

public rights-of-way. In the down-county area known as the Suburban District, however, tree loss is outpacing tree replanting by an estimated ratio of three-to-one.

*** Maryland's Forest Conservation Act, passed in 1991, allows the Planning Board to require tree retention and replanting as a condition during the development review process. The County's program, mandated by this state legislation, will require an inventory of trees on properties proposed for development. For each acre of trees cleared, one-quarter acre must be replaced, up to a prescribed limit, after which the rate of tree replacement will increase to 2 acres for each acre cleared. Under some circumstances, replanting will be allowed away from the development site. The state will establish a Forest Conservation Fund, which will be funded from penalties levied upon anyone found not in compliance with the law. Other strategies include "fees in lieu of" when areas cannot be found to plant trees on site and the enlargement of existing forest areas that would function as tree "receiving areas."**

10. PARKS

Montgomery County's extensive park system combines conservation areas with areas primarily intended for recreation. The parks' ability to restore and conserve nature depends on how the parks are used, and on the air and water that flow to them from beyond their boundaries. The County will continue to be challenged to balance the need for conservation and recreation areas in the County's parks.

*** About 70 square miles of the County's total area of 495 square miles are devoted to parkland and open space. Sixty percent of this parkland is owned by the County, and is spread over 320 parks, ranging in size from the 3,500-acre Little Bennett Regional Park in Clarksburg to the 1/10-acre Philadelphia Park in downtown Silver Spring. A primary purpose of over half of the parkland in the County is to protect stream valleys and watersheds from urban run-off, flood-**

ing, sedimentation, and erosion, and to maintain a habitat for wildlife in areas of limited or no disturbance. In addition to these environmental resource functions, the park system provides recreational opportunities for County residents.

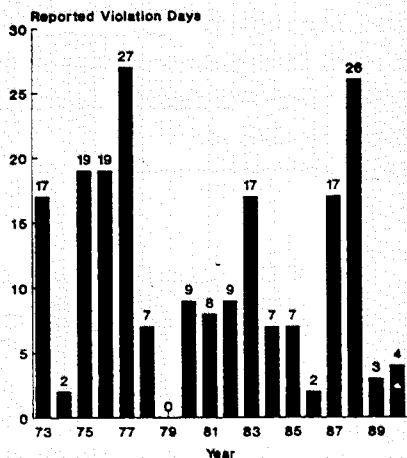
*** Park acquisition began in the 1930's, and peaked in the 1960's. Early parkland purchases, made possible by the passage of the Capper-Crampton Act of 1930, focused on stream valley acquisition in the urban ring along Sligo Creek, Rock Creek, and Cabin John Creek. Between 1940 and 1960, Montgomery County's population increased 300 percent, and the County responded by quadrupling the amount of its parkland and open space holdings, which reached a total of 16,000 acres by 1970. About 11,300 acres have been added since 1970.**

11. AIR QUALITY

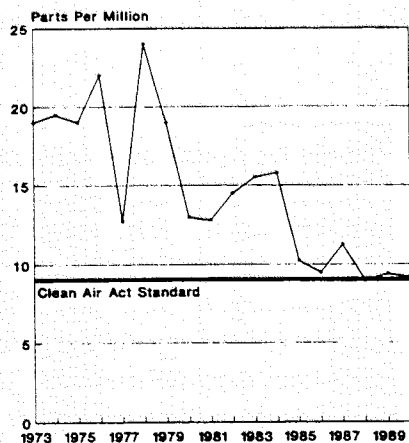
As scientific understanding of the threat posed to the environment and public health by airborne pollutants has increased, so have calls for cleaner air. The most significant federal response to date is the 1990 Clean Air Act Amendments. As a result of this legislation, Montgomery County will participate in a region-wide effort to plan for and attain ambitious goals for improving air quality. Regional transportation planning will be one of the functions of government most affected by the legislation.

*** For almost every year since 1970, regional levels of ozone and carbon monoxide have exceeded federal air quality standards set by the 1970 Clean Air Act. The Washington, D.C. region is one of 16 areas nationwide categorized as "serious non-attainment" areas for ozone. Ozone forms part of a family of chemicals that contribute to what is generally referred to as smog. Ozone levels exceed the 0.12 parts per million (ppm) standard by 15 to 33 percent, typically on hot, muggy summer days. The region is also a "moderate non-attainment" area for carbon monoxide (CO), although levels have decreased since 1973.**

Number of Days in Washington, D.C. MSA Reported Exceeding the Federal Ozone Standard



