



# Status of Michigan Cities

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## An Index of Urban Well-Being

August 1999

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Michigan Economic and Environmental Roundtable

*Prepared by*  
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STATUS OF MICHIGAN CITIES  
*An Index of Urban Well-Being*

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The well-being of Michigan's central cities affects all state residents. Yet, there is no ongoing statistical compilation that provides policymakers and the public with an overview of the condition of Michigan's cities. This report—which it is hoped will be improved and updated each year—is intended to be the first such overview.

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## **GOAL**

The goal of this project is to inform state and local policymakers and their constituencies—Michigan citizens—about the well-being of Michigan cities. In particular, the report provides

- a statistical picture of the current conditions in our major urban areas;
- the basis on which these conditions may be tracked over time and important trends discerned;
- a discussion of the importance of these conditions in determining the relative well-being of cities; and
- a catalyst for engaging interested parties in discussing ways to improve the standard of living and quality of life in Michigan cities.

To our knowledge, nothing similar has been tried in the past. There are many useful reports that summarize one specific aspect of urban life (e.g., city government finances or the general health of a city's population), but nothing that compiles and compares data on a multitude of factors. There also is research on conditions at the county, multi-county, and state level, but, in general, data at the city level rarely are available. Finally, there is a wealth of research based on the detailed statistics (in most cases down to the city block) collected every decade by the U.S. census, but it has limited use for this purpose because the data are not available frequently enough.

This report's goal differs from that of past statistical reviews. It is hoped that this report will be updated annually, so the data used must be available each year, with the decennial census data used only as a benchmark. Furthermore, it is desirable to have as the unit of analysis the city proper. As mentioned, much of the publicly available economic and social data are presented only at the county or state level. Despite these data constraints, we believe we have collected and summarized a useful statistical overview of the current condition of Michigan's cities.

## **METHODOLOGY**

We began by selecting a representative list of 13 Michigan cities, using three criteria. First, we included four large cities: Detroit, Grand Rapids, Flint, and Lansing. Next, we picked two independent cities that are contiguous to large metropolitan areas: Wyoming and Warren. Finally, we chose seven cities to represent Michigan's geographic diversity: Ann Arbor, Battle Creek, Kalamazoo, Muskegon, Pontiac, Saginaw, and Traverse City.

- *Large Cities*
  - Detroit
  - Grand Rapids
  - Flint
  - Lansing

- *Contiguous Cities*
  - Wyoming
  - Warren
- *Geographically Diverse Cities*
  - Ann Arbor
  - Battle Creek
  - Kalamazoo
  - Muskegon
  - Pontiac
  - Saginaw
  - Traverse City

Of course, these 13 cities comprise only a fraction of all Michigan municipalities. Although in 1996 only 21 percent of the state's total population resided in these 13 cities, the hope is that by carefully choosing the cities for our sample, measuring their well-being will allow us to generalize to all urban areas in the state. In future reports, policymakers may wish to expand the number of cities.

After selecting the representative cities, we then determined the appropriate time period of analysis. To avoid misinterpretation, however, it is important to pick dates that correspond to roughly the same points in the economic cycle. For example, there was a vast change in the unemployment rate from 1992 (the last recession) to 1999 (a very good year for the overall economy); comparing these data is useful if we are analyzing the state's progress during the current economic expansion but useless as a guide to long-run changes in the state's underlying economic fundamentals.

Therefore, where available, we used data for 1988 and 1998. This ten-year span has the advantage of comparing essentially peak-to-peak economic conditions. Unfortunately, in many cases we were forced to adjust the time period of analysis to fit the available data. Therefore, for some measures, the ten-year data series ends in 1996 or 1997; for some others, historical data for ten years back simply are not available. The time period for each measure is identified in the detailed tables.

For each measure we began by comparing the change in the current conditions within a city to that of a decade (or selected time period) ago. Have conditions improved or deteriorated during the time period? We also looked for variability among the cities; i.e., is there a wide divergence among the 13 cities, or are the trends similar? Then, in most cases, we compared the recent data for each city with the average for its surrounding county and for the state as a whole. How do the data in the central city compare to its surrounding area? In most cases, we view this *relative* measure of progress as most important. Finally, this report summarizes data in the following eight major areas:

- Demographics
- Economics
- Property values
- Crime
- K-12 education
- Government finance
- Health
- Environmental conditions

## **FUTURE RESEARCH**

It is hoped this is the first of a long, useful series of *Status of Michigan Cities* reports. Unfortunately, good data are not available for many urban quality-of-life subjects under current policy discussion. For example, few Michigan cities systematically inventory brownfield sites within their borders. Another example is the lack of a central database on the age and condition of such public infrastructure as roads, sewers, water systems, and school facilities. Such data would be invaluable in the debates concerning urban sprawl, brownfield redevelopment, and state support for K-12 education. Government at all levels—federal, state, and local—must assist researchers in establishing a central database containing vital information on urban areas.

This study can be a first step. In future years, it is hoped that new measures of conditions in cities will be added, more Michigan cities will be included, and data will be compiled on an annual basis.

There is both bad and good news about Michigan cities. On the one hand, in our sample 13 municipalities, population continues to shift from the urban core to the surrounding area and farther, taking with it job opportunities and economic activity. On the other hand, crime is down significantly in the cities, and general measures indicate that residents' physical health has improved. The data and our analysis of each measure are presented in detail in the exhibits that comprise the body of this report. Our findings may be summarized as follows.

- **Urban population** continues to fall, both in absolute terms and relative to the nonurban areas. From 1990 to 1996, the population in the 13 representative cities *fell* 2.3 percent, while during the same period the population of the state *rose* 4.7 percent. In 1996, the population of the 13 cities represented 32 percent of the total surrounding counties, down from 37 percent in 1990.
- **Population change** results both from natural events (births minus deaths) and migration. Each of the cities (except Traverse City) experienced considerable out-migration from 1990 to 1996. Net out-migration was as high as 17 percent of the 1996 population in Saginaw and more than 9 percent in Detroit.
- The **unemployment rate** dropped sharply in most of the 13 cities from 1988 to 1998. The average fell from 8.6 percent unemployed in 1988 to 5.0 percent last year and declined in each of the 13 cities. Flint enjoyed the biggest drop, from 19.0 percent in 1988 to 9.8 percent in 1998, a reduction of nearly one-half.
- Nevertheless, the **unemployment rate** gap between the urban and nonurban areas increased. In 1988 the 13-city average unemployment rate was 13.2 percent higher than the statewide average; by 1998 it was 32 percent higher.
- The relative decline in the economic activity in the urban areas is evident in the data on **total employment**. The number of workers in the 13 cities *fell* 1.6 percent from 1988 to 1998, but during the same 10-year period, employment *increased* 15.7 percent for the state as a whole. In 1988, 22.6 percent of state employment was in the 13 cities; by 1998 the figure had fallen to 19.2 percent. If the 1988 ratio of urban-to-state employment had remained constant, in these 13 cities there would have been an additional 164,000 workers last year.
- Median **household income** in the 13 cities rose from \$25,140 in 1989 to \$33,483 (estimated) in 1997. Although this 33 percent increase is only slightly above the 29 percent inflation rate during the same period, it is far below the 43 percent increase for the state as a whole. In the most recent year, median household income in the 13 cities was only about three-quarters of the median state income.
- Overall, **property values** grew 4.2 percent in the 13 cities from 1988 to 1998—much less than the 6.9 percent average of the counties in which the cities are located. Business property recorded the largest difference in growth rates, rising 3.5 percent in the cities and 6.0 percent for the counties as a whole. In 1988, of all business property value in the 12 counties in which the 13 cities are located, 72 percent was located within the cities; by 1998 the percentage had fallen to only 54 percent.
- **Home ownership** rates are much higher in nonurban areas than in cities. In 1998 an estimated 49 percent of housing units in the 13 cities were owner-occupied single-family homes, compared to 65.7 percent for the state as a whole. Home ownership rates in the cities essentially were unchanged from 1989 to 1998.

- **Crime**, especially major crime (murder, rape, robbery, assault, burglary, larceny, arson, and car theft) declined dramatically in the 13 cities from 1986 to 1996: from 103.0 to 75.8 major crimes per thousand population—a 26.4 percent decline. Total crime fell 13.6 percent during the same period. However, the crime rate remains much higher in cities than in nonurban areas. At 75.8 instances per thousand population in 1996, the major crime rate in the 13 cities was 63 percent above the state average.
- More than 21 percent of all Michigan **K-12 pupils** are enrolled in one of the 13 urban school districts. We compiled composite satisfactory and proficient MEAP scores for the cities, their intermediate school districts (ISDs), and the state. In 1998, 38.9 percent of the 13 cities' students achieved satisfactory or proficient MEAP scores, up slightly from 37.0 percent in 1996 (the MEAP has undergone so many changes in the last decade that we concentrated only on the last few years). The average 13-city MEAP score, 38.9 percent in 1998, was below the 46 percent ISD average.
- There are more **low-income families** in the cities than in the nonurban areas. In 1998, 49.5 percent of students in the 13 school districts qualified (based on family income) for the federal free or reduced-price school lunch program. This compares to only 31 percent of the students in the ISDs in which the cities are located and 32 percent for the state as a whole.
- On average, **school spending per pupil** is higher in the urban districts than it is for their surrounding ISDs or state as a whole. The \$6,241 state foundation grant per pupil in 1998 is \$167 higher than the ISD average and \$180 higher than the statewide average. Had we included the state's "at-risk" funding (a program to help pupils at risk of academic failure) the gap would be even wider, since the greater percentage of at-risk monies are directed to urban schools. The 1998 average urban teacher salary, \$47,688, was \$679 higher than the state average but \$64 below the average for the ISDs in which the cities are located.
- The 13 urban schools in this study have higher **dropout rates** and lower graduation rates than the average of the surrounding ISDs or the state as a whole. In 1998 the average dropout rate for the 13 school districts was 10.4 percent, ranging from a high of 26 percent in Detroit to a low of 3.0 percent in Warren. On average, the dropout rate for the urban schools is nearly double the average rate for their surrounding ISDs.
- **City government finances** improved greatly from 1987 to 1997, with most cities increasing their fund balance during this period. A combination of strong economic growth and, in some cities, operating millage increases, have left city governments with healthier local budgets than in the late 1980s.
- Measures of the **physical health** of city residents improved during the last ten years. Infant mortality declined in 9 of the 13 cities. For all, the rate fell from 13.0 per 1,000 live births in 1987 to 10.6 in 1997, an 18.5 percent decline. Even so, the infant death rate in most of the 13 cities was above the rate for the county in which the city is located: In 1997, the average rate for the 13 cities was approximately 20 percent above that of the surrounding counties.
- The **rate of heart disease and cancer deaths** also declined in the 13 cities. From 1987 to 1997, the heart disease death rate fell from 380 per 100,000 residents to 320, a 16 percent decline. The cancer death rate also fell slightly, from 210 per 100,000 residents in 1987 to 205 in 1997. Nevertheless, the death rate from these two diseases still is much higher in the urban centers than in it is in the counties in which they are located.

