

## **Field Trip # 2: To Hamilton County Department of Environmental Services**

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Date: July 7, 2011

Time: 2:00 -5: 00 PM

Venue: Hamilton County Department of Environmental Services , 250 William Howard Taft Road, Cincinnati, Ohio

Prepared by:

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This is a true trash (recyclables and air quality) to treasure adventure. Hamilton County Department of Environmental Services is on a mission to protect, serve, and educate the public in air quality, waste disposal, recycle, and compost. Hamilton County Department of Environmental Services is divided into two divisions: the Air Quality Management Division and the Solid Waste Management District. Hamilton County Department of Environmental Services serves four counties, Butler, Clermont, Hamilton, and Warren Counties. Websites are also provided for public access, [www.hcdoes.gov](http://www.hcdoes.gov) and [www.airnow.gov](http://www.airnow.gov).

The Air Quality Management Division is divided into two sections: Permits and Enforcement and Monitoring and Analysis. Permits and Enforcement coordinates the permitting of all air emissions sources in southwest Ohio, responds to complaints, and initiates noncompliance enforcement action as a representative of the Ohio Environment Protection Agency.

Monitoring and Analysis is responsible for tracking air pollutants every day. The results are then released to the public in a daily index. Levels of six criteria pollutants are monitored to determine the region's air quality as it relates to a series of health-based standards. Pollen and mold levels are also monitored by this section. The division issues smog alerts.

Permits and Enforcement also operates under federal law with air pollutant sources allowed into the air. Federal law states 15,000 tons of Nitrogen Oxide is permitted into the air. The amount permitted by states varies from state to state. Permits and Enforcement's goal is to reduce air pollution.

Permits and Enforcement renew permits every three years and the permits are tailored to the business operations. The business follows strict guidelines in the renewal process. These are the steps for renewal: a team test is performed; an independent source performs the test; and Hamilton County Department of Environmental Services receives the test.

Monitoring and Analysis monitors the air for particulate matter and has a uniform method of reporting air quality for public health. This division monitors for ambient air in the four counties. The U.S. Environmental Protection Agency sets the guidelines for the monitoring process for all states. The department measures for the following six criteria: ozone, particulate matter, lead, sulfur oxide, nitrogen oxide, and carbon dioxide.

Monitoring and Analysis uses a rating system to measure the air, called the Air Quality Index. The scale has a range, is color coded, and made available to the public, thru daily email updates, the website, and Enviroflash. The color coding also shows on state, regional, and national maps. The forecast criteria of air quality are also based on the weather and wind (lack of). Inversions hold pollutants down.

A table provided by Hamilton County Department of Environmental Services which gives the Air Quality Index and corresponding impact on health is presented in the figure below.

**AIR QUALITY INDEX**

<b>Air Quality</b>	<b>Index</b>	<b>Protect Your Health</b>
Good	0-50	No health impacts are expected when air quality is in this range.
Moderate	51-100	Unusually sensitive people should consider limiting prolonged outdoor exertion.
Unhealthy for Sensitive Groups	101-150	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
Unhealthy	151-200	Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
Very Unhealthy (Alert)	201-300	Active children and adults, and people with respiratory disease, such as asthma, should avoid all prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.

**Air Quality Index and Health Impact**

The Instruments used by Monitoring and Analysis are calibrated quarterly, tested, measured, audited by the state, and compared and tested with actual samples therefore the readings taken are free from bias and error. Weekly precision tests are performed. Readings are taken 24 hours, midnight

to midnight, seven days a week, 365 days per year from seven different monitoring stations throughout the four county areas. The counts are reported one day behind to the public. The stations are the Taft location, Colerain, Batavia, Sycamore, Middletown, Lebanon, and Hamilton. Monitoring and Analysis test and place into operation solar equipment, for monitoring and for portability to transport to any of the stations.

The Solid Waste Management District coordinates and promotes county-wide waste reduction, reuse, and recycling programs. Solid Waste Management District provides solid waste management assistance to business, communities, and schools in Hamilton County. The solid waste division was created by State Law HB 592 in 1988. It was created for several reasons; to reduce reliance on landfills, to assure adequate landfill disposal capacity, and to provide outlets for special waste streams. State Law HB 592 also placed solid waste issues at the local level. At present State-mandated recycling goals are 25% Residential/Commercial and 66% Industrial. Plans are written to cover a 15 year period and updated every 5 years. The goals are to ensure that the state meets state's goals and assure adequate disposal capacity.

The division maintains records of community recycling efforts. These are the top performing communities in Hamilton County for recycling, information provided by the Hamilton County Department of Environmental Services:

- Mariemont: 31.05%
- Montgomery: 30.91%
- Terrace Park: 30.79%
- Blue Ash: 29.78%
- Wyoming: 29.41%
- Madeira: 28.25%
- Indian Hill: 24.95%
- Evendale: 24.90%
- Glendale: 22.16%
- Amberley Village: 21.38%

In 2010, there was a 90% increase in recycling in the communities.

The increase in community recycling was attributed to the aggressive campaign by the Hamilton County Department of Environmental Services using large receptacle carts, additional recycling drop-offs, and advertising. The residential program increased diversion by including the following: tire recycling, master recycler program, compost program, computer recycling, hazardous waste, and yard waste drop-offs. The program results showed an increase in multi-family and public events recycling.

The business program increased diversion by including the following: The Interchange, Waste Assessments, Go green Challenge, Recycling at Work, Bar and Restaurant, and Pollution Prevention Internship. The program results showed an increase and the promise of financial savings; one hospital saved over \$4,600 in avoided trash bills.

There is also a school diversion program called the Recycling Assistance Program, which includes the following: classroom presentations and assemblies, field trips, technical assistance, indoor collection containers, teacher workshops, and school grants.

The plans for 2011 include the following: social marketing, additional advertising for programs, pay as you throw workshop, industrial programs, focus on commercial sector, and organics diversion.

The strongest programs that the Solid Waste Division offers are the education that residential and business communities receive; the website providing a plethora of information; and the increase of items that are recyclable. The Pie chart provided by Hamilton County Department of Environmental Services is shown in figure below.



**Garbage Distribution for Hamilton County**

Recycling has its benefits to society. It conserves natural resources. It reduces pollution associated with manufacturing processes. It saves energy and habitats. The economic benefits have increased employment in Ohio by 4.5%. It has increased \$6 billion in annual wages. It has generated \$30 billion in sales and \$651 million in state and local taxes.

The employment side of recycling is as follows: incinerating 10,000 tons of waste creates 1 job; land filling 10,000 tons of waste creates 6 jobs; and recycling 10,000 tons of waste creates 36 jobs.

The Solid Waste Division also encourages families to compost. Services and information are provided to educate individuals and business in the art of composting. Compost lessons and recommendations are found on the website.

Composting is another method of recycling. The recipe for composting are: pick a spot, build a pile/bin, provide food, provide water, and provide air. Items that should not be composted are oil, grease, diseased plants, weeds with seeds, meat, bones, omnivore and carnivore manure, and dairy

products. The Hamilton County Department of Environmental Services website gives tips and troubleshooting for the composter.

Hamilton County Department of Environmental Services is a modern day superhero. The department educates, troubleshoots, monitors, and informs residential and industrial in maintaining good air quality and waste disposal.