



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



STEVEN E. CHESTER
DIRECTOR

March 12, 2009

VIA E-MAIL and U.S. MAIL

Mr. Bharat Mathur
Acting Regional Administrator
U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard (R-19J)
Chicago, Illinois 60603-3950

Dear Administrator Mathur:

Enclosed is the Michigan Department of Environmental Quality's (MDEQ's) recommendation of attainment and nonattainment designations for the new ozone National Ambient Air Quality Standard for the state of Michigan.

For those areas with design values above the 0.075 parts per million (ppm) standard, the MDEQ recommends using the boundaries established in the designation of nonattainment areas for the 0.08 ppm standard in 2004, with the exception of Lenawee County. Also, the new tribal monitor operated by the Little River Band of Ottawa Indians in Manistee has a design value exceeding the ozone standard. The MDEQ recommends that Manistee County be designated as a single county nonattainment area.

If you have any questions or need additional information, please contact Mr. G. Vinson Hellwig, Chief, Air Quality Division, MDEQ, at 517-373-7069.

Sincerely,

Steven E. Chester
Director
517-373-7917

Enclosure

cc: Mr. John Mooney, EPA Region 5
Mr. Jim Sygo, Deputy Director, MDEQ
Mr. G. Vinson Hellwig, MDEQ
Ms. Mary Maupin, MDEQ



Michigan Department of Environmental Quality

**Recommended Attainment/Nonattainment
Designations and Boundaries in Michigan
for the
Ozone National Ambient Air Quality Standard**

March 12, 2009

Recommended Attainment/Nonattainment Designations and Boundaries In Michigan for the 0.075 ppm Ozone National Ambient Air Quality Standard

In March 2008, the U.S. Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for ozone from 0.08 parts per million (ppm) to 0.075 ppm. The federal Clean Air Act requires the EPA to seek recommendations from the states' governors for initial designations of the attainment status for all areas of the states when a new or revised standard is promulgated. The states are also asked to provide recommendations for the appropriate boundaries of all nonattainment areas. The EPA will either affirm the states' recommendations or make modifications as determined to be necessary. Final promulgation of designations is to occur by March 12, 2010, in accordance with the federal Clean Air Act.

Recommendation

The designation recommendations of the Michigan Department of Environmental Quality (MDEQ) for the State of Michigan are based on the design value of ambient monitored data for the period 2006-2008 (Table 1). The MDEQ recommends that 16 Michigan counties be designated nonattainment and all others be designated attainment. The 16 counties are Wayne, Washtenaw, St. Clair, Oakland, Monroe, Macomb, Livingston, Lapeer, Livingston, Benzie, Manistee, Muskegon, Ottawa, Kent, Allegan, and Berrien. The recommendations on appropriate boundaries (Figure 1) are based, for the most part, on nonattainment boundaries for the 0.08 ppm ozone standard as previously established in 2004 (Figure 5). At this time, only one ozone monitor in the state, in Holland, is recording ozone levels above the 0.08 ppm NAAQS.