- Tracking **environmental conditions** in our major urban areas is very difficult because the data are inconsistent among the cities and collection methods vary from year to year. Clearly, an important policy objective should be to upgrade the available urban environmental data. This report summarizes four measures of pollution: number of hazardous waste facilities, number of "brownfield" sites (abandoned, idle, or underused industrial and commercial facilities where expansion or redevelopment is impeded by real or perceived environmental contamination) being redeveloped with state funding, toxic-release inventory, and "ozone days." The 13 cities have a high percentage—39 percent—of all hazardous waste facilities in the state yet only 21 percent of the state's population. In 1997 nearly 50 percent of all state dollars directed to cleaning up brownfield sites were in the 13 cities. Finally, as recorded by the Michigan Department of Environmental Quality, the combined on-site releases and transfers of toxic materials in the 13 cities rose 73 percent from 1990 to 1996—from 53 million to 92 million pounds a year.

## INDEX OF URBAN WELL-BEING

In an effort to summarize the change in living conditions in Michigan's urban centers, we have compiled an "index of urban well-being."

As is the case with any composite index, the components and calculations are somewhat arbitrary. In most cases, this index measures the relative progress of selected Michigan cities in comparison to the county or ISD in which they are located and/or the state as a whole. For this report, the index comprises 12 factors. These particular 12 variables were selected because they represent the broad subject areas covered in this report and a full range of data is available for each.

- City population growth relative to the county average (1990 to 1996)
- Absolute change in urban unemployment rates (1988 to 1998)
- Change in the unemployment rate relative to the county average (1988 to 1998)
- Relative change in total employment (1988 to 1998)
- Growth of median household income (1989 to 1997)
- Growth in total property values (1988 to 1998)
- Relative growth of business property values (1988 to 1998)
- Change in total crime (1986 to 1996)
- Change in crime relative to the statewide average (1986 to 1996)
- Relative improvement in MEAP scores (1996 to 1998)
- Relative change in graduation rates (1996 to 1998)
- City government fund balance as a percentage of total revenue (1987 to 1997)

A base year was calculated and set to 100. The most current data were used to measure the change from the base. Due to data limitations, the base year of the index is a composite of many years—1987, 1988, 1990, and 1996. The most recent data for each of the series also vary. The goal is to recreate and improve the index each year the report is released.

Overall, the index of urban well-being fell from 100 in the base year of the late 1980s to 97.5 today, a 2.5 percent decline. Of the 12 measures used for this index, seven declined and five increased. The

biggest improvements were the absolute decline in the unemployment rate and the fall in the crime index, but neither measure improves when compared to the average for the surrounding county. Exhibit 1 lists the 1999 value for the various factors.

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**EXHIBIT 1**  
**1999 Index of Urban Well-Being,**  
**(compared to a base year of 100)**

Measure	Current Year Value
Relative population change	93.8
Unemployment rate	112.0
Relative unemployment rate	83.7
Total employment	87.1
Average household income	96.8
Total property values	96.1
Business property values	75.0
Crime index	113.7
Relative crime index	97.4
MEAP test scores	107.0
Graduation rates	101.0
City government fund balance	106.8
<b>Composite Index</b>	<b>97.5</b>

SOURCE: Public Sector Consultants, Inc.

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**EXHIBIT 2**  
**Population, 1990 and 1996**

	City 1990	City 1996	Percentage Change	County 1996	County 1990-96 Percentage Change	City vs. County Growth Rate, Percentage Point Difference
Ann Arbor	109,608	108,758	-0.8%	295,717	4.5%	-5.3%
Battle Creek	53,516	53,430	-0.2	140,152	3.1	-3.2
Detroit	1,027,974	1,000,272	-2.7	2,137,302	1.2	-3.9
Flint	140,925	134,881	-4.3	435,508	1.2	-5.5
Grand Rapids	189,126	188,242	-0.5	535,827	7.0	-7.5
Kalamazoo	80,277	77,460	-3.5	229,034	2.5	-6.0
Lansing	127,321	125,736	-1.2	284,921	1.1	-2.3
Muskegon	39,809	39,518	-0.7	164,810	3.7	-4.4
Pontiac	71,136	70,471	-0.9	1,159,309	7.0	-7.9
Saginaw	69,512	65,014	-6.5	211,741	-0.1	-6.4
Traverse City	15,155	15,082	-0.5	72,047	12.1	-12.6
Warren	144,864	138,078	-4.7	778,699	8.5	-13.2
Wyoming	63,891	66,571	4.2	535,827	7.0	-2.8
<i>Urban total</i>	2,133,114	2,083,513	-2.3%		4.1%	-6.2%
<i>State total</i>	9,295,287	9,730,925	4.7%	6,445,067		
<i>Urban as percentage of state</i>	23%	21%				

SOURCE: Michigan information Center.

NOTE: 1997 data will not be released until fall 1999.

The latest estimated population data available for cities are for 1996. Statewide, population increased 4.7 percent from 1990 to 1996, but, with one exception, the cities studied for this report did not fare nearly as well.

- Total population declined in 12 of the 13 cities studied for this report. The exception is Wyoming, with population up 4.2 percent.
- The largest declines occurred in Saginaw (-6.5 percent) Warren (-4.7 percent) and Flint (-4.3 percent).
- None of the 13 cities matched the increase of their surrounding county. Wyoming, Battle Creek, and Lansing came closest. Warren and Traverse City lagged farthest behind.
- In total, the population in the 13 cities declined 2.3 percent—from 23 percent of the total state population to 21 percent.
- While this urban area population fell by 2.3 percent, the nonurban areas of the surrounding counties increased by 7.1 percent.

**EXHIBIT 3**  
**Percentage of Population Aged 65 and Older, 1990 and 1997**

	City 1990	City 1997	Percentage Point Change	County 1997	City vs. County, Percentage Point Difference 1997
Ann Arbor	7.3%	7.7%	0.4	7.9%	-0.2%
Battle Creek	14.4	15.1	0.7	13.9	1.2
Detroit	12.1	12.6	0.5	13.0	-0.4
Flint	10.7	11.3	0.6	10.6	0.7
Grand Rapids	13.0	13.6	0.6	11.3	2.3
Kalamazoo	10.7	11.2	0.5	11.1	0.1
Lansing	9.6	10.3	0.7	9.2	1.1
Muskegon	14.6	15.3	0.7	13.6	1.7
Pontiac	8.7	9.1	0.4	11.3	-2.2
Saginaw	11.9	12.3	0.4	12.5	-0.2
Traverse City	16.8	17.6	0.8	12.8	4.8
Warren	14.9	15.5	0.6	12.8	2.7
Wyoming	9.8	10.3	0.5	11.3	-1.0
<i>Urban average</i>	11.9%	12.5%	0.6		
<i>State</i>	11.9%	12.4%	0.5		

SOURCE: U.S. Bureau of the Census. Estimate for 1997 calculated by Public Sector Consultants, Inc.

The latest data available for the 65-and-older population for cities are from the 1990 census, but 1997 data are available for the counties. To estimate this population for 1997 for the 13 cities in this study, Public Sector Consultants calculated each surrounding county's 65-and-older population change from 1990 to 1997 and applied that percentage to the city.

Statewide, the 65-and-older population was 12.4 percent of total population in 1997.

- In about half the cities studied, we estimate that this percentage has been exceeded.
- In four—Traverse City, Warren, Muskegon, and Battle Creek—the 65-and-older population is estimated at more than 15 percent.
- In two—Ann Arbor and Pontiac—the 65-and-older population is estimated at under 10 percent.

We find that in all 13 cities studied, the relative share of the 65-and-older population is increasing. Statewide, the increase in share from 1990 to 1997 was 0.5 percentage points; in the 13 cities, the estimated growth in share is similar, ranging from 0.4 to 0.8 percentage points.

In 1997, in eight of the cities, the percentage of the 65-and-older population exceeded that of the county. In four, however—Ann Arbor, Detroit, Pontiac, Saginaw, and Wyoming—the percentage is estimated to be lower than that of the county.

**EXHIBIT 4**  
**Racial Composition, 1990 and 1997**

	City Minority Percentage 1990	County Minority Percentage 1990	City vs. County, Percentage Point Difference 1990	County Minority Percentage 1997
Ann Arbor	18.0%	16.5%	1.5%	20.1%
Battle Creek	19.3	12.7	6.6	15.0
Detroit	78.4	57.4	21.0	46.3
Flint	50.4	21.8	28.6	24.6
Grand Rapids	23.6	11.3	12.3	13.9
Kalamazoo	22.7	11.6	11.1	13.8
Lansing	25.4	15.9	9.5	20.2
Muskegon	30.1	15.8	14.3	18.5
Pontiac	48.8	10.4	38.4	13.2
Saginaw	47.7	22.0	25.7	26.5
Traverse City	1.9	2.0	-.1	2.7
Warren	2.7	3.3	-.6	5.0
Wyoming	6.5	11.3	-4.8	13.9
<i>Urban average</i>	28.9%			
<i>Statewide</i>	17.8%			18.7%

SOURCE: U.S. Bureau of the Census.

One way to measure segregation in a community is to look at the percentage of minority population in comparison with its surrounding area: the narrower the percentage, the less the segregation. The latest data available for cities are for 1989, from the 1990 census, and the latest data available for the counties are for 1997. The average minority percentage in the cities studied was 28.9.

- Three cities had minority population at least 25 percent higher than in their surrounding county: Flint (28.6 percent), Pontiac (38.4 percent), and Saginaw (25.7 percent).
- Wayne is the only county that experienced a decrease in its minority population from 1990 to 1997.

It is likely that the percentage of minorities increased in most Michigan cities from 1989 to 1997, as the state rate increased from 17.8 to 18.7.

**EXHIBIT 5**  
**Net Migration, 1990 to 1996**

	Population			Births 1990-96	Deaths 1990-96	Net Migration	
	1990	1996	Change 1990-96			Number	As Percentage of 1996 Population
Ann Arbor	109,608	108,758	-850	10,130	3,544	-7,436	-6.8%
Battle Creek	53,516	53,430	-86	N.A.	N.A.	N.A.	N.A.
Detroit	1,027,974	1,000,272	-27,702	142,979	79,343	-91,338	-9.1
Flint	140,925	134,881	-6,044	23,679	10,129	-19,594	-14.5
Grand Rapids	189,126	188,242	-884	29,308	13,100	-17,092	-9.1
Kalamazoo	80,277	77,460	-2,817	10,296	4,817	-8,296	-10.7
Lansing	127,321	125,736	-1,585	17,974	7,032	-12,527	-10.0
Pontiac	39,809	39,518	-291	6,091	3,217	-3,165	-8.0
Pontiac	71,136	70,471	-665	11,407	4,434	-7,638	-10.8
Saginaw	69,512	65,014	-4,498	11,698	4,990	-11,206	-17.2
Traverse City	15,155	15,082	-73	1,329	1,199	-203	-1.3
Warren	144,864	138,078	-6,786	13,209	10,294	-9,701	-7.0
Wyoming	63,891	66,571	2,680	N.A.	N.A.	N.A.	N.A.
<i>Urban total</i>	2,133,114	2,083,513	-49,601				

SOURCE: Michigan Information Center and Public Sector Consultants.

NOTE: 1997 data will not be released until fall 1999.

N.A. = Not available.

Net migration—the movement of people in and out of a city—is calculated by subtracting the change in a city's total population from the difference between births and deaths. The table presents the net migration calculations from 1990 to 1996 for 11 of the 13 selected cities (birth and death data are not available for Battle Creek and Wyoming).

