		
County	VOC	NO_x
Pleasants	1.52	15.92
WOOD	5.99	6.20
Wirt	0.85	0.11

Major Employers:

Source: Ohio Department of Development 2007

Most of the major employers in Parkersburg-Marietta area are in the categories of government, manufacturing and service as shown below.

Athens County

Alexander Local Bd of Ed	Government
Athens City Bd of Ed	Government
Athens County Government	Government
Diagnostic Hybrids Inc	Manufacturing
ED MAP Inc	Service
Federal Hocking Local Bd of Ed	Government
Hocking College	Government
Nelsonville-York City Bd of Ed	Government
O'Bleness Memorial Hospital	Service
Ohio University	Government
Wal-Mart Stores Inc	Trade

Morgan County

Careserve Inc/Mark Rest Center	Service
Draper Inc	Manufacturing
Hann Manufacturing	Manufacturing
Kroger Co	trade
MAHLE International	Manufacturing
Miba Bearings US LLC	Manufacturing
Morgan County Govt	Government
Morgan Local Bd of Ed	Government
Warren's Morgan Co IGA	trade

Washington County

American Electric Power Co	Utility
Eramet Marietta Inc	Manufacturing
KRATON Polymers LLC	Manufacturing
Marietta City Bd of Ed	Government
Marietta College	Service
Marietta Memorial Hospital	Service
RJF International Corp	Manufacturing
Thermo Fisher Scientific Inc	Manufacturing
Wal-Mart Stores Inc	Trade
Warren Local Bd of Ed	Government

Factor 3: Population and Projected Growth

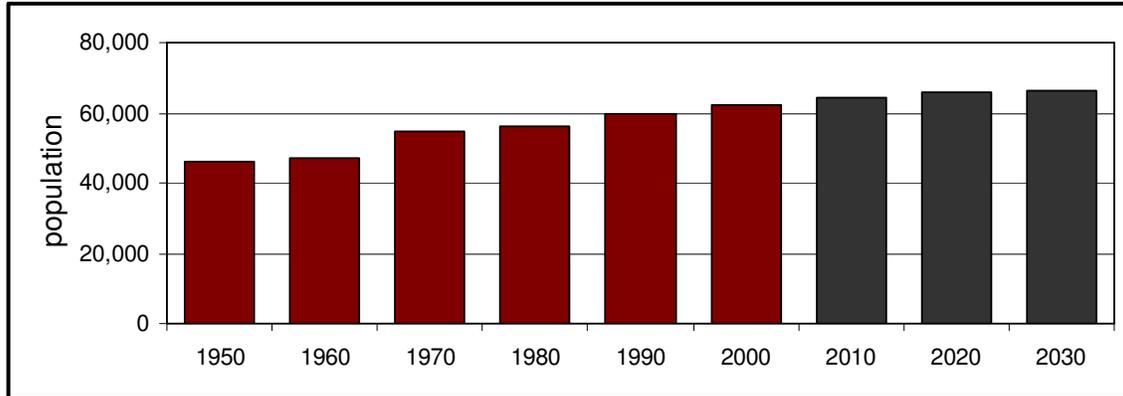
Sources: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau Population Estimates Program 2007

The primary urban area in the Ohio portion of the Parkersburg-Marietta area is Marietta in Washington County. The primary urban areas in the adjacent Counties are: Athens, Nelsonville, and Glouster in Athens County; and McConnelsville in Morgan County.

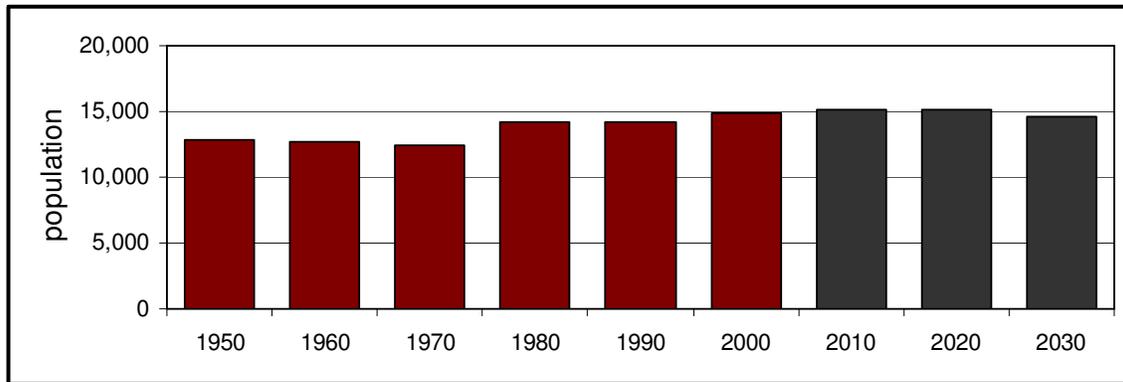
As indicated in the following table and graphs, Washington and Athens Counties have been in a population competition but it appears that Athens County is projected to pull ahead of Washington County in the near future. Washington and Morgan Counties are projected to experience a decrease in population.

	2004	2005	2006	2007	2010	2020	2030
Washington	62,582	62,155	61,867	61,576	63,510	63,090	61,650
Athens	62,185	62,028	61,860	63,275	64,540	66,000	66,340
Morgan	14,932	14,895	14,821	14,613	15,200	15,120	14,620

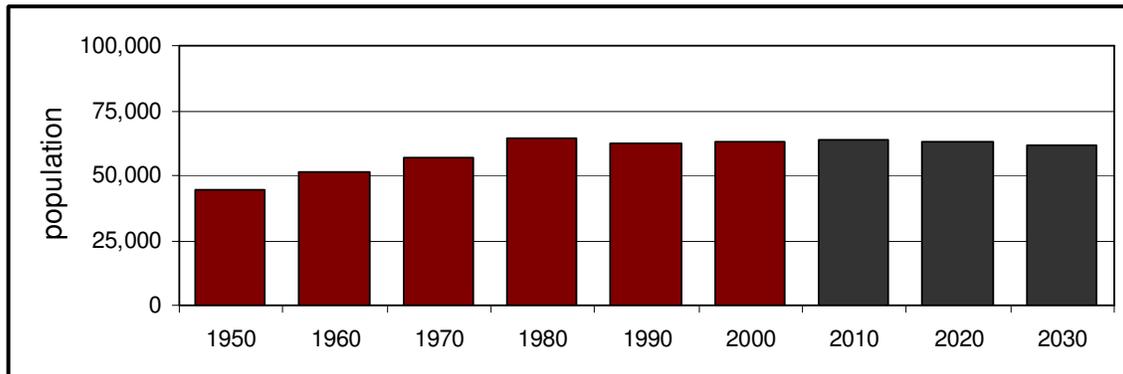
Athens County



Morgan County



Washington County

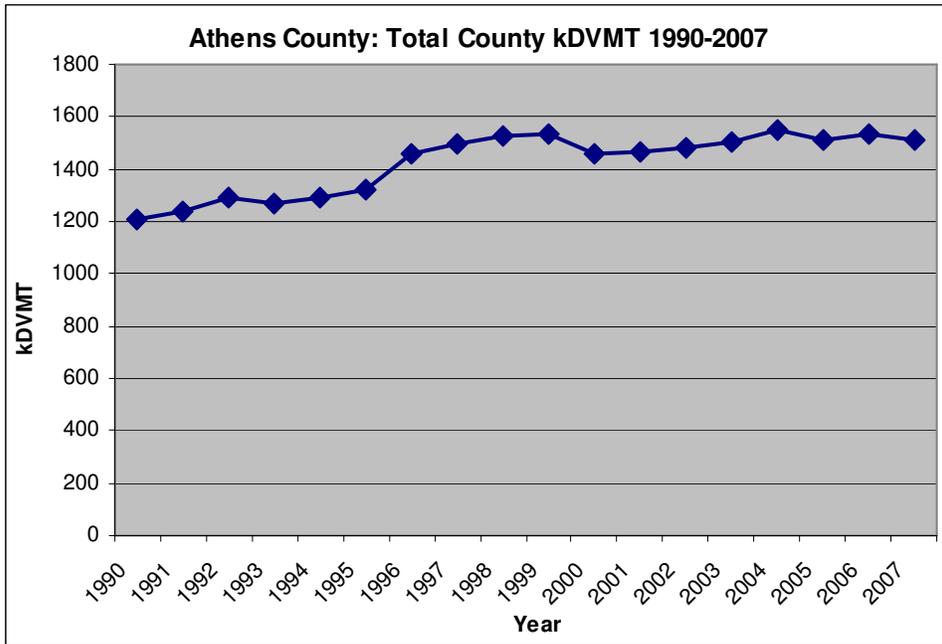


Factor 4: Traffic and commuting patterns

Unlike population, Washington County has first place for kDVMT between 2005 and 2007. All Counties experienced a slight downward trend in kDVMT from 2006 to 2007.

Estimated Daily Vehicle Miles Traveled (kDVMT = in thousands)

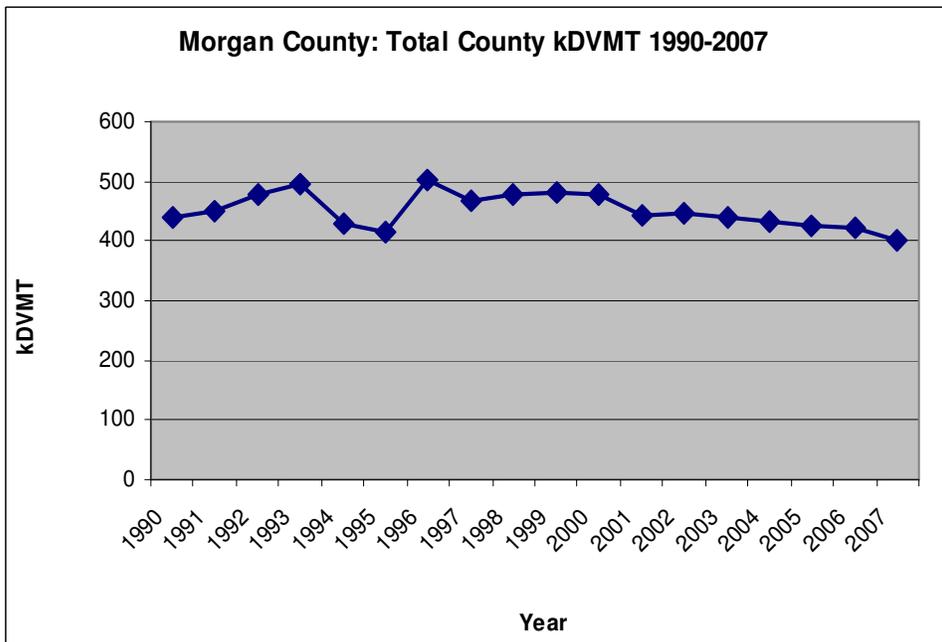
Source: Ohio Department of Transportation, Office of Technical Services



2005 = 1511.92

2006 = 1530.52

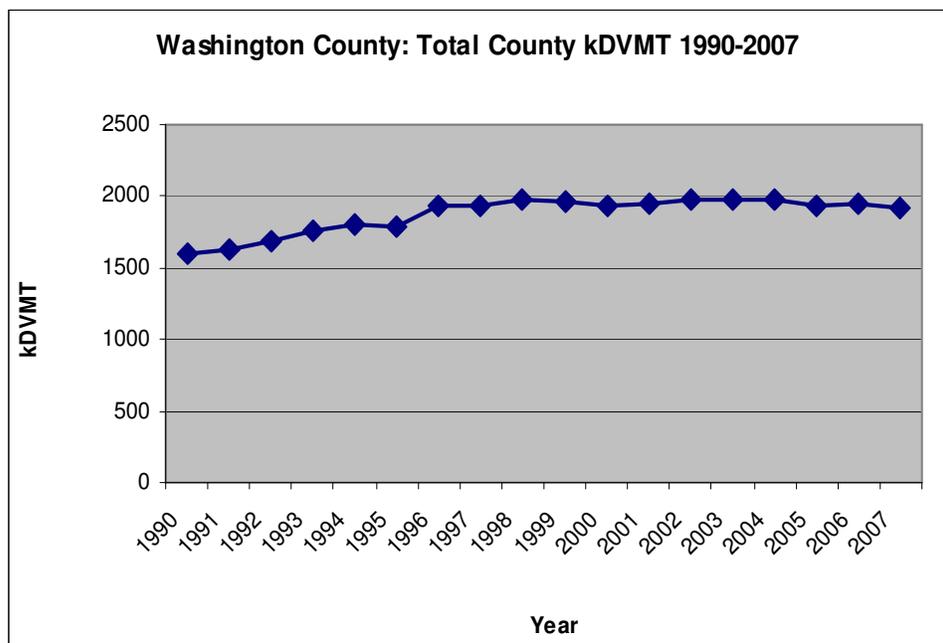
2007 = 1508.93



2005 = 426.43

2006 = 422.76

2007 = 402.49



2005 = 1939.15

2006 = 1949.44

2007 = 1922.07

Commuter Patterns

Source: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau, 2000

Not surprisingly, the majority of Washington County workers commuting outside the County, travel to Wood County, WV. Likewise, Wood County, WV has a number of workers traveling across the river to Washington County. A low number of workers from Athens and Morgan County commute to Washington County.

Athens		Percent of workers that work outside the County		16.8%
		Average commute time in minutes -		21.7
Number of workers 16+ years of age living in Athens County		25,586		
Commute Out To	Number	Percent		
Franklin Co. OH	712	2.8%		
Hocking Co. OH	580	2.3%		
Wood Co. WV	563	2.2%		
Washington Co. OH	462	1.8%		
Fairfield Co. OH	431	1.7%		
Vinton Co. OH	149	0.6%		
Meigs Co. OH	142	0.6%		
Jackson Co. OH	130	0.5%		
Perry Co. OH	123	0.5%		
Ross Co. OH	112	0.4%		
Percent is of workers living in County.				
Number of workers 16+ years of age working in Athens County		26,145		
Commute In From	Number	Percent		
Meigs Co. OH	1,334	5.1%		
Hocking Co. OH	945	3.6%		
Vinton Co. OH	420	1.6%		
Morgan Co. OH	380	1.5%		
Jackson Co. OH	220	0.8%		
Washington Co. OH	208	0.8%		
Gallia Co. OH	165	0.6%		
Fairfield Co. OH	142	0.5%		
Wood Co. WV	116	0.4%		
Perry Co. OH	110	0.4%		
Percent is of workers working in County.				

Morgan	Percent of workers that work outside the County		47.0%
	Average commute time in minutes -		36.2
Number of workers 16+ years of age living in Morgan County			5,858
Number of workers 16+ years of age working in Morgan County			3,632
Commute Out To	Number	Percent	Commute In From
Muskingum Co. OH	707	12.1%	Muskingum Co. OH
Washington Co. OH	501	8.6%	Washington Co. OH
Athens Co. OH	380	6.5%	Athens Co. OH
Franklin Co. OH	307	5.2%	Perry Co. OH
Perry Co. OH	225	3.8%	Guernsey Co. OH
Licking Co. OH	157	2.7%	Noble Co. OH
Guernsey Co. OH	80	1.4%	Brooke Co. WV
Fairfield Co. OH	68	1.2%	Jackson Co. WV
Wood Co. WV	51	0.9%	Virginia Beach city VA
Pickaway Co. OH	29	0.5%	Tuscarawas Co. OH
Percent is of workers living in County.			Percent is of workers working in County.

Washington	Percent of workers that work outside the County		29.2%
	Average commute time in minutes -		22.5
Number of workers 16+ years of age living in Washington County			28,171
Number of workers 16+ years of age working in Washington County			26,792
Commute Out To	Number	Percent	Commute In From
Wood Co. WV	5,927	21.0%	Wood Co. WV
Pleasants Co. WV	378	1.3%	Morgan Co. OH
Monroe Co. OH	221	0.8%	Athens Co. OH
Athens Co. OH	208	0.7%	Noble Co. OH
Noble Co. OH	197	0.7%	Pleasants Co. WV
Morgan Co. OH	125	0.4%	Meigs Co. OH
Franklin Co. OH	124	0.4%	Monroe Co. OH
Jackson Co. WV	95	0.3%	Ritchie Co. WV
Guernsey Co. OH	83	0.3%	Franklin Co. OH
Tyler Co. WV	71	0.3%	Tyler Co. WV
Percent is of workers living in County.			Percent is of workers working in County.

Factor 5: Meteorology

Please refer to Appendix E for applicable meteorology information for the Parkersburg-Marietta area.

Factor 6: Topography/Land use/Land cover

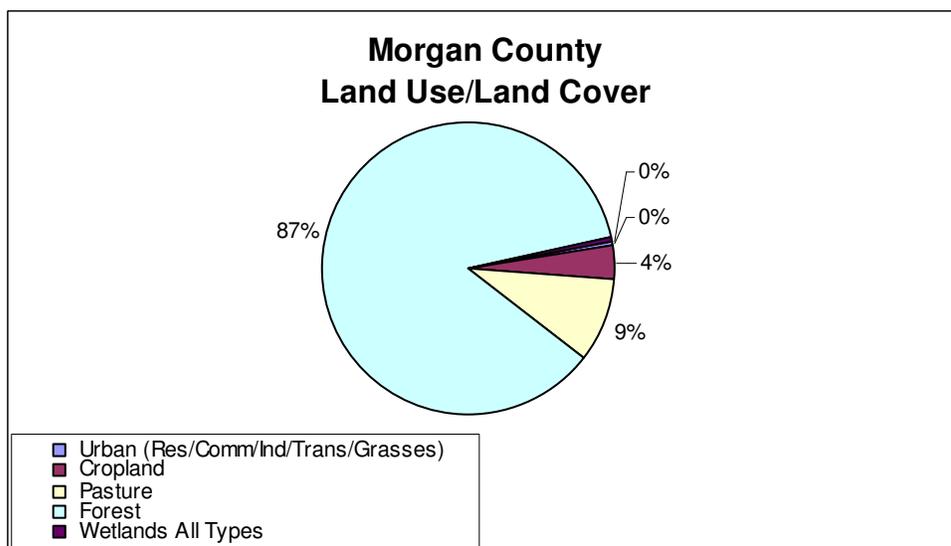
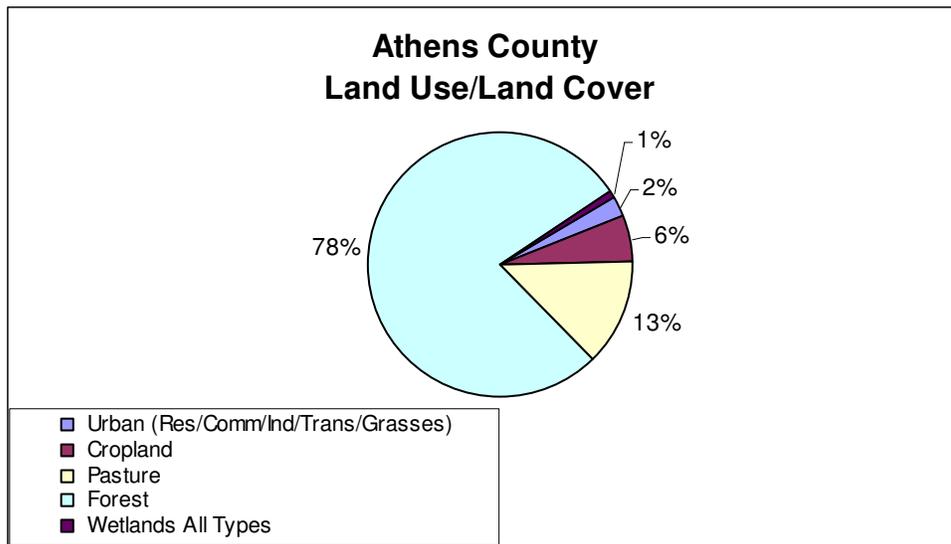
Washington County is entirely within the unglaciated Allegheny Plateau region (see Appendix F). The landscape is one of hills, narrow ridgetops, and stream valleys. The eastern part of the County is rugged with steep to very steep slopes

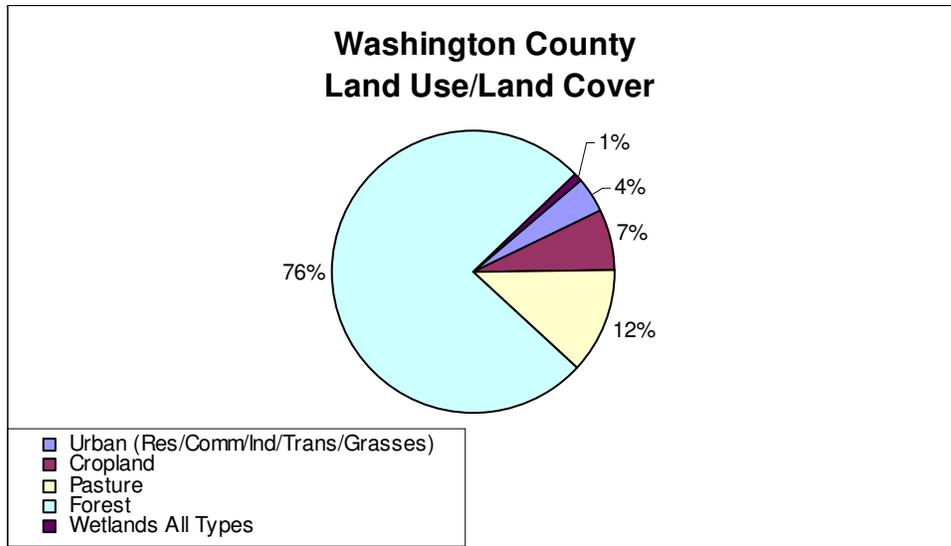
while the central and western parts of the County have a more rolling topography, wider ridgetops and fewer steep side slopes. The lowest point in the County is 580 feet and the highest is more than 1,200 feet above sea level.