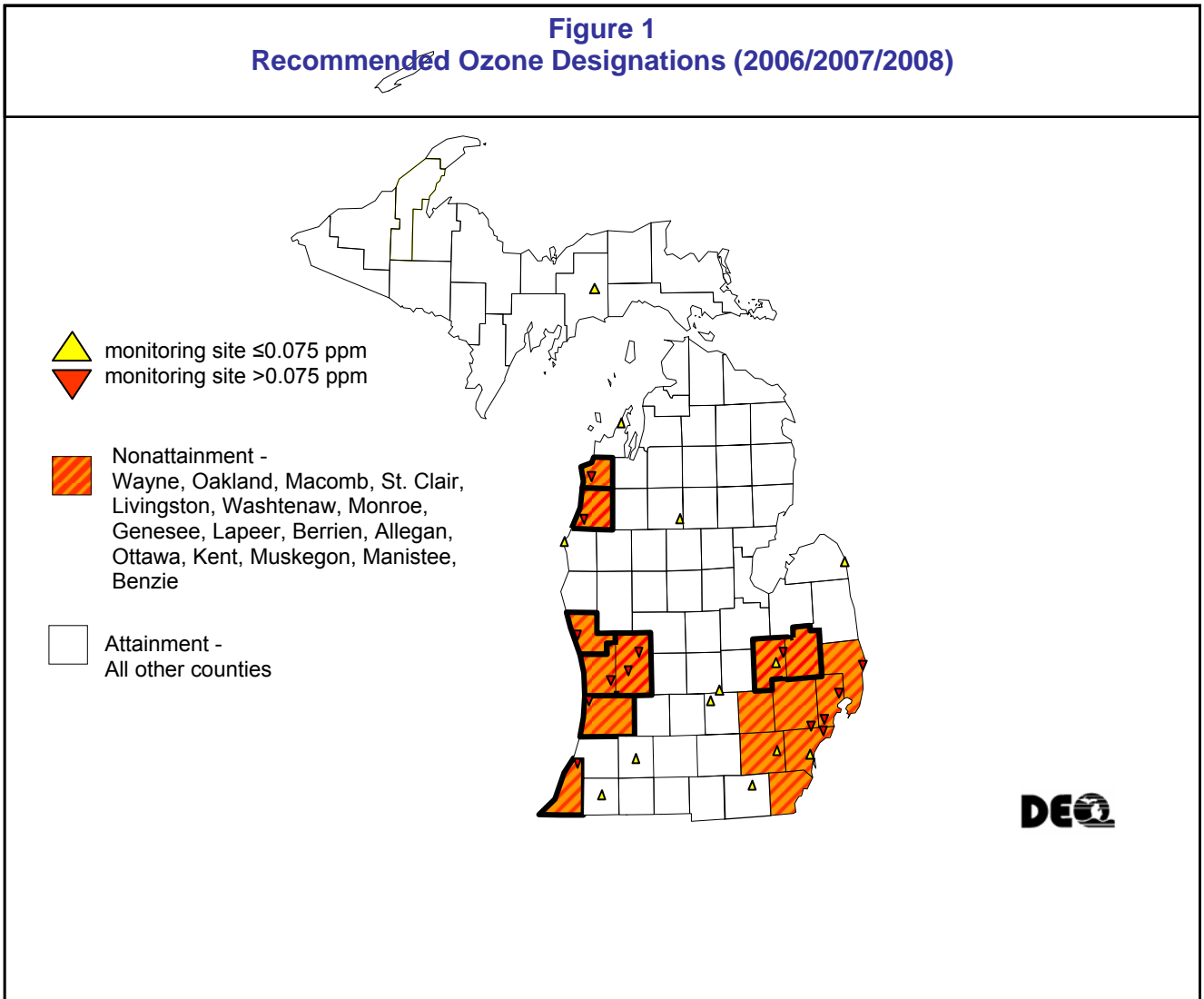
The MDEQ recommends that the EPA designate the seven-county Southeast Michigan area as a nonattainment area, and Lenawee County as an attainment area (Figure 2). This designation recommendation deviates from the boundaries established in 2004 that included Lenawee County in Southeast Michigan. Analysis supporting this recommendation follows. In all other areas with design values over the 0.075 ppm standard the MDEQ recommends retaining the boundaries that were established in 2004. The MDEQ recommends that Genesee and Lapeer Counties be designated separately as the Flint nonattainment area. The recommendation of separate nonattainment areas for the West Michigan areas of Allegan County, Muskegon County, and the Grand Rapids area of Kent and Ottawa Counties is especially important in light of the environmental and regulatory burden thrust upon the ozone transport receptor areas in counties that border Lake Michigan. Several metropolitan areas and non-urban counties that were established as nonattainment areas in 2004 under the 0.08 ppm ozone standard now have design values that attain the revised ozone NAAQS, including Lansing, Kalamazoo, and Cass, Huron, and Mason Counties. One county, Manistee, was designated attainment in 2004 but now is being recommended for a nonattainment designation.