- All 11 cities experienced an outflow of migration during the 1990s.
- As a percentage of its population, in 1996 Saginaw had lost the most residents since 1990—more than 17 percent.

**EXHIBIT 6**  
**Unemployment Rates, 1988 and 1998**  
**(percentage of labor force)**

	City 1988	City 1998	Change	County Average 1998	City vs. County, Percentage Point Difference 1998	City vs. State, Percentage Point Difference 1998
Ann Arbor	2.3%	1.5%	-0.8%	1.8%	-0.3%	-2.3%
Battle Creek	7.2	4.5	-2.7	3.9	0.6	0.7
Detroit	11.4	7.0	-4.4	4.7	2.3	3.2
Flint	19.0	9.8	-9.2	5.6	4.2	6.0
Grand Rapids	6.9	4.0	-2.9	2.8	1.2	0.2
Kalamazoo	5.7	4.0	-1.7	2.7	1.3	0.2
Lansing	7.4	4.1	-3.3	3.2	0.9	0.3
Muskegon	9.1	5.7	-3.4	4.2	1.5	1.9
Pontiac	12.7	7.2	-5.5	2.5	4.7	3.4
Saginaw	11.4	7.9	-3.5	4.5	3.4	4.1
Traverse City	6.1	2.4	-3.7	3.6	-1.2	-1.4
Warren	7.7	3.7	-4.0	3.2	0.5	-0.1
Wyoming	5.0	2.7	-2.3	3.2	-0.5	-1.1
<i>Urban average</i>	8.6%	5.0%	-3.6%	3.6%		
<i>State average</i>	7.6%	3.8%	-3.8%			

SOURCE: Michigan Jobs Commission.

NOTE: Without the nearly two-month strike at two GM plants, the 1998 unemployment rate would have been about 8.4 percent in Flint and about 0.3 percentage points lower in Lansing, Pontiac, and Saginaw.

One key economic indicator for a city is its unemployment rate, which is calculated by dividing the number of unemployed people looking for work by the total labor force (population aged 16–64). The unemployment rate may understate the amount of unemployment because it does not include people not actively seeking work, many of which may have become discouraged and given up. The number not seeking work is likely to be much larger during a period of economic weakness than it is during one of economic strength.

The 1998 statewide unemployment rate was 3.8 percent.

- Of the 13 Michigan cities studied, nine had a 1998 rate higher than the state average.
- Only four cities—Ann Arbor, Traverse City, Warren, and Wyoming—were below the state average.
- Also, only in these three cities was the city unemployment rate below that of surrounding county.

From 1988 to 1998, the state unemployment rate fell 50 percent.

- The unemployment rate fell sharply in all 13 cities in this decade, but in only three—Traverse City, Warren, and Flint (adjusted for 1998 GM strike)—did the city decline exceed 50 percent.
- The city with the smallest decline was Ann Arbor, mainly because the rate there already was low in 1988: 2.3 percent.

**EXHIBIT 7**  
**Total Employment, 1988 and 1998**

	City 1988	City 1998	Percentage Change	County Percentage Change 1988-98	City vs. County, Percentage Point Difference 1998	City vs. State, Percentage Point Difference, 1998
Ann Arbor	65,775	66,450	1.0%	10.2%	-9.2%	-14.7%
Battle Creek	23,500	24,450	4.0	9.7	-5.7	-11.7
Detroit	405,975	369,875	-8.9	2.7	-11.6	-24.6
Flint	50,600	50,850	0.5	20.7	-20.2	-15.3
Grand Rapids	95,950	109,200	13.8	27.1	-13.3	-1.9
Kalamazoo	39,425	40,250	2.1	11.3	-9.2	-13.7
Lansing	68,400	64,100	-6.3	1.1	-7.4	-22.0
Muskegon	14,700	17,200	17.0	30.2	-13.2	1.3
Pontiac	31,150	30,800	-1.1	18.1	-19.2	-16.9
Saginaw	25,000	25,675	2.7	13.7	-11.0	-13.0
Traverse City	9,325	10,750	15.3	36.5	-21.2	-0.5
Warren	83,800	81,800	-2.4	19.5	-21.9	-18.1
Wyoming	35,950	42,700	18.8	27.1	-8.4	3.0
<i>Urban total</i>	949,550	934,100	-1.6%			
<i>State total</i>	4,198,000	4,859,000	15.7%			

SOURCE: Michigan Jobs Commission.

NOTE: The 1998 employment numbers were modestly depressed by the GM strike, particularly in Flint, Pontiac, Saginaw, and Lansing

The most important indicator of a city's economic vitality is the change in employment over several years. In this report, Public Sector Consultants used the growth rate from 1988 to 1998.

Statewide, employment increased 15.7 percent from 1988 to 1998. Among the cities studied for this report, however, there was wide variation in the change in employment over the last decade.

- In 11 cities, employment increased at less than the state rate.
- In four, employment declined.
- Detroit fared the worst (down 8.9 percent) and Wyoming the best (up 18.8 percent).
- In total, from 1988 to 1998 employment in the 13 cities fell by 1.6 percent.

In the surrounding counties, there were no employment declines, with increases ranging from just over one percent in Ingham County to nearly 37 percent in Grand Traverse.

- In none of the 13 cities did employment grow faster than in the surrounding county.
- Traverse City, Pontiac, Flint, and Warren fared the worst relative to their surrounding county.
- Wyoming, Muskegon, and Grand Rapids fared the best, as measured by the city percentage change divided by the county percentage change.

**EXHIBIT 8**  
**Labor Force, 1988 and 1998**

	1988	1998	Percentage Change	County Percentage Change 1988-98	City vs. County, Percentage Point Difference 1998	City vs. State, Percentage Point Difference 1998
Ann Arbor	67,375	67,400	0.0%	7.8%	-7.8%	-10.7%
Battle Creek	25,300	25,775	1.9	6.6	-4.7	-8.8
Detroit	458,275	394,025	-14.0	-3.1	-10.9	-24.7
Grand Rapids	103,100	112,650	9.3	22.3	-13.0	-1.4
Kalamazoo	41,800	41,775	-0.1	8.4	-8.4	-10.8
Lansing	73,875	66,425	-10.1	-2.6	-7.5	-20.8
Flint	62,500	55,375	-11.4	7.3	-18.7	-22.1
Muskegon	16,150	18,075	11.9	22.8	-10.8	1.2
Pontiac	35,700	33,125	-7.2	13.4	-20.6	-17.9
Saginaw	28,225	27,450	-2.7	7.6	-10.3	-13.4
Traverse City	9,925	10,950	10.3	31.0	-20.7	-0.4
Warren	90,775	84,950	-6.4	14.3	-20.7	-17.1
Wyoming	37,850	43,475	14.9	22.3	-7.4	4.2
<i>Urban total</i>	1,050,850	981,450	-6.6%			
<i>State total</i>	4,543,000	5,029,000	10.7%			

SOURCE: Michigan Jobs Commission.

A city's labor force equals the total number residents working or actively looking for work.

- From 1988 to 1998, the total 13-city labor force declined 6.6 percent. This contrasts sharply with the 10.7-percent *increase* for the state as a whole.
- Of the seven cities in which the labor force declined, Detroit and Flint suffered the biggest drop—14 percent and more than 11 percent, respectively.
- Wyoming had the largest increase—almost 15 percent.

**EXHIBIT 9**  
**Median Household Income, 1989 and Estimated 1997**

	City 1989	City 1997	Percentage Change	County 1997	City as Percentage of County 1997	County Percentage Change 1989-97	City vs. County, Percentage Point Difference
Ann Arbor	\$33,344	\$52,048	56.1%	\$54,575	95%	50.3%	5.8%
Battle Creek	25,306	33,102	30.8	34,985	95	27.3	3.5
Detroit	18,742	23,496	25.4	37,549	63	34.1	-8.8
Flint	20,176	22,418	11.1	37,125	60	19.6	-8.5
Grand Rapids	26,809	37,947	41.5	48,143	79	48.8	-7.2
Kalamazoo	23,207	28,927	24.6	40,207	72	29.4	-4.8
Lansing	26,398	32,695	23.9	40,264	81	33.5	-9.6
Muskegon	18,748	26,543	41.6	36,012	74	40.6	1.0
Pontiac	21,962	27,925	27.2	63,851	44	47.1	-19.9
Saginaw	17,736	21,110	19.0	36,138	58	29.2	-10.1
Traverse City	27,396	38,647	41.1	40,897	94	40.9	0.2
Warren	35,890	48,253	34.4	53,679	90	37.9	-3.4
Wyoming	31,103	40,875	31.4	48,143	85	48.8	-17.4
<i>Urban average</i>	\$25,140	\$33,384	32.8%	\$43,619	76%		-6.1%
<i>State average</i>	\$31,020	\$44,478	43.4%				

SOURCE: U.S. Bureau of the Census. Calculations by Public Sector Consultants, Inc.

The latest income data available for cities is for 1989 (from the 1990 census). Public Sector Consultants updated the numbers to 1997 by using the (1) 1989-95 increase in adjusted gross income, which is available by school district from the Michigan Department of Treasury, and (2) 1995-97 percentage changes in employment and weekly earnings, which are available from the Michigan Jobs Commission (MJC). Earnings data are available only for counties, therefore we assume that the increase for the city and the surrounding county was the same for 1995-97. (The MJC employment numbers indicate little difference in growth for the city and surrounding county).

Michigan median household income increased an estimated 43.4 percent from 1989 to 1997.

- The only city to record faster income growth was Ann Arbor (more than 56 percent).
- The slowest growth was in Flint (11 percent) and Saginaw (19 percent).
- Four cities had growth that was faster than in the surrounding county: Ann Arbor, Battle Creek, Muskegon, and Traverse City.
- The cities falling furthest below the growth rate of the surrounding county were Flint, Detroit, Lansing, Pontiac, Saginaw, and Wyoming.

The statewide median household income in 1997 was \$44,478.

- Among the 13 cities, the high was Ann Arbor (nearly \$53,000) and the low was Saginaw (a little over \$21,000).
- The only cities above the state average were Ann Arbor and Warren.

None of the 13 cities had a median income as high as its county's.

- In Ann Arbor, Battle Creek, and Traverse City, the median household income was about 95 percent of the county's.
- The lowest income relative to the county was in Pontiac (about 44 percent), Saginaw (58 percent), Flint (60 percent), and Detroit (63 percent).

**EXHIBIT 10**  
**Poverty Rates, 1990 and 1995**

	City Percentage of Population in Poverty 1990	County Percentage of Population in Poverty 1990	City vs. County, Percentage Point Difference 1990	County Percentage of Population in Poverty 1995
Ann Arbor	14.3%	12.2%	2.1%	8.9%
Battle Creek	18.0	14.3	3.7	14.1
Detroit	32.0	20.1	11.9	20.6
Flint	30.0	16.5	13.5	15.8
Grand Rapids	15.4	9.2	6.2	9.6
Kalamazoo	22.8	13.5	9.3	11.3
Lansing	19.3	16.6	2.7	13.9
Muskegon	23.9	15.3	8.6	15.4
Pontiac	25.6	6.0	19.6	6.2
Saginaw	31.1	17.2	13.9	16.9
Traverse City	8.3	8.5	-0.2	7.9
Warren	6.4	5.2	1.2	6.1
Wyoming	7.0	9.2	-2.2	9.6
<i>Urban average</i>	19.5%		6.9%	
<i>Statewide</i>	13.0%			12.6%

SOURCE: U.S. Bureau of the Census.