Morgan County lies in the unglaciated Appalachian Plateaus Province. Rugged, it consists mostly of steep hillsides and narrow ridgetops. Some broad, gently sloping uplands are in the western part of the County and in stream valleys. The elevation ranges from about 630 feet to 1115 feet above sea level.

Athens County, like Morgan and Washington Counties, is in the unglaciated Allegheny Plateau region. The northern part of the County is rugged with steep to very steep slopes and the southern part of the County has more rolling hills and fewer steep hillsides. The highest point is 1,055 and lowest point is about 640 feet above sea level.

As shown in the following pie charts, the land use/land cover in this area is predominately characterized as forest area.





Factor 7: Jurisdictional boundaries

The Parkersburg-Marietta-Vienna, WV-OH MSA includes: Pleasants, Wirt and Wood Counties in West Virginia; and Washington County in Ohio. The principal cities are Parkersburg and Vienna in West Virginia, and Marietta in Ohio. There is no CSA for this area.

The Wood, Wirt, Washington Interstate Planning Commission (WWWIPC) is the planning agency designated as the Metropolitan Planning Organization for Parkersburg-Marietta area. The WWWIPC region is composed of two Counties: Wood County, WV and the greater Marietta area of Washington County, OH.

Factor 8: Level of control of emission sources

Please refer to the Factor 8 general discussion at the beginning of this document for applicable control information for this area.

Steubenville-Weirton, OH:

Current County nonattainment: none

Current nonattainment Counties

***Recommended* County nonattainment:** Jefferson

 Recommended nonattainment Counties



Discussion:

There are one Ohio County and two West Virginia Counties in this existing ozone designation area: Jefferson County, Ohio and Hancock and Brooke Counties in WV. Jefferson County was initially designated nonattainment for the 1997 ozone standard and then was redesignated to attainment in June 2007. With respect to the new standard, Ohio EPA recommends designating Jefferson County as nonattainment for the Weirton-Steubenville WV-OH area. There is one violating monitor in Jefferson County and the monitor in Hancock County, WV is also not meeting the revised standard. There is one adjacent County discussed in this section- Harrison County. Columbiana, Carroll, and Belmont Counties are also adjacent to Jefferson County but are included in the Youngstown-Warren, Canton-Massillon and Wheeling, WV-OH sections, respectively.

The three-year averages of the annual fourth-highest daily maximum eight-hour average concentrations at the monitors in Jefferson County, OH and Hancock County, WV are not attaining the revised standard as indicated under factor 1 below. VOC and NOx emissions in Harrison county and VOC emissions in Jefferson County are small. NOx emissions in Jefferson County are significant due to a power plant, and projected emissions are anticipated to significantly decrease due to CAIR.

Ohio EPA is not recommending any additional adjacent Counties for nonattainment designations in this area. The Counties in this area have low population and growth, low kDVMT with no significant levels of commuters, and low emissions. Specifically, Harrison County is not considered a contributing County due to insignificant emissions, low population, no expected growth, and insignificant commuting levels.

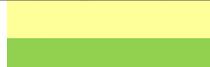
Factor 1: Air quality data

 = Exceeds standard

Ohio

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4
39-081-0017 Steubenville Jefferson Co.	2006	89	83	80	80
	2007	82	80	80	79
	2008	81	78	74	73
	Avg				 77.3



Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

West Virginia

= Exceeds standard

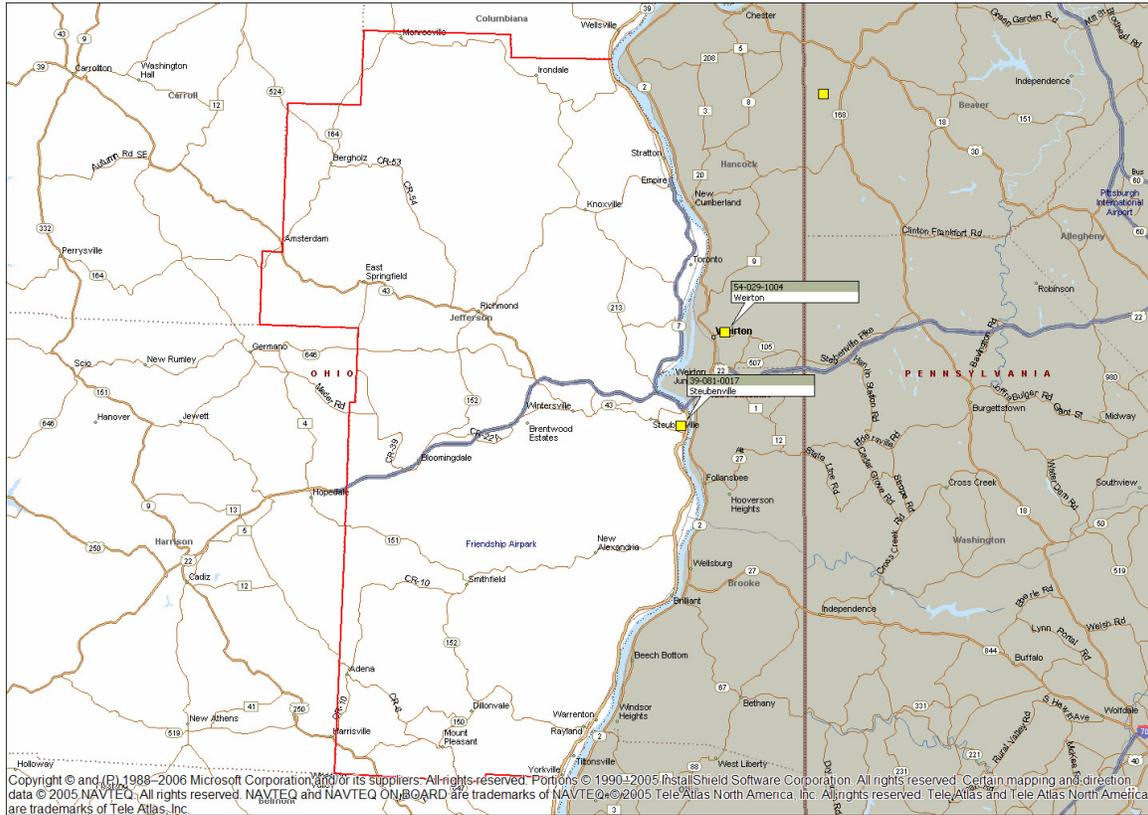
AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4

54-029-1004 Weirton Hancock Co.	2006	85	79	79	77
	2007	83	80	79	79
	2008	84	82	79	77
	Avg				77.7

Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

Steubenville-Weirton Area Ozone Monitor Locations and Site ID Numbers



Factor 2: Emissions data
(tons per day)

2005		
County	VOC	NO_x
JEFFERSON	9.26	125.76
Harrison	3.07	2.80

2009		
County	VOC	NO_x
JEFFERSON	7.77	50.50
Harrison	2.73	2.30

West Virginia (Does not include on-road data)

2005		
County	VOC	NO_x
BROOKE	6.46	4.16
HANCOCK	6.22	8.54

2009		
County	VOC	NO_x
BROOKE	3.60	3.10
HANCOCK	4.29	7.85

Major Employers:

Source: Ohio Department of Development 2007

Most of the major employers in the Ohio portion of the Weirton-Steubenville, WV-OH area are in the categories of government, manufacturing and service as shown in the following tables. It is likely that the utilities employ a significant number of people in this area.

Harrison County

CamOhio LLC	Mining
Carriage Inn of Cadiz	Service
Freeport Press Inc	Manufacturing
Gables Care Center	Service
Harrison Community Hospital	Service
Harrison County Government	Government
Harrison Hills City Bd of Ed	Government
McDonough Corp/L J Smith	Manufacturing
Saint-Gobain/Bayform	Manufacturing

Jefferson County

American Electric Power	Utility
Buckeye Local Bd of Ed	Government
Edison Local Bd of Ed	Government
FirstEnergy Corp	Utility
Franciscan Univ of Steubenville	Service
Indian Creek Local Bd of Ed	Government
Steubenville City Bd of Ed	Government
Titanium Metals Corp/Timet	Manufacturing
Trinity Health System	Service
Wal-Mart Stores Inc	Trade
Wheeling-Pittsburgh Steel	Manufacturing

Factor 3: Population and Projected Growth

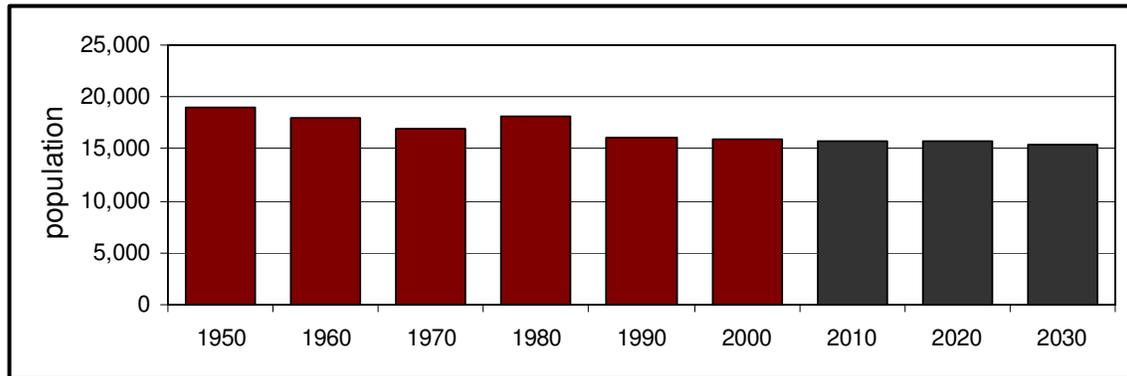
Sources: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau Population Estimates Program 2007

The primary urban areas in the Ohio portion of the Weirton-Steubenville, WV-OH area are: Steubenville in Jefferson County; and in the adjacent Harrison County, the City of Cadiz.

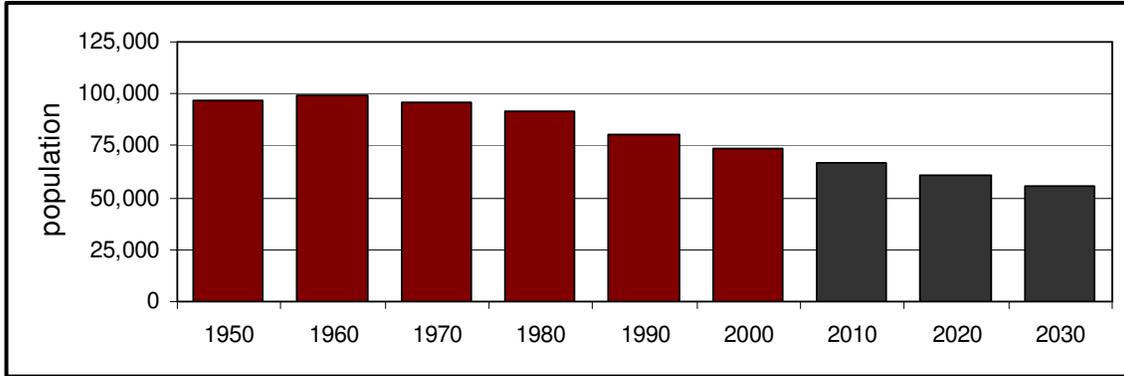
As indicated in the following table and graphs, Jefferson County has the highest population in this area and it is projected to decrease. The population in Harrison County is also projected to decrease.

	2004	2005	2006	2007	2010	2020	2030
Jefferson	71,277	70,631	70,125	68,730	66,530	60,770	55,850
Harrison	15,873	15,881	15,799	15,506	15,710	15,680	15,460

Harrison County



Jefferson County

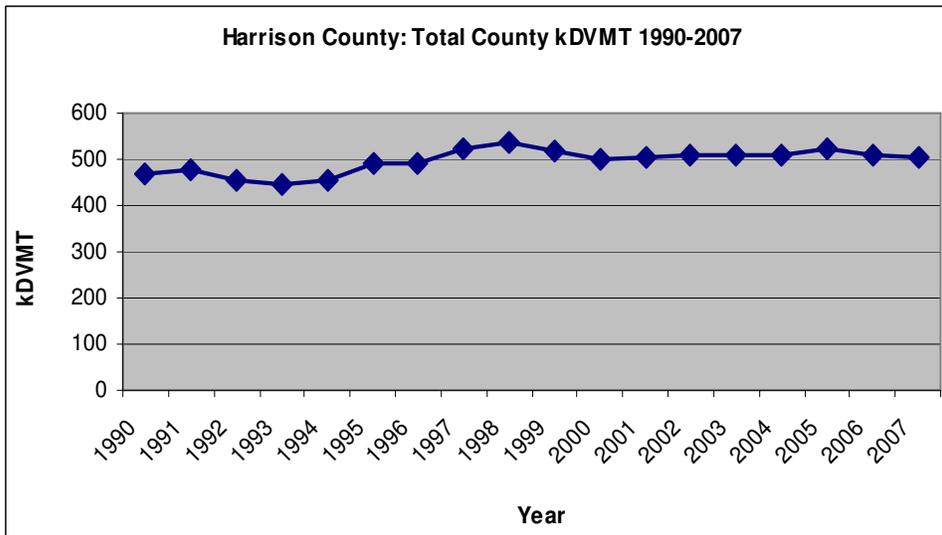


Factor 4: Traffic and commuting patterns

The kDVMT in Jefferson County have had an interesting fifteen years of ups and downs. From 2005 to 2007 the kDVMT in Jefferson County has increased slightly while there has been a slight decrease in Harrison County.

Estimated Daily Vehicle Miles Traveled (kDVMT = in thousands)

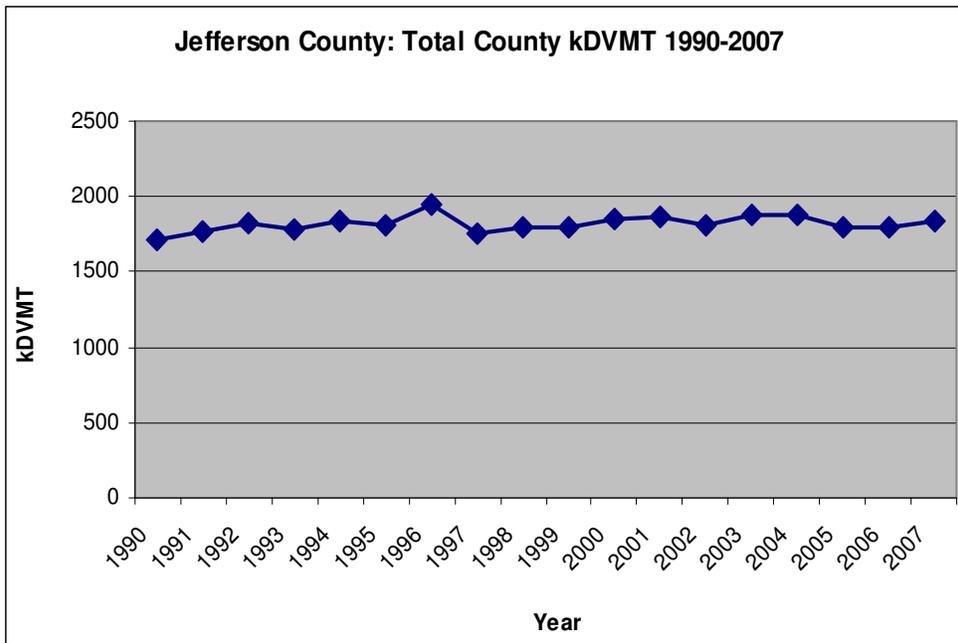
Source: Ohio Department of Transportation, Office of Technical Services



2005 = 522.22

2006 = 511.2

2007 = 505.24



2005 = 1801.26

2006 = 1801.73

2007 = 1839.71

Commuter Patterns

Source: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau, 2000

The majority of Jefferson County workers commuting outside the County, travel to Brooke County, WV County. The largest portion Harrison County workers commuting outside the County travel to Tuscarawas County.

Harrison		Percent of workers that work outside the County		52.4%	
		Average commute time in minutes -		28.8	
Number of workers 16+ years of age living in Harrison County			6,585		
Commute Out To	Number	Percent			
Tuscarawas Co. OH	1,410	21.4%			
Jefferson Co. OH	593	9.0%			
Belmont Co. OH	361	5.5%			
Stark Co. OH	292	4.4%			
Carroll Co. OH	188	2.9%			
Ohio Co. WV	83	1.3%			
Brooke Co. WV	65	1.0%			
Wayne Co. OH	62	0.9%			
Holmes Co. OH	34	0.5%			
Allegheny Co. PA	33	0.5%			
Percent is of workers living in County.					
Number of workers 16+ years of age working in Harrison County			4,416		
Commute In From	Number	Percent			
Jefferson Co. OH	383	8.7%			
Belmont Co. OH	280	6.3%			
Tuscarawas Co. OH	182	4.1%			
Carroll Co. OH	160	3.6%			
Guernsey Co. OH	52	1.2%			
Holmes Co. OH	41	0.9%			
Stark Co. OH	27	0.6%			
Brooke Co. WV	18	0.4%			
Allegheny Co. PA	13	0.3%			
Hamilton Co. OH	12	0.3%			
Percent is of workers working in County.					

Jefferson	Percent of workers that work outside the County		31.3%
	Average commute time in minutes -		22.2
Number of workers 16+ years of age living in Jefferson County			28,793
Commute Out To	Number	Percent	
Brooke Co. WV	2,377	8.3%	
Belmont Co. OH	1,236	4.3%	
Allegheny Co. PA	1,094	3.8%	
Hancock Co. WV	784	2.7%	
Ohio Co. WV	706	2.5%	
Columbiana Co. OH	632	2.2%	
Harrison Co. OH	383	1.3%	
Carroll Co. OH	265	0.9%	
Stark Co. OH	195	0.7%	
Beaver Co. PA	154	0.5%	
Percent is of workers living in County.			
Number of workers 16+ years of age working in Jefferson County			25,922
Commute In From	Number	Percent	
Brooke Co. WV	1,296	5.0%	
Belmont Co. OH	1,129	4.4%	
Hancock Co. WV	1,007	3.9%	
Harrison Co. OH	593	2.3%	
Columbiana Co. OH	517	2.0%	
Ohio Co. WV	436	1.7%	
Carroll Co. OH	178	0.7%	
Allegheny Co. PA	175	0.7%	
Washington Co. PA	171	0.7%	
Marshall Co. WV	147	0.6%	
Percent is of workers working in County.			

Factor 5: Meteorology

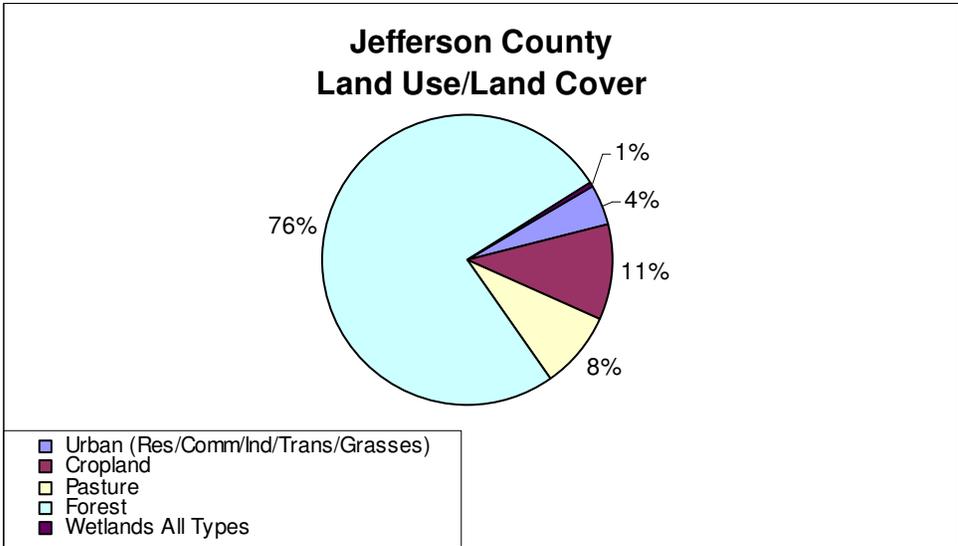
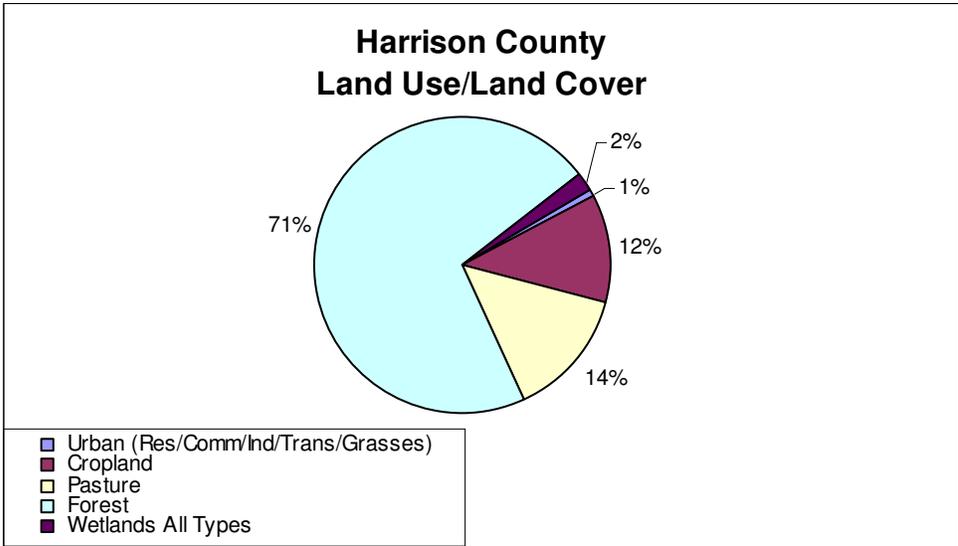
Please refer to Appendix E for applicable meteorology information for the Weirton-Steubenville area.

