



TRAFFIC TIPS

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COMPREHENSIVE SERVICES

Hubbell, Roth & Clark, Inc. is a

professional organization providing comprehensive engineering services. Our Transportation and Traffic Engineering expertise allow us to address problems of urban traffic congestion, traffic safety, and highway design. We provide assistance in transportation planning, design, operations and Intelligent Transportation Systems. Other services of the firm include:

- ◆ Municipal Engineering
- ◆ Civil & Site Engineering
- ◆ Wastewater Treatment
- ◆ Underground Storage Tank Replacement Engineering
- ◆ Water Treatment & Distribution
- ◆ Industrial Waste Treatment
- ◆ Industrial Engineering
- ◆ Storm Water Control
- ◆ Surveying & Mapping
- ◆ Electrical Engineering
- ◆ Geographic Information Systems

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Responding to Traffic Incidents

Local traffic engineers have long recognized the importance of police and other emergency services to the operation of their transportation system. Police are a vital part of the engineering, education, and enforcement elements that support traffic safety. On a larger scale, we are now seeing police and transportation agency cooperation in traffic incident management programs. By sharing resources, these agencies save time, lives and money as they organize to respond to traffic incidents. By removing disabled vehicles more quickly, traffic congestion is reduced and the potential for secondary collisions is minimized. By getting ambulance and fire vehicles on the scene more quickly, injuries can be mitigated and lives can be saved.

To manage budget and staff restraints, yet continue to meet their core responsibilities, many emergency services and transportation management agencies are re-allocating their individual resources and prioritizing operations. Given an increasing number of vehicles on the roads and intense highway environments, identifying and locating traffic incidents and sending out response units requires far more than a single agency's resources - regardless of how efficient that agency's operations may be.

When emergency service providers and transportation management agencies share information, each performs its core mission more effectively. Communication of accurate incident information, such as its location and severity, helps emergency response personnel:

- * sponse units to send to the scene,
- * Minimize delays in response time, and
- * Maximize emergency response resources.

When emergency services agencies share facilities and traffic monitoring resources with transportation management agencies, the efficiency and speed of incident response are measurably improved. Emergency services and transportation management agencies in states and metropolitan areas are increasing the value of their individual resources by:

- * Co-locating critical functions of their two systems,
- * Sharing communications media, and
- * Automating notification to responding agencies.

Emergency services dispatchers located in transportation management facilities can rapidly choose any type of response required by simply clicking a mouse when using an automated notification system. When agencies integrate their resources, they can achieve more. The ability for all agencies to view the same information by sharing video images further enhances emergency response. Co-locating emergency dispatchers with transportation management staff builds strong working relationships that facilitate emergency response. Increased inter-agency communication further enhances incident response.

Co-location of the Michigan State Police regional dispatch operation in the Michigan Department of Transportation Intelligent transportation Systems Center has greatly improved incident response on Metro Detroit freeways.

- * Decide the type and number of re-

Automatic Vehicle Location

Automatic Vehicle Location (AVL) systems relay the positions of emergency vehicles to a central location, allowing dispatchers to:

- * Quickly find the closest available unit to respond to a call,
- * View all vehicles as they travel emergency routes and evaluate the route's efficiency, and
- * Adjust directions to accommodate traffic conditions.

Combining AVL systems with technologies for displaying information, automatic routing, and communicating between dispatch and vehicles, greatly expands the use of the system for all users. Depending on presently available resources, installing a working AVL system can be as sophisticated as installing a complete computer aided dispatch system with Geographic Information System (GIS) software. It can also be as basic as purchasing individual transponders for each vehicle, which can then be used as components to an existing system, possibly owned by other public agencies.

AVL uses Global Positioning Systems (GPS) to pinpoint the precise location of emergency vehicles. This satellite-based technology provides real-time location, latitude and longitude coordinates, and direction of travelling vehicles. With the

increased coordination AVL provides, emergency agencies are:

- * Expanding their service area and setting up links with other agencies,
- * Increasing operational efficiency of existing vehicles and staff,
- * Quickly addressing and resolving emergency situations.

Because AVL enables dispatchers to track the location of vehicles with greater accuracy, they can more effectively coordinate emergency efforts with other

agencies. With AVL, sending assistance to resolve a variety of crises, from medical emergencies and man-made disasters to hazardous weather conditions, is occurring with increased accuracy and speed. Information from AVL systems, when combined with computer-aided dispatch software, can provide a rich source of data for analyzing emergency vehicle operations and evaluating agency performance.



Michigan State Police dispatch operation, co-located in the Michigan Intelligent Transportation Systems Center.

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