An important measure of economic hardship in a city is the number of people living below the poverty line. The latest data available for cities is for 1989, from the 1990 census, and the latest available data for counties is for 1995. For a family of three in Michigan, the poverty threshold was \$9,981 in 1989 and \$13,120 in 1995.

- In 1989 three of the 13 cities had a poverty rate of 30 percent or more: Detroit (32 percent), Saginaw (31 percent), and Flint (30 percent).
- The lowest rates of poverty in 1989 were in Warren (6 percent), Wyoming (7 percent), and Traverse City (8 percent).
- In 11 cities, the poverty rate was higher than in the surrounding county. Pontiac, with more than a quarter of its residents living in poverty, fared the worst in comparison to its county (Oakland, with 6 percent).

It is likely that the poverty rate declined in most Michigan cities from 1989 to 1995, as the state rate fell from 13.0 to 12.6 percent.

**EXHIBIT 11**  
**Growth in Property Value (State Equalized Value), Annual Rate, 1988 and 1998**

	All Property 1988-98	Residential 1988-98	Business 1988-98		All Property 1988-98	Residential 1988-98	Business 1988-98
Ann Arbor	6.0%	7.2%	4.5%	Muskegon	3.8%	5.4%	2.8%
Washtenaw County	7.8	9.7	5.5	Muskegon County	6.9	7.9	5.1
Battle Creek	6.7	6.6	3.7	Pontiac	1.0	5.4	-1.4
Calhoun County	7.1	7.6	6.8	Oakland County	7.5	8.8	8.3
Detroit	3.5	3.5	3.5	Saginaw	2.0	2.8	1.2
Wayne County	5.9	6.7	4.8	Saginaw County	5.5	6.3	5.2
Flint	0.1	1.2	-0.1	Traverse City	6.6	6.7	6.6
Genesee County	4.9	6.4	3.0	Grand Traverse County	8.8	9.5	7.7
Grand Rapids	5.7	5.5	5.9	Warren	4.5	5.5	3.3
Wyoming	6.0	6.8	5.4	Macomb County	7.3	8.3	5.7
Kent County	8.1	8.3	7.8	Urban average	4.2%	5.0%	3.5%
Kalamazoo	5.5	4.9	6.2	County average	6.9%	7.8%	6.0%
Kalamazoo County	7.0	7.9	6.0	State average	7.1%	8.4%	5.4%
Lansing	3.9	3.9	3.8				
Ingham County	5.9	6.5	5.5				

SOURCE: Michigan Department of Treasury, State Tax Commission. Calculations by Public Sector Consultants, Inc.

A key indicator of a city's economic vitality is the growth in property value compared to other cities, the state, and the county in which it is located.

Statewide, from 1988 to 1999, property values increased an average of 7.1 percent annually.

None of the 13 cities studied for this report exceeded the state figure.

- Experiencing the slowest annual property growth were Flint (0.1 percent), Pontiac (one percent), and Saginaw (2 percent).
- The fastest growth rates occurred in Battle Creek (6.7 percent), Traverse City (6.6 percent), and Ann Arbor and Wyoming (both 6 percent).
- For all 13 cities, property value growth averaged 4.2 percent during this period, significantly below the statewide rate.

In the 12 counties in which the 13 cities are located, the 1988-98 property growth rate averaged 6.9 percent.

- None of the cities exceeded the growth rate of its county. The only city that approached its county growth rate was Battle Creek (6.7 percent), in Calhoun County (7.1 percent).
- The cities that fared the poorest relative to their county were Pontiac (a -6.5 percentage point difference between city and county), Flint (-4.8 percentage points), Saginaw (-3.5 percentage points), and Grand Rapids (-3.4 percentage points).

Comparing the growth in value of commercial/industrial (C/I) property with that of residential property indicates whether a city is attracting new businesses or current businesses are expanding. In regard to 1988-98 growth in C/I versus residential property value, the findings are mixed.

- In two cities—Kalamazoo and Grand Rapids—the growth in the value of C/I property exceeded that of residential property.
- In three—Detroit, Lansing, and Traverse City—C/I growth rates equaled or almost equaled residential growth.
- In five—Pontiac, Warren, Muskegon, Ann Arbor and Saginaw—the growth in C/I property values fell well short of residential growth.
- In only one city—Flint—did C/I property value fall (-0.1 percent), but the county growth rate in this case was only 3 percent, the lowest of the 12 counties.

**EXHIBIT 12**  
**Average Home Value, 1989 and Estimated 1998**

	City 1989 (\$000) <sup>a</sup>	City 1998 (\$000) <sup>a</sup>	Percentage Change 1989-99	County 1998 <sup>b</sup> (\$000)	County Percentage Change 1989-98	City Value as Percentage of County 1998	City vs. County, Percentage Point Difference 1989-98
Ann Arbor	\$136	\$172	26.2%	\$163	41.1%	105.4%	-14.9%
Battle Creek	50	83	66.9	77	51.2	108.0	15.7
Detroit	29	43	50.1	99	61.9	43.8	-11.7
Flint	38	48	28.1	90	57.9	53.4	-29.7
Grand Rapids	62	85	37.2	111	42.4	76.5	-5.1
Kalamazoo	59	85	45.4	108	50.1	78.7	-4.7
Lansing	52	63	21.8	94	29.4	67.0	-7.6
Muskegon	36	56	56.9	80	51.4	69.4	5.4
Pontiac	38	59	53.1	179	49.2	32.8	3.9
Saginaw	35	46	29.8	78	44.5	58.6	-14.7
Traverse City	75	115	52.0	110	36.4	104.5	15.7
Warren	68	89	31.9	124	49.2	71.7	-17.3
Wyoming	59	81	37.7	111	42.4	72.5	-4.7
<i>Urban average</i>	\$57	\$79	39.3%				
<i>State average</i>	\$73	\$109	48.5%		48.5%	64.4%	-4.2%

<sup>a</sup>State equalized value.

<sup>b</sup>U.S. Census information.

SOURCE: Michigan Department of Treasury and U.S. Bureau of the Census. Calculations by Public Sector Consultants, Inc.

An important indicator of the well-being of a community is the average value of a home, both the absolute value and its change. Low and/or falling home values are closely associated with a community in decline. The decline usually is caused by falling demand for homes because public services are deteriorating and/or residents and businesses are moving out of the city.

The latest data available for housing values by city is from the 1990 census (for 1989), and Public Sector Consultants took several steps to develop a consistent data set for 1989 and 1998. First, the residential state equalized valuation (SEV) for each city for 1989, as reported by the Michigan Tax Commission, was divided by the number of owner-occupied homes reported in the 1990 census (and multiplied by two, because SEV is 50 percent of market value). This calculated average home value then was compared with the average home value as reported in the 1990 census. The calculated number in each case was found to be 5-15 percent above the census figure. This is because residential SEV includes homes that are rented and apartment complexes with four or fewer units. Second, 1998 residential SEV (times two) was divided by the number of homestead exemption affidavits for each city, as reported by the Michigan Department of Treasury. This number then was reduced by the percentage that the 1989 SEV calculation exceeded the census estimate of average home value. The final result is an estimate of average home values in 1998 that should be reasonably consistent with the 1990 census data.

Statewide, in 1989, the average home value was \$73,249. This rose by nearly half (48.5 percent) from 1989 to 1998.

- Of the 13 cities studied, the 1989 high was in Ann Arbor (\$135,946) and the low in Detroit (\$28,805).
- In only two cities—Ann Arbor and Traverse City—did 1989 home values exceed the state average.
- From 1989 to 1998, five cities exceeded the statewide increase: Battle Creek (67 percent), Detroit (50 percent), Muskegon (57 percent), Pontiac (53 percent), and Traverse City (52 percent).

In 1998, the average home value in the 12 counties was \$109,603.

- Ann Arbor was the only city studied in which the average home value exceeded the county average.
- In two cities the average home value was less than half that of the surrounding county: Pontiac (about 33 percent of the county figure) and Detroit (about 44 percent).
- From 1989 to 1998, four cities—Battle Creek, Muskegon, Pontiac, and Traverse City—recorded larger increases in value than the surrounding county.

**EXHIBIT 13**  
**Home Ownership, 1989 and Estimated 1998**

	Occupied Housing Units 1989	Owner- Occupied Homes 1989	Percentage Home Ownership	Occupied Housing Units 1998	Owner- Occupied Homes 1998	Percentage Home Ownership	County Percentage Home Ownership 1989
Ann Arbor	41,657	17,996	43.2%	41,566	18,645	44.9%	55.3%
Battle Creek	21,457	13,494	62.9	21,351	12,653	59.3	71.0
Detroit	374,057	197,929	52.9	363,782	148,736	40.9	63.9
Grand Rapids	69,029	41,349	59.9	69,127	39,330	56.9	69.7
Kalamazoo	29,409	13,928	47.4	28,498	12,507	43.9	64.4
Lansing	50,635	27,737	54.8	50,202	27,639	55.1	58.4
Flint	53,894	31,306	58.1	51,631	25,458	49.3	70.4
Muskegon	14,770	8,070	54.6	14,406	7,335	50.9	59.4
Pontiac	24,777	12,321	49.7	24,601	11,929	48.5	77.2
Saginaw	26,179	15,065	57.5	24,502	13,916	56.8	70.7
Traverse City	6,201	3,824	61.7	6,186	3,945	63.8	74.8
Warren	54,602	43,415	79.5	52,126	40,823	78.3	67.7
Wyoming	24,168	16,297	67.4	25,310	15,767	62.3	69.7
<i>Urban average</i>	60,833	34,056	56.0%	59,484	29,129	49.0%	
Michigan	3,419,331	2,427,643	71.0%	3,704,620	2,434,364	65.7%	67.9%

SOURCE: U.S. Bureau of the Census. Calculations by Public Sector Consultants, Inc.

An important measure of community stability is home ownership. A dip in the percentage of households owning their home may indicate that a community is in decline. The latest home-ownership data available for cities is from the 1990 census (for 1989). To calculate the rate of home ownership, Public Sector Consultants divided the number of owner-occupied homes by the number of occupied households, then updated the data to 1998. The number of owner-occupied homes was based on the homestead exemption affidavits filed with the Michigan Department of Treasury, and the number of households was estimated by dividing 1996 population (assumed to not change in 1998) by the average household size (1990 census).

In 1989, 71 percent of Michigan households owned their own home.

- Of the 13 cities studied, the 1989 home-ownership low was in Ann Arbor (43.2 percent), which has a large student population, and the high in Warren (79.5 percent), a mature, suburban community.
- In 1989 home ownership was higher than the statewide average only in Warren (79.5 percent).
- Also, only in Warren was home ownership higher than in the surrounding county.

In 1998 state home-ownership is estimated to be 66 percent.

- Only Warren (73 percent) exceeds the estimated 1998 state average.
- By 1998 home ownership appears to have increased in only three cities: Lansing, Ann Arbor, and Traverse City.