Factor 6: Topography/Land use/Land cover

Jefferson County is in the unglaciated Allegheny Plateau region (see Appendix F). The County has been extensively dissected by drainageways that empty into the Ohio River, which is the sinuous eastern border of the County. Relief is generally greatest in the eastern part of the County. The elevation ranges from 1,388 feet to about 644 feet above sea level.

Harrison County is located in the unglaciated Allegheny Plateau region and is similar in topography to that of Jefferson County. The highest point in the County is 1,366 feet and the lowest point is about 861 feet above sea level.

As shown in the following pie charts, the land use/land cover in Jefferson and Harrison Counties are nearly the same, predominately characterized as forest area.



Factor 7: Jurisdictional boundaries

The Weirton-Steubenville, WV-OH MSA includes: Brooke and Hancock Counties, West Virginia and Jefferson County, Ohio. The principal cities are Weirton, WV and Steubenville, OH. There is no CSA for this area.

The Brooke-Hancock-Jefferson Metropolitan Planning Commission (BHJMPO) is the planning agency designated as the Metropolitan Planning Organization for the Weirton-Steubenville area. The BHJMPO region is composed of three Counties: Hancock and Brooke Counties in WV and Jefferson County in OH.

Factor 8: Level of control of emission sources

Please refer to the Factor 8 general discussion at the beginning of this document for applicable control information for this area.

Toledo, OH:

Current County nonattainment: none

Current nonattainment Counties

***Recommended* County nonattainment:** none

 Recommended nonattainment Counties



Discussion:

There are two Counties in this existing ozone designation area, Lucas and Wood Counties. This area was initially designated nonattainment for the 1997 ozone standard and then was redesignated as attainment in August of 2007. With respect to the new standard, Ohio EPA recommends designating Lucas and Wood Counties as attainment for the Toledo area. Lucas and Wood Counties contains four monitors which are not violating the revised standard. There are seven adjacent Counties to the Toledo area: Fulton, Henry, Putnam, Hancock, Seneca, Sandusky, and Ottawa. None of these Counties contain monitors.

The three-year average of the annual fourth-highest daily maximum eight-hour average concentrations at the monitor is attaining the revised standard as identified under factor 1 below. Emissions in Lucas and Wood Counties and the adjacent Counties are relatively small.

Factor 1: Air quality data

 = Exceeds standard

Ohio

AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4

39-095-0024 Toledo Lucas Co.	2006	81	79	76	75
	2007	99	93	93	81
	2008	78	73	73	71
	Avg				75.66

39-095-0027 Toledo Lucas Co.	2006	79	77	72	69
	2007	82	82	78	75
	2008	79	74	73	73
	Avg				72.3

39-095-0034 Toledo Lucas Co.	2006	79	77	74	74
	2007	84	81	79	78
	2008	77	74	74	73
	Avg				75.0

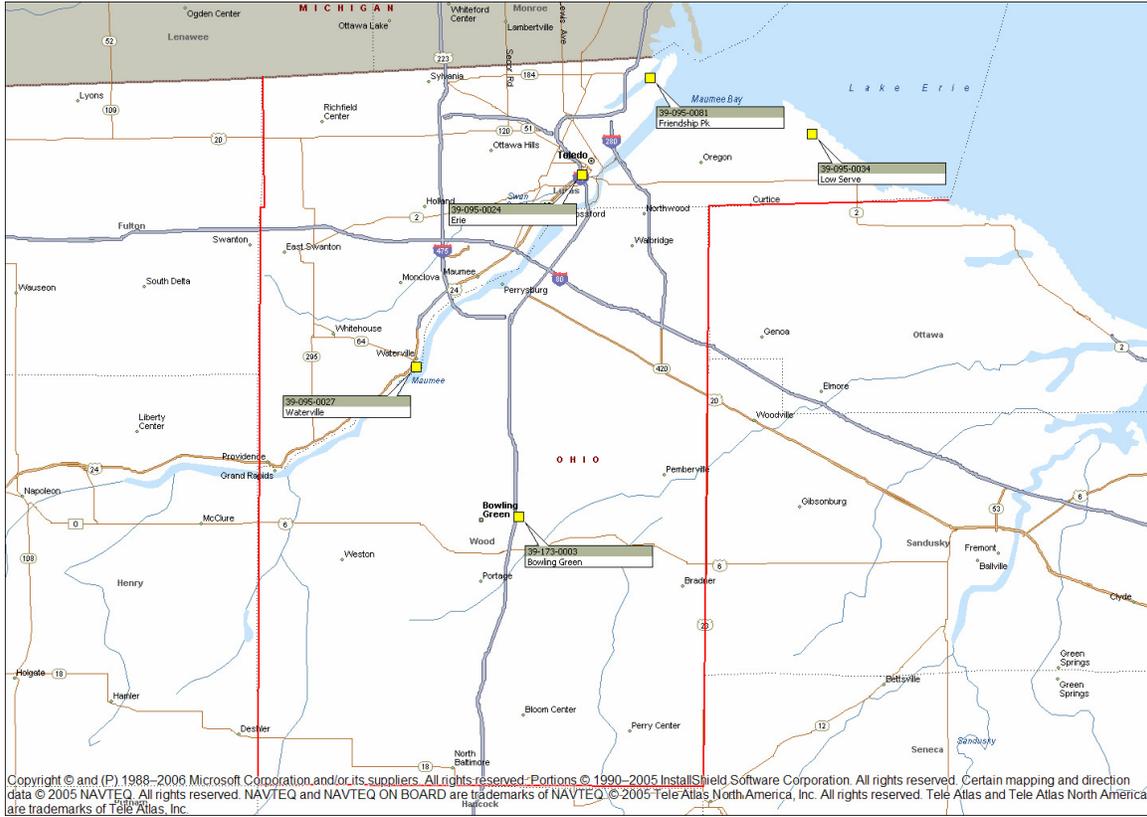
39-173-0003 Toledo Wood Co.	2006	81	80	75	73
	2007	89	88	88	83
	2008	77	72	71	70
	Avg				75.3



Sites with less than 75% capture for a given year

Sites with less than 90% capture for the 3-year period

Toledo Area Ozone Monitor Locations and Site ID Numbers



Factor 2: Emissions data (tons per day)

2005		
County	VOC	NO _x
LUCAS	56.72	78.13
WOOD	21.21	30.21
Fulton	14.70	11.12
Henry	7.63	7.18
Hancock	16.79	14.44
Seneca	10.28	26.91
Sandusky	16.85	22.49
Ottawa	12.52	13.13

2009		
County	VOC	NO_x
LUCAS	43.00	59.09
WOOD	15.73	23.24
Fulton	14.01	8.97
Henry	6.87	5.82
Hancock	13.72	11.12
Seneca	8.85	22.59
Sandusky	14.70	18.94
Ottawa	11.13	10.72

Major Employers:

Source: Ohio Department of Development 2007

Most of the major employers in the Toledo area are in the categories of manufacturing, government and service as shown below.

Fulton County

Dana Corp	Manufacturing
Fulton County Government	Government
Fulton County Health Center	Service
International Automotive Components	Manufacturing
ITT Industries Inc	Manufacturing
North Star BlueScope Steel LLC	Manufacturing
Sauder Woodworking Co	Manufacturing
TRW Automotive	Manufacturing

Hancock County

Blanchard Valley regional Health	Service
Consolidated Biscuit Co	Manufacturing
Cooper Tire & Rubber Co	Manufacturing
Findlay City Bd of Ed	Government
Kohl's Corp	Trade
Lowe's Companies Inc	Trade
Marathon Petroleum Co LLC	Trade
Nissin Brake Ohio	Manufacturing
Sanoh America Inc	Manufacturing
University of Findlay	Service
Whirlpool Corp	Manufacturing

Henry County

Alex Products	Manufacturing
Campbell Soup Co	Manufacturing
Deshler Group/Claud Sintz Inc	Manufacturing
Filling Memorial Home of Mercy	Service
Henry County Hospital	Service
Lutheran Home at Napoleon	Service
Napoleon Area City Bd of Ed	Government
Silgan Holding Inc	Manufacturing
Tenneco Inc	Manufacturing
Wal-Mart Stores Inc	Trade

Lucas County

Andersons Inc	Trade
Carlyle Group/HCR Manor Care	Service
Chrysler LLC	Manufacturing
City of Toledo	Government
Dana Corp	Manufacturing
General Motors Corp	Manufacturing
Libbey Inc	Manufacturing
Lucas County Government	Government
Mercy Health Partners	Service
Owens Corning	Manufacturing
Promedica Health System	Service
Toledo City Bd of Ed	Government
United Parcel Service Inc	Transportation
University of Toledo	Government

Ottawa County

Benton-Carroll-Salem Local Bd of Ed	Government
Brush Wellman Inc	Manufacturing
FirstEnergy Corp	Utility
Luther Home of Mercy	Service
Magruder Hospital	Service
Ottawa County Government	Government
Port Clinton City Bd of Ed	Government
Silgan Holdings Inc	Manufacturing
USG Corp/US Gypsum Co	Manufacturing

Sandusky County

Atlas Industries	Manufacturing
Bellevue Hospital	Service
Crown Battery	Manufacturing
Eaton INOAC	Manufacturing
Fremont City Bd of Ed	Government
HJ Heinz Co	Manufacturing
Memorial Hospital	Service
Poly-Foam Int'l/Style Crest	Manufacturing
Revere Plastics Inc	Manufacturing
Sandusky County Government	Government
Whirlpool Corp	Manufacturing

Seneca County

American Standard Inc	Manufacturing
Dorel Industries/Ameriwood Ind	Manufacturing
Fostoria City Bd of Ed	Government
Heidleberg College	Service
Mercy Hospital of Tiffin	Service
National Machinery LLC	Manufacturing
State of Ohio	Government
ThyssenKrupp/TKA Atlas Inc	Manufacturing
Tiffin City Bd of Ed	Government
Tiffin University	Service

Wood County

Bowling Green State University	Government
Chrysler LLC	Manufacturing
Cooper Standard Automotive Inc	Manufacturing
First Solar Inc	Manufacturing
Great Lakes Window Inc	Manufacturing
Magna Int'l/Norplas Inc	Manufacturing
Owens Community College	Government
Owens Illinois Inc	Manufacturing
Perrysburg Exempted Village Bd of Ed	Government
Rudolph-Libbe Companies	Construction
Walgreen Co	Trade
Wood County Government	Government
Wood County Hospital Assoc	Service

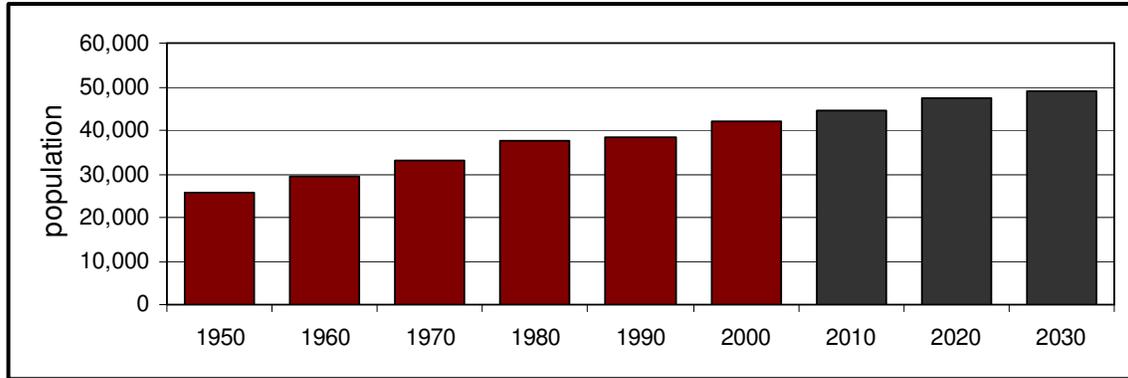
Factor 3: Population and Projected Growth

Sources: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau Population Estimates Program 2007

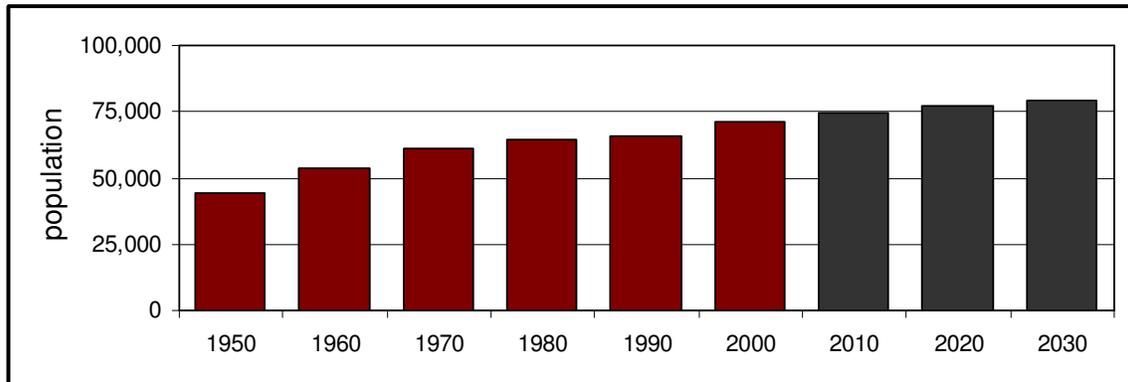
The primary urban areas in the Toledo area and adjacent Counties are: Toledo, Oregon, and Sylvania in Lucas County; Bowling Green, Perrysburg, Rossford, and Maumee in Wood County; Wauseon in Fulton County; Napoleon in Henry County, Ottawa in Putnam County; Findlay in Hancock County; Tiffin in Seneca County, Fremont and Clyde in Sandusky County; and Port Clinton, Marblehead, and Kelleys Island in Ottawa County. Lucas County has the highest population in this area and it is projected to steadily decrease while the population in Wood County is projected to steadily increase. The population in Fulton, Henry, and Hancock is projected to increase; and in Seneca, Sandusky and Ottawa Counties the population is expected to gradually decrease as shown in the table and graphs below.

	2004	2005	2006	2007	2010	2020	2030
Lucas	449,588	447,410	445,281	441,910	444,870	434,650	417,870
Wood	123,377	123,889	124,183	125,399	127,020	133,330	141,880
Fulton	42,785	42,888	42,900	42,562	44,610	47,210	49,110
Henry	29,364	29,431	29,520	28,931	29,540	29,990	30,110
Hancock	73,470	73,508	73,824	74,204	74,180	76,910	79,040
Seneca	57,724	57,373	57,255	56,705	56,750	54,260	50,920
Sandusky	61,689	61,579	61,625	60,997	59,940	57,900	56,420
Ottawa	41,436	41,430	41,331	41,084	40,800	40,270	38,520

