

Environment

Air Quality

Water Quality

Solid Waste

Environment - Air Quality Index

Ozone Levels – 4th Highest Hourly Daily Value in a 3-Year Period

Annual Average Fine Particulate Matter Levels Measured in Micrograms Per Cubic Meter

Environment - Air Quality

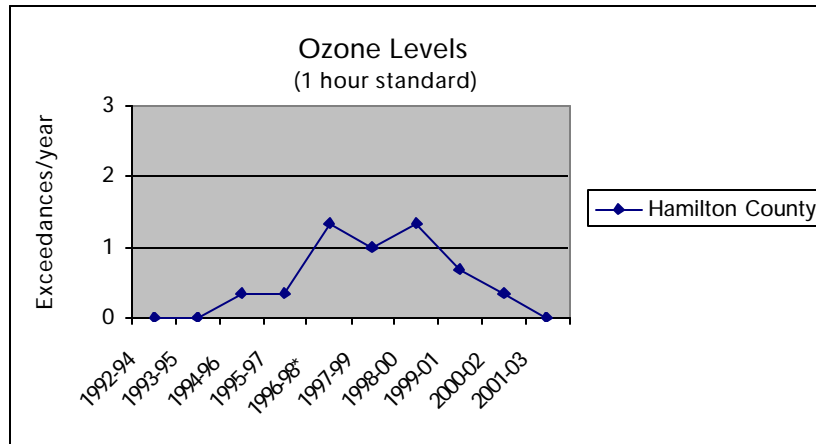
Indicator – Ozone Levels – 4th Highest Hourly Daily Value in a 3-Year Period

Trend	<p>The weather conditions caused by El Niño in 1998 affected ozone levels in Hamilton County. There were an unusual number of one-hour exceedances that year. Once 1998 rotated off the three-year consideration, ozone one-hour levels returned to the normally low range. In 1997 EPA adopted a new ozone standard based on 8-hour averages. This is a more stringent standard.</p> <p>Georgia is attempting to bring Atlanta into attainment for the one-hour ozone standard because Atlanta has never reached one-hour attainment status. Georgia is requiring all power plants surrounding Atlanta to reduce emissions by a significant percentage. It is reasonable to expect that these reductions and those scheduled at TVA's Widow's Creek in North Alabama will positively affect ozone levels in Hamilton County. Ozone levels in Hamilton County are expected to decrease in 2003.</p>
Comparison	<p>The Environmental Protection Agency allows one exceedance per year, or three over a three-year period to be in attainment for the one-hour standard. Hamilton County reached attainment for the one hour standard in 1989, but will have more difficulty reaching the new 8-hour standard that EPA adopted in 1997.</p> <p>Hamilton County has entered into an Early Action Compact (EAC) with Meigs and Marion Counties in Tennessee and Walker and Catoosa Counties in Georgia. The EAC is a cooperative agreement to work together to reduce ozone levels to reach 8-hour attainment by 2007. Modeling shows that the EAC area will achieve the standard by 2007.</p>
Discussion	<p>The EPA has set air quality standards for six "criteria pollutants"—those which pose the most significant threat to human health. These are ozone, particulate matter, carbon monoxide, lead, sulfur dioxide, and nitrogen dioxide. Of these, only two—ozone and particulate matter—were found to be a problem in the Chattanooga area.</p> <p>Ozone at ground level is often referred to as smog. It is the same</p>

substance found in the stratospheric ozone layer but at ground level is harmful to humans, animals, and vegetation; and it causes damage to many building materials.

The hourly ozone standard is based on having no more than 3 daily maximums in three years above the standard. The new 8-hour standard disregards the highest three daily maximum 8-hour ozone data points a year and averages the fourth highest each year over a three year period. Many areas in the southeast, even those in attainment for the one-hour standard, will not immediately reach attainment for the 8-hour standard.

Year	Hamilton County
1992-94	0.00
1993-95	0.00
1994-96	0.33
1995-97	0.33
1996-98*	1.33
1997-99	1.00
1998-00	1.33
1999-01	0.67
2000-02	0.33
2001-03	0.00



Allowed 1 exceedance per year, or 3 over a 3-year period to be in attainment.

