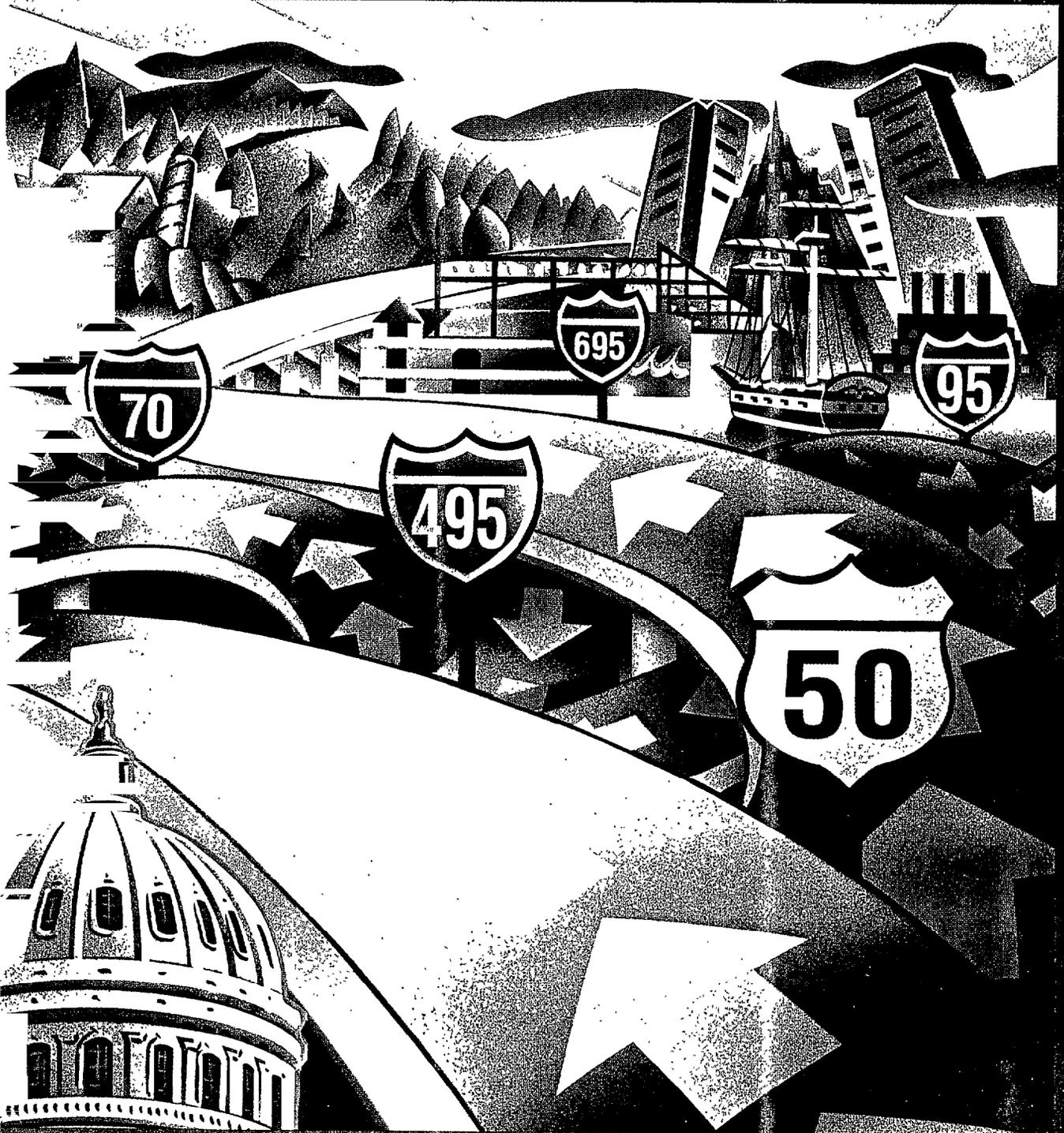


ing Your Course




Maryland
Department of
Transportation

MARYLAND



PROGRAM



DOT/HWA

101456



CHART (Chesapeake Highway Advisories Routing Traffic) is a joint effort of the Maryland Department of Transportation and the Maryland State Police, in cooperation with other federal, state and local agencies. CHART's mission is to improve "real time" operations of the highway system through teamwork and technology. CHART is comprised of four basic components: (1) surveillance (detection of what is happening at every moment on all major parts of the highway system); (2) incident response (working with law enforcement, fire and other emergency response agencies to remove blockages safely and quickly); (3) traveler information (alerting users to unusual problems that are disrupting the flow of traffic); and (4) traffic management (managing to cope with incidents through signs, signals and other traffic control measures). CHART uses a balance of high and low technology, from TV cameras to tow trucks. But the key "T" is teamwork teamwork among agencies, teamwork within agencies, and teamwork among individuals. Without extraordinary teamwork, CHART could not work.