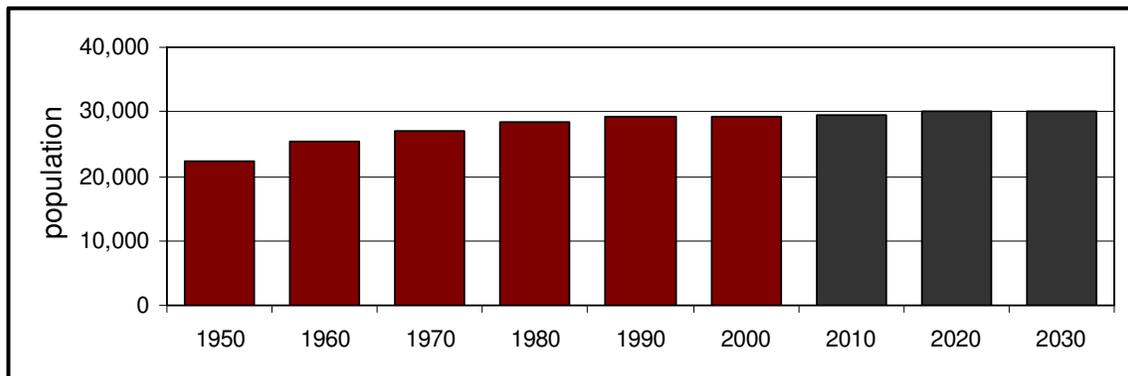
Fulton County



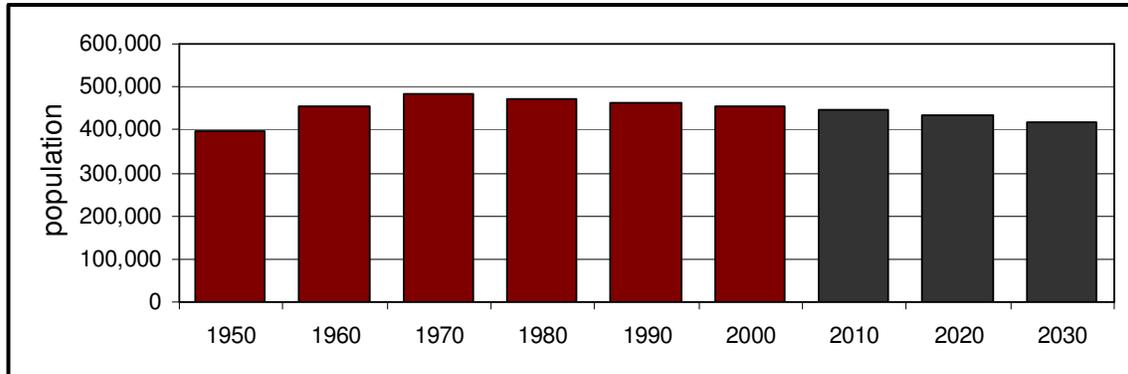
Hancock County



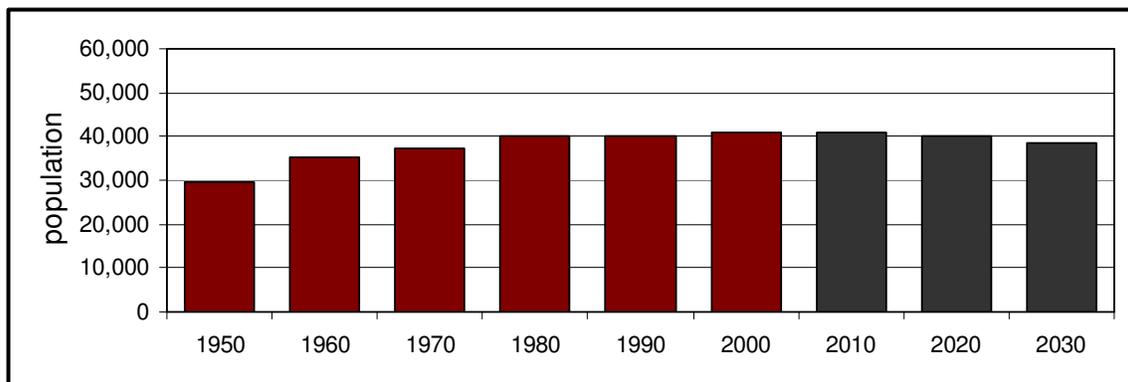
Henry County



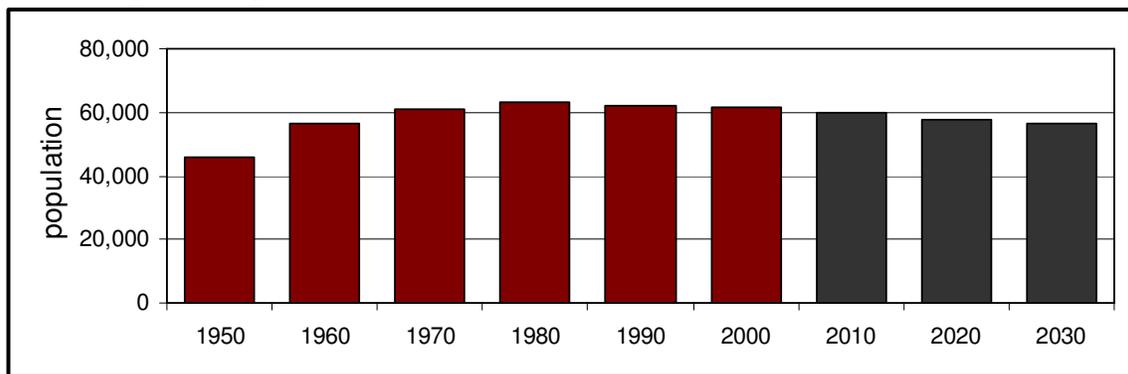
Lucas County



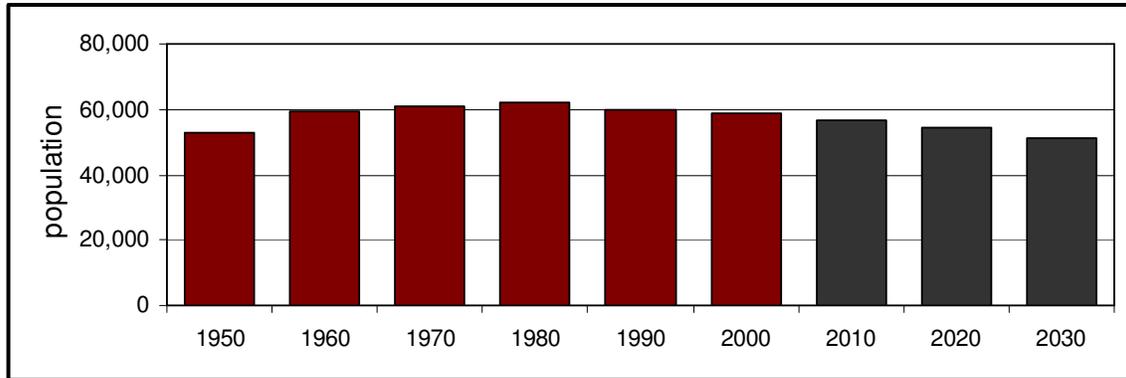
Ottawa County



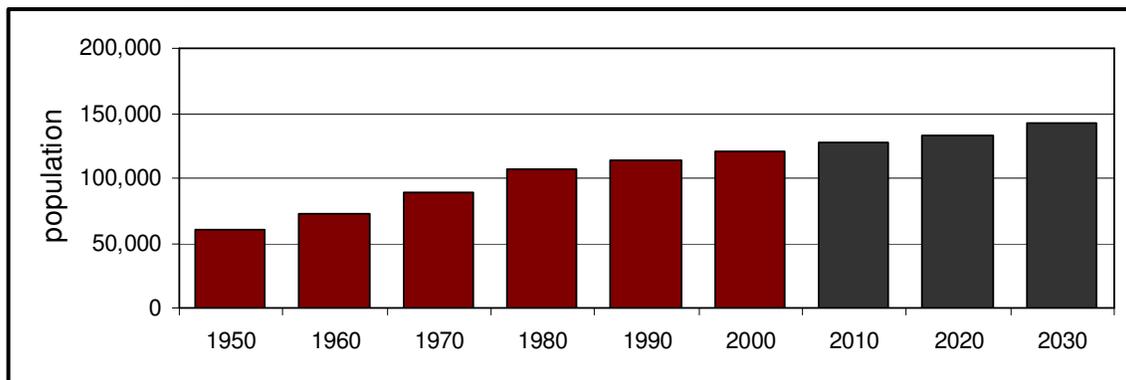
Sandusky County



Seneca County



Wood County

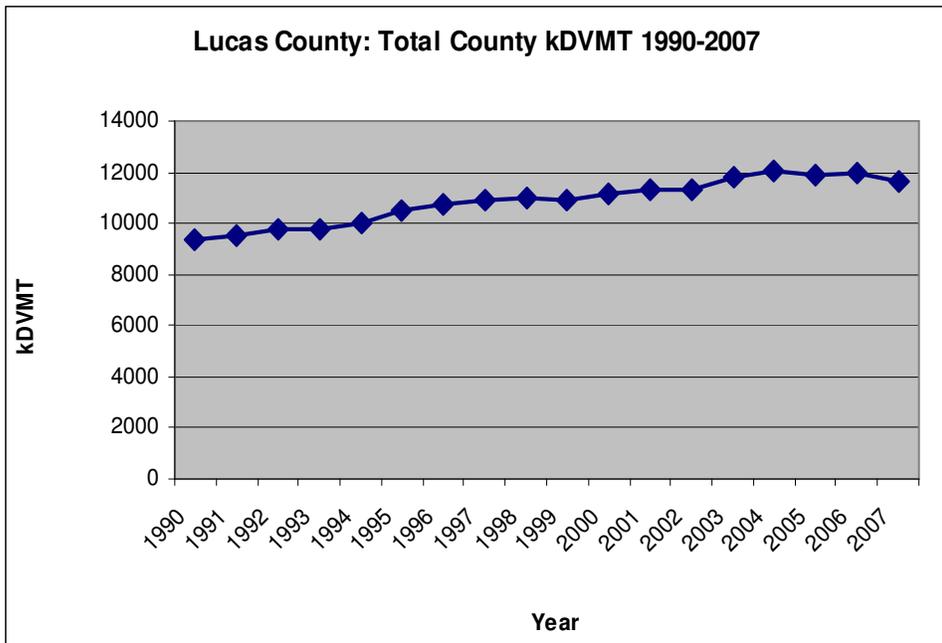


Factor 4: Traffic and commuting patterns

As expected, Lucas County has the highest kDVMT in the Toledo area as indicated in the tables below. All Counties have had slight decreases in kDVMT from 2005 to 2007. Sandusky and Ottawa Counties had the most notable downward trend in kDVMT between 2005 and 2007.

Estimated Daily Vehicle Miles Traveled (kDVMT = in thousands)

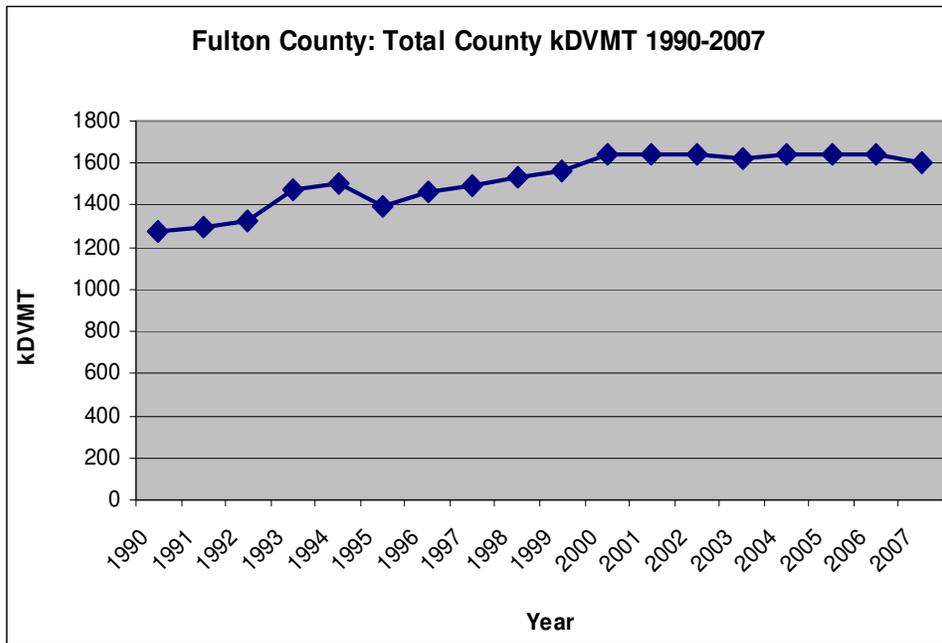
Source: Ohio Department of Transportation, Office of Technical Services



2005 = 11895.43

2006 = 11980.01

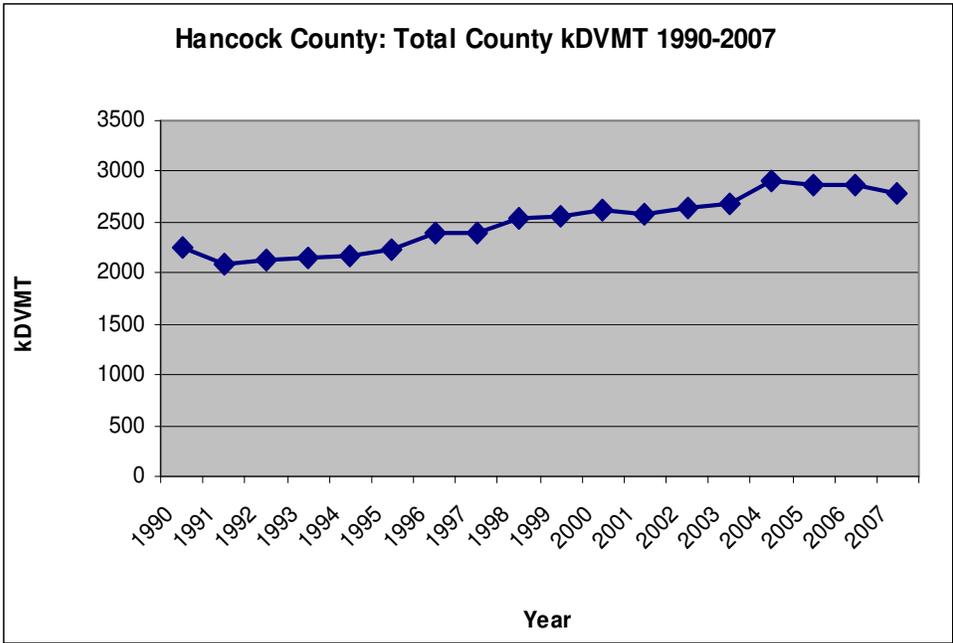
2007 = 11638.02



2005 = 1637.05

2006 = 1639.18

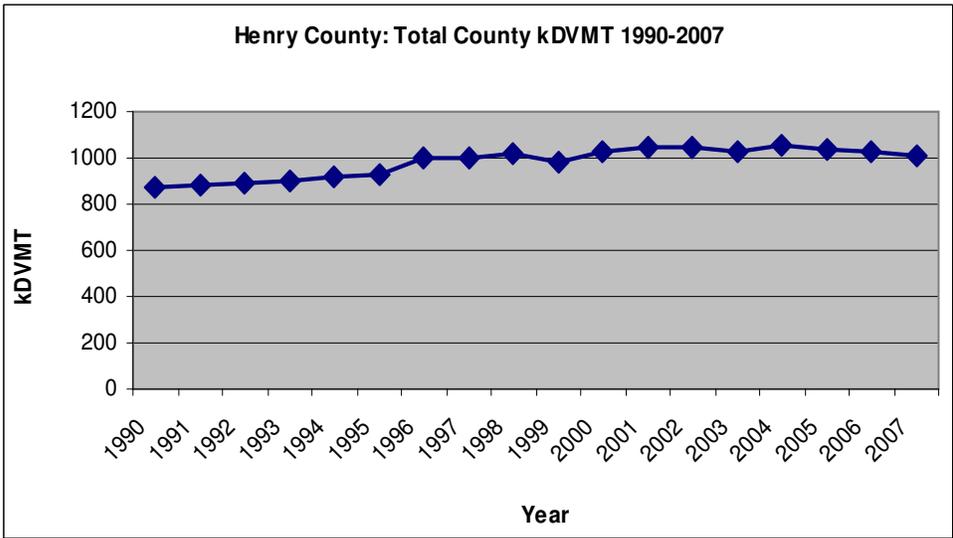
2007 = 1606.65



2005 = 2866.29

2006 = 2861.8

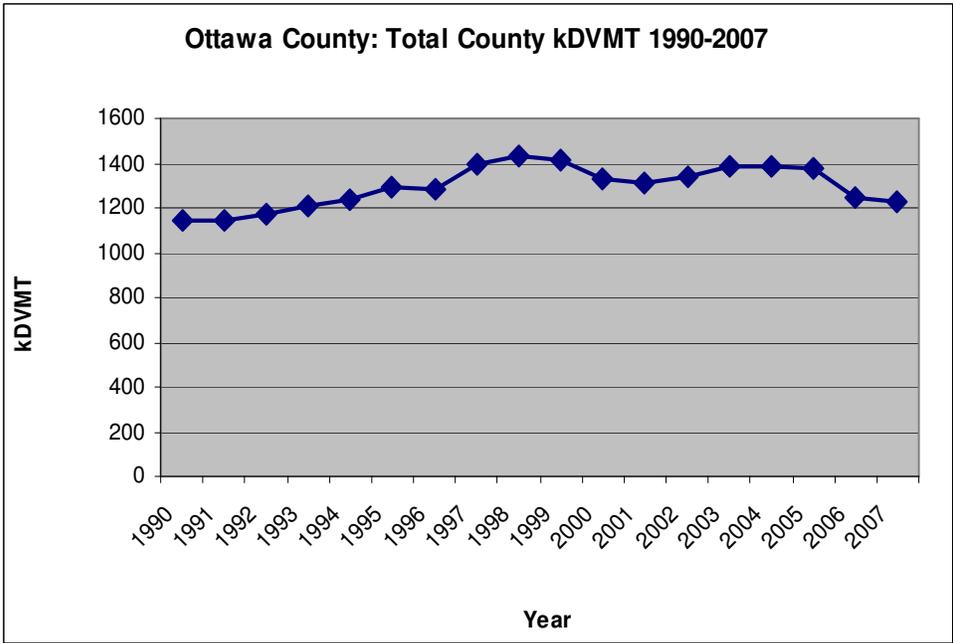
2007 = 2777.05



2005 = 1039.24

2006 = 1026.35

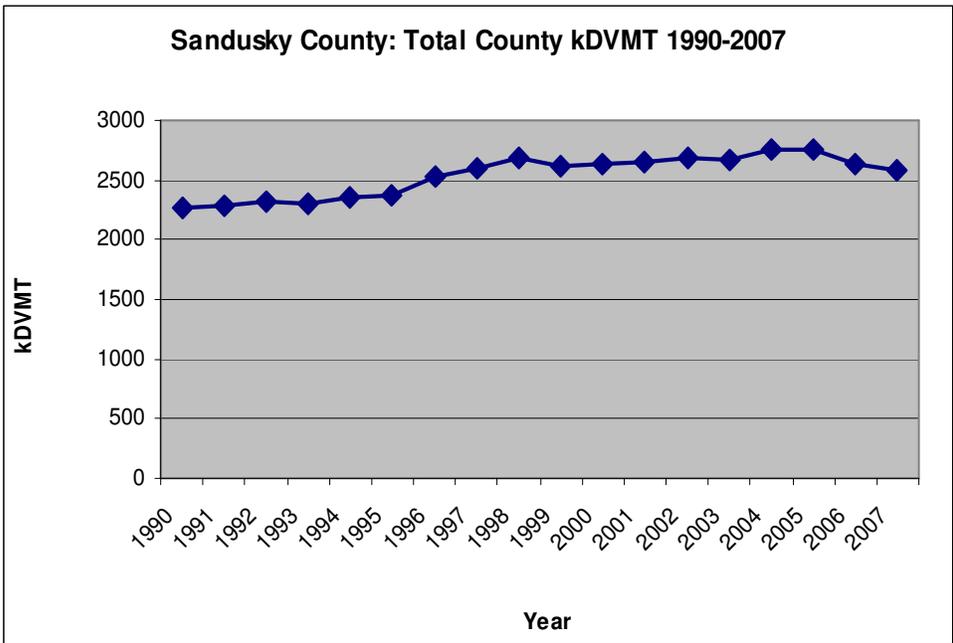
2007 = 1007.09



2005 = 1375.25

2006 = 1244.3

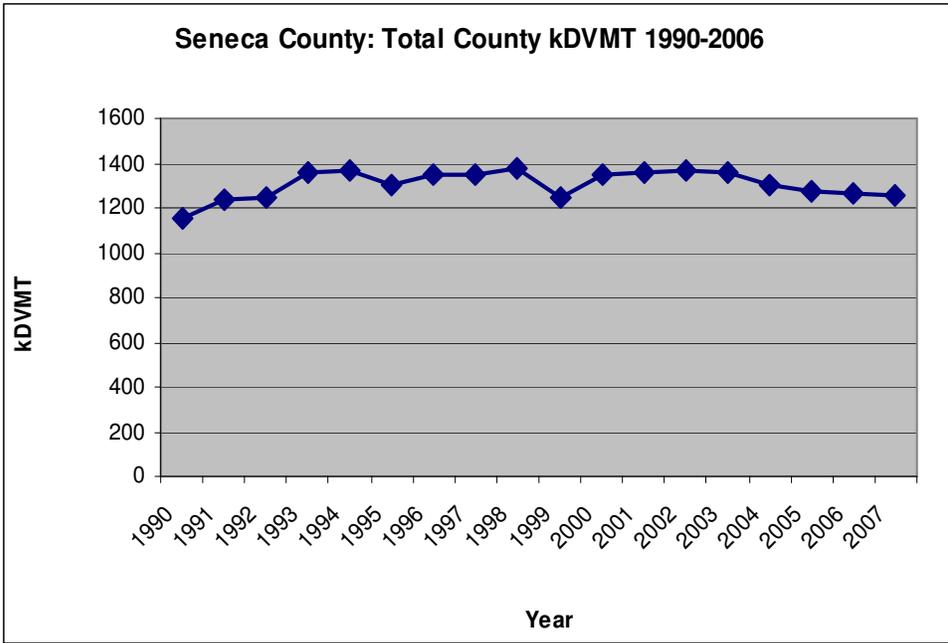
2007 = 1255.74



2005 = 2762.48

2006 = 2632.8

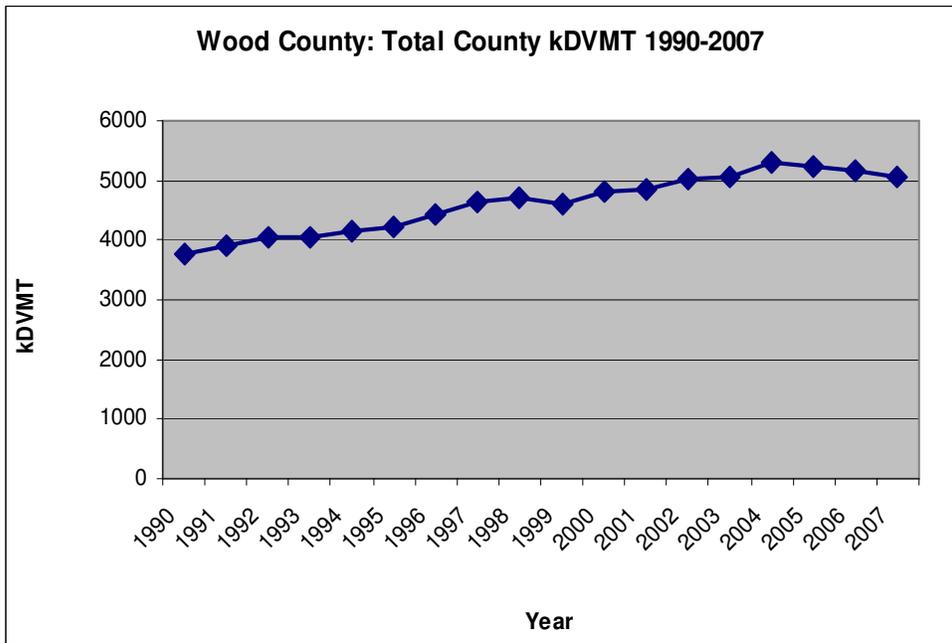
2007 = 2585.04



2005 = 1278.29

2006 = 1269.44

2007 = 1253.14



2005 = 5228.79

2006 = 5179.89

2007 = 5055.96

Commuter Patterns

Source: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau, 2000

As shown in the following tables, the majority of Ohio commuters traveling into Lucas County are from Wood County and vice versa.

Fulton	Percent of workers that work outside the County		39.0%
	Average commute time in minutes -		21.3
Number of workers 16+ years of age living in Fulton County			20,855
Commute Out To	Number	Percent	
Lucas Co. OH	5,203	24.9%	
Williams Co. OH	677	3.2%	
Henry Co. OH	659	3.2%	
Wood Co. OH	622	3.0%	
Lenawee Co. MI	233	1.1%	
Defiance Co. OH	217	1.0%	
Monroe Co. MI	122	0.6%	
Wayne Co. MI	30	0.1%	
Hillsdale Co. MI	29	0.1%	
Sandusky Co. OH	29	0.1%	
Number of workers 16+ years of age working in Fulton County			21,516
Commute In From	Number	Percent	
Henry Co. OH	1,981	9.2%	
Lucas Co. OH	1,957	9.1%	
Williams Co. OH	1,810	8.4%	
Defiance Co. OH	1,270	5.9%	
Lenawee Co. MI	639	3.0%	
Wood Co. OH	269	1.3%	
Hillsdale Co. MI	156	0.7%	
Paulding Co. OH	134	0.6%	
Monroe Co. MI	87	0.4%	
Sandusky Co. OH	72	0.3%	
Percent is of workers living in County.			Percent is of workers working in County.