**EXHIBIT 14**  
**Crime, 1986 and 1996**

	Major Crime				Other Crime				Total Crime					
	Total 1996	Per Thousand 1996	Total 1986	Per Thousand 1986	Percentage Change	Total 1996	Per Thousand 1996	Total 1986	Per Thousand 1986	Percentage Change	Total 1996	Per Thousand 1996	Total 1986	Per Thousand 1986
Ann Arbor	4,741	43.1	10,683	98.5	-56.2%	8,920	80.2	8,968	82.7	-3.0%	123.4	181.2	181.2	-31.9%
Battle Creek	5,351	69.1	5,499	100.4	-31.2	5,178	66.9	4,337	79.2	-15.6	136.0	179.7	179.7	-24.3
Detroit	121,989	121.7	141,941	129.4	-5.9	39,459	39.4	38,647	35.2	11.7	161.1	164.6	164.6	-2.2
Flint	16,269	116.6	24,123	160.7	-27.5	13,732	98.4	17,702	117.9	-16.6	214.9	278.7	278.7	-22.9
Grand Rapids	14,698	78.1	16,541	88.0	-14.8	26,572	138.1	18,502	100.4	37.6	214.5	190.1	190.1	12.9
Kalamazoo	6,414	77.8	10,533	135.4	-42.6	11,957	145.0	12,366	159.0	-8.8	222.7	294.4	294.4	-24.3
Lansing	9,584	79.3	11,503	89.2	-11.1	10,608	87.8	9,132	70.8	23.9	167.1	160.1	160.1	4.4
Muskegon	4,466	108.8	4,788	120.2	-9.5	3,973	96.8	2,846	71.4	35.5	205.5	191.6	191.6	7.3
Pontiac*	6,361	90.3	8,268	115.6	-21.9	10,245	145.4	11,918	166.7	-12.8	235.6	282.3	282.3	-16.5
Saginaw	5,825	81.7	8,204	110.5	-26.1	9,978	139.9	9,986	134.5	4.0	221.5	245.0	245.0	-9.6
Traverse City	850	53.6	995	64.1	-16.4	2,199	138.7	2,273	146.5	-5.3	192.3	210.5	210.5	-8.7
Warren	5,225	37.8	10,707	69.9	-45.9	6,109	44.2	7,693	50.2	-11.9	82.1	120.1	120.1	-31.7
Wyoming*	1,905	28.6	3,596	54.8	-47.8	3,882	58.3	4,243	68.4	-14.8	86.9	123.2	123.2	-29.5
Urban total	203,688	75.8	257,183	103.0	-26.4%	152,712	98.4	148,613	98.7	-0.3%	174.1	201.7	201.7	-13.6%
State total	452,929	46.5	586,708	64.3	-27.7%	658,445	67.7	652,717	71.5	-5.3%	114.2	135.8	135.8	-15.9%

SOURCE: Uniform Crime Report Statistics, Michigan State Police.

\*Data are for 1986 and 1994.

NOTE: Major crimes are murder, rape, robbery, assault, burglary, larceny, arson, and car theft.

Categorized as major crime are murder, rape, robbery, assault, burglary, larceny, arson, and car theft.

- From 1986 to 1996, incidents of major crime fell in each of the 13 cities studied.
- As a group, the cities' rate fell from 103 crimes per thousand people in 1986 to 76 per thousand in 1996, a decline of 26 percent.
- Even with the reduction from 1986, major crime in the 13 cities in 1996 still was 63 percent higher than for the state as a whole.

The rate for "non-major" crimes was essentially unchanged from 1986 to 1996, both in the 13 cities as a group and statewide, but at about 98 incidents per thousand people, non-major crime in the urban areas still was 45 percent above the statewide rate.

**EXHIBIT 15**  
**Michigan Educational Assessment Program, Percentage of Students Scoring Satisfactory or Proficient, SYs 1995-96 and 1997-98**

	Percentage Satisfactory or Proficient 1995-96	Percentage Satisfactory or Proficient 1997-98	Change	District vs. ISD, Percentage Point Difference 1997-98	District vs. State Average, Percentage Point Difference 1997-98
Ann Arbor	61.5%	57.0%	-4.5	7.9	11.0
Battle Creek	32.8	34.3	1.5	-8.5	-11.7
Detroit	25.2	30.9	5.7	-6.6	-15.1
Flint	19.0	23.3	4.3	-18.8	-22.7
Grand Rapids	31.7	30.3	-1.4	-20.2	-15.7
Kalamazoo	37.4	39.2	1.8	-9.9	-6.8
Lansing	30.2	34.7	4.5	-12.9	-11.3
Muskegon	29.0	33.4	4.4	-8.7	-12.6
Pontiac	27.3	26.8	-0.5	-25.8	-19.2
Saginaw	26.9	34.6	7.7	-7.9	-11.4
Traverse City	51.9	53.4	1.5	3.3	7.4
Warren	53.8	55.6	1.8	3.7	9.6
Wyoming	54.0	52.3	-1.7	1.8	6.3
<i>Urban average</i>	37.0%	38.9%	1.9	-7.9	-7.1
<i>State average</i>	46.8%	46.0%	-0.8		

SOURCES: Michigan Department of Education and Public Sector Consultants, Inc.  
 ISD = Intermediate school district.

In school year 1997-98, about 39 percent of students in the combined 13 cities achieved a "passing" (satisfactory or proficient) score on the combined Michigan Educational Assessment Program (MEAP) tests, up slightly from 37 percent in 1995-96.

- The percentage of students passing the MEAP tests ranged from a low of about 23 percent in Flint to a high of 57 percent in Ann Arbor.
- Four of the 13 school districts scored above the statewide average: Ann Arbor, Traverse City, Warren, and Wyoming.
- Nine districts performed below the intermediate school district (ISD) in which they are located; in two—Grand Rapids and Pontiac—students averaged more than 20 percentage points below the ISD average.
- Overall, the 13 urban schools scored about 7 percentage points below the state average in 1997-98 (the urban and state averages were 38.9 percent and 46.0 percent, respectively).

**EXHIBIT 16**  
**Free and Reduced-Price Lunch Program**

	Percentage Eligible 1996	Percentage Eligible 1998	Percentage Point Difference	City vs. ISD, Percentage Point Difference 1998	City vs. State, Percentage Point Difference 1998
Ann Arbor	17.5%	17.5%	0.0%	-3.6%	-14.1%
Battle Creek	59.4	56.1	-3.3	22.0	24.5
Detroit	64.6	70.0	5.4	21.6	38.4
Flint	65.0	63.1	-1.9	27.9	31.5
Grand Rapids	64.8	65.3	0.5	36.1	33.7
Kalamazoo	49.8	55.4	5.6	24.4	23.8
Lansing	54.0	52.6	-1.4	22.3	21.0
Muskegon	65.8	67.8	2.0	25.5	36.2
Pontiac	63.4	65.5	2.1	50.0	33.9
Saginaw	60.7	63.4	2.7	23.4	31.8
Traverse City	24.1	23.3	-0.8	-6.2	-8.3
Warren	11.9	14.0	2.1	-2.9	-17.6
Wyoming	28.0	29.1	1.1	-0.1	-2.5
<i>Urban average</i>	48.4%	49.5%	1.1%	18.5%	17.9%
<i>Statewide</i>	30.3%	31.6%	1.3%		

SOURCES: Michigan Department of Education and Public Sector Consultants, Inc.  
ISD = intermediate school district.

Urban schools in Michigan have a much higher percentage of students eligible to participate in the federal free or reduced-price lunch program than is the case statewide. Eligibility is based on family income (for a family of four, annual income below \$21,000 qualifies the children for free meals; income under \$30,000 qualifies them for reduced-price meals).

- In 1998, nearly half of the students in the 13 cities combined were eligible for the federal program. This compares to about 32 percent statewide.
- Detroit had the highest percentage of students eligible—70 percent—for the lunch program, more than 38 percentage points above the state average.
- Urban schools had a significantly higher percentage of students eligible for free and reduced-price lunch than was the case in the intermediate school districts (ISDs) in which they are located. For example, Detroit's figure (70 percent) was nearly 22 percentage points above average in its ISD, and Pontiac's figure (nearly 66 percent) was nearly 50 percentage points above its ISD's average.

EXHIBIT 17

State Foundation Grant and other School Aid, 1997-98, and Teacher Salaries, 1996-97

	State Foundation Grant, 1997-98			Other State School Aid, 1997-98			Teacher Salaries, 1996-97		
	Per Pupil	Compared to ISD Average	Compared to State Average	Per Pupil	Compared to State Average	Average	Compared to ISD Average	Compared to State Average	
Ann Arbor	\$8,196	\$1,390	\$2,135	\$851	\$164	\$52,872	\$1,933	\$5,863	
Battle Creek	5,885	213	-176	911	224	43,191	-1,432	-3,818	
Detroit	6,046	-255	-15	997	310	38,882	-6,983	-8,127	
Flint	6,214	321	153	1,213	526	47,019	-1,548	10	
Grand Rapids	5,744	-83	-317	1,018	331	49,248	1,580	2,239	
Kalamazoo	6,133	413	72	794	107	45,439	2,338	-1,570	
Lansing	6,066	-151	5	993	306	48,826	-39	1,817	
Muskegon	5,920	281	-141	1,354	667	49,378	4,522	2,369	
Pontiac	5,846	-1,435	-215	2,162	1,475	46,887	-8,125	-122	
Saginaw	5,945	221	-116	1,172	485	47,262	254	253	
Traverse City	5,462	-47	-599	294	-393	40,291	-474	-6,718	
Warren	8,044	1,497	1,983	1,017	330	61,628	5,790	14,619	
Wyoming	5,634	-193	-427	1,062	375	49,024	1,356	2,015	
Urban average	\$6,241	\$167	\$180	\$1,064		\$47,688	-\$64	\$679	
State average	\$6,061			\$687		\$47,009			

SOURCES: Michigan Department of Education and Public Sector Consultants, Inc.  
ISD = Intermediate school district.

The foundation grant is the basic operating money available to school districts; it includes nearly all local property tax revenue. In the 1997-98 school year, the state foundation grant (excludes federal funds and state monies for special at-risk programs) for the 13 urban districts averaged \$6,241 per student, \$180 above the statewide average. In comparing each city school system's foundation grant to the average in the intermediate school district in which the system is located, we found a wide range: the foundation grants for Ann Arbor and Warren were more than 20 percent above the average in their ISDs, and the Pontiac foundation grant was 20 percent below. This gap is expected to close over time due to the 1994 school finance reform plan (Proposal A).

The 13 urban school districts also received substantial nonfoundation grant support.

- Every district except Traverse City received substantially more nonfoundation monies than the state per pupil average of \$687.
- Pontiac received the most nonfoundation money: \$2,162 per pupil.

In 1996-97 teachers' salaries in the 13 districts averaged \$47,688. This is nearly identical to the 12-1SD average but \$679 above the state average. Urban teacher salaries ranged from a high of \$61,628 (in Warren, more than \$14,000 above the state average) to a low of \$38,882 (in Detroit, more than \$8,000 below the average). Some of this disparity likely is due to differences in teacher experience.