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Table 1
Recommended Attainment/Nonattainment
Designations and Boundaries in Michigan for the
Ozone National Ambient Air Quality Standard

<u>Designation Area</u>	<u>Designation</u>	<u>2006-2008 Design Value</u> <u>Parts per million (ppm)</u>
<i>Southeast Michigan</i>		.082
Wayne County	Nonattainment	
Oakland County	Nonattainment	
Macomb County	Nonattainment	
St. Clair County	Nonattainment	
Livingston County	Nonattainment	
Washtenaw County	Nonattainment	
Monroe County	Nonattainment	
<i>Flint Metropolitan Area</i>		.076
Genesee County	Nonattainment	
Lapeer County	Nonattainment	
<i>Lenawee</i>		.075
Lenawee County	Attainment	
<i>Berrien</i>		.078
Berrien County	Nonattainment	
<i>Muskegon</i>		.082
Muskegon County	Nonattainment	
<i>Allegan</i>		.086
Allegan County	Nonattainment	
<i>Grand Rapids</i>		.079
Kent County	Nonattainment	
Ottawa County	Nonattainment	
<i>Benzie</i>		.076
Benzie County	Nonattainment	
<i>Manistee</i>		.077
Manistee County	Nonattainment	
<i>Cass</i>		.075
Cass County	Attainment	
<i>Mason</i>		.075
Mason County	Attainment	
<i>All other counties</i>	Attainment	

Figure 1
Recommended Ozone Designations (2006/2007/2008)



Note: Michigan Map with County Names on Page 12 (Figure 6).

Background

The ozone designations are to be based on design values (the average of the fourth highest values from each three consecutive years of data at each monitor) calculated from observations during the most recent three-year period of record. The ozone design value for an entire region is derived by the measurements of whichever monitor in the region has the highest ozone values. State recommendations are based on the period 2006-2008, whereas the EPA will make designations based on a different data set, 2007-2009.

Design values in violation of the 0.075 ppm ozone NAAQS have been recorded in the counties of Wayne, Macomb, Oakland, St. Clair, Genesee, Kent, Ottawa, Allegan, Muskegon, Berrien, Manistee, and Benzie.

The non-binding EPA guidance on boundary determination suggests using the Combined Statistical Area (CSA) or Core Based Statistical Area (CBSA), as defined by the U.S. Office of Management and Budget, Census Bureau, as the starting point or the presumptive boundary in the evaluation of appropriate nonattainment areas. A CBSA consists of a county or counties containing at least one urban core plus adjacent counties that have a high degree of social and economic integration with the urban core as measured by commuting ties. A CSA includes two or more adjacent CBSAs. States are asked to provide an analysis of local factors, such as location relative to the urban core, amount of emissions, population, and prevailing meteorology, in those recommendations that deviate from the CSA or CBSA presumptive boundaries. The federal Clean Air Act requires that nonattainment area designations for the 0.075 ppm ozone standard incorporate not only the areas of measured violations, but also the contributing nearby emission source areas. Recommendations that vary from the presumption should be supported with an analysis considering the following nine factors:

- Air quality data.
- Emissions data (location of sources and contribution to ozone concentrations).
- Population density and degree of urbanization (including commercial development).
- Traffic and commuting patterns.
- Growth rates and patterns.
- Meteorology (weather/transport patterns).
- Geography-topography (mountain ranges or other air basin boundaries).
- Jurisdictional boundaries (e.g., counties, air districts, existing nonattainment areas, Reservations, metropolitan planning organizations, etc.).
- Level of control of emission sources.

Analysis of Southeast Michigan and Lenawee County follows, as separating the two areas is the only deviation from 2004 boundaries that is being recommended for those areas with design values above 0.075 ppm.