Hancock	Percent of workers that work outside the County		18.7%
	Average commute time in minutes -		17.5
Number of workers 16+ years of age living in Hancock County			35,845
Commute Out To	Number	Percent	
Wood Co. OH	1,603	4.5%	
Seneca Co. OH	1,296	3.6%	
Allen Co. OH	1,074	3.0%	
Lucas Co. OH	607	1.7%	
Wyandot Co. OH	491	1.4%	
Putnam Co. OH	382	1.1%	
Hardin Co. OH	379	1.1%	
Sandusky Co. OH	126	0.4%	
Ottawa Co. OH	50	0.1%	
Van Wert Co. OH	49	0.1%	
Number of workers 16+ years of age working in Hancock County			41,331
Commute In From	Number	Percent	
Seneca Co. OH	3,118	7.5%	
Wood Co. OH	2,177	5.3%	
Putnam Co. OH	1,722	4.2%	
Allen Co. OH	1,169	2.8%	
Wyandot Co. OH	1,107	2.7%	
Hardin Co. OH	1,082	2.6%	
Lucas Co. OH	514	1.2%	
Sandusky Co. OH	191	0.5%	
Henry Co. OH	189	0.5%	
Franklin Co. OH	91	0.2%	
Percent is of workers living in County.			Percent is of workers working in County.

Henry	Percent of workers that work outside the County		43.0%
	Average commute time in minutes -		21.4
Number of workers 16+ years of age living in Henry County			13,911
Commute Out To	Number	Percent	
Fulton Co. OH	1,981	14.2%	
Defiance Co. OH	1,327	9.5%	
Lucas Co. OH	952	6.8%	
Wood Co. OH	865	6.2%	
Williams Co. OH	295	2.1%	
Hancock Co. OH	189	1.4%	
Putnam Co. OH	138	1.0%	
Allen Co. OH	38	0.3%	
Lenawee Co. MI	23	0.2%	
Monroe Co. MI	18	0.1%	
Number of workers 16+ years of age working in Henry County			11,170
Commute In From	Number	Percent	
Defiance Co. OH	817	7.3%	
Fulton Co. OH	659	5.9%	
Williams Co. OH	406	3.6%	
Lucas Co. OH	365	3.3%	
Wood Co. OH	359	3.2%	
Putnam Co. OH	206	1.8%	
Paulding Co. OH	105	0.9%	
Hancock Co. OH	43	0.4%	
Seneca Co. OH	34	0.3%	
Webb Co. TX	26	0.2%	
Percent is of workers living in County.			Percent is of workers working in County.

Lucas	Percent of workers that work outside the County		15.5%
	Average commute time in minutes -		20.5
Number of workers 16+ years of age living in Lucas County			207,585
Commute Out To	Number	Percent	
Wood Co. OH	17,054	8.2%	
Monroe Co. MI	4,456	2.1%	
Fulton Co. OH	1,957	0.9%	
Wayne Co. MI	1,906	0.9%	
Washtenaw Co. MI	867	0.4%	
Ottawa Co. OH	738	0.4%	
Lenawee Co. MI	583	0.3%	
Hancock Co. OH	514	0.2%	
Sandusky Co. OH	418	0.2%	
Oakland Co. MI	375	0.2%	
Number of workers 16+ years of age working in Lucas County			226,840
Commute In From	Number	Percent	
Wood Co. OH	19,504	8.6%	
Monroe Co. MI	12,654	5.6%	
Fulton Co. OH	5,203	2.3%	
Ottawa Co. OH	3,418	1.5%	
Lenawee Co. MI	1,557	0.7%	
Sandusky Co. OH	1,537	0.7%	
Henry Co. OH	952	0.4%	
Wayne Co. MI	922	0.4%	
Hancock Co. OH	607	0.3%	
Seneca Co. OH	480	0.2%	
Percent is of workers living in County.			Percent is of workers working in County.

Ottawa	Percent of workers that work outside the County		43.8%
	Average commute time in minutes -		22.5
Number of workers 16+ years of age living in Ottawa County			19,434
Commute Out To	Number	Percent	
Lucas Co. OH	3,418	17.6%	
Wood Co. OH	1,652	8.5%	
Sandusky Co. OH	1,299	6.7%	
Erie Co. OH	1,107	5.7%	
Cuyahoga Co. OH	155	0.8%	
Huron Co. OH	151	0.8%	
Monroe Co. MI	90	0.5%	
Seneca Co. OH	81	0.4%	
Wayne Co. MI	75	0.4%	
Lorain Co. OH	71	0.4%	
Number of workers 16+ years of age working in Ottawa County			15,208
Commute In From	Number	Percent	
Sandusky Co. OH	1,426	9.4%	
Wood Co. OH	760	5.0%	
Lucas Co. OH	738	4.9%	
Erie Co. OH	530	3.5%	
Seneca Co. OH	177	1.2%	
Huron Co. OH	111	0.7%	
Monroe Co. MI	68	0.4%	
Hancock Co. OH	50	0.3%	
Lorain Co. OH	43	0.3%	
Franklin Co. OH	32	0.2%	
Percent is of workers living in County.			Percent is of workers working in County.

Sandusky	Percent of workers that work outside the County		31.1%
	Average commute time in minutes -		19.4
Number of workers 16+ years of age living in Sandusky County			29,971
Commute Out To	Number	Percent	
Erie Co. OH	1,659	5.5%	
Lucas Co. OH	1,537	5.1%	
Ottawa Co. OH	1,426	4.8%	
Wood Co. OH	1,408	4.7%	
Huron Co. OH	1,305	4.4%	
Seneca Co. OH	1,217	4.1%	
Hancock Co. OH	191	0.6%	
Fulton Co. OH	72	0.2%	
Cuyahoga Co. OH	59	0.2%	
Monroe Co. MI	44	0.1%	
Number of workers 16+ years of age working in Sandusky County			28,184
Commute In From	Number	Percent	
Seneca Co. OH	2,735	9.7%	
Ottawa Co. OH	1,299	4.6%	
Huron Co. OH	1,025	3.6%	
Erie Co. OH	768	2.7%	
Wood Co. OH	587	2.1%	
Lucas Co. OH	418	1.5%	
Hancock Co. OH	126	0.4%	
Lorain Co. OH	71	0.3%	
Franklin Co. OH	51	0.2%	
Wyandot Co. OH	45	0.2%	
Percent is of workers living in County.			Percent is of workers working in County.

Seneca	Percent of workers that work outside the County		37.2%
	Average commute time in minutes -		20.5
Number of workers 16+ years of age living in Seneca County			28,274
Commute Out To	Number	Percent	
Hancock Co. OH	3,118	11.0%	
Sandusky Co. OH	2,735	9.7%	
Wood Co. OH	1,019	3.6%	
Huron Co. OH	954	3.4%	
Wyandot Co. OH	781	2.8%	
Lucas Co. OH	480	1.7%	
Erie Co. OH	317	1.1%	
Crawford Co. OH	284	1.0%	
Ottawa Co. OH	177	0.6%	
Allen Co. OH	68	0.2%	
Number of workers 16+ years of age working in Seneca County			23,261
Commute In From	Number	Percent	
Hancock Co. OH	1,296	5.6%	
Sandusky Co. OH	1,217	5.2%	
Wood Co. OH	889	3.8%	
Wyandot Co. OH	675	2.9%	
Crawford Co. OH	323	1.4%	
Huron Co. OH	282	1.2%	
Lucas Co. OH	138	0.6%	
Erie Co. OH	89	0.4%	
Ottawa Co. OH	81	0.3%	
Franklin Co. OH	48	0.2%	
Percent is of workers living in County.			Percent is of workers working in County.

Wood	Percent of workers that work outside the County		44.3%
	Average commute time in minutes -		20.1
Number of workers 16+ years of age living in Wood County			61,207
Commute Out To			Number Percent
Lucas Co. OH	19,504	31.9%	
Hancock Co. OH	2,177	3.6%	
Seneca Co. OH	889	1.5%	
Ottawa Co. OH	760	1.2%	
Sandusky Co. OH	587	1.0%	
Monroe Co. MI	384	0.6%	
Henry Co. OH	359	0.6%	
Wayne Co. MI	307	0.5%	
Fulton Co. OH	269	0.4%	
Defiance Co. OH	172	0.3%	
Number of workers 16+ years of age working in Wood County			60,992
Commute In From			Number Percent
Lucas Co. OH	17,054	28.0%	
Ottawa Co. OH	1,652	2.7%	
Hancock Co. OH	1,603	2.6%	
Sandusky Co. OH	1,408	2.3%	
Seneca Co. OH	1,019	1.7%	
Henry Co. OH	865	1.4%	
Monroe Co. MI	778	1.3%	
Fulton Co. OH	622	1.0%	
Lenawee Co. MI	128	0.2%	
Putnam Co. OH	109	0.2%	
Percent is of workers living in County.			Percent is of workers working in County.

Factor 5: Meteorology

Please refer to Appendix E for applicable meteorology information for the Toledo area.

Factor 6: Topography/Land use/Land cover

Lucas County is in the glaciated Huron-Erie Lake Plains region (see Appendix F). The County is on a nearly level plain. The generally flat landscape is broken by low, rounded hills created by streams throughout the County. The average elevation is about 614 feet above sea level.

Wood County lies entirely within the Huron-Erie Lake Plains region. The County landscape is relatively uniform and level, with most of the County having a slope of six percent or less. The highest point is about 775 feet and the lowest point is about 575 feet above sea level.

Fulton County, like Lucas and Wood Counties, is located in the Huron-Erie Lake Plains region. The County is made up of gently rolling terrain and nearly level plain. The landscape slopes eastward toward Lake Erie. The elevation ranges from about 680 feet to 806 feet above sea level.

Henry County has large glaciated areas of level or nearly level topography. The elevation ranges from 625 feet to 750 feet above sea level.

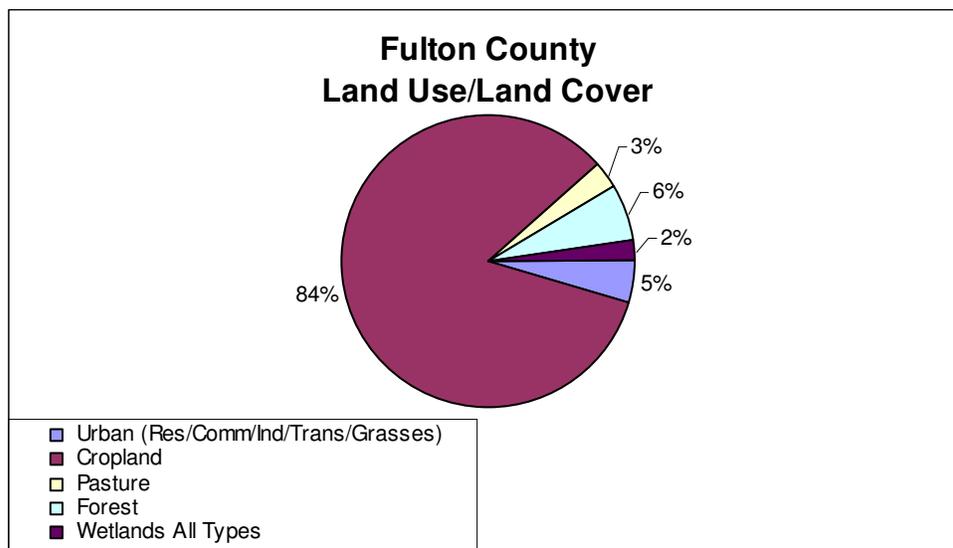
Hancock County like most Counties in the northwest section of Ohio has a relatively uniform, level topography. The highest point is 955 feet and the lowest is 715 feet above sea level. Most of the County has a slope of six percent or less.

Seneca County straddles the Lake Plain and Till Plain areas of the Central Lowlands region. Relief of the County is mainly nearly level to undulating. As expected, steeper areas are along streams.

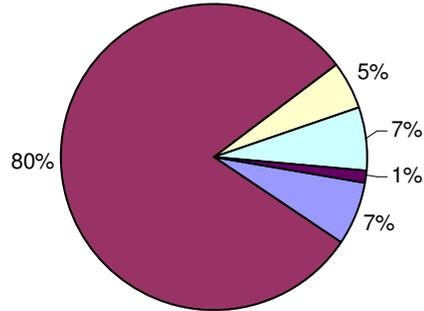
Sandusky County is mainly in the broad lake plain section of the Central Lowlands Province. Exceptions to the nearly flat topography dominant throughout the County are the beach ridges in the southeastern and southwestern parts of the County. Elevation ranges from 575 feet to 810 feet above sea level.

Ottawa County lies entirely within the glaciated part of Ohio. The relief of the County is nearly level to sloping. West of Port Clinton the surface is flat and is a little elevated above Lake Erie. East of Port Clinton the relief is gently rolling.

As shown in the following pie charts, the land use/land cover in this area is primarily cropland. As expected Lucas County has the highest percentage of urban area with 36 percent.

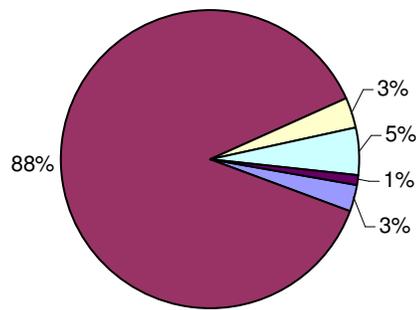


Hancock County Land Use/Land Cover



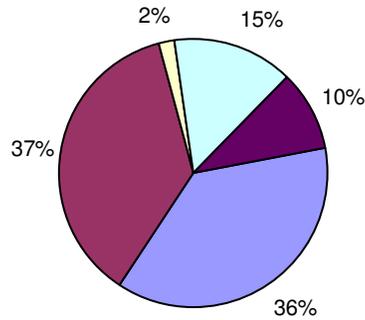
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- Cropland
- Pasture
- Forest
- Wetlands All Types

Henry County Land Use/Land Cover



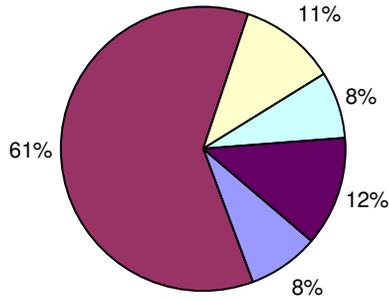
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Lucas County Land Use/Land Cover



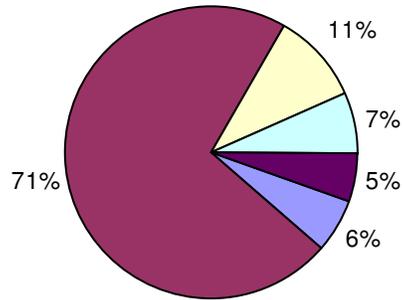
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Ottawa County Land Use/Land Cover



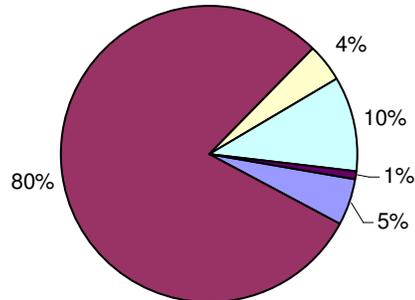
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Sandusky County Land Use/Land Cover

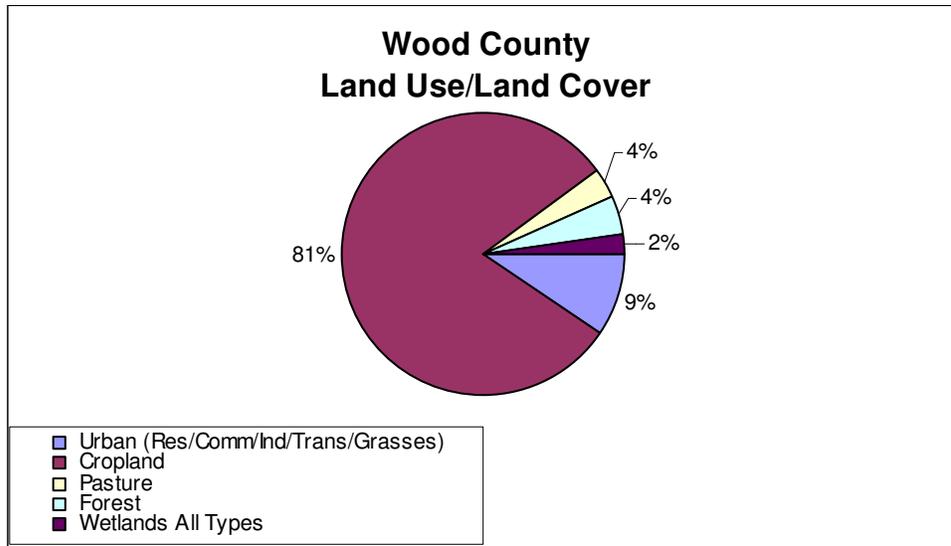


- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Seneca County Land Use/Land Cover



- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types



Factor 7: Jurisdictional boundaries

The Toledo, OH MSA includes: Fulton, Lucas, Ottawa, and Wood Counties. The principal city is Toledo. There is no CSA for this area.

The Toledo Metropolitan Area Council of Governments (TMACOG) is the planning agency designated as the Metropolitan Planning Organization for the greater Toledo area. The TMACOG region is composed of three Counties in two States: Lucas and Wood Counties in Ohio and Monroe County in Michigan.

Factor 8: Level of control of emission sources

Please refer to the factor 8 general discussion at the beginning of this document for applicable control information for this area.

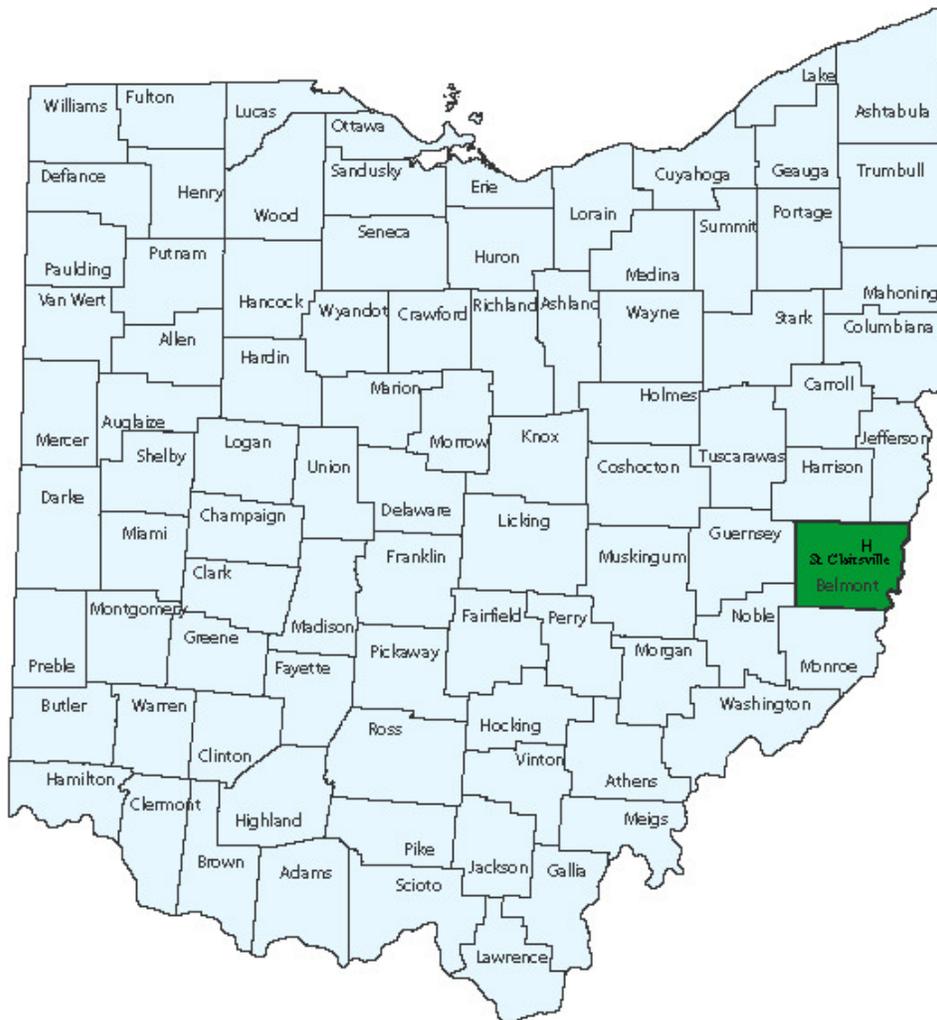
Wheeling, WV-OH:

Current County nonattainment: none

Current nonattainment Counties

***Recommended* County nonattainment:** Belmont

 Recommended nonattainment Counties



Discussion:

There is one Ohio County and two West Virginia Counties in this existing ozone designation area: Belmont County in Ohio and Marshall and Ohio Counties in West Virginia. The monitor used for this area is located in West Virginia. Belmont County was initially designated nonattainment for the 1997 ozone standard and then was redesignated to attainment in June 2007. With respect to the new standard, Ohio EPA recommends designating Belmont County as nonattainment for ozone due to one monitor in Ohio County, WV not meeting the revised standard. There are three adjacent Counties to Belmont County included in this section: Guernsey, Noble and Monroe. Harrison and Jefferson Counties are discussed in the Steubenville-Weirton section of this document.

The three-year average of the annual fourth-highest daily maximum eight-hour average concentration at the monitor site in Ohio County, WV is not attaining the revised standard as indicated under factor 1 below. Emissions of VOC and NOx in all Ohio Counties are very small.

Ohio EPA is not recommending any additional adjacent Counties for nonattainment designations in this area. The Counties in this area have low population and growth, low kDVMT with no significant levels of commuters, and low emissions. Marshall County, West Virginia has high levels of NOx emissions.