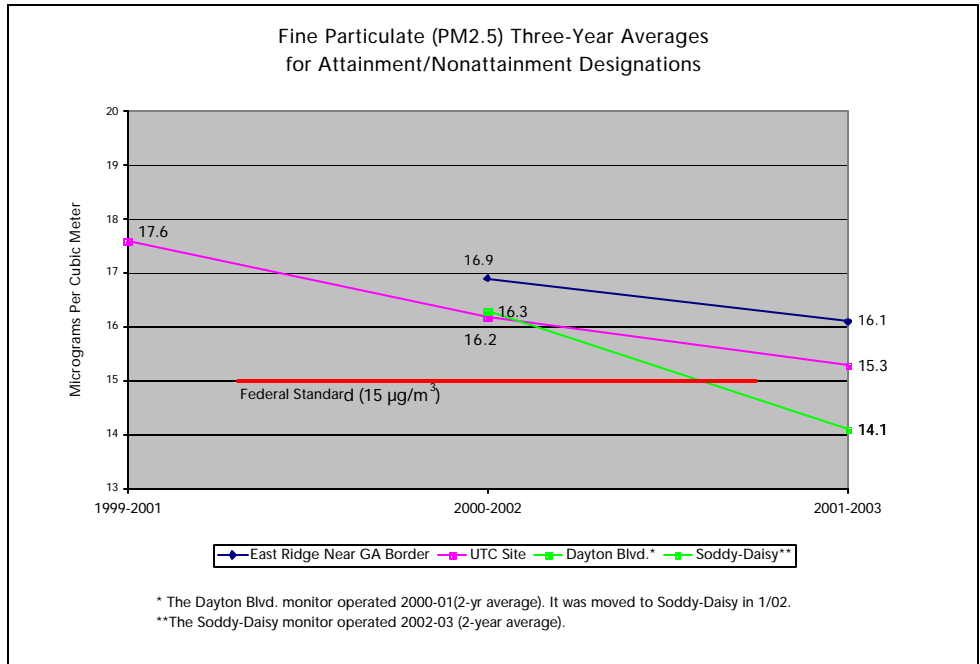
* El Niño unusual weather conditions caused 5 exceedances in 1998 (1-1/year is typical). As that year rotated off, the numbers have dropped back into the normal range.

Source: Chattanooga-Hamilton County Air Pollution Control Bureau

Indicator - Annual Average Fine Particulate Matter Levels Measured in Micrograms Per Cubic Meter

Trend	<p>Since 1990 the average PM₁₀ fine particulate levels in Hamilton County have decreased nearly 50%. In 1997 EPA adopted a new finer particulate standard for PM_{2.5} or particulate matter 2.5 microns or less. Monitoring began in Hamilton County in 1999 and levels of fine particulate decreased yearly through 2002, but rose again in 2003.</p> <p>Hamilton County will not immediately be designated with attainment status for the PM_{2.5} standard. Studies are being done to try to evaluate sources of PM_{2.5} in order to determine how to reduce fine particulate levels to meet the standard. A significant source of PM_{2.5} in Hamilton County is motor vehicle emissions.</p>
Comparison	<p>Hamilton County attainment of the PM_{2.5} standard will not be immediate. Although fine particulate levels have fallen since monitoring was begun in 1999, three-year average levels are still above the yearly average Federal Health Standard. PM_{2.5} levels are above the yearly standard in all of East Tennessee, not just locally. In 1969, Chattanooga was declared one of the dirtiest cities in the nation because of airborne particulate levels that were three times the Federal Health Standard. In 1984, Chattanooga and Hamilton County were declared “in attainment” with the Primary Federal Health Standard for particulate matter. The standard at the time was based on Total Suspended Particulate (TSP) or all sizes of particulate in the air. The standards have changed twice since that time to move toward regulating finer particulate which is the most hazardous to human health.</p>
Discussion	<p>The EPA has set air quality standards for six “criteria pollutants”—those which pose the most significant threat to human health. These are ozone, particulate matter, carbon monoxide, lead, sulfur dioxide, and nitrogen dioxide. Of these, only two—ozone and particulate matter—were found to be a problem in the Chattanooga area.</p> <p>Particulate matter is all the dust, dirt, soot, pollen, and moisture particles floating in the air. It causes visibility problems and can contribute to respiratory problems.</p> <p>Fine particulate figures represent the annual average readings during the year.</p>

