Introduction

This book is intended for police leaders. After all, that's what you are—whether you call yourselves commanders, administrators, executives, or supervisors, you are, first and foremost, leaders. It is intended as a quick and practical compendium of information to assist you in asserting your leadership in one of policing's most important functions, Police Traffic Services.

It has been fashionable for some time to emblazon the fenders and doors of police vehicles with slogans calling attention to such aspects of law enforcement as SERVICE and PROTECTION. But how often do we, as leaders, stop and think about how to serve and protect most effectively?

Over 188 million motor vehicles and more than 170 million licensed drivers travel over two trillion miles a year on our streets and highways. Hazardous materials in sufficient quantities to blow a small country off the map if stored, transported, or handled improperly pass our doorsteps every day. More people are killed in crashes on our streets and highways in a single year than in the nation's last major war.

In today's mobile society the motor vehicle is the primary tool used by criminals to reach the scene of the crime, and to elude the police. Carjacking, motor vehicle theft, drive-by shootings, drug deals, burglaries, and armed robberies—all involve the use of a motor vehicle.

Our entire nation is, indeed, a “nation on wheels,” and traffic backups and delays during rush hour result in millions of dollars and hundreds of thousands of productive hours lost to the economy and in unnecessary environmental pollution each year. As drivers, citizens are more likely to have direct contact with police officers than in any other aspect of their lives, and those contacts, both pleasant and unpleasant, shape the community's view of the police, one by one.

All of this adds up to the fact that few areas exist in law enforcement that affect the quality of life for our citizens as significantly as the rendering of quality police traffic services.

The authors of this desk book, all members or special consultants to the IACP Highway Safety Committee, know from firsthand experience just how confusing and difficult are the problems you face. The many acronyms that describe various traffic safety programs, the myriad federal agencies that set standards in this area, and the need to devise new and effective means of stretching your limited patrol resources—all add up to headaches for the new police leader, as well as for the veteran.

We hope that this desk book, in loose-leaf form to facilitate periodic updating, will provide you with a ready source of ideas and information as you go about your duties.
Acknowledgments

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• Assistant Commissioner Earl M. Sweeney, New Hampshire Department of Safety and Chair, Highway Safety Committee
• Major Charles E. Andrews, Alabama Department of Public Safety
• Colonel Anne L. Beers, Chief, Minnesota State Patrol
• Mr. Steven R. Casstevens, Assistant Chief of Police, Hoffman Estates, IL
• Chief William J. Cicchetti, Washington Township Police Department, Westwood, NJ
• Deputy Chief Thomas W. Finn, Director of Public Safety, East Brunswick, NJ
• Colonel Thomas Foley, Superintendent, Massachusetts State Police
• Colonel Dennis A. Garrett, Director, Arizona Department of Public Safety
• Mr. William P. Georges, Senior Vice President, Programs, The Century Council;
• Mr. Michael N. Geraci, Chief of Police, Schenectady, NY
• Staff Superintendent Gary F. Grant, Toronto Police Service
• Chief Samuel Hartsell, Cassville, MO
• Commissioner Dwight O. Helmick, California Highway Patrol
• Colonel Richard W. Holden, Commanding Officer, North Carolina State Highway Patrol and General Chair, IACP Division of State and Provincial Police
• Colonel Christopher A. Knight, Director, Florida Highway Patrol
• Assistant Commissioner Darrell LaFosse, Community, Contract, and Aboriginal Policing, Royal Canadian Mounted Police
• Chief J. Thomas Manger, Fairfax County, VA, Police Department (Ret.) and Montgomery County, MD, Department of Police
• Colonel (Ret.) W. Gerald Massengill, Superintendent, Virginia State Police
• Colonel Jeffrey B. Miller, Commissioner, Pennsylvania State Police
• Director Kenneth L. Morckel, Ohio Department of Public Safety
• Chief Murray J. Pendleton, Waterford, CT
• Mr. Maurice Pilon, Deputy Commissioner, Operations, Ontario Provincial Police
• Chief (Ret.) Robert Redfern, Easthampton, MA
• Mr. Daniel E. Robinson, Assistant Director, Institute of Police Technology and Management
• Chief Douglas P. Scherzer, Morris Plains, NJ
• Colonel Roger D. Stottlemyre, Superintendent, Missouri State Highway Patrol
• Dr. Alexander Weiss, Executive Director, Northwestern University Center for Public Safety
• Chief (Ret.) Lonnie J. Westphal, Colorado State Patrol
• Chief John D. Wintersteen, Paradise Valley, AZ
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PART ONE:

Traffic Safety Systems and Terminology
Common Abbreviations and Acronyms Used in Traffic Law Enforcement

The following are some of the more prevalent acronyms used in traffic law enforcement, and their meanings:

**ALR/ALS**: Administrative License Revocation or Administrative License Suspension. This is referred to in the context of a state statute that permits a police officer to seize a license of a driver who refuses an alcohol test, or tests over the legal alcohol limit. The driver is given a temporary license and scheduled for a prompt administrative hearing before the state driver license agency. ALR/ALS does not replace criminal court action for driving while intoxicated. The purpose of ALR/ALS is to remove the hazard of the drinking driver from the road in a speedier fashion.

**AAMVA**: The American Association of Motor Vehicle Administrators.

**AAMVANET**: The American Association of Motor Vehicle Administrators' data services network contains the National Driver Register, Commercial Driver License Information System, and other information of interest to licensing, title, regulatory, and law enforcement agencies.

**AASHTO**: The American Association of State Highway and Transportation Officials.

**AMBER ALERT**: A national protocol for the broadcast of information on children who are suspected of having been kidnapped, including posting information about victims and suspects and their vehicles’ descriptions on changeable highway warning signs.

**BAC**: Blood Alcohol Concentration. This is measured in driving-while-intoxicated cases.
**BNICE:** A homeland security response describing the five leading threats: Biological, Nuclear/radiological, Incendiary, Chemical, and Explosive.

**BrAC:** Breath Alcohol concentration, used in DWI cases.

**CARE:** Combined Accident Reduction Effort. Operation CARE, a group of state police and highway patrol agencies which conduct unified and concentrated efforts in traffic law enforcement along interstate highways, particularly on holiday weekends.

**CDL:** A Commercial Driver's License issued by a state entitling a person to operate a commercial motor vehicle which has a manufacturer's gross vehicle weight of 26,001 or more pounds; which is designed to carry 16 or more passengers, including the driver; or which carries hazardous materials. CDL holders in most states are subject to a loss of their CDL if, while driving a commercial vehicle, they have a BAC in excess of 0.04, and are subject to being removed from the road for up to 24 hours if found to have any alcohol in their system while operating a commercial vehicle.

**CDLIS:** The nationwide Commercial Driver's License Information System contains all commercial driver's license information, including driving histories of problem commercial drivers. It is typically on-line with Motor Carrier Safety Assistance Program (MCSAP) agencies in the various states.

**CHEM-TREK:** A 24-hour toll-free telephone service that provides law enforcement and emergency response agencies with information for identifying hazardous materials involved in spills, and that recommends mitigation strategies. Chem-Trek is sponsored by the National Chemical Manufacturers' Association.

**CLICK-IT-OR-TICKET:** A NHTSA program that had its genesis in a statewide North Carolina effort and that consists of a concerted, multi-agency safety belt enforcement drive to increase safety belt usage through enforcement. Wherever utilized, the program has also resulted in the apprehension of a
number of individuals for other serious driving offenses, as well as for criminal offenses, and in the detection of suspended and revoked drivers and persons wanted on criminal warrants.

**CVSA:** The Commercial Vehicle Safety Alliance.

**DARE:** Drug Abuse Resistance Education, a copyrighted curriculum. The program, which trains police officers to present anti-drug programs in public schools, was started by the Los Angeles Police Department.

**DOT:** The U.S. Department of Transportation. Also applies to departments of transportation in various states, such as the Arizona Department of Transportation (ADOT) and the Pennsylvania Department of Transportation (PENNDOT).

**DRE:** A Drug Recognition Expert. Trained and certified in the IACP Drug Evaluation and Classification Program, a DRE is experienced in administering a battery of physical tests and in making clinical observations to suspected drug impaired drivers.