Factor 1: Air quality data

Ohio

There are no monitors in applicable areas of Ohio.

West Virginia

 = Exceeds standard

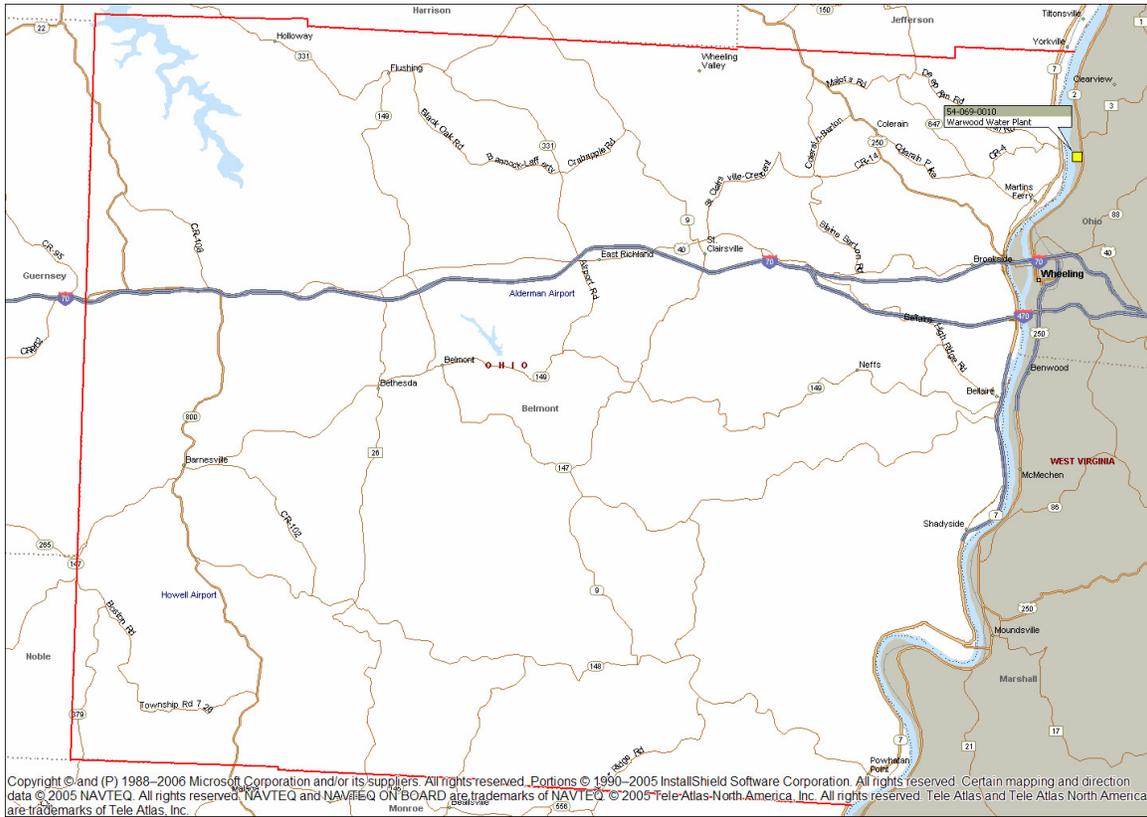
AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4
54-069-1010 Wheeling Ohio Co.	2006	85	83	79	79
	2007	81	81	81	80
	2008	75	74	72	72
	Avg				 77.0



Sites with less than 75% capture for a given year
Sites with less than 90% capture for the 3-year period

Wheeling WV-OH Area Ozone Monitor Locations and Site ID Numbers



Factor 2: Emissions data (tons per day)

Ohio

2005		
County	VOC	NO _x
BELMONT	10.65	21.79
Monroe	3.19	3.32
Noble	2.41	2.54
Guernsey	9.12	12.86

2009		
County	VOC	NO _x
BELMONT	8.37	19.74
Monroe	2.89	2.71
Noble	2.10	2.02
Guernsey	7.62	11.30

West Virginia (Does not include on-road data)

2005		
County	VOC	NO_x
MARSHALL	7.23	95.96
OHIO	5.19	4.66

2009		
County	VOC	NO_x
MARSHALL	4.43	84.23
OHIO	2.40	2.67

Major Employers:

Source: Ohio Department of Development 2007

Most of the major employers in the Wheeling area are in the categories of government, government and service as shown below.

Belmont County

Barnesville Hospital Assn	Service
Belmont Community Hospital	Service
Belmont County Government	Government
Belmont County Technical College	Government
Commercial Vehicle Group/Mayflower	Manufacturing
East Ohio regional Hospital	Service
Kroger Co	Trade
Ohio Valley Coal Co	Mining
State of Ohio	Government
Wal-Mart Stores Inc	Trade
Wheeling-Pittsburgh Steel Corp	Manufacturing

Guernsey County

Cambridge City Bd of Ed	Government
Daimler AG/Detroit Diesel	Manufacturing
Colgate-Palmolive Co	Manufacturing
Federal-Mogul Corp	Manufacturing
Guernsey County Government	Government
Plastech Engineered Products	Manufacturing
Southeastern Ohio regional Medical Center	Service
State of Ohio	Government
Wal-Mart Stores Inc	Trade

Monroe County

Extencicare/Woodsfield Nursing Center	Service
Monroe County Government	Government
Ormet Corp	Manufacturing
Riesbeck Food Markets	Trade
Safe Auto Insurance Group	Service
Slay Transportation Co Inc	Transportation
Switzerland of Ohio Local Bd of Ed	Government

Noble County

Caldwell Exempted Village Bd of Ed	Government
MAHLE International	Manufacturing
Noble County Government	Government
Noble Local Bd of Ed	Government
Packaging Dynamics/Intl Converter	Manufacturing
State of Ohio	Government
Summit Acres	Service

Factor 3: Population and Projected Growth

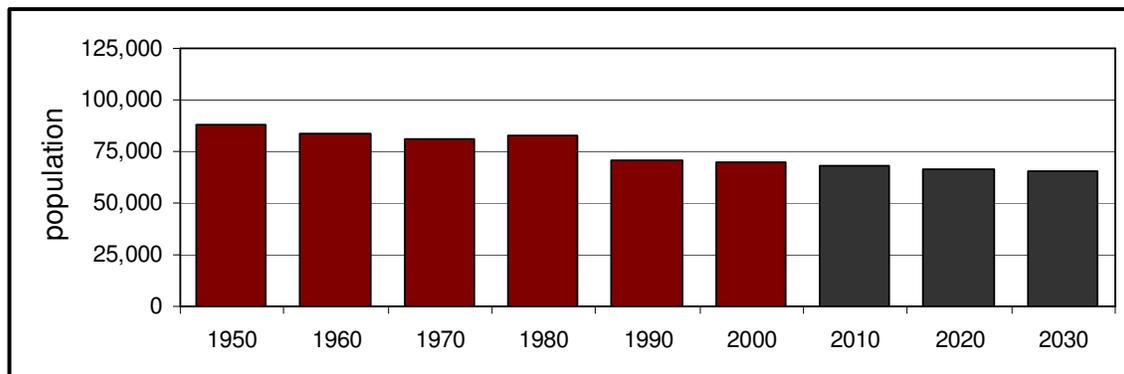
U.S. Census Bureau Population Estimates Program 2007

The primary urban areas in Belmont County are St. Clairsville and Martins Ferry; in Monroe County, Woodsfield and Graysville; in Noble County, Caldwell; and in Guernsey County, Cambridge.

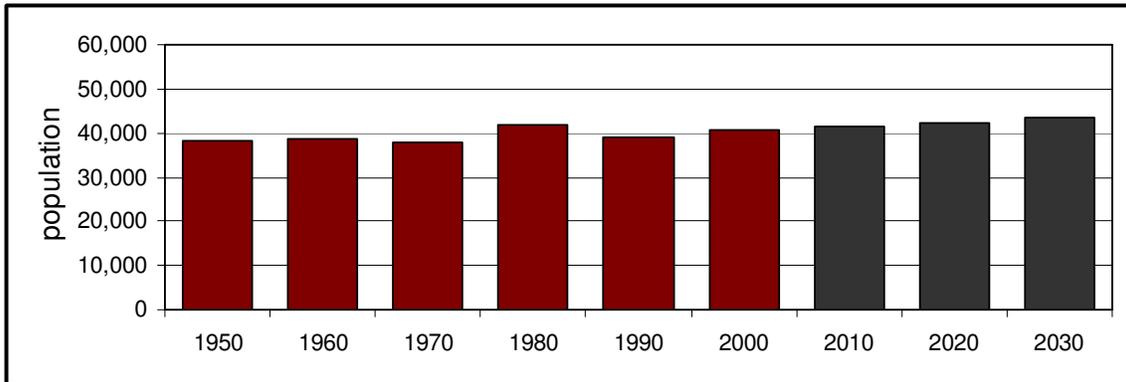
As indicated in the following table and graphs, Belmont County has the highest population in this area, and it is projected to steadily decrease. The populations in the surrounding Counties are projected to remain generally constant with only minor changes in the future.

	2004	2005	2006	2007	2010	2020	2030
Belmont	69,444	69,089	68,771	67,908	68,030	66,810	65,340
Monroe	14,927	14,736	14,606	14,258	14,800	14,280	13,490
Noble	14,172	14,097	14,165	14,096	15,370	16,230	16,690
Guernsey	41,185	41,007	40,876	40,409	41,400	42,480	43,360

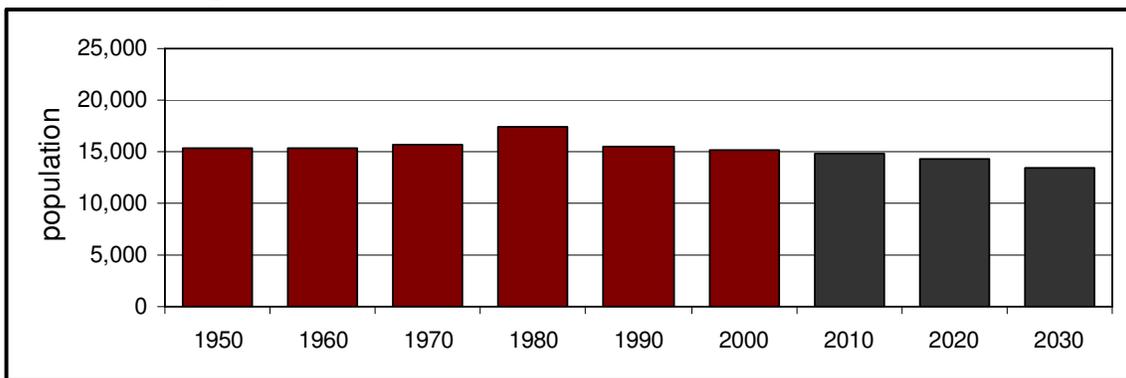
Belmont County



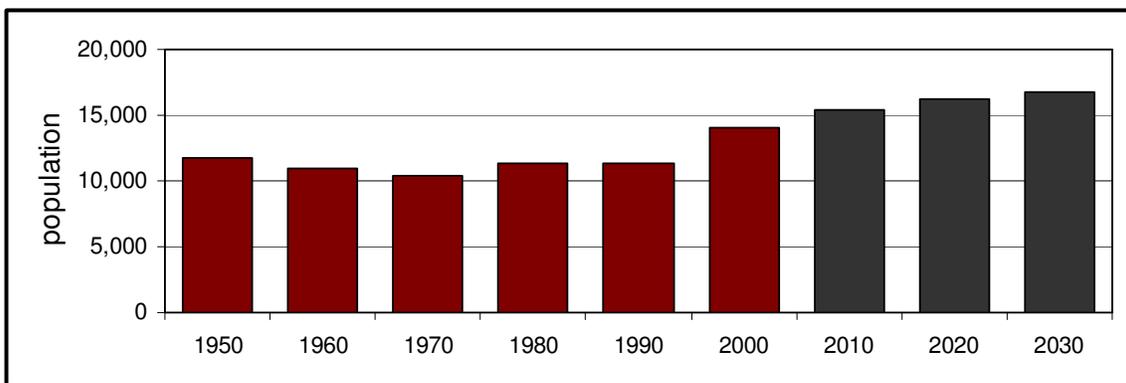
Guernsey County



Monroe County



Noble County

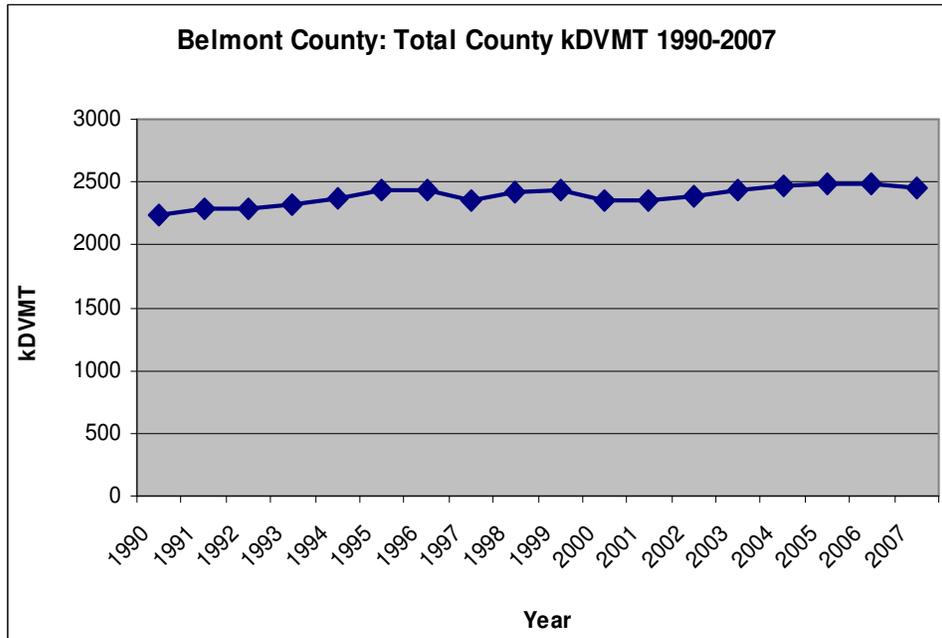


Factor 4: Traffic and commuting patterns

Belmont and Guernsey Counties have the highest kDVMT in this area. Between 2005 and 2007, all Counties have shown a slight decrease in kDVMT as shown in the graphs below.

Estimated Vehicle Miles Traveled (kDVMT = in thousands)

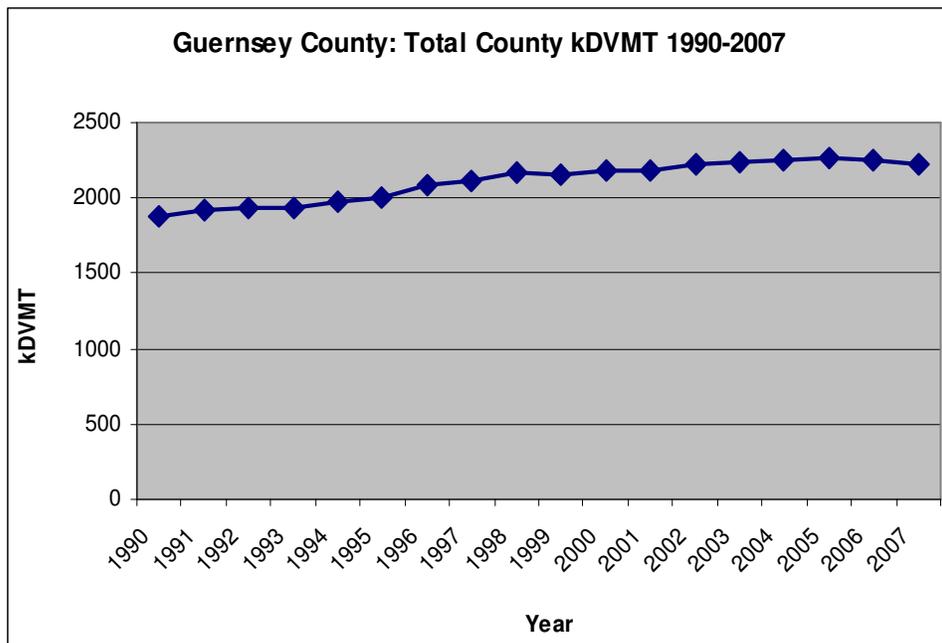
Source: Ohio Department of Transportation, Office of Technical Services



2005 = 2491.98

2006 = 2493.01

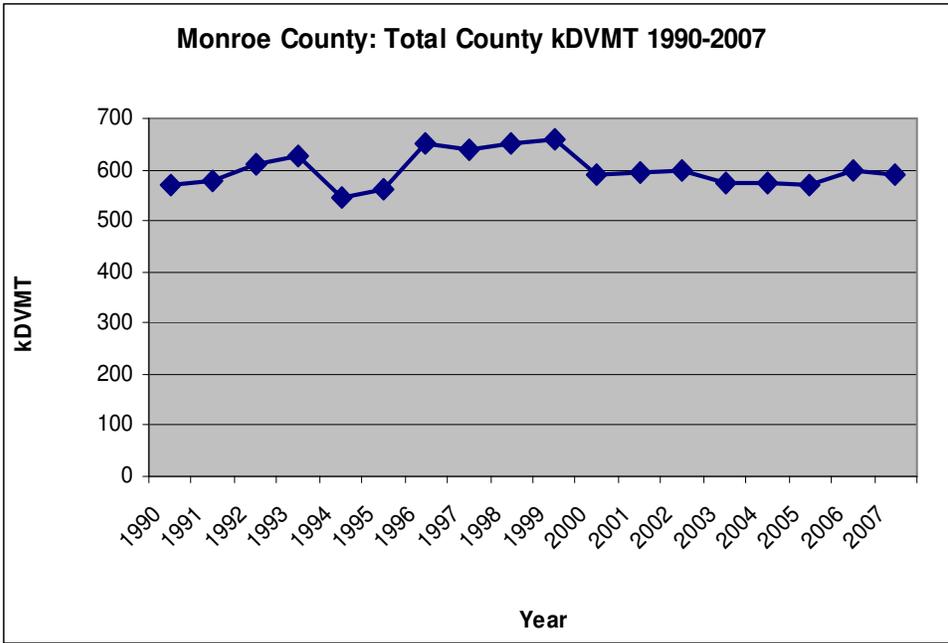
2007 = 2456.95



2005 = 2271.98

2006 = 2254.55

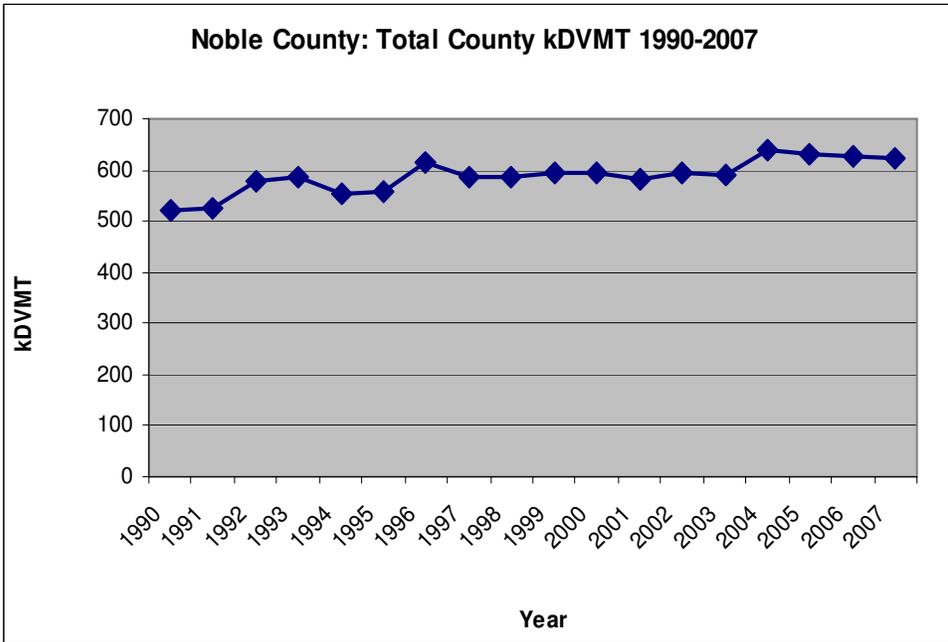
2007 = 2221.26



2005 = 569.63

2006 = 600.06

2007 = 590.58



2005 = 629.96

2006 = 625.29

2007 = 621.98

Commuter Patterns

Source: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau, 2000

Commuting in the Wheeling area is minimal as shown in the tables below. The largest number of commuters is from Belmont County traveling into Ohio County, WV. Each of the adjacent Counties has commuters traveling into Belmont County, but the number is insignificant.