**EXHIBIT 18**  
**K-12 Enrollment and Pupil-Teacher Ratios, 1997-98**

	K-12 Enrollment		Pupils per Teacher	
	Number	As Percentage of ISD	Average	Compared to ISD
Ann Arbor	15,801	N.A.	24.2	1.1
Battle Creek	8,546	29.9%	20.0	-0.5
Detroit	174,790	48.8	21.7	-0.6
Flint	25,107	29.8	24.9	1.4
Grand Rapids	26,727	27.4	22.0	1.0
Kalamazoo	12,002	N.A.	18.9	-0.7
Lansing	19,060	37.7	19.8	-0.3
Muskegon	7,036	19.5	28.5	5.7
Pontiac	12,771	N.A.	24.1	2.7
Saginaw	12,850	36.0	22.5	1.2
Traverse City	11,010	44.1	21.5	0.2
Warren	14,373	11.3	22.6	-1.0
Wyoming	5,677	5.8	20.3	-0.7
<i>Urban total</i>	345,690		22.4	0.6
<i>State total</i>	1,655,184		21.8	

SOURCES: Michigan Department of Education and Public Sector Consultants, Inc.

N.A. = Not available.

ISD = intermediate school district.

In total, in school year 1997-98, students in the 13 urban school districts comprised 21 percent of all Michigan K-12 public school students.

- The Detroit school district enrolled nearly 175,000 students, more than six times that of the second largest district in the state, and accounted for nearly half of all the K-12 students in the intermediate school district (ISD) in which it is located.
- The city schools in Grand Rapids, Flint, and Lansing accounted for approximately 30 percent of all students in their respective ISDs. ISD enrollment numbers include charter school students but not nonpublic school students.

In school year 1997-98, the average pupil-teacher ratio in the 13 urban schools—22.4 to one—was only slightly above the statewide average of 21.8 to one.

- The lowest pupil-teacher ratio among the 13 districts was in Kalamazoo: 18.9 to one.
- The highest ratio among the 13 was in Muskegon: 28.5 to one.

**EXHIBIT 19**  
**Dropout and Graduation Rates, 1996-97**

	Dropout Rate	Compared to ISD Average	Compared to Statewide Average	Graduation Rate	Compared to ISD Average*	Compared to Statewide Average*
Ann Arbor	8.3%	2.9	1.7	69.9	-9.6	-6.3
Battle Creek	7.6	1.1	1.0	69.9	-6.1	-6.3
Detroit	26.4	11.8	19.8	29.7	-23.8	-46.5
Flint	12.1	6.1	5.5	62.1	-16.3	-14.1
Grand Rapids	7.3	2.3	0.7	73.1	-7.9	-3.1
Kalamazoo	6.3	3.0	-0.3	76.7	-10.4	0.5
Lansing	9.9	3.9	3.3	75.6	-4.0	-0.6
Muskegon	19.3	12.0	12.7	44.4	-29.5	-31.8
Pontiac	12.1	8.5	5.5	62.5	-23.7	-13.7
Saginaw	13.5	7.7	6.9	55.4	-22.7	-20.8
Traverse City	4.6	0.2	-2.0	81.6	-1.1	5.4
Warren	3.0	-0.7	-3.6	88.0	2.3	11.8
Wyoming	4.2	-0.8	-2.4	82.8	1.8	6.6
<i>Urban average</i>	10.4%	4.5	3.8	67.1%	-11.6	-9.1
<i>Statewide</i>	6.6%			76.2%		

SOURCE: Michigan Department of Education and Public Sector Consultants, Inc.

ISD = Intermediate school district.

\*Percentage point difference.

The dropout rate indicates the percentage of students who left school and did not return the following year. The number applies to grades 9-12 only. Included are students who may have transferred to another school district, a charter school, or a private school. Student dropout rates in 1996-97 were much higher in urban schools than for the state as a whole.

- Dropout rates ranged from 26.4 percent in Detroit to only 3 percent in Warren.
- In 11 of the 13 urban schools, the dropout rate was higher than in the intermediate school district in which they were located; only Wyoming and Warren were below their ISD rate.

The graduation rate is the percentage of 9th grade students who complete their senior year and graduate. In Detroit, in 1996-97, graduation was achieved by fewer than 30 percent of those who had been freshmen four years prior. This compares to a 76 percent graduation rate statewide. (The calculations are made according to a Michigan Department of Education formula.)

**EXHIBIT 20**  
**Tax Collections, 1987 and 1997**

	Total 1987 (\$000)	Total 1997 (\$000)	Percentage Change	Per Capita 1987	Per Capita 1997
Ann Arbor	\$23,567	\$43,017	82.5%	\$215	\$396
Battle Creek	15,610	22,054	41.3	292	413
Detroit	443,204	540,959	22.1	431	541
Flint	32,331	N.A.	—	229	—
Grand Rapids	34,864	55,310	58.6	184	294
Kalamazoo	15,897	23,016	44.8	198	297
Lansing	33,496	49,095	46.6	263	390
Muskegon	3,869	9,377	142.3	97	237
Pontiac	22,086	N.A.	—	310	—
Saginaw	6,806	18,416	170.6	98	283
Traverse City	3,291	5,232	59.0	217	347
Warren	28,445	43,364	52.4	196	314
Wyoming	4,673	7,262	55.4	73	109

SOURCES: Michigan Department of Treasury and Michigan Municipal League.  
NOTE: 1987-to-1997 inflation (Detroit Consumer Price Index) = 40%.  
N.A. = Not available.

This exhibit shows tax collections for each of the 13 cities in the study, measured both in total dollars and per capita, and compares recent collections to the previous decade. 1997 data for Flint and Pontiac were unavailable. Note that property taxes levied for non-General Fund purposes are not included, which could skew per capita collection comparisons.

- Growth in General Fund tax collections averaged more than 60 percent from 1987 to 1997 for the ten cities that reported current data.
- Per capita municipal tax collections rose in all 13 cities. As a whole, collections rose from \$206 per resident to \$329, a 60 percent increase.
- The increase in tax collections was far above the 40 percent inflation rate during the same period.

**EXHIBIT 21**  
**General Fund Revenue, 1987 and 1997**

	Total 1987 (\$000)	Total 1997 (\$000)	Percentage Change	Per Capita 1987	Per Capita 1997
Ann Arbor	\$40,436	\$72,404	79.1%	\$369	\$666
Battle Creek	23,569	36,755	55.9	440	688
Detroit	1,014,776	1,313,830	29.5	987	1,313
Flint	54,461	N.A.	—	386	—
Grand Rapids	68,329	95,088	39.2	361	505
Kalamazoo	27,966	43,974	57.2	348	568
Lansing	56,701	91,309	61.0	445	726
Muskegon	9,846	17,666	79.4	247	447
Pontiac	40,670	N.A.	—	572	—
Saginaw	22,540	34,472	52.9	324	530
Traverse City	6,160	9,747	58.2	406	646
Warren	48,284	75,476	56.3	333	547
Wyoming	13,109	18,537	41.4	205	278

SOURCES: Michigan Department of Treasury and Michigan Municipal League.  
N.A. = Not available.

This exhibit compares total General Fund revenue collections, including property and income tax, state revenue sharing, and federal aid for the 13 cities studied. It should be noted that 1987 was the last year for federal revenue sharing. This likely results in inflating the 1987 to 1997 increase, as income taxes and property taxes were increased in 1988 to replace revenue sharing.

- Total revenue for the cities grew by about 48 percent from 1987 to 1997, approximately the rate of inflation.
- On average, per capita total taxes in the 13 cities rose from \$406 in 1987 to \$629 in 1997, a 55 percent increase.

**EXHIBIT 22**  
**Fund Balances, 1987 and 1997**

	Unrestricted Fund Balance 1987* (\$000)	Unrestricted Fund Balance 1997* (\$000)	Change (\$000)	Fund Balance as Percentage of Total Revenues 1987	Fund Balance as Percentage of Total Revenues 1997
Ann Arbor	\$508	\$11,266	\$10,758	11.3%	15.6%
Battle Creek	1,205	7,241	6,036	5.1	19.7
Detroit	15,000	124,507	109,507	1.5	9.5
Flint	2,170	N.A.	—	4.0	
Grand Rapids	7,850	6,995	855	11.5	7.4
Kalamazoo	5,070	8,722	3,652	18.1	19.8
Lansing	7,018	13,523	6,505	12.4	14.9
Muskegon	759	3,691	2,932	7.1	20.9
Pontiac	520	N.A.	—	1.3	
Saginaw	33	8,498	8,465	0.1	24.7
Traverse City	2,028	3,067	1,039	33.0	31.5
Warren	6,348	17,135	10,687	13.1	22.7
Wyoming	1,821	2,447	627	13.9	13.2

SOURCES: Michigan Department of Treasury and Michigan Municipal League.

N.A. = Not available.

\*Includes Budget Stabilization Fund balance.

One indicator of the financial health of a city is its fund balance as a percentage of revenues. Most of the 13 cities have built up a large budget surplus during the current strong economic expansion.

- In 1997 all of the 11 cities that reported financial data had a positive unrestricted fund balance; as a percentage of total revenues, the high was in Traverse City (31.5 percent) and the low in Grand Rapids (7.4 percent).
- Nine of the cities that reported data for both years had increased their fund balance from 1987 to 1997.

**EXHIBIT 23**  
**General Long-Term Debt, 1987 and 1997**

	Outstanding Debt 1987 (\$000)	Outstanding Debt 1997 (\$000)	Change (\$000)	Debt Per Capita 1987	Debt Per Capita 1997
Ann Arbor	\$37,000	\$58,685	\$21,685	\$338	\$540
Battle Creek	37,000	108,786	71,786	691	2,036
Detroit	670,000	1,127,169	457,169	652	1,127
Flint	68,000	N.A.	—	483	—
Grand Rapids	27,907	27,652	-348	148	147
Kalamazoo	4,869	47,511	42,642	58	613
Lansing	45,000	92,707	47,707	353	737
Muskegon	7,190	11,199	4,009	181	283
Pontiac	76,000	N.A.	—	1,068	—
Saginaw	11,473	9,616	-1,857	165	148
Traverse City	2,927	1,102	-1,825	193	73
Warren	21,000	41,136	20,136	145	298
Wyoming	11,000	11,800	800	172	177

SOURCES: Michigan Department of Treasury and Michigan Municipal League.  
 N.A. = Not available.

- The outstanding general debt rose in most of the 13 cities that reported. Battle Creek had the largest increase, from \$691 per resident in 1987 to \$2,036 in 1998.
- Outstanding per capita debt declined in three cities: Grand Rapids, Saginaw, and Traverse City.

These data are provided for information only, as the relationship between per capita debt and fiscal or economic health is not completely clear.

**EXHIBIT 24**  
**General-Obligation Bond Rating, 1988 and 1998**  
**(Standard and Poors)**

	1988 Rating	1998 Rating
Ann Arbor	A+	AA-
Battle Creek	A+	A+
Detroit	BBB	BBB+*
Flint	BBB+	NA
Grand Rapids	A+	AA-
Kalamazoo	AA (1989)	AA- (1997) <sup>b</sup>
Lansing	AA	AA+
Muskegon	BBB	A
Pontiac	BBB	BBB
Saginaw	A	A
Traverse City	NONE	A
Warren	NONE	A+
Wyoming	NONE	A

SOURCE: Individual cities.

\*Detroit's rating was increased to A- in 1999.

<sup>b</sup>Kalamazoo has an insured rating of AAA as of 1998.