Southeast Michigan and Lenawee County

A nonattainment designation for Southeast Michigan area is warranted. The MDEQ recommends that the nonattainment area boundaries for the for the 0.075 ppm ozone standard include the seven counties of Wayne, Oakland, Macomb, St. Clair, Livingston,

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Washtenaw, and Monroe that comprised the 1-hour ozone attainment area and the current PM_{2.5} nonattainment area. These counties also coincide with the jurisdictional boundaries of the Southeast Michigan Council of Governments (SEMCOG) Metropolitan Planning Organization (MPO) that has responsibilities for air quality and transportation planning (Figure 3).

When nonattainment designations were made for the 0.08 ppm standard in 2004, the monitor in Lenawee County was not meeting the standard and, at that time, the county was part of the Southeast Michigan Consolidated Metropolitan Statistical Area (CMSA). Hence, it was designated nonattainment and included in the Southeast Michigan nonattainment boundary. However, neither of these conditions is true today. The 2006-2008 data show the monitor in Lenawee is meeting the revised ozone standard with a design value of 0.075 ppm (Table 2). In addition, the latest U.S. Census boundaries, adopted in June 2003, removed Lenawee County from the Southeast Michigan CSA, and instead designated it as the Adrian Micropolitan Statistical Area (Figure 3).

Lenawee County, located upwind of the Detroit area, is predominantly rural in character with few emissions of ozone precursors. More than half of the population resides in rural areas (Table 7). Forest and farmland account for 81% of the land use according to the Natural Resource Conservation Service. The 2000 population density of Lenawee County is low at 131.8 persons per square mile (Table 6). The most populace area in the county is the city of Adrian with 21,574 people according to the 2000 U.S. Census, with an estimated 2007 population loss of 4.2 percent.

There are only two major stationary sources of criteria pollutant emissions (both volatile organic compounds (VOC) emissions sources) in Lenawee County. Local emissions of nitrogen oxides (NO_x) and VOC generated in Lenawee County comprise only 1.4% and 3.1% of the total emissions, respectively, when included in the Southeast Michigan area (Tables 3 and 4).

According to the county-to-county worker flow data from the 2000 U.S. Census, 21.9% of Lenawee County's workers commute to the seven-county SEMCOG region, which is only 0.5% of the work force in the seven-county SEMCOG region (Table 10). Little growth is expected in future years, both in terms of population and employment. From 2000-2007, the rate of population growth was 0.3 % per year (Table 5). The most recent demographic forecast for Lenawee County predicted population would increase 6.9% from 2000 to 2020, a rate of growth of 0.33% per year (Table 11). Employment was expected to increase only 7.2% from 2005 to 2025, a rate of 0.36% per year (Table 12). It should be noted that these forecasts were made over five years ago and thus do not include the impact of the recent economic downturn in Michigan. It is highly likely that the new forecasts would estimate an even smaller rate of growth over the next 20 years.

Figure 2
 Recommended Ozone Designations for Southeast Michigan,
 Lenawee County and Genesee/Lapeer Counties