Statewide Operations Center

CHART activities are coordinated from a state-of-the-art Statewide Operations Center. Operating 24 hours-a-day, the Center incorporates computerized as well as manned detection systems to monitor traffic and possible causes of delays. The Statewide Operations Center integrates **CHART** with the State Highway Administration's Emergency Operations Center (activated for natural and man-made emergencies) and its all day, every day maintenance communications system. Previously, these were housed in three separate locations. Now, they are not just coordinated, but are truly integrated.

Satellite Traffic Operations Centers

Individual Traffic Operations Centers operate in several locations to handle special area needs. The State Highway Administration has individual Traffic Operations Centers for the Baltimore and Washington areas. Located at State Police facilities, they focus on regional operations, particularly during weekday peak periods. (During low traffic or "off hours," coverage is provided from the centrally-located Statewide Operations Center). A seasonal Traffic Operations Center for beach-bound recreational traffic operates on weekends between Memorial Day and Labor Day.

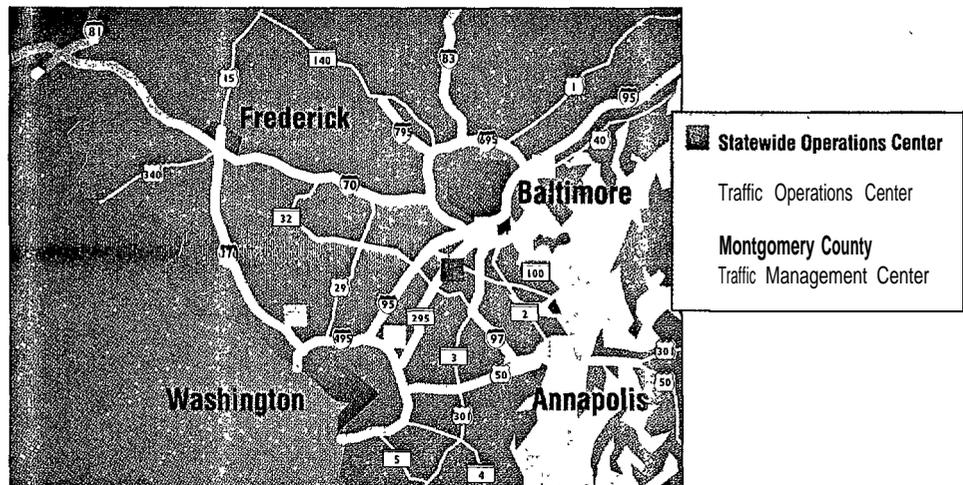
It is located at the Wm. Preston Lane, Jr. Memorial Bridge, with the Maryland Transportation Authority and State Police. The Authority operates a Traffic Operations Center focused on the two Baltimore area tunnels and the I-95 John F. Kennedy Memorial Highway.