Year	Hamilton County
1990	40
1991	39
1992	35
1993	32
1994	34
1995	32
1996	27
1997	28
1998	29
1999	29
2000	30
2001	27
2002	21
2003	21



Source: Chattanooga-Hamilton County Air Pollution Control Bureau

Environment - Water Quality Index

Lake Quality Based on a Scale From 0 to 100

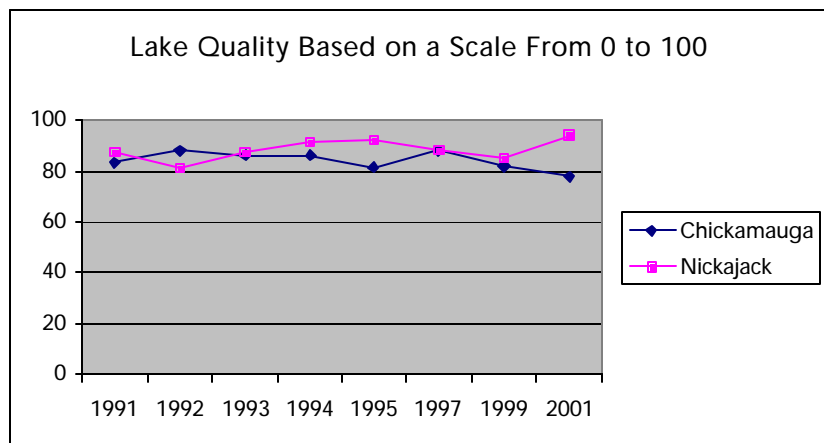
Environment - Water Quality

Indicator - Lake Quality Based on a Scale From 0 to 100

Trend	From its highest measure in 1992, the quality of the Chickamauga system has declined through 1995. In 1997, it rose back to 1992 levels, but has since declined to a low of 78 in 2001. The Nickajack system has varied from year to year, but with a score of 97 in 2001, had the highest measure in eleven years. Beginning in 1996, these measures are taken on alternate years.
Comparison	In 2001, both the Nickajack and Chickamauga systems overall ranked "good." Overall, however, both watersheds received no "poor" ratings in 2001.
Discussion	<p>Lake Quality: An aggregate of five measurements for the Tennessee River System—algae, dissolved oxygen, fish, bottom life, and sediment quality. A lake, river, or tributary can receive a "good," "fair," or "poor" ranking.</p> <p>The State of Tennessee has not issued any advisories against swimming in Chickamauga Reservoir. An advisory has been issued for one tributary stream, Oostanula Creek, from mile 28.4 to mile 31.2.</p> <p>There are no advisories against swimming in the Nickajack Reservoir; however, the state advises against water contact in Chattanooga Creek or in the lower five miles of Stringer's Branch. Precautionary fish consumption advisories for Nickajack have been issued because of PCB contamination. Fish from Chattanooga Creek should not be eaten at all.</p>

Year	Chickamauga	Nickajack
1991	83	87
1992	88	81
1993	86	87
1994	86	91
1995	81	92
1996	N/A	N/A
1997	88	88
1998	N/A	N/A
1999	82	85
2000	N/A	N/A
2001	78	94