**DUI:** Driving under the influence of alcohol or drugs, a criminal offense in most states and provinces. Known as DWI, driving while intoxicated, in some states.

**DWI:** Driving while intoxicated; the same as DUI.

**ETATS:** The Enforcement Technologies Advisory Technical Subcommittee of the IACP’s Highway Safety Committee. The Chair of the Highway Safety Committee appoints its members, who include Highway Safety Committee members; persons from the radar, lidar, and automated enforcement industries; a NHTSA representative; technical and scientific advisors and representatives of radar certification laboratories. The subcommittee develops standards for the initial testing and ongoing certification of automated enforcement devices such as radar, lidar, VASCAR, photo radar, and photo red light running cameras and recommends placement of such devices on the CPL (Consumer Products List).

**EVOC:** Emergency Vehicle Operator's Course. A curriculum
developed by NHTSA, in cooperation with national police training professionals, to teach proper techniques for driving police and other emergency response vehicles under emergency conditions.

**FARS:** The Fatal Accident Reporting System maintained by the National Highway Traffic Safety Administration (NHTSA). The system gathers data on all fatal traffic crashes in the United States through reports collected by state-level agencies.

**FBINA:** The Federal Bureau of Investigation's National Academy located at Quantico, Virginia. The academy offers a command training program for high-level officials of state and local law enforcement agencies, and police officials from foreign countries.

**FEMA:** The Federal Emergency Management Administration, located at Emmitsburg, Maryland, which provides federal emergency assistance at the scenes of catastrophes and national disasters, operates the National Fire Academy, and publishes the national model curriculum for first responders to hazardous materials accidents.

**FHWA:** The Federal Highway Administration in the U.S. Department of Transportation, which administers federal highway trust fund expenditures to the individual states, and which sets standards for the construction and maintenance of interstate highways.

**FMCSA:** Federal Motor Carrier Safety Administration, an organizational unit in the U.S. Department of Transportation, the mission of which is to prevent commercial vehicle related fatalities and injuries.

**FMVSS:** Federal Motor Vehicle Safety Standards as developed and adopted by the National Highway Traffic Safety Administration.

**FOP:** The Fraternal Order of Police, a national police organization sometimes involved in labor activities as a collective bargaining agent.
**FRA:** The Federal Railroad Administration, an organizational unit within the U.S. Department of Transportation that monitors the safe operation of railroads. It develops and enforces rail safety regulations, investigates crashes, manages rail safety and highway-rail grade crossing safety programs.

**GCCI:** Grade Crossing Collision Investigation, a highway-railroad grade crossing safety awareness program, coordinated through a national railroad safety program, Operation Lifesaver. GCCI provides one to three-day training classes, at no cost to the agency, tailored to specific law enforcement agency needs.

**GHSA:** The Governors’ Highway Safety Association (formerly NAGHSR, the National Association of Governors’ Highway Safety Representatives) consists of the Governor’s Highway Safety Representative for each state and U.S. Territory and manages the federal pass-through highway safety grants from NHTSA in each state and territory.

**HAZMAT:** Hazardous materials, generally used in the context of hazardous materials regulatory enforcement.

**HGN:** Horizontal Gaze Nystagmus, which uses a phenomenon brought on by alcohol and other substances, to assist in determining the blood alcohol level or drug impairment of suspected drunk drivers by examining the angle of onset of nystagmus, a jerking of the eyeballs.

**HSC:** The Highway Safety Committee of the International Association of Chiefs of Police, Inc., which reports through the IACP’s State and Provincial Police Directorate and takes the lead in researching highway and traffic safety issues for the IACP.

**IACP:** The International Association of Chiefs of Police, Inc.

**IACP NET:** A password-protected electronic Web site operated by the IACP for its subscriber members. It facilitates the exchange of information and documents between law enforce-
ment agencies throughout the world, at http://www.iacpnet.com

IADLEST: The International Association of Directors of Law Enforcement Standards and Training (POST).

ICS: Incident Command System, the system used by fire departments and police agencies to organize and implement emergency measures to mitigate major incidents.