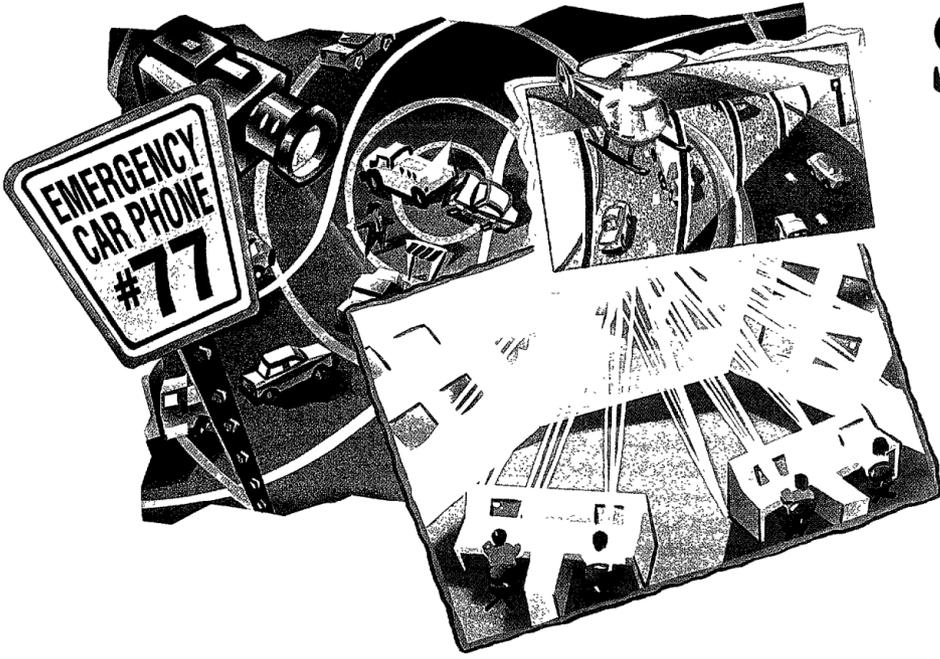
State/Local Coordination

A national model for integrating state and local operations is evolving between Montgomery County and the Maryland Department of Transportation. The County has one of the most advanced, multimodal, local operations centers in the country. This center handles secondary and local roads, as well as local transit, while CHART focuses on interstate and primary highway routes. The two efforts are closely tied together through the teamwork and technology model. Other local jurisdictions can be expected to establish similar operations.

The I-95 Corridor Coalition

State transportation departments, toll authorities and federal agencies have joined an interstate traffic management project focusing on improving traffic information and responses to incidents in the northeast corridor from Virginia to Maine. Maryland has played an active role in this effort. The I-95 Corridor Coalition will monitor real time intermodal travel conditions on major transportation facilities throughout the corridor. The coalition will coordinate the efforts of its member agencies in responding to unexpected disruptions and in providing information to travelers.





SURVEILLANCE

To provide well-coordinated responses to roadway incidents, CHART gathers traffic information from a variety of sources. Information is received from the Maryland State Police, CHART communication vehicles and other State Highway Administration field personnel, cellular phones, CB radios and observation aircraft sponsored by the broadcast media and public agencies.

In addition, the State Highway Administration is installing "high tech" freeway surveillance that automatically monitors real time traffic conditions. One technology uses video cameras to provide live pictures of traffic conditions. Another technology employs hundreds of overhead radar speed detectors which monitor vehicle speeds and transmit volume data to Statewide Operations Center computers. Pavement sensors are also used.

The Statewide Operations Center compiles all of this information for use in responding to incidents, as well as in providing traveler information that is timely and accurate.

INCIDENT RESPONSE

CHART team members, including the State Highway Administration, the Maryland Transportation Authority and the Maryland State Police, along with other state and local emergency response teams, respond to incidents with the people and equipment needed to address safety and remove vehicles and debris from the roadway. The goal is to restore normal traffic operations as quickly as possible using all available resources.

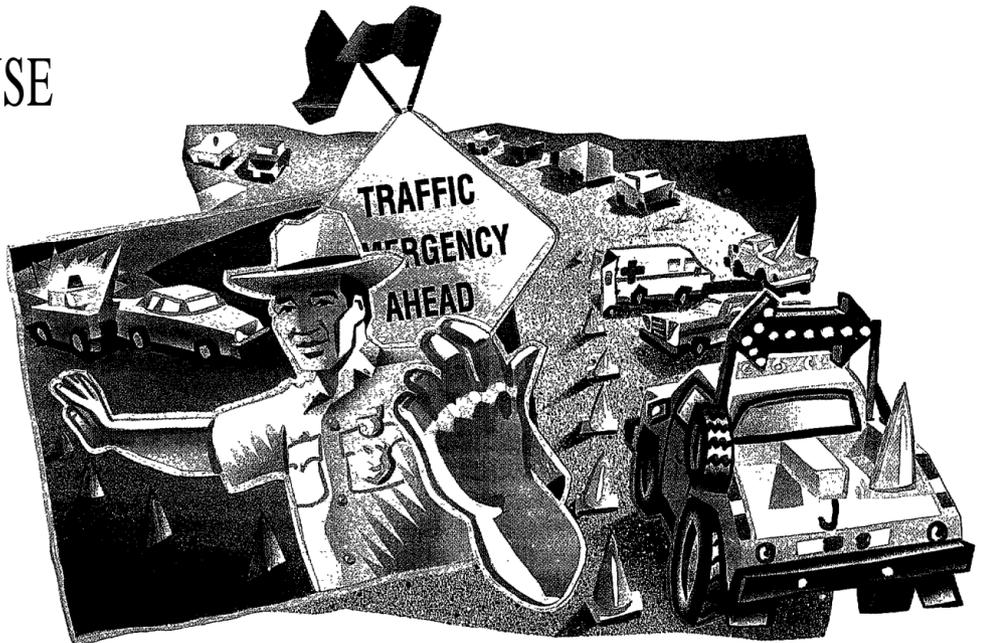
The program provides timely responses in several ways:

Emergency Traffic Patrols

Traffic patrol tow vehicles carry equipment to make minor vehicle repairs and can relocate disabled or damaged vehicles from the roadway to a safer location. These patrols respond to and clear incidents to restore the normal flow of traffic.

