

The Georgia NAVIGATOR is an Advanced Transportation Management System monitoring and managing traffic conditions on 90 miles of interstate highway in the Atlanta metropolitan area. The system was developed at a total cost of \$140 million, of which \$54 million were CMAQ funds. The Georgia DOT estimates emissions reduction benefits of 614 kg/day of VOC, and 578 kg/day of NOx.



Atlanta, Georgia.



A Utah Department of Public Safety staff member operates a regional traffic operations system.

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It all adds up to cleaner air

FHWA-HEP-07-05-022
HEP/7-05(5M)E

CMAQ and Intelligent Transportation Systems (ITS)



U.S. Department
of Transportation
Federal Highway
Administration

CMAQ and Intelligent Transportation System (ITS)

What Is CMAQ?

The Congestion Mitigation and Air Quality (CMAQ) Improvement Program, provides a flexible funding source to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act, and its amendments. CMAQ funds support transportation projects within areas designated by the Environmental Protection Agency as nonattainment or maintenance areas by reducing mobile source emissions. Eligible activities include transit improvements, ITS or traffic flow improvements and public fleet conversions to cleaner fuels, among others.

What Are CMAQ Funding Requirements?

CMAQ funds must be invested in a nonattainment or maintenance area if one exists within that state. Minimum apportionment states without nonattainment or maintenance areas can use the funds as they would any Surface Transportation Project (STP). For mandatory funding, the funds must be spent on projects that reduce Ozone (O_3) precursors, such as Volatile Organic Compounds (VOC), Oxides of Nitrogen (NO_x), Carbon Monoxide (CO), or Particulate Matter (PM) from transportation sources. The project must also come from a conforming plan, where applicable, or a Transportation Improvement Program. The state is responsible for the distribution of CMAQ funds.

The federal share for most eligible CMAQ projects is 80 percent. The CMAQ program operates on a reimbursement basis, with funds provided when the work is completed. All CMAQ funded projects must conform with established guidance.



A roving Motorist Assistance Patrol reduces congestion by delivering fuel, changing tires, jumpstarting vehicles, arranging tows, extinguishing fires, and giving first aid in Arkansas and Tennessee. *Photograph courtesy of John Jackson, AR Highway and Transportation Department.*

CMAQ, Air Quality and ITS: What's the Connection?

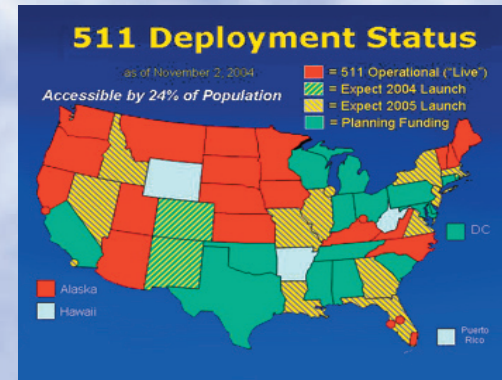
Intelligent Transportation Systems (ITS) are a combination of computer and communication technologies, as well as institutional partnerships, which make existing transportation systems operate more efficiently and safely.

ITS technology includes:

- Traffic monitoring through detectors and closed circuit video equipment as well as better traffic management through computerized traffic signal systems.

- Transit management systems, and regional transportation management centers, and provision of real-time information to travelers through electronic message signs.

- 511 telephone services, Web sites, and road weather information systems, and other devices that are used to manage, monitor and control traffic with the goal of improving traffic flow.



These strategies reduce emissions by promoting efficient traffic movement. The ITS project improves traffic flow characteristics, such as speed, and the resulting change in vehicle speed can then reduce emission rates in many situations.

Examples of Successful ITS Projects

The Advanced Regional Traffic Interactive Management and Information System (ARTIMIS) is a transportation system management project designed to improve traffic flow. It was put in place by the Ohio-Kentucky-Indiana (OKI) Council of Governments to monitor and control traffic on 88 miles of regional freeways at a total cost of \$57 million, of which \$41 million were CMAQ funds. The OKI estimates emission reduction benefits of 186 kg/day of VOC.



One of the ARTIMIS variable message signs.

Arterial Street Signal Interconnect, Philadelphia, Pa. is an interconnection of traffic signals along arterials with high transit use to improve traffic flow and to enhance transit quality. Total annual project cost was \$214,033, of which \$171,227 was CMAQ funds. Estimated emissions reduction for VOC was 52 kg/day, and for NO_x 5.7 kg/day.



The variable message sign displays travel times. *Photograph courtesy of Wisconsin DOT.*