When a city issues general-obligation bonds, it receives a bond rating from a rating agency such as Standard and Poors. The rating is an indicator of the fiscal health of the city and is based on a number of economic, financial, and political factors. The rating range for investment-grade bonds is from AAA (best credit risk) to BBB- (poorest credit risk). As shown, five of the nine cities for which ratings were available for both 1988 and 1998 received an upgrade in their bond rating from the 1988 rating. The only decline was for Kalamazoo (as of 1997), and the city purchased insurance in 1998 to upgrade its rating to AAA.

**EXHIBIT 25**  
**Operating Millage, 1987 and 1997**

	Operating Mills 1987	Operating Mills 1997	Change
Ann Arbor	7.00	13.30	6.30
Battle Creek	8.38	9.88	1.50
Detroit	20.00	20.00	0.00
Flint	6.05	7.50	1.45
Grand Rapids	8.00	6.41	-1.59
Kalamazoo	19.35	19.34	-0.01
Lansing	11.95	15.04	3.09
Muskegon	10.00	10.00	0.00
Pontiac	12.00	12.00	0.00
Saginaw	7.09	6.18	-0.91
Traverse City	13.76	13.76	0.00
Warren	8.46	8.82	0.35
Wyoming	5.00	6.94	1.94

SOURCES: Michigan Department of Treasury and Michigan Municipal League.

Of the 13 cities that reported data for both 1987 and 1997, the general operating mills increased in six, declined in three, and stayed the same in the remaining four. The largest increase was in Ann Arbor, which went from 7.0 to 13.3 mills in the ten-year period. Note that these figures do not include non-General Fund operating millage, which could skew the comparison between cities if one city levies significantly more non-General Fund millage than another. These data are provided for information only, as an increase or decline in operating millage is not necessarily a sign of fiscal or economic weakness or strength.

**EXHIBIT 26**  
**Infant Mortality Rate, 1987 and 1997**  
 (deaths per 1,000 live births)

	1987	1997	Percentage Change	County 1997	City vs. County, Percentage Point Difference 1997
Ann Arbor	9.0	5.0	-44.1%	6.2	-1.2%
Battle Creek	17.8	7.0	-61.0	9.3	-2.4
Detroit	20.4	15.1	-25.8	11.1	4.0
Flint	17.6	16.7	-4.8	12.8	3.9
Grand Rapids	12.5	8.9	-29.2	7.0	1.8
Kalamazoo	15.3	7.6	-50.4	8.6	-1.1
Lansing	12.4	7.9	-36.4	7.0	0.9
Muskegon	16.3	16.5	1.5	9.6	6.9
Pontiac	11.8	14.4	22.1	6.1	8.3
Saginaw	10.0	13.3	34.1	9.3	4.0
Traverse City	4.9	17.7	263.5	4.5	13.2
Warren	9.9	5.5	-45.1	5.8	-0.4
Wyoming	10.7	1.8	-83.4	7.0	-5.2
<i>Urban average</i>	13.0	10.6	-18.5%	8.0	2.5%

SOURCE: Michigan Department of Community Health.

The infant mortality rate is defined as the number of infant deaths per 1,000 live births, and the exhibit presents the data for the change from 1987 to 1997.

- The infant mortality rate declined in 9 of the 13 cities.
- The cities with the most improvement were Wyoming (the rate dropped 83 percent), Kalamazoo (50 percent), and Battle Creek (61 percent).
- The four cities in which the infant mortality rate increased during this period were Muskegon (the rate went up 1.5 percent), Pontiac (22 percent), Saginaw (34 percent), and Traverse City (264 percent).
- Overall, in the 13 cities studied, the rate fell 18.5 percent—from 13.0 to 10.6 deaths per 1,000 live births.
- Even with the overall decline during the past decade, the infant mortality rate in most of the cities in our study was above the rate for the county in which the city is located. In 1997 the average infant mortality rate for the 13 cities was approximately 20 percent above that of the county.

**EXHIBIT 27**  
**Heart Disease Death Rate, 1987 and 1997**  
**(deaths per 100,000 residents)**

	1987	1997	Percentage Change	County 1997	City vs. County, Percentage Point Difference 1997
Ann Arbor	165.1	N.A.	N.A.	146.8	N.A.
Battle Creek	425.3	413.6	-2.7%	328.2	85.4%
Detroit	446.0	326.4	-26.8	321.9	4.5
Flint	376.4	318.8	-15.3	288.9	29.9
Grand Rapids	391.4	315.6	-19.4	230.7	84.9
Kalamazoo	300.4	256.9	-14.5	217.4	39.5
Lansing	283.8	207.6	-26.8	184.6	23.0
Muskegon	517.5	412.5	-20.3	288.8	123.7
Pontiac	361.8	271.0	-25.1	236.5	34.5
Saginaw	369.8	339.9	-8.1	291.4	48.5
Traverse City	506.0	404.5	-20.1	251.2	153.2
Warren	378.5	381.7	0.8	288.6	93.1
Wyoming	201.9	195.3	-3.3	230.7	-35.4
<i>Urban average*</i>	379.9	320.3	-15.7%	263.2	57.1%

SOURCE: Michigan Department of Community Health.  
 \*Excludes Ann Arbor.  
 N.A. = Not available.

This exhibit presents the 1987 and 1997 heart disease death rates (number of deaths per 100,000 residents) for the 13 cities studied and for the counties in which they are located.

- The death rate from heart disease declined from 1987 to 1997 in all cities except Warren (1997 data for Ann Arbor were unavailable).
- Overall, deaths from heart disease declined nearly 16 percent in the 13 cities; the average was 380 in 1987 and 320 in 1997.
- Five cities recorded a 20 percent or greater drop in the number of deaths from heart disease.

As is the case with the infant mortality rate, the heart disease death rate in the cities was, on average, 20 percent above that for the surrounding county.

**EXHIBIT 28**  
**Cancer Death Rate, 1987 and 1997**  
**(deaths per 100,000 residents)**

	1987	1997	Percentage Change	County 1997	City vs. County, Percentage Point Difference 1997
Ann Arbor	127.1	137.9	8.5%	138.0	0.0%
Battle Creek	238.5	248.9	4.4	251.2	-2.2
Detroit	216.7	209.7	-3.2	210.3	-0.5
Flint	221.9	212.0	-4.4	196.3	15.7
Grand Rapids	221.9	201.9	-9.0	167.2	34.6
Kalamazoo	181.3	171.7	-5.3	178.1	-6.4
Lansing	171.3	154.3	-10.0	133.0	21.3
Muskegon	293.9	248.0	-15.6	228.7	19.2
Pontiac	187.2	180.2	-3.8	174.6	5.6
Saginaw	251.1	212.3	-15.5	197.4	14.9
Traverse City	265.7	318.3	19.8	229.0	89.2
Warren	200.3	257.1	28.4	217.2	39.9
Wyoming	149.0	121.7	-18.3	167.2	-45.0
<i>Urban average</i>	209.7	205.7	-1.9%	191.4	14.3%

SOURCE: Michigan Department of Community Health.

The rate of death from cancer has changed little during the past decade.

- On average, for the 13 cities studied, cancer deaths in 1987 were 210 per 100,000 city residents. In contrast to the drop in heart-disease death rates, cancer deaths ten years later were essentially unchanged: approximately 206 deaths per 100,000.
- 1997 cancer death rates varied considerably among the cities, from a high of 318 in Traverse City to a low of 122 in Wyoming.
- The 1997 cancer death rate in the 13 cities was similar to the average for the counties in which they are located; the averages are 206 and 191, respectively.

**EXHIBIT 29**  
**Hazardous-Waste Treatment, Storage, and Disposal Facilities, 1998**

	City	County	City vs. County, Percentage Point Difference	City vs. State, Percentage Point Difference
Ann Arbor	4	8	50.0%	1.7%
Battle Creek	1	2	50.0	0.4
Detroit	26	54	48.1	11.0
Flint	12	13	92.3	5.1
Grand Rapids	10	15	66.7	4.2
Kalamazoo	11	13	84.6	4.7
Lansing	7	11	63.6	3.0
Muskegon	5	10	50.0	2.1
Pontiac	5	19	26.3	2.1
Saginaw	6	6	100.0	2.5
Traverse City	0	0	N.A.	N.A.
Warren	4	9	44.4	1.7
Wyoming	2	15	13.3	0.8
<i>Urban total</i>	93	175	53.1%	39.4%
<i>State total</i>	236			

SOURCE: Michigan Department of Environmental Quality, Waste Management web site.  
 N.A. = Not available.

An indicator of the environmental condition of a city is the number of hazardous-waste treatment, storage, and disposal facilities located within its borders. The data come from the Waste Management Division of the Michigan Department of Environmental Quality and may be viewed on the division's web site.

In 1998 the number of such facilities in the 13 cities totaled more than half the number in the 12 counties in which the cities are located and more than a third of the statewide number.

**EXHIBIT 30**  
**Brownfield Redevelopment: State of Michigan Site-Reclamation Program**  
**and Site Assessment Fund Projects, 1997**

Number of Sites City	Amount Approved for Assessment and Reclamation City (\$000)	City vs. County, Percentage of Sites	City vs. County, Amount Approved for Assessment and Reclamation	City vs. State, Percentage of Sites	City vs. State, Amount Approved for Assessment and Reclamation
Ann Arbor	0	0.0%	0%	0.0%	0.0%
Battle Creek	2	50.0	81.7	1.6	0.4
Detroit	4	4,430	56.2	3.1	13.0
Flint	6	1,078	100.0	4.7	3.2
Grand Rapids	3	3,000	100.0	2.3	8.8
Kalamazoo	2	64	50.0	1.6	0.2
Lansing	5	3,344	83.3	3.9	9.8
Muskegon	1	1,000	16.7	0.8	2.9
Pontiac	2	345	16.7	1.6	1.0
Saginaw	9	272	100.0	7.0	0.8
Traverse City	1	1,583	100.0	0.8	4.6
Warren	1	1,400	100.0	0.8	4.1
Wyoming	0	0	0.0	0.0	0.0
<i>Urban total</i>	36	\$16,641		28.1%	48.7%
<i>State total</i>	128	\$34,172			

SOURCE: Michigan Department of Environmental Quality, Environmental Response Division.

A "brownfield" is an abandoned, idle, or under-used industrial or commercial property where expansion or redevelopment is impeded because of real or perceived environmental contamination at the site. The presence of brownfields and the ability to redevelop them are critical to the state and particularly older urban areas. Recent changes to state law and voter approval in 1998 of the Clean Michigan Initiative reflect citizen concern about the problem and commitment to allocating resources to try to reduce it.

This exhibit presents the number of brownfield sites reclaimed by the state in the 13 cities in 1997 and also the costs of assessment and reclamation. The State of Michigan spent a total of more than \$34 million for these purposes in 1997, \$16.7 million of which was expended in the 13 cities. (Local and federal government and private companies may have spent money for these purposes as well, but these amounts are not included here.) State expenditures on brownfield sites may be expected to increase dramatically with the addition of Clean Michigan Initiative dollars.

The toxic release inventory (TRI) is published by the Michigan Department of Environmental Quality. Since 1988 facilities throughout the country have been required to report to the U.S. Environmental Protection Agency the environmental releases and transfers (see definition below) of more than 650 chemicals; facilities report how much they release (measured in pounds) of these substances, both in controlled amounts and by accident. NOTE: Because facilities may revise or correct their data at any time, it is important to note that the data in these exhibits are from reports on file as of March 1999. The TRI, although very comprehensive and important, does not cover all toxic releases into the environment. Certain industries, such as dry cleaners, are not required to report releases to the TRI. Moreover, certain other sources of toxic release are not part of the inventory, including automobile exhaust.