Emergency Response Units

These vans are equipped to perform a higher level of incident management. They establish proper traffic control upon arrival at an incident, relay information to the appropriate Operations Center about lane closures and backups, and deploy detour routes. They also carry equipment for minor roadside repairs or minor HAZMAT spills.



On average, Traffic Operations Centers in Maryland respond to 500 incidents a month. Typical response time is between five and 10 minutes. Maryland's "Clear the Road" policy guides police, fire and environmental agencies

in assigning priority to reopening roads after human safety needs are addressed. The results have been significantly reduced times to clear incidents.



TRAVELER INFORMATION

One of CHART's most important services to highway system customers is communicating unexpected traffic and travel conditions. On a daily basis, Variable Message Signs and Traveler Advisory Radios display and broadcast traffic information statewide. These incident management devices — controlled by personnel in our Operations Centers — inform motorists of road conditions and potential delays during emergency and non-emergency situations, such as planned construction projects, special events, or natural emergencies. By advising drivers of impending traffic situations, the potential for secondary accidents, delays and motorist frustration is significantly reduced. Traveler information is also provided to the broadcast media for immediate dissemination in radio and TV traffic reports. Future plans for FAX, phone and PC modem access will provide further enhancements to CHART's traveler information system. In addition, CHART is participating in testing an "in-vehicle" system using cellular phone technology that will give drivers instant information on unexpected road problems and possible alternate routes.

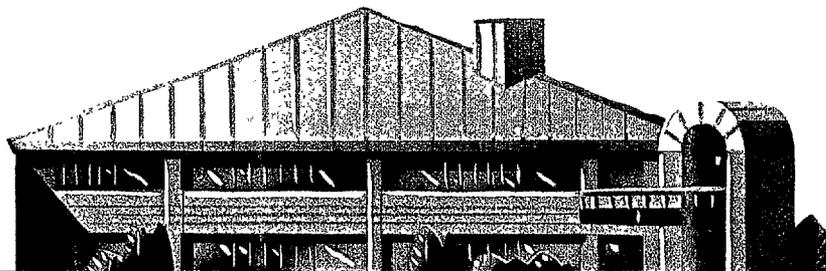
TRAFFIC MANAGEMENT

On major Maryland roads, traffic counters are embedded in travel lanes and entrance ramps to provide traffic volume information to computers in the Traffic Operations Centers. Data about current volumes are compared with the known capacities of the roads. This information, with the surveillance data described earlier, is used to adjust and refine traffic signal timing. This is especially critical during incidents on interstates when traffic is diverted to secondary roadways with traffic signal systems. Other traffic management techniques such as freeway incident traffic management contingency plans and reversible lane controls are part of CHART's traffic management tool kit. The contingency plans involve rapid deployment of temporary signs to guide traffic along alternate routes when freeway segments are shut down.



How CHART works

Surveillance



Statewide Operations Center

Connects to:

- Baltimore Area Traffic Operations Center
- Washington, D.C. Area Traffic Operations Center
- 7 State Highway District Offices
- 28 State Highway Maintenance Shops
- Department of the Environment HAZMAT
- Local Fire Departments
- Department of Transportation Operations

CHART BOARD

- SHA Chief Engineer (Chair)
- SHA Traffic
- SHA Maintenance
- Maryland Transportation Authority
- Maryland State Police
- Baltimore/Washington D.C. Area Districts

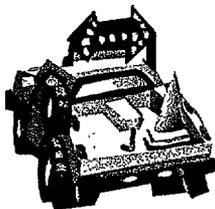
Connects to:

- State Police
- Transportation Authority
- Traffic Operations Center Eastern Shore (Seasonal)
- I-95 Corridor Coalition
- Traffic Reporters
- Emergency Management Agency
- Local Governments
- Local Police



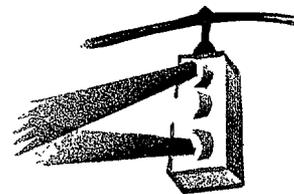
Traveler Information

- Traveler Advisory Radio
- Variable Message Signs
- Traffic Reporters
- 800 Telephone Number
- FAX



Incident Response

- Clear the Road Policy
- Emergency Traffic Patrols
- Emergency Response Units
- Police
- Fire
- HAZMAT
- Private Towing



Traffic Management

- Signal System Management
- Freeway Incident Traffic Management (FITM) Detours
- Lane Controls

For more information about the Maryland State Highway Administration's CHART program, please write to:

CHART • Statewide Operations Center • 749 I Connelley Drive • Hanover, MD 21076