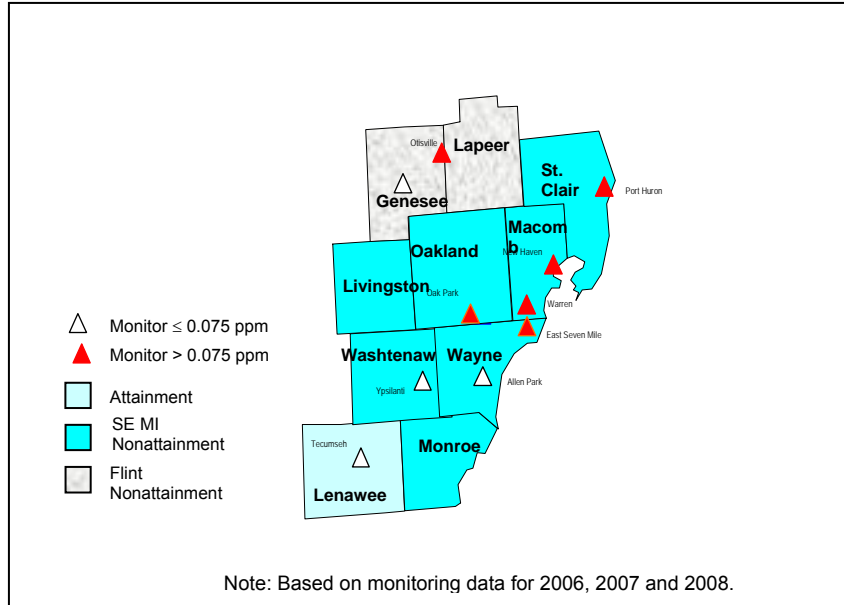
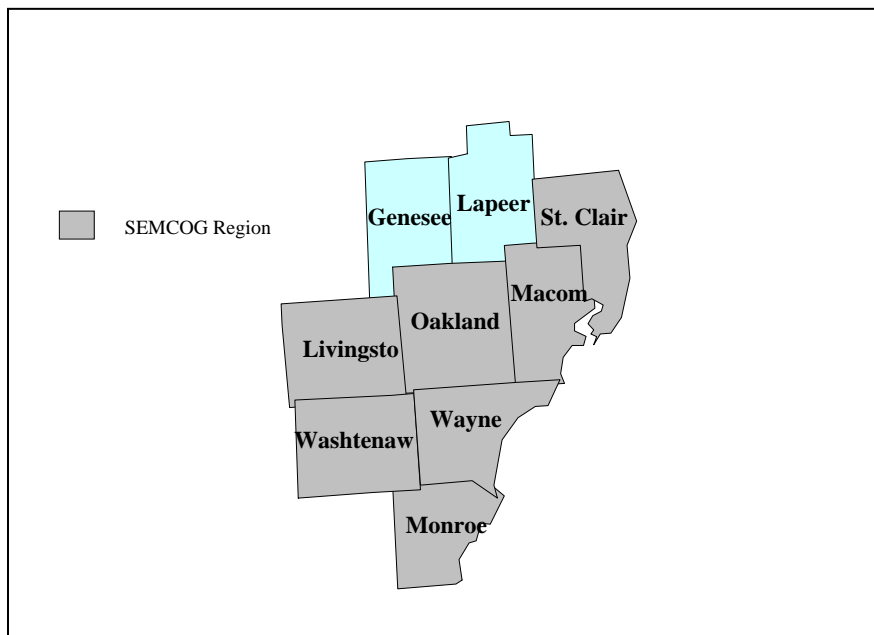


Figure 3
 Combined Statistical Area as revised June 2003



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Table 2
2006-2008 8-Hour Ozone Monitoring Data for Southeast Michigan and Lenawee

Monitoring Site	Purpose	2006 4 th High (ppm)	2007 4 th High (ppm)	2008 4 th High (ppm)	Design Value (ppm)
Allen Park	Pop exp.	0.068	0.079	0.067	0.071
Detroit E. 7 Mile	Max. conc.	0.078	0.092	0.076	0.082
New Haven	Max. conc.	0.078	0.093	0.073	0.081
Oak Park	Pop. exp.	0.072	0.086	0.074	0.077
Port Huron	Pop. exp.	0.078	0.089	0.067	0.078
Warren	Max. conc.	0.078	0.091	0.072	0.080
Ypsilanti	Pop. exp.	0.076	0.077	0.069	0.074
Tecumseh (Lenawee)	Backgrd.	0.074	0.081	0.072	0.075

Note: The monitoring sites in bold type are violating the 0.075 ppm standard.