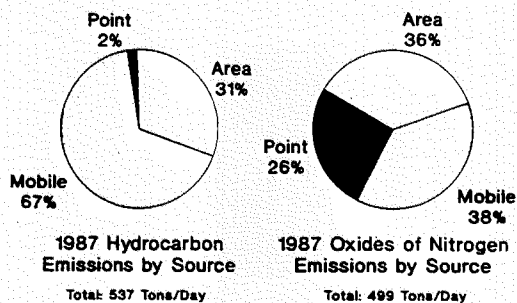
Carbon Monoxide Levels For the Washington Metropolitan Area Have Decreased



* Mobile sources are major contributors to ozone and carbon monoxide pollution in the Washington Metropolitan Area. Motor vehicles

account for an estimated 68 percent of the hydrocarbon and 38 percent of the oxides of nitrogen pollution. Hydrocarbons and oxides of nitrogen are two key indicators of ozone formation. Motor vehicles also are responsible for 85 percent of the area's carbon monoxide emissions. Large factories (point sources) and sources too small to measure, such as dry cleaners, bakeries, wood stoves, and paints and solvents (area sources) account for the balance of the region's ozone and carbon monoxide production. The County contributes roughly 18 percent of the area's total of these pollutants.

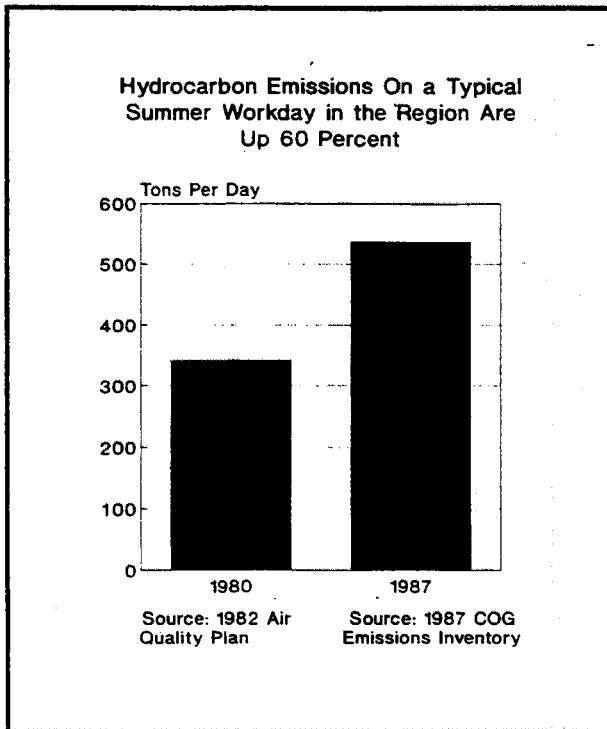
Mobile Sources Contribute Significantly to Key Indicators of Ozone Pollution in the Washington Area



* The effects of air pollution extend to our waterways. Airborne oxides of nitrogen account for approximately 30 percent of the nitrogen deposition in the Chesapeake Bay, which stimulates growth of algae and removes oxygen from the water.

* Hydrocarbon emissions are estimated to have increased, due largely to mobile sources. The Metropolitan Washington Council of Governments estimates that hydrocarbon emissions had increased by almost 60 percent to about 540 tons

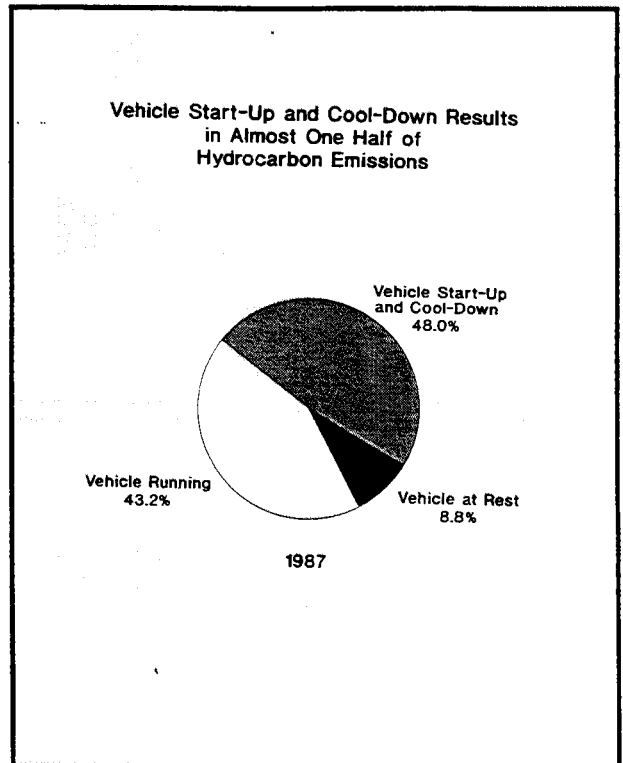
per day by 1987 over the 1980 level of approximately 340 tons. This is largely attributable to factors such as region-wide increases in auto ownership, auto use, and traffic congestion. In urban areas, roughly 50 percent of the pollution emitted by automobiles occurs at the time of engine start-up (cold start) or shut-down (hot soak), or while the automobile sits unused (diurnal). Non-work trips and trips made during off-peak hours now contribute more air pollution in the region than do peak period work trips.