Source: River Pulse, Tennessee Valley Authority



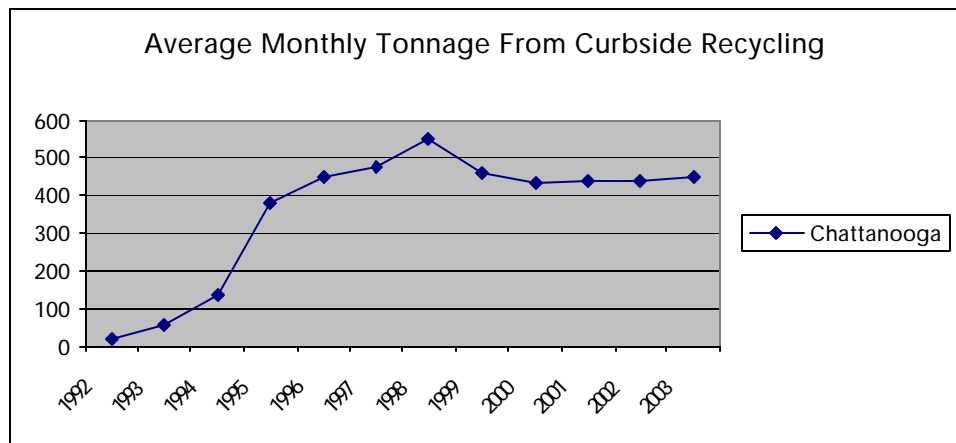
Environment – Solid Waste Index

Average Monthly Tonnage from Curbside Recycling in Chattanooga Annual Tonnage of Solid Waste at Summit Landfill by Chattanooga

Indicator - Average Monthly Tonnage from Curbside Recycling in Chattanooga

Trend	The average monthly tonnage from curbside recycling increased steadily from 1992 to its peak in 1998. After the 1998 peak, the average monthly tonnage declined slightly, and from 1999 to 2002 has averaged 440.8 tons annually.
Comparison	The county operates five drop off recycling centers. In 2001, the average monthly tonnage for all county recycling centers was 97.2.
Discussion	In 1992, Chattanooga implemented a curbside recycling pilot project in a few city neighborhoods. As a result of its success, curbside recycling was expanded to the entire city in 1993.

Year	Chatt.
1990	NA
1991	NA
1992	23.5
1993	56.4
1994	139.2
1995	379.5
1996	450.0
1997	472.5
1998	550.0
1999	455.4
2000	430.0
2001	437.1
2002	435.1
2003	446.4

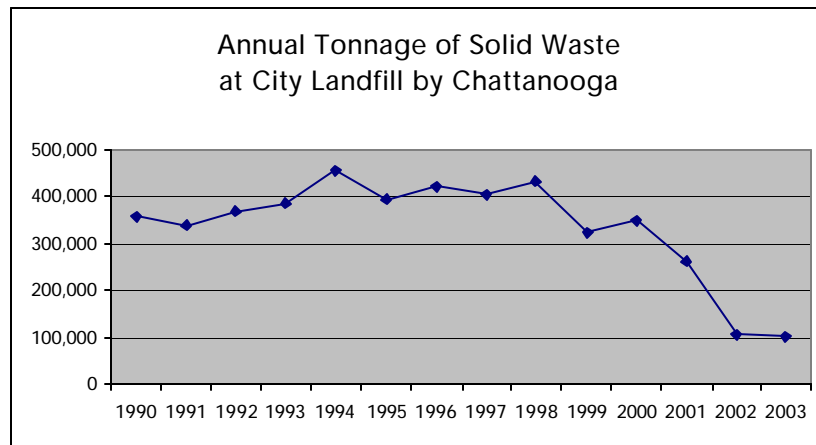


Source: Chattanooga Department of Public Works

Indicator - Annual Tonnage of Solid Waste at City Landfill by Chattanooga

Trend	The annual tonnage of waste at the City Landfill decreased 71.1% from 2000-2003.
Comparison	None Available
Discussion	<p>The Department of Public Works reports that the reason for the decline in tonnage is that more tonnage is going to other, privately operated, landfills. The Summit Landfill closed in April 1999. Since then, the city operates the City Landfill, which is located in Birchwood. This indicator represents all solid waste and sanitation deposited at the city's landfill. Such deposits represent those contributed both by businesses and private residence pickup.</p> <p>If converted to a rate per person, every individual in Hamilton County is associated with 633 pounds of waste going to the City Landfill in 2003.</p>

Year	Chattanooga
1990	355,864
1991	340,000
1992	368,438
1993	385,958
1994	455,991
1995	395,180
1996	424,339
1997	404,749
1998	433,175
1999	323,581
2000	349,203
2001	261,667
2002	104,483
2003	101,066



Source: Chattanooga Department of Public Works