Table 3
NOx Emissions in Southeast Michigan and Lenawee (Tons/Yr)

County	Point	Area	Non-road	On-road	Total	% of Total
Livingston	660.10	647.95	1,372.07	5,417.90	8,098.02	3.1%
Macomb	855.33	2,498.84	5,643.24	14,121.20	23,118.61	9.0%
Monroe	42,258.23	606.83	2,362.92	5,454.40	50,682.38	19.6%
Oakland	1,168.88	4,535.97	7,975.70	31,088.00	44,768.55	17.3%
St. Clair	21,668.47	563.69	2,076.48	3,812.60	28,121.24	10.9%
Washtenaw	1,051.71	1,056.74	3,203.29	9,962.20	15,273.94	5.9%
Wayne	20,778.21	6,039.67	13,576.69	43,981.40	84,375.97	32.7%
Lenawee	133.35	454.13	1,124.41	2,118.44	3,830.32	1.5%
Total	89,630.34	18,212.94	41,019.99	130,165.33	279,028.59	100.0%

Table 4
VOC Emissions in Southeast Michigan, and Lenawee (Tons/Yr)

County	Point	Area	Non-road	On-road	Total	% of Total
Livingston	177.14	4,338.29	1,950.70	1,696.90	8,163.03	4.8%
Macomb	2,310.72	11,807.62	5,025.52	5,784.70	24,928.56	14.7%
Monroe	3,856.65	3,663.62	1,955.24	1,742.60	11,218.11	6.6%
Oakland	2,495.69	17,387.40	9,955.41	11,918.00	41,756.50	24.7%
St. Clair	1,664.49	2,671.18	2,209.44	1,550.90	8,096.01	4.8%
Washtenaw	388.83	5,406.23	2,652.13	3,349.70	11,796.89	7.0%
Wayne	6,494.98	24,887.81	8,856.99	16,931.10	57,170.88	33.8%
Lenawee	272.10	3,205.00	1,031.49	1,471.74	5,980.34	3.5%
Total	19,368.09	83,942.61	37,598.19	54,411.41	195,320.29	100.0%

Source for Tables 2 and 3: Michigan's 2005 base year inventory, on-road emissions for the SEMCOG area generated by SEMCOG.

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Table 5
Population of Southeast Michigan and Lenawee, 2000-2007

County	2000 Population	2007 Population	Population Change	Growth Rate (%/yr)	Percent of 2007 Total Pop.
Livingston	156,951	183,194	26,243	2.2	3.3
Macomb	788,149	831,077	42,928	0.7	15.1
Monroe	145,945	153,608	7,663	0.7	2.8
Oakland	1,194,156	1,206,089	11,933	0.1	21.9
St. Clair	164,235	170,119	5,884	0.5	3.1
Washtenaw	322,895	350,003	27,108	1.1	6.4
Wayne	2,061,162	1,985,101	-76,061	-0.5	36.0
Lenawee	98,890	101,243	2,353	0.3	1.8
Total	5,456,428	5,507,161	50,733	0.1	100

Source: U.S. Census

Table 6
Population Density

County	2000 Pop./sq. mi.
Livingston	276.1
Macomb	1,640.5
Monroe	264.8
Oakland	1,368.6
St. Clair	226.7
Washtenaw	454.8
Wayne	3,356.1
Lenawee	131.8

Source: U.S. Census

Table 7
Lenawee County-2000 Urban/Rural Split

# of persons in urban area	45,355	45.9%
# of persons in rural area	53,535	54.1%
TOTAL	98,890	100.0%

Source: U.S. Census

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Table 8
Southeast Michigan County-to-County Commuting Data