Exhibit 31A gives the total number of on-site releases reported for 1990 and 1996; Exhibit 31B presents the total number of transfers; and Exhibit 31C combines the two data sets. For purposes of the TRI, an *on-site release* is an air emission, discharge to a surface water body (e.g., lake, stream), the injection of substances into the ground, or disposal of toxic materials on site. A *transfer* is a discharge to a publicly owned treatment facility or removal of a substance from the site to an off-site location.

- The on-site releases in the 13 cities dropped from 1990 to 1996. In ten of the cities (Kalamazoo, Warren, and Traverse City are the exceptions), there was a considerable reduction.
- During the same years, however, transfers rose dramatically statewide, including in the 13 cities.
- Statewide, the number of pounds of chemicals released on site and transferred jumped more than 56 percent from 1990 to 1996. In the 13 cities, the increase was 73 percent.

The apparent reduction in on-site releases between 1990 and 1996 may be due to larger quantities of waste materials being removed, for transfer for off-site disposal, from air and water on-site discharges.

Transfers increased over 50 million pounds in the 13 cities during this six-year period, yet there was not a corresponding reduction in on-site releases (they decreased less than 11 million pounds). This leads analysts to believe that the large increase reported in transfers most likely stems from increased economic activity and production, improved reporting, or factors other than a reduction in on-site releases.

The combined on-site and transferred toxic release information (presented in Exhibit 31C) is perhaps a better measure of long-term sustainability than it is of the quality of the environment. The long-term sustainability goal is to reduce waste generation per unit of production. (*Sustainability* is defined as the capacity of actions and programs to meet the needs of the present without compromising the ability of future generations to meet their own needs.)

Beginning in 1998, seven additional industries will have to report to the EPA for the TRI: metal mining, coal mining, coal and oil-fired electrical generating facilities, commercial hazardous-waste treatment and disposal facilities, chemical wholesale distribution facilities, petroleum bulk terminals and plants, and solvent-recovery facilities. With the inclusion of these facilities, TRI data will change, which will have to be taken into account in compiling future urban well-being indices.

EXHIBIT 31A

Toxic Release Inventory, On-Site Releases, 1990 and 1996  
(pounds of chemicals)

	City 1990 (000 pounds)	City 1996 (000 pounds)	Percentage Change	County 1996 (000 pounds)	City as Percentage of County 1990	City as Percentage of County 1996	City as Percentage of State 1990	City as Percentage of State 1996
Ann Arbor	226	26	-88.5%	293	4.7%	8.8%	0.2%	0.0%
Battle Creek	360	130	-63.8	880	58.8	14.8	0.3	0.2
Detroit	3,545	2,150	-39.4	8,241	25.0	26.1	3.0	3.6
Flint	3,948	1,492	-62.2	1,526	88.7	97.8	3.3	2.5
Grand Rapids	4,517	2,240	-50.4	3,538	345.4	63.3	3.8	3.8
Kalamazoo	1,211	6,085	402.6	6,100	12.8	99.8	1.0	10.2
Lansing	1,929	871	-54.9	893	95.7	97.5	1.6	1.5
Muskegon	2,342	749	-68.0	844	85.7	88.8	2.0	1.3
Pontiac	2,344	1,862	-20.6	5,316	25.1	35.0	2.0	3.1
Saginaw	9,985	2,677	-73.2	2,721	96.3	98.4	8.3	4.5
Traverse City	18	23	29.1	23	100.0	100.0	0.0	0.0
Warren	450	709	57.5	2,277	12.4	31.1	0.4	1.2
Wyoming	49	34	-30.3	3,538	3.8	1.0	0.0	0.1
Urban total	30,925	19,050	-38.4	36,190	48.1%	52.6%	25.8%	31.9%
State total	119,855	59,762	-50.1	59,762				

SOURCE: Michigan Department of Environmental Quality.

1990 data taken from the U.S. Environmental Protection Agency TRIS database.

1996 data taken from the Michigan SARA Title III database.

NOTE: A facility may at any time voluntarily revise or correct reported data. These data are from reports on file as of March 1999.

On-site release = Air emission, discharge to a surface water body (e.g., lake, stream), the injection of substances into the ground, or disposal of toxic materials on site.

**EXHIBIT 31B**

**Toxic Release Inventory, Transfers, 1990 and 1996  
(pounds of chemicals)**

	City 1990 (000 pounds)	City 1996 (000 pounds)	Percentage Change	County 1996 (000 pounds)	City as Percentage of County 1990	City as Percentage of County 1996	City as Percentage of State 1990	City as Percentage of State 1996
Ann Arbor	37	12	-66.4%	2,153	19.5%	0.6%	0.1%	0.0%*
Battle Creek	59	225	283.1	5,656	70.5	4.0	0.1	0.1
Detroit	7,924	13,214	66.8	52,546	20.3	25.2	12.9	5.9
Flint	1,112	2,388	114.8	2,409	95.5	99.1	1.8	1.1
Grand Rapids	3,237	9,037	179.2	14,158	78.7	63.8	5.3	4.0
Kalamazoo	2,026	31,200	1440.2	32,464	35.5	96.1	3.3	13.9
Lansing	155	543	251.3	726	98.5	74.8	0.3	0.2
Muskegon	5,240	9,100	73.7	11,090	78.4	82.1	8.5	4.1
Pontiac	900	1,634	81.5	22,404	29.0	7.3	1.5	0.7
Saginaw	1,554	797	-48.7	963	99.6	82.7	2.5	0.4
Traverse City	0 <sup>a</sup>	4,188	N.M.	4,188	100.0	100.0	0.0	1.9
Warren	319	1,060	232.2	15,887	37.1	6.7	0.5	0.5
Wyoming	3	111	3654.2	14,158	0.1	0.8	0.0	0.1
Urban total	22,564	73,512	225.8%	178,802	33.7%	41.1%	36.6%	32.8%
State total	61,601	224,443	264.3%	224,443				

SOURCE: Michigan Department of Environmental Quality.

1990 data taken from the U.S. Environmental Protection Agency TRIS database.

1996 data taken from the Michigan SARA Title III database.

NOTE: A facility may at any time voluntarily revise or correct reported data. These data are from reports on file as of March 1999.

<sup>a</sup>Ann Arbor's 1996 transfers as a percentage of the state's = 0.01%.

<sup>b</sup>Traverse City's 1990 transfers totaled only 265 pounds.

Transfer = A discharge to a publicly owned treatment facility or removal of a substance from the site to an off-site location.

N.M. = Not measurable.

**EXHIBIT 31C**  
**Toxic Release Inventory, Combined On-Site Releases and Transfers**  
**(pounds of chemicals)**

	City 1990 (000 pounds)	City 1996 (000 pounds)	Percentage Change	County 1996 (000 pounds)	City as Percentage of County 1990	City as Percentage of State 1990	City as Percentage of State 1996
Ann Arbor	263	38	-85.4%	2,446	5.2%	0.1%	0.0%
Battle Creek	419	356	-15.1	6,537	60.2	0.2	0.1
Detroit	11,469	15,364	34.0	60,787	21.5	6.3	5.4
Flint	5,060	3,880	-23.3	3,935	90.1	2.8	1.4
Grand Rapids	7,754	11,278	45.4	17,695	143.0	4.3	4.0
Kalamazoo	3,236	37,286	1052.1	38,564	21.3	1.8	13.1
Lansing	2,084	1,414	-32.2	1,619	95.9	1.1	0.5
Muskegon	7,581	9,848	29.9	11,934	80.5	4.2	3.5
Pontiac	3,245	3,497	7.8	27,720	26.1	1.8	1.2
Saginaw	11,539	3,474	-69.9	3,684	96.8	6.4	1.2
Traverse City	18	4,212	N.M.	4,212	100.0	0.0	1.5
Warren	770	1,769	130.0	18,164	17.1	0.4	0.6
Wyoming	52	146	179.3	17,695	1.0	0.0	0.1
Urban total	53,489	92,562	73.1%	214,993	40.8%	43.1%	
State total	181,456	284,205	56.6%	284,205			

SOURCE: Michigan Department of Environmental Quality.  
 1990 data taken from the U.S. Environmental Protection Agency TRIS database.  
 1996 data taken from the Michigan SARA Title III database.  
 NOTE: A facility may at any time voluntarily revise or correct reported data. These data are from reports on file as of March 1999.  
 N.M. = Not measurable.

**EXHIBIT 32**

**Air Quality: Number of Days During which Ozone Level was Unhealthful,  
Annual Average, 1988 to 1997**

	City Average 1988-92	City Average 1993-97	Percentage of State Total 1988-92	Percentage of State Total 1993-97	Percentage Change
Ann Arbor	1.2	0.0	5.9%	0.0%	-100.0%
Battle Creek	N.A.	N.A.	N.A.	N.A.	N.A.
Detroit	8.0	4.0	39.6	50.0	-50.0
Flint	1.0	0.2	5.0	2.5	-80.0
Grand Rapids	9.2*	3.0*	45.6*	37.5*	-67.4*
Kalamazoo	0.2	0.2	1.0	2.5	0.0
Lansing	0.2	0.0	1.0	0.0	-100.0
Muskegon	9.2*	3.0*	45.6*	37.5*	-67.4*
Pontiac	N.A.	N.A.	N.A.	N.A.	N.A.
Saginaw*	N.A.	N.A.	N.A.	N.A.	N.A.
Traverse City	N.A.	N.A.	N.A.	N.A.	N.A.
Warren	N.A.	N.A.	N.A.	N.A.	N.A.
Wyoming	N.A.	N.A.	N.A.	N.A.	N.A.
<i>Urban total</i>	19.8	7.4	98.0%	92.5%	-62.6%
<i>State total</i>	20.2	8.0			-60.4%

SOURCE: Michigan Department of Environmental Quality, *Annual Air Quality Report 1997*.

NOTE: The ozone level is considered unhealthful when the ozone pollution standards index exceeds 100.

\*Grand Rapids and Muskegon data are measured together, and monitoring in Saginaw discontinued in 1995.

N.A. = Not available.

Air quality indicators seem to provide the most data for pollution indicators in urban areas. The data are provided to the Michigan Department of Environmental Quality annually. The ozone pollution standards index (PSI) is a tool that converts pollutant concentrations into a numerical scale of 0-500. The ozone level is considered unhealthful when the PSI is exceeds 100, and for this report we use the number of days this occurred.

Ozone levels are reported for U.S. "metropolitan" areas, defined as those areas having a population greater than 200,000. Because Pontiac, Traverse City, Warren, and Wyoming have fewer than 200,000 residents, we do not have specific levels for those cities. Also, Muskegon and Grand Rapids are measured together.

We have data for every year since 1988, but because there are large annual fluctuations in ozone due to weather, we have averaged the 1988-98 data and compared them to 1993-97 data. The results of these calculations suggest that the number of "ozone days" has dropped recently. Increased air pollution control, voluntary reduction in use of gasoline-powered equipment during ozone alerts in southeast Michigan, and reduced emissions due to technological improvements in the automobile and gasoline industries may be responsible for the decline in the number of ozone days during a period of economic growth in the state.