* The Washington Metropolitan Area meets standards for four other atmospheric pollutants regulated by the Clean Air Act. These are lead, particulate matter, sulfur dioxide, (which is a component of acid rain) and oxides of nitrogen. Levels of both lead and carbon monoxide have decreased since passage of the 1970 Clean Air Act. The banning of lead from gasoline, a reduction in emissions from large industrial and utility plants, and the relative absence of heavy industry in the region account, in large measure, for these decreases.

* The Clean Air Act Amendments of 1990 require that areas of "serious non-attainment"

such as the Washington, D.C. region achieve ozone standards by 1999 and carbon monoxide standards by 1996. By 1996, ozone pollution must be reduced by 15 percent, and then three percent each year thereafter until attainment is reached. Maryland is required to report on emissions every three years and issue an implementation plan which will describe, in detail, how the goals will be achieved.



Should the region fail to achieve its goals, the federal government will impose more stringent standards on the Washington, D.C. region. This may lead to specific measures to influence land use planning, travel behavior, and energy use region-wide. An area failing to comply with the regulations ultimately may lose its share of federal funds for highway and other projects unless those projects can be shown to help meet air quality standards.

* Regional strategies to reduce ozone and carbon monoxide are expected to concentrate on mobile sources of pollution. An array of strategies is expected, from the use of new technologies to changes in transport and land use

policies. Possible measures to meet the goal for mobile sources of carbon monoxide and ozone may include: the introduction of California standards for new vehicle emissions, more stringent vehicle inspection programs, gasoline pump vapor recovery nozzles, and reformulated gasoline. Policies to increase transit service, carpooling, non-motorized means of travel, and to decrease auto travel may be included in the strategy. New roadways and transit projects will be evaluated as part of a system that must demonstrate reduced vehicle emissions. These requirements will foster an increased regional emphasis on land use and transportation planning, and their relationship to air quality.

* **Emissions from point sources of pollution must be reduced as well.** Measures to reduce emissions from point sources of ozone and carbon monoxide include changes to the chemical composition of polluting solvents and paints, and the introduction of pollution control devices on small stationary sources such as bakeries.

12. DRINKING WATER

The Washington Suburban Sanitary Commission (WSSC) provides much of the County's drinking water. The city of Rockville and the town of Poolesville have separate water supply systems. Residents in low-density residential areas and the agricultural reserve are served by private wells.

Regional cooperation is essential to ensure that the water supply obtained from the Potomac and Patuxent Rivers is safe and adequate. Since all drinking water must be reliably treated and distributed, the WSSC must construct facilities in conjunction with development and maintain the entire treatment and distribution system.

Current sources of raw drinking water and the capacity to store, treat, and distribute it are limited. Therefore, at some point in time, new sources or changes in current usage patterns will be necessary to serve long-term regional population growth. The maintenance and improvement

of surface water quality serves to increase the potential supply while reducing treatment costs.

* **The State requires all counties to adopt Comprehensive Ten-Year Water and Sewerage Plans.** Montgomery County's Comprehensive 10-Year Water and Sewerage Systems Plan is a functional plan that guides the extension of public water and sewer service to implement approved and adopted master plans. The plan designates six categories (1-6) for water (W) and sewer (S) service. A designation of W-1/S-1 indicates that a property is connected to or abuts community or WSSC water and sewer systems. A designation of W-6/S-6 indicates that water and sewer service is not planned. The County Council adopts and amends the Plan and delegates power to the Montgomery County Department of Environmental Protection (MCDEP) to administer the Plan and to approve category change requests under certain conditions, with consent of other reviewing agencies.

* **The WSSC provides nearly 170 million gallons of potable water per day (MGD) to Montgomery and Prince George's counties.** The WSSC has two water filtration plants: one on the Potomac River and one on the Patuxent River. The water quality at both plants consistently exceeds all EPA requirements. The operation of the WSSC water facilities is coordinated under regional agreements within the Washington Metropolitan Area.

* **The WSSC estimates that additional water supply may be needed by 2015.** As the demand for water approaches the level at which the Potomac and Patuxent Rivers can supply raw water, new technologies will be required to develop regional solutions for alternative sources for this limited resource. Conservation of water is and should remain a major component of managing the region's water supply. Currently, conservation measures are as unobtrusive as changes in the plumbing code to require low flow fixtures and as active as individuals modifying their water usage patterns.