County		Work In								
		Lenawee	Livingston	Macomb	Monroe	Oakland	St. Clair	Washtenaw	Wayne	Total
Live In	Lenawee	31,063	113	54	1,074	504	14	7,008	1,208	41,038
	Livingston	98	33,845	1,002	82	17,064	26	11,033	10,549	73,699
	Macomb	85	458	224,720	235	94,376	2,941	952	56,211	379,978
	Monroe	817	1,332	369	35,202	1,256	44	4,587	12,161	55,768
	Oakland	145	4,484	41,935	565	429,030	583	6,723	106,405	589,870
	St. Clair	52	52	17,967	57	4,038	48,324	122	3,522	74,134
	Washtenaw	872	2,250	715	1,085	6,864	93	129,808	23,269	164,956
	Wayne	423	2,469	44,064	4,111	124,137	759	25,015	618,405	819,383
	Total	33,555	45,003	330,826	42,411	677,269	52,784	185,248	831,730	2,198,826

Source: U.S. Census Bureau, 2000 Journey-to-Work (CTPP) data

Table 9
Summer Daily Vehicle Miles Traveled

Year	Lenawee	SEMCOG area
2000	2,362,255	
2005	2,506,136	147,312,316
2010	2,684,798	151,834,658
2015	2,800,613	156,638,125
2020	2,901,403	160,221,828
2025	3,036,161	163,374,474
2030		166,909,207

Source: SEMCOG 2030 Regional Transportation Plan and Lenawee County provided by Michigan Department of Transportation.

Table 10
Journey to Work Data from the 2000 U.S. Census

County	# of workers in county	# of workers who drive to SEMCOG area	% workers who drive to SEMCOG area	% of workers in SEMCOG area from county*
Lenawee	45,822	9,975	21.8	0.5

*The total number of workers in the 7-county SEMCOG area is 2,208,906

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Table 11
Population Projections for Southeast Michigan and Lenawee

County	2000 Census	2005	2010	2015	2020	2025	2030	2035	% Change
Livingston	156,951	181,501	193,740	197,228	200,639	205,602	210,346	213,557	17.7
Macomb	788,149	829,765	854,626	867,339	877,357	890,013	906,895	925,723	11.6
Monroe	145,945	153,785	156,264	156,652	159,461	163,709	167,588	170,213	10.7
Oakland	1,194,156	1,214,481	1,226,169	1,235,849	1,249,154	1,272,065	1,303,678	1,336,761	10.1
St. Clair	164,235	171,471	173,122	176,030	180,294	185,038	189,280	192,167	12.1
Washtenaw	322,895	341,810	349,673	353,327	356,560	361,715	369,463	380,170	11.2
Wayne	2,061,162	1,998,226	1,905,706	1,837,542	1,812,593	1,811,244	1,824,113	1,837,444	-8.1
Detroit	951,270	890,963	821,798	769,423	741,934	725,914	715,601	705,128	-20.9
Balance Wayne	1,109,892	1,107,263	1,083,908	1,068,119	1,070,659	1,085,330	1,108,512	1,132,316	2.3
Lenawee	99,039	100,568	101,347	103,077	105,849				6.9

Source: 2035 Forecast for Southeast Michigan, SEMCOG, April 2008

Lenawee Source: April 2003 REMI Model (Regional Economic Models, Inc.) results provided by the University of Michigan and the Michigan Department of Transportation.

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Table 12
Projection of Total Employment for Southeast Michigan and Lenawee County

County	Year							% Change
	2005	2010	2015	2020	2025	2030	2035	
Livingston	65,603	69,259	74,365	78,720	81,853	84,620	87,323	33.1
Macomb	380,964	374,561	379,326	385,602	389,312	393,282	397,847	4.4
Monroe	52,850	83,479	55,635	56,937	57,600	58,162	58,975	11.6
Oakland	867,687	871,043	897,957	921,811	936,053	947,778	964,418	11.2
St. Clair	62,384	65,188	68,123	70,113	71,661	73,165	74,890	20.1
Washtenaw	231,722	243,605	254,985	263,814	271,611	277,521	285,914	23.4
Wayne	932,480	909,527	908,457	913,495	909,268	905,452	907,973	-2.6
Detroit	342,241	326,615	322,879	320,536	315,078	309,926	307,014	-10.3
Balance Wayne	590,239	532,912	585,578	592,959	594,190	595,526	600,959	1.8
Lenawee	50,880	53,405	54,325	54,428	54,568			7.2

Source: SEMCOG 2035 Regional Development Forecast, April 2008, and Lenawee County's numbers are from the 2003 REMI model results provided by the University of Michigan and Michigan Department of Transportation.