Belmont	Percent of workers that work outside the County		36.0%
	Average commute time in minutes -		23.5
Number of workers 16+ years of age living in Belmont County			27,889
Commute Out To	Number	Percent	
Ohio Co. WV	4,603	16.5%	
Jefferson Co. OH	1,129	4.0%	
Marshall Co. WV	1,064	3.8%	
Monroe Co. OH	626	2.2%	
Guernsey Co. OH	466	1.7%	
Harrison Co. OH	280	1.0%	
Wetzel Co. WV	227	0.8%	
Allegheny Co. PA	206	0.7%	
Franklin Co. OH	141	0.5%	
Washington Co. PA	138	0.5%	
Percent is of workers living in County.			
Number of workers 16+ years of age working in Belmont County			23,944
Commute In From	Number	Percent	
Ohio Co. WV	1,876	7.8%	
Jefferson Co. OH	1,236	5.2%	
Marshall Co. WV	858	3.6%	
Monroe Co. OH	596	2.5%	
Harrison Co. OH	361	1.5%	
Guernsey Co. OH	318	1.3%	
Brooke Co. WV	155	0.6%	
Noble Co. OH	103	0.4%	
Washington Co. PA	75	0.3%	
Muskingum Co. OH	38	0.2%	
Percent is of workers working in County.			

Guernsey	Percent of workers that work outside the County		26.4%
	Average commute time in minutes -		23.7
Number of workers 16+ years of age living in Guernsey County			16,644
Commute Out To	Number	Percent	
Muskingum Co. OH	1,815	10.9%	
Noble Co. OH	438	2.6%	
Franklin Co. OH	396	2.4%	
Belmont Co. OH	318	1.9%	
Tuscarawas Co. OH	249	1.5%	
Coshocton Co. OH	210	1.3%	
Licking Co. OH	127	0.8%	
Stark Co. OH	88	0.5%	
Summit Co. OH	81	0.5%	
Cuyahoga Co. OH	52	0.3%	
Percent is of workers living in County.			
Number of workers 16+ years of age working in Guernsey County			15,528
Commute In From	Number	Percent	
Noble Co. OH	1,069	6.9%	
Muskingum Co. OH	793	5.1%	
Belmont Co. OH	466	3.0%	
Tuscarawas Co. OH	153	1.0%	
Coshocton Co. OH	94	0.6%	
Monroe Co. OH	84	0.5%	
Washington Co. OH	83	0.5%	
Morgan Co. OH	80	0.5%	
Perry Co. OH	56	0.4%	
Franklin Co. OH	39	0.3%	
Percent is of workers working in County.			

Monroe	Percent of workers that work outside the County		38.5%
	Average commute time in minutes -		30.8
Number of workers 16+ years of age living in Monroe County			5,768
Commute Out To	Number	Percent	
Belmont Co. OH	596	10.3%	
Wetzel Co. WV	532	9.2%	
Washington Co. OH	237	4.1%	
Marshall Co. WV	145	2.5%	
Noble Co. OH	132	2.3%	
Ohio Co. WV	111	1.9%	
Guernsey Co. OH	84	1.5%	
Tyler Co. WV	57	1.0%	
Wood Co. WV	46	0.8%	
Franklin Co. OH	29	0.5%	
Number of workers 16+ years of age working in Monroe County			5,346
Commute In From	Number	Percent	
Belmont Co. OH	626	11.7%	
Wetzel Co. WV	447	8.4%	
Washington Co. OH	221	4.1%	
Marshall Co. WV	122	2.3%	
Tyler Co. WV	102	1.9%	
Noble Co. OH	67	1.3%	
Ohio Co. WV	36	0.7%	
Lucas Co. OH	33	0.6%	
Franklin Co. OH	28	0.5%	
Montgomery Co. OH	15	0.3%	
Percent is of workers living in County.			Percent is of workers working in County.

Noble	Percent of workers that work outside the County		45.3%
	Average commute time in minutes -		26.7
Number of workers 16+ years of age living in Noble County			5,028
Commute Out To	Number	Percent	
Guernsey Co. OH	1,069	21.3%	
Washington Co. OH	453	9.0%	
Muskingum Co. OH	274	5.4%	
Belmont Co. OH	103	2.0%	
Franklin Co. OH	79	1.6%	
Monroe Co. OH	67	1.3%	
Wood Co. WV	27	0.5%	
Licking Co. OH	24	0.5%	
Summit Co. OH	21	0.4%	
Stark Co. OH	19	0.4%	
Number of workers 16+ years of age working in Noble County			3,796
Commute In From	Number	Percent	
Guernsey Co. OH	438	11.5%	
Washington Co. OH	197	5.2%	
Monroe Co. OH	132	3.5%	
Muskingum Co. OH	76	2.0%	
Belmont Co. OH	70	1.8%	
Morgan Co. OH	25	0.7%	
Wood Co. WV	21	0.6%	
Cuyahoga Co. OH	19	0.5%	
Franklin Co. OH	15	0.4%	
Logan Co. OH	10	0.3%	
Percent is of workers living in County.			Percent is of workers working in County.

Factor 5: Meteorology

Please refer to Appendix E for applicable meteorology information for the Wheeling area.

Factor 6: Topography/Land use/Land cover

Belmont County is in the unglaciated Allegheny Plateau region (see Appendix F). The area has been extensively dissected by drainageways. The topography is varied with rugged, steep to very steep slopes in the eastern part of the County

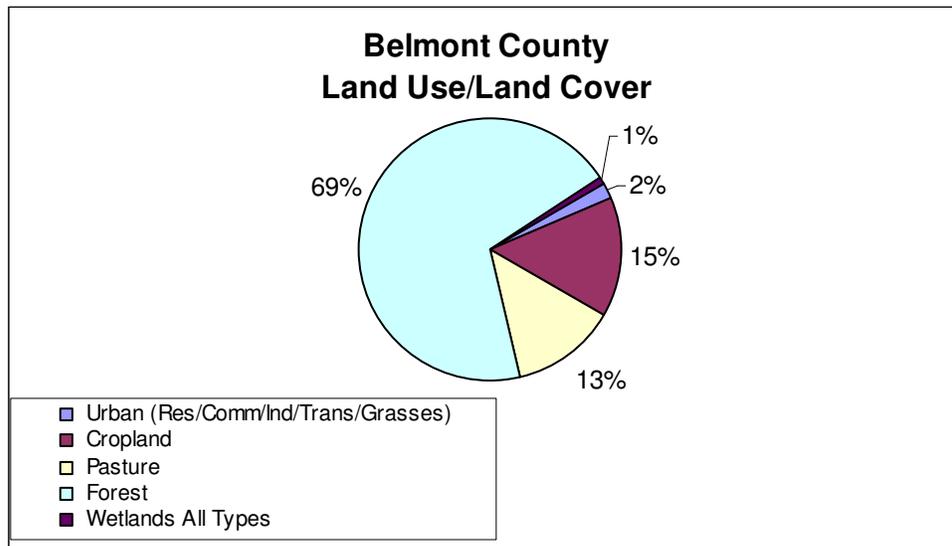
to more gently rolling in the western portion of the County. The highest elevation is 1,397 feet and the lowest is about 625 feet above sea level.

Monroe County is located entirely within the unglaciated Allegheny Plateau region. The County is thoroughly dissected and many of the slopes are steep to very steep. The elevation ranges from about 595 feet to 1,340 feet above sea level.

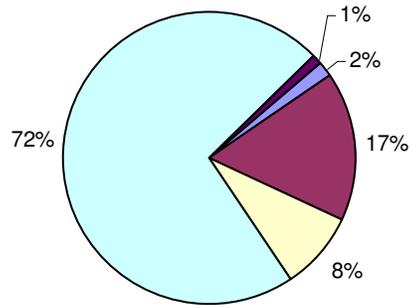
Noble County is also located in the unglaciated Allegheny Plateau region. The relief is mainly steep hills, ridges and many intervening valleys. The highest point is about 1,340 feet and the lowest is 675 feet above sea level.

Guernsey County lies in the Central and Western Allegheny Plateau areas. The County is extensively dissected by drainageways and is characterized by moderately steep to very steep hillsides and relatively narrow valleys that were produced by stream erosion. The elevation ranges from 1,310 feet to 770 feet above sea level.

As shown in the following pie charts, the land use/land cover in this area is predominately characterized as forest area.

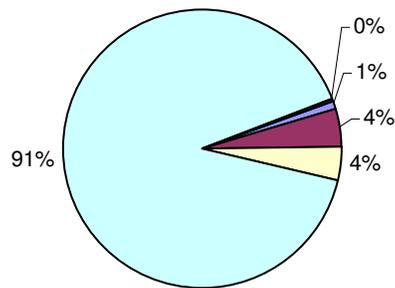


Guernsey County Land Use/Land Cover



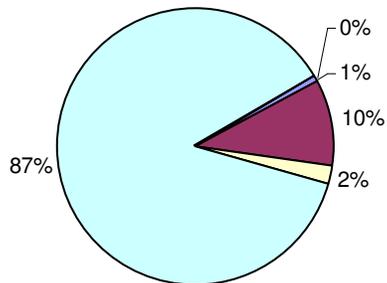
- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Monroe County Land Use/Land Cover



- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Noble County Land Use/Land Cover



- Urban (Res/Comm/Ind/Trans/Grasses)
- Cropland
- Pasture
- Forest
- Wetlands All Types

Factor 7: Jurisdictional boundaries

The Wheeling, WV-OH MSA includes: Marshall and Ohio Counties in West Virginia and Belmont County in Ohio. The principal city is Wheeling, WV. There is no CSA for this area.

The Belomar Regional Council (Belomar) is the planning agency designated as the Metropolitan Planning Organization for the greater Wheeling, WV area. The Belomar region is composed of three Counties: Marshall and Ohio Counties in WV and Belmont County in OH.

Factor 8: Level of control of emission sources

Please refer to the factor 8 general discussion at the beginning of this document for applicable control information for this area.

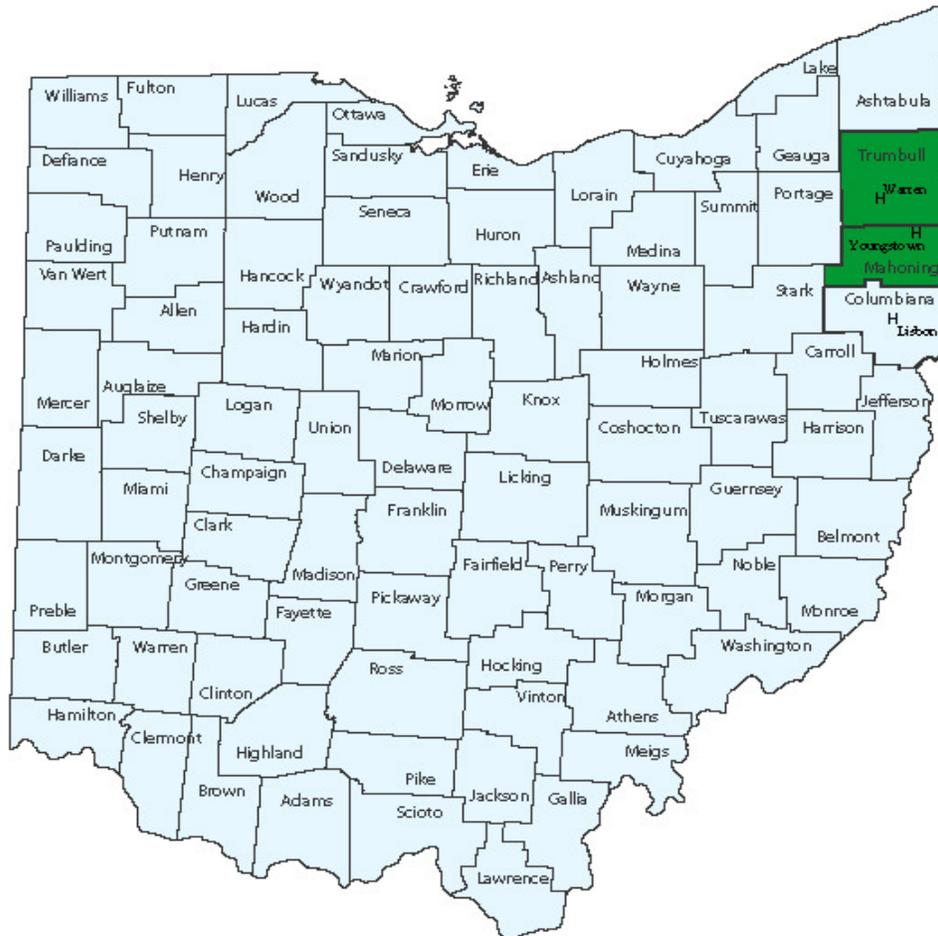
Youngstown-Warren-Sharon, PA-OH:

Current County nonattainment: none

Current nonattainment Counties

Recommended County nonattainment: Mahoning and Trumbull

 Recommended nonattainment Counties



Discussion:

There are three Counties in this existing ozone designation area: Mahoning, Trumbull and Columbiana Counties. This area was initially designated nonattainment for the 1997 ozone standard and then was redesignated to attainment in June 2007. With respect to the new standard, Ohio EPA recommends that Mahoning and Trumbull Counties be designated as nonattainment for ozone due to monitor exceedances of the revised standard. All Counties adjacent to this area are discussed in other sections of this document- the Canton-Massillon area, Cleveland-Akron-Lorain area, and Steubenville-Weirton area.

The three-year averages of the annual fourth-highest daily maximum eight-hour average concentrations at the two monitor sites in Trumbull County and the one monitor site in Mercer County, PA are not attaining the revised standard as indicated under factor 1 below. However, the monitor in Mahoning County is showing attainment. VOC and NO_x emissions in all Counties are relatively small.

Ohio EPA is not recommending any additional adjacent Counties for nonattainment designations in this area. The Counties in this area have low population and growth, low kDVMT with no significant levels of commuters, and low emissions.

Although Columbiana County is part of the CSA, but not the MSA, and was included in the ozone designation area for the 1997 standard, Ohio EPA is not recommending Columbiana County for nonattainment designation for the revised standard. Due to low emissions, population, and commuting levels, Columbiana County is not considered a contributing County. Columbiana County is south of Mahoning County whose monitor is showing attainment for the revised standard. Columbiana County has nearly half the population (108,698 in 2007) and approximately half the emissions of the other existing ozone designation Counties. Emissions of VOC and NO_x are projected to decrease by 19.2% and 21.2%, respectively, from 2005 to 2009. Population projections show expected overall declines in all the ozone designation area through 2030. All of the existing ozone designation Counties have had a slight decline in kDMVT from 2006 to 2007. Columbiana County has experienced a very steady downward trend in kDVMT for the past several years. There is not a significant amount of commuting occurring between Columbiana County and the existing ozone designation Counties. For those who work in Mahoning County, 7.2% commute from Columbiana; while for those who work in Trumbull County, 1.7% commute from Columbiana.

Factor 1: Air quality data

Ohio

 = Exceeds standard

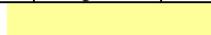
AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4

39-099-0013 Youngstown Mahoning Co.	2006	81	80	77	76
	2007	85	82	81	79
	2008	75	73	71	71
	Avg				75.3

39-155-0011 Youngstown Trumbull Co.	2006	83	82	82	82
	2007	84	83	83	80
	2008	80	78	78	77
	Avg				 79.7

39-155-0009 Youngstown Trumbull Co.	2006	89	86	75	74
	2007	92	86	84	81
	2008	82	77	76	76
	Avg				 77.0

 Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

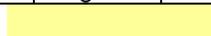
Pennsylvania

 = Exceeds standard

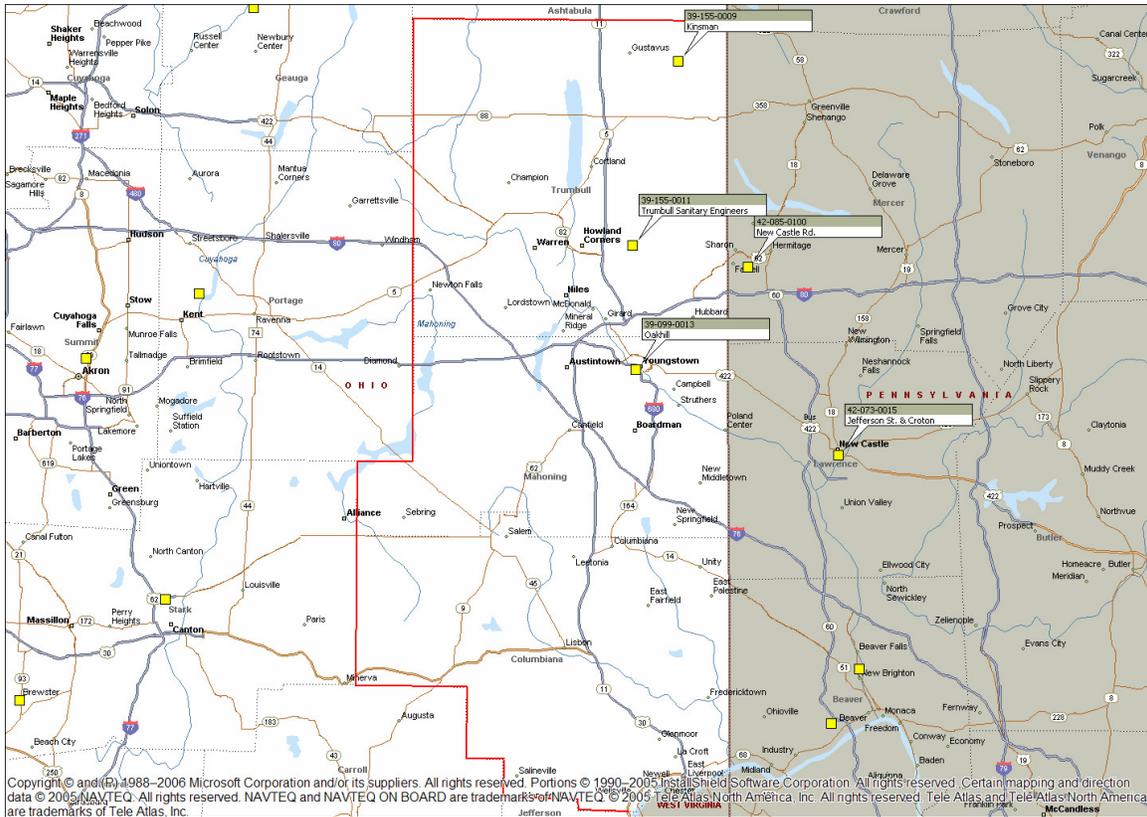
AQS: 8-Hour three-year average of the annual fourth-highest daily maximum (ppb)

Site Area County	Year	Highest Daily Maximum Concentrations (ppb)			
		1	2	3	4

42-085-0100 Farrell Mercer Co.	2006	93	86	86	79
	2007	86	85	84	83
	2008	85	84	81	78
	Avg				 80.0

 Sites with less than 75% capture for a given year
 Sites with less than 90% capture for the 3-year period

Youngstown-Warren-Sharon Area Ozone Monitor Locations and Site ID Numbers



Factor 2: Emissions data (tons per day)

2005		
County	VOC	NO_x
MAHONING	27.80	28.63
TRUMBULL	35.05	37.09
COLUMBIANA	14.12	14.19

2009		
County	VOC	NO_x
MAHONING	21.79	21.46
TRUMBULL	28.98	21.52
COLUMBIANA	11.41	11.18

Pennsylvania (Does not include on-road data)

2005		
County	VOC	NO_x
Mercer, PA	12.75	6.57
Lawrence, PA	7.17	18.80

2009		
County	VOC	NO_x
Mercer, PA	7.32	5.11
Lawrence, PA	4.02	19.92

Major Employers:

Source: Ohio Department of Development 2007

Most of the major employers in the Youngstown-Warren area are in the categories of government, service and manufacturing as shown in the tables below.

Columbiana County

Bain Capital/American Standard Inc	Manufacturing
Blackhawk Automotive Plastics Inc	Manufacturing
Columbiana County Government	Government
East Liverpool City Bd of Ed	Government
East Liverpool City Hospital	Service
Fresh Mark Inc	Manufacturing
Salem City Bd of Ed	Government
Salem Community Hospital	Service
Wal-Mart Stores Inc	Trade

Mahoning County

Austintown Local Bd of Ed	Government
Boardman Local Bd of Ed	Government
Forum Health	Service
HM Health Partners	Service
Mahoning County Government	Government
UCFC/Home Savings & Loan Co	Finance
Wal-Mart Stores Inc	Trade
Youngstown City Bd of Ed	Government
Youngstown State University	Government

Trumbull County

Delphi Corp	Manufacturing
Forum Health	Service
General Motors Corp	Manufacturing
Giant Eagle Inc	Trade
HM Health Services	Service
Sears Holdings/Kmart Corp	Trade
Trumbull County Government	Government
Warren City Bd of Ed	Government
West Corp	Service
WCI Steel Inc	Manufacturing

Factor 3: Population and Projected Growth

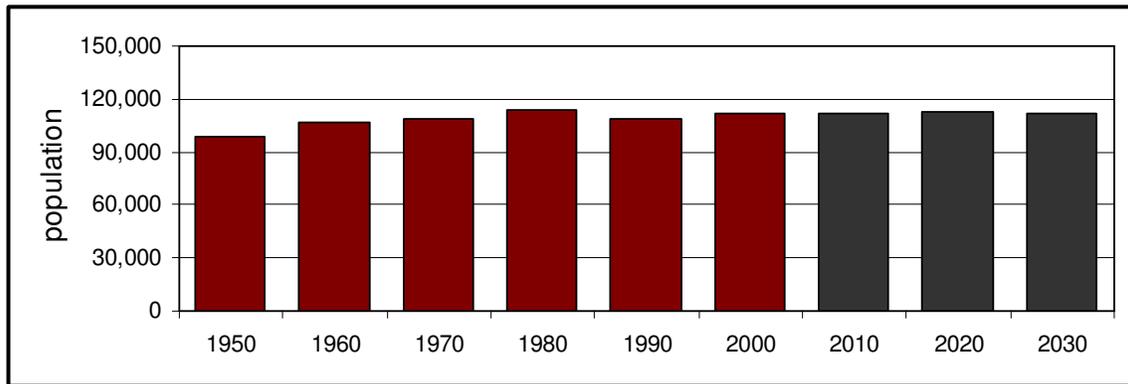
Sources: Office of Strategic Research, Ohio Department of Development
 U.S. Census Bureau Population Estimates Program 2007

The primary urban areas are: in Trumbull County, Warren and Niles; in Mahoning County, Youngstown; and in Columbiana County, E. Liverpool.