Figure 4
Southeast Michigan Urbanized Area

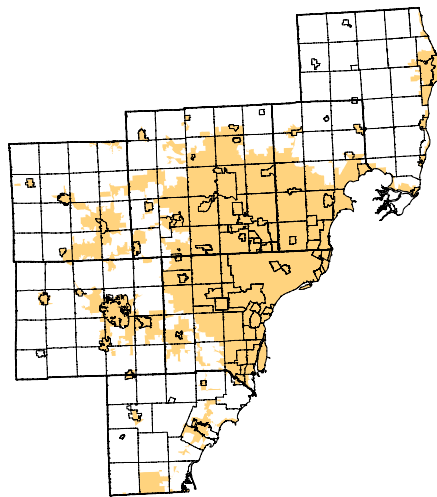
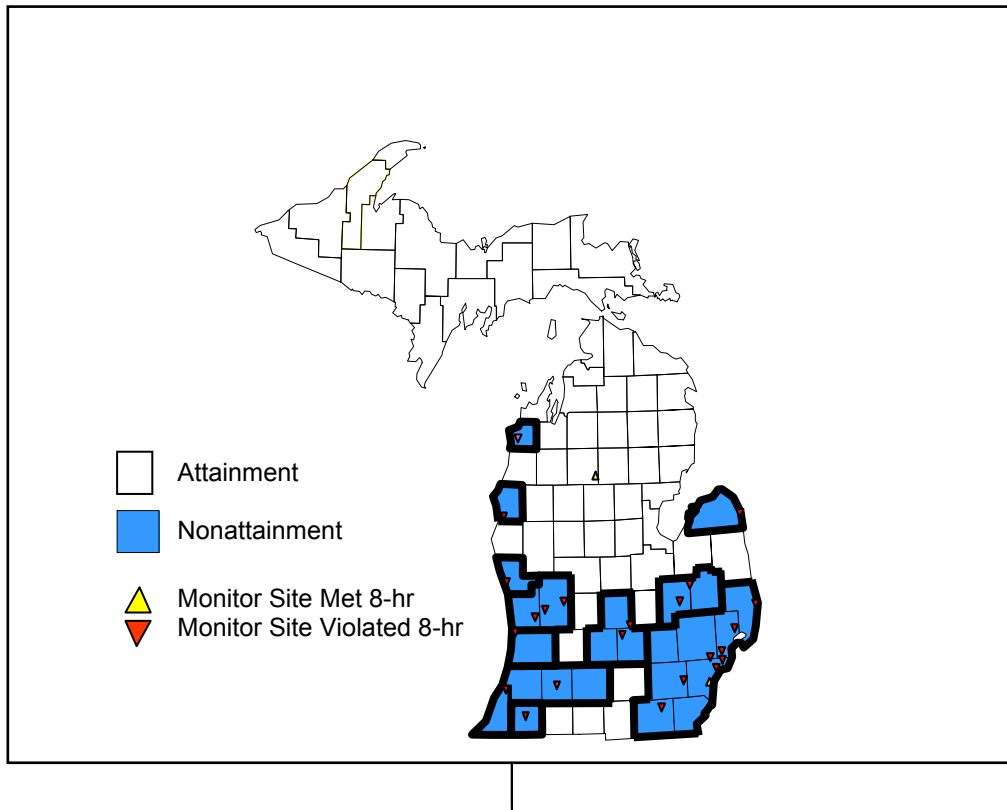


Figure 5
0.08 ppm NAAQS Ozone Designations
June 15, 2004



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Figure 6



7-03