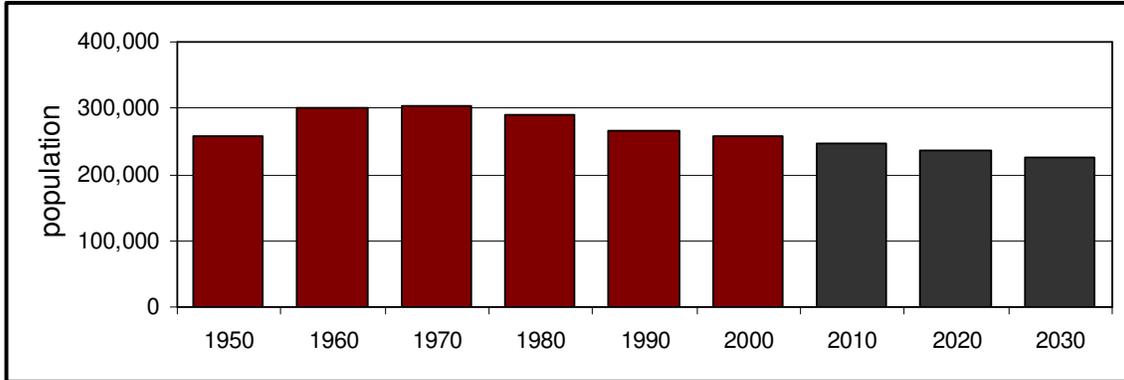
As indicated in the following table and graphs, Mahoning County has the highest population in this area and it is projected to steadily decrease. The population in Trumbull County is also projected to decrease. The population in Columbiana County remains generally constant with a projected slight increase.

	2004	2005	2006	2007	2010	2020	2030
Mahoning	255,538	253,181	251,026	240,420	245,760	235,350	226,800
Trumbull	220,184	218,672	217,362	213,475	218,730	211,100	200,990
Columbiana	111,287	110,636	110,542	108,698	111,950	112,520	112,000

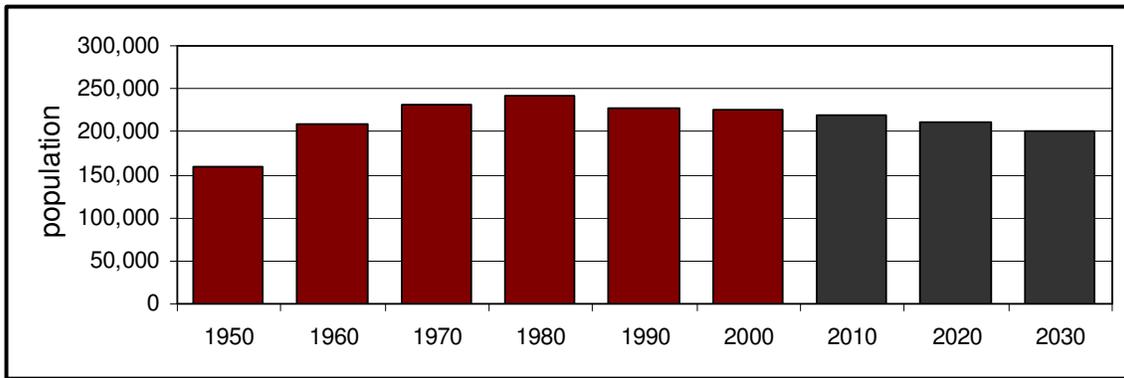
Columbiana County



Mahoning County



Trumbull County

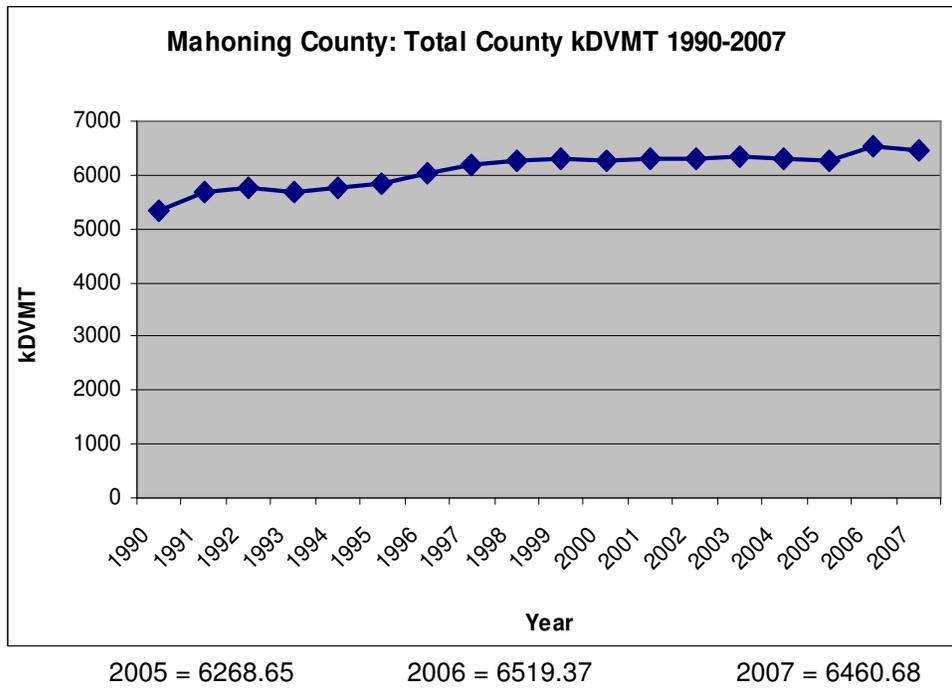
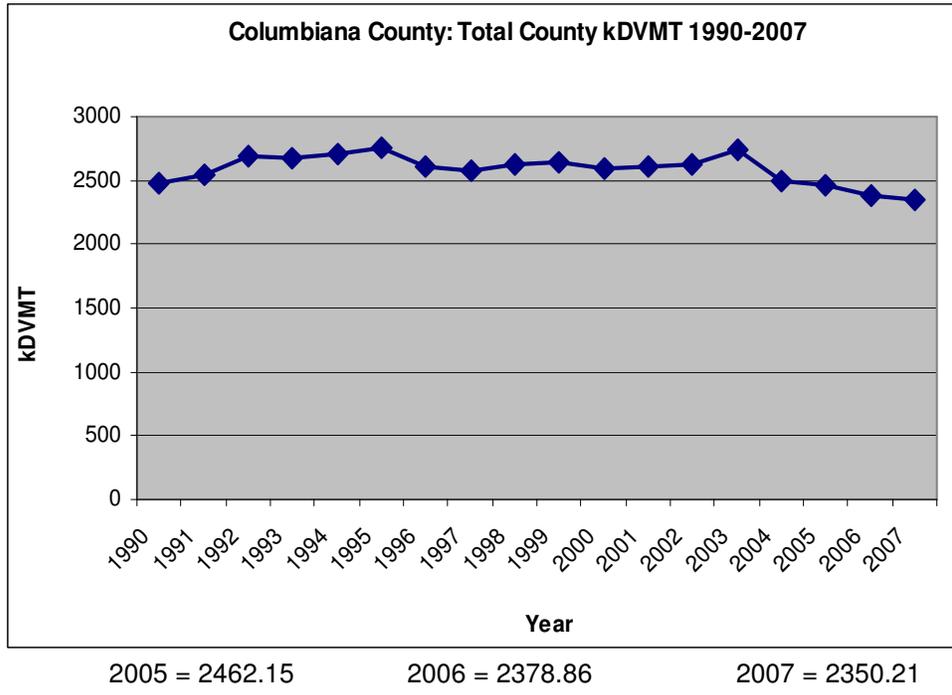


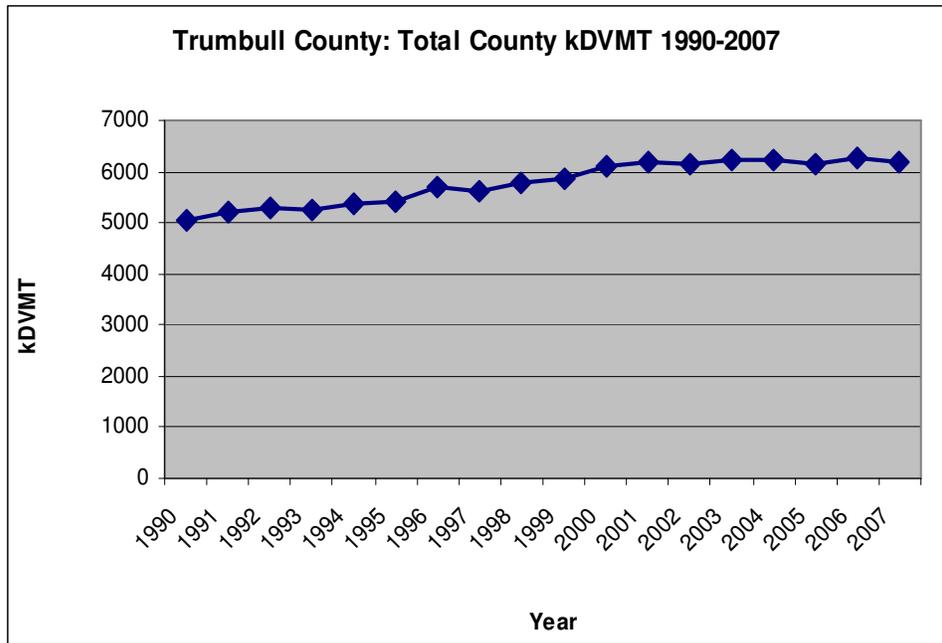
Factor 4: Traffic and commuting patterns

The kDVMT in Mahoning and Trumbull Counties have had an upward trend, although values did drop from 2006 to 2007. Columbiana County has experienced a very steady downward trend in kDVMT between 2005 and 2007, as shown in the graphs below.

Estimated Daily Vehicle Miles Traveled (kDVMT = in thousands)

Source: Ohio Department of Transportation, Office of Technical Services





2005 = 6147.35

2006 = 6260.72

2007 = 6184.11

Commuter Patterns

Source: Office of Strategic Research, Ohio Department of Development
U.S. Census Bureau, 2000

Trumbull and Columbiana combined have about 20,000 workers commuting to Mahoning County. The largest portion of Mahoning County workers commuting outside the County, travel to Trumbull County.

Columbiana		Percent of workers that work outside the County		39.5%
		Average commute time in minutes -		22.7
Number of workers 16+ years of age living in Columbiana County		49,461		
Commute Out To	Number	Percent		
Mahoning Co. OH	7,371	14.9%		
Stark Co. OH	3,306	6.7%		
Beaver Co. PA	1,889	3.8%		
Trumbull Co. OH	1,719	3.5%		
Hancock Co. WV	1,488	3.0%		
Allegheny Co. PA	735	1.5%		
Jefferson Co. OH	517	1.0%		
Summit Co. OH	464	0.9%		
Carroll Co. OH	453	0.9%		
Portage Co. OH	316	0.6%		
Percent is of workers living in County.				
Number of workers 16+ years of age working in Columbiana County		37,705		
Commute In From	Number	Percent		
Mahoning Co. OH	3,684	9.8%		
Hancock Co. WV	831	2.2%		
Stark Co. OH	640	1.7%		
Jefferson Co. OH	632	1.7%		
Beaver Co. PA	443	1.2%		
Trumbull Co. OH	344	0.9%		
Carroll Co. OH	297	0.8%		
Portage Co. OH	182	0.5%		
Lawrence Co. PA	152	0.4%		
Allegheny Co. PA	88	0.2%		
Percent is of workers working in County.				

Mahoning	Percent of workers that work outside the County		29.7%
	Average commute time in minutes -		21.5
Number of workers 16+ years of age living in Mahoning County			109,102
Number of workers 16+ years of age working in Mahoning County			102,992
Commute Out To	Number	Percent	Commute In From
Trumbull Co. OH	19,210	17.6%	Trumbull Co. OH
Columbiana Co. OH	3,684	3.4%	Columbiana Co. OH
Stark Co. OH	2,548	2.3%	Lawrence Co. PA
Portage Co. OH	1,171	1.1%	Stark Co. OH
Cuyahoga Co. OH	1,117	1.0%	Mercer Co. PA
Summit Co. OH	1,096	1.0%	Portage Co. OH
Lawrence Co. PA	718	0.7%	Summit Co. OH
Mercer Co. PA	624	0.6%	Cuyahoga Co. OH
Allegheny Co. PA	508	0.5%	Beaver Co. PA
Beaver Co. PA	224	0.2%	Allegheny Co. PA
Percent is of workers living in County.			Percent is of workers working in County.

Trumbull	Percent of workers that work outside the County		27.1%
	Average commute time in minutes -		21.0
Number of workers 16+ years of age living in Trumbull County			97,485
Number of workers 16+ years of age working in Trumbull County			100,101
Commute Out To	Number	Percent	Commute In From
Mahoning Co. OH	12,003	12.3%	Mahoning Co. OH
Geauga Co. OH	3,900	4.0%	Mercer Co. PA
Mercer Co. PA	2,457	2.5%	Columbiana Co. OH
Cuyahoga Co. OH	1,976	2.0%	Portage Co. OH
Portage Co. OH	1,863	1.9%	Lawrence Co. PA
Summit Co. OH	1,038	1.1%	Ashtabula Co. OH
Ashtabula Co. OH	892	0.9%	Summit Co. OH
Columbiana Co. OH	344	0.4%	Geauga Co. OH
Lawrence Co. PA	251	0.3%	Cuyahoga Co. OH
Stark Co. OH	202	0.2%	Stark Co. OH
Percent is of workers living in County.			Percent is of workers working in County.

Factor 5: Meteorology

Please refer to Appendix E for applicable meteorology information for the Youngstown-Warren area.

Factor 6: Topography/Land use/Land cover

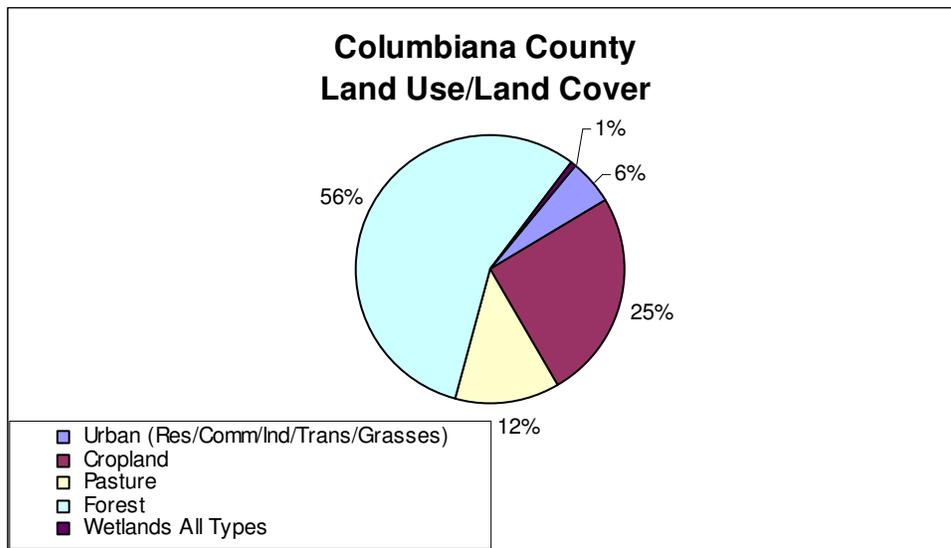
Mahoning County is in the glaciated part of the Allegheny Plateau region (see Appendix F). The northeastern part of the County contains some sloping to steep areas, mainly along the Mahoning River. The central and northern parts are mostly a nearly level plateau, where the average elevation is about 1,150 feet.

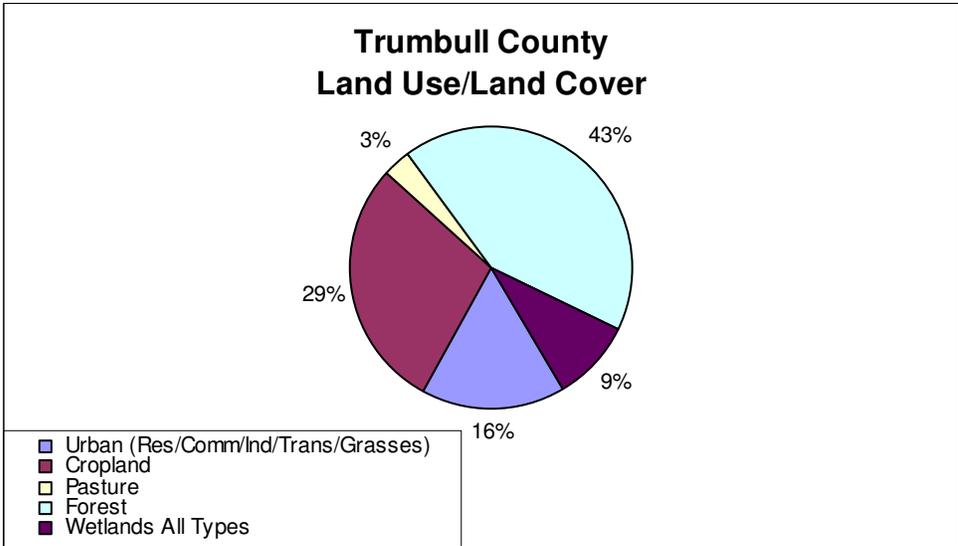
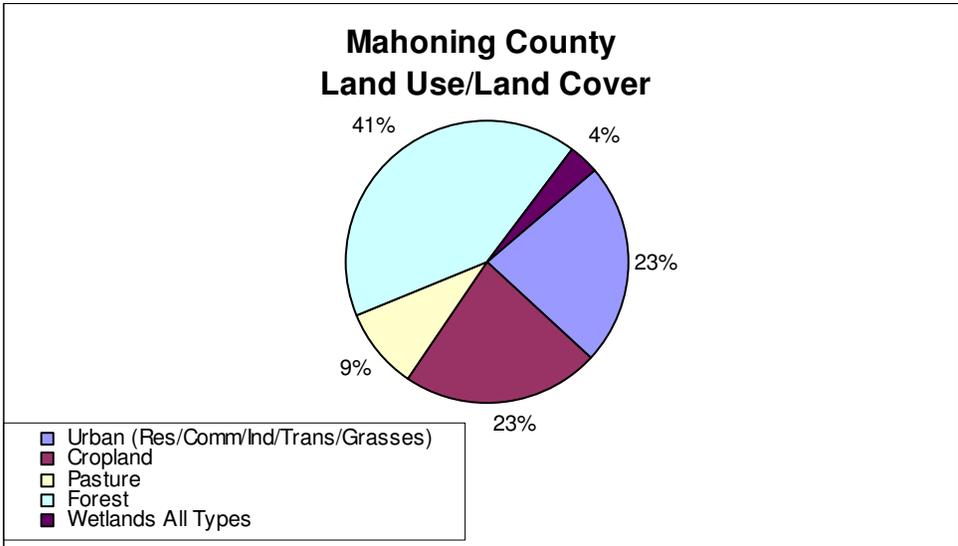
The highest point in the County is 1,320 feet and the lowest point is 800 feet above sea level.

Trumbull County is in the glaciated Appalachian Plateau region. The northern, western and south-central parts of the County generally are nearly level and gently sloping. The lowest elevation is 795 feet and the highest is 1,280 feet above sea level.

Columbiana County, like Trumbull and Mahoning Counties, lies within the glaciated Allegheny Plateau Province, with the southern third of the County on the edge of the unglaciated Allegheny Plateau Province. Topography varies from rolling uplands in the northern part of the County to higher relief and steep uplands in the central area and a more rugged landscape in the unglaciated portion in the southern part of the County.

As shown in the following pie charts, the land use/land cover in these Counties is predominately characterized as forest and cropland. Mahoning County has the highest percentage of urban area at 23 percent.





Factor 7: Jurisdictional boundaries

The Youngstown-Warren-Boardman, OH-PA MSA includes: Mahoning and Trumbull Counties in Ohio and Mercer County in Pennsylvania. The principal cities are Youngstown and Warren in Ohio. The CSA also includes Columbiana County.

The Eastgate Regional Council of Governments (Eastgate) is the planning agency designated as the Metropolitan Planning Organization for the greater Youngstown area. The Eastgate region is composed of three Counties in two states: Mahoning and Trumbull Counties in Ohio and Mercer County in Pennsylvania.

Factor 8: Level of control of emission sources

Please refer to the Factor 8 general discussion at the beginning of this document for applicable control information for this area.