IFTA: The International Fuel Tax Agreement, a compact consisting of states and provinces that recognize one another's fuel tax laws and providing for one-stop collection and uniform enforcement policies.

IMS: Traffic Incident Management System, an adaptation of ICS designed to mitigate the congestion resulting from traffic incidents, to provide prompt treatment of injured persons, and to restore the normal traffic flow as soon as practicable.

IPTM: The Institute of Police Technology and Management at the University of South Florida in Jacksonville, Florida, which conducts law enforcement training programs and which operates a radar testing laboratory.

ITE: The Institute of Transportation Engineers.

IVHS: Intelligent Vehicle Highway Systems, a system of computerized hazard detection and warning, trip routing and other capabilities, which interfaces with on-board computers in vehicles equipped with on-board radar and electronic roadside warning beacons.

J. STANNARD BAKER AWARD: An annual award presented by the International Association of the Chiefs of Police and by the National Sheriffs' Association to state, county and local police officers and to private citizens who have made outstanding lifetime contributions to the field of traffic safety. The award is named after the founder of the Traffic Institute at Northwestern University. The IACP’s Highway Safety Committee selects the local and state police, as well as the ci-
vilian, winners; and the National Sheriffs’ Association selects the winners from among County Sheriffs’ Offices.

**MCSAP**: The Motor Carrier Safety Assistance Program, a system of federal funding of state agencies to assist the federal Motor Carrier Safety Administration in enforcing motor carrier safety and hazardous materials regulations at the state level.

**MUCTD**: The Manual of Uniform Traffic Control Devices, a publication of the Uniform Traffic Control Devices Committee, that lists and describes the state of the art in traffic signage, road markings, traffic lights and other traffic control devices.

**NDLC**: The National Driver License Compact, a program administered by AAMVA in which approximately 43 states participate.

**NDR**: The National Driver Register, a NHTSA program linked by AAMVANET and maintained by the American Association of Motor Vehicle Administrators.

**NHTSA**: The National Highway Traffic Safety Administration, an organizational unit of the U.S. Department of Transportation which provides federal grants to state pass-through agencies for the maintenance of innovative traffic safety programs, conducts research, and sets federal motor vehicle safety standards (FMVSS).

**NIST**: The National Institute of Standards and Technology, formerly the National Bureau of Standards.

**NSA**: The National Sheriffs' Association.

**NSC**: The National Safety Council.

**NTC**: The National Troopers' Coalition.

**NTSB**: The National Transportation Safety Board, which investigates major transportation crashes and makes recommendations for improved transportation safety.
**NUCPS:** The Northwestern University Center for Public Safety (formerly the Traffic Institute at Northwestern University) in Evanston, Illinois, which conducts research and offers innovative traffic safety training programs, including courses for commanders of police department traffic bureaus and divisions.

**OL:** Operation Lifesaver, a nationwide, nonprofit public information and education program dedicated to reducing crashes, injuries and fatalities at highway-rail grade crossings.

**OOT:** Officer on the Train, a highway-railroad grade crossing safety awareness program coordinated through a national railroad safety program, Operation Lifesaver. OOT places police officers aboard trains to radio traffic violations to other officers strategically located at or near grade crossings that have a history of collisions and traffic violations.

**OPERATION PIPELINE:** An enforcement effort along major highway corridors to identify and intercept drug couriers, for which intelligence data and training support is provided by the Drug Enforcement Administration.

**OPUE:** Occupant Protection Usage and Enforcement. A NHTSA program designed to provide police agencies with a model curriculum and programs to promote and enforce the use of safety belts and child safety seats.

**OSHA:** The Occupational Safety and Health Administration of the U.S. Department of Labor, which sets standards in many occupational safety areas, including the allowable emissions of police traffic radar devices.

**OUIL:** Operating Under the Influence of Liquor, a criminal charge similar to DWI or DUI.

**PBT:** A Preliminary Breath Test, usually accomplished by means of an electronic fuel cell device, or a balloon-style device that determines at roadside whether or not a driver has consumed alcoholic beverages, and to what extent. Various fuel cell de-
sices have been approved by NHTSA according to standards developed by the IACP Highway Safety Committee’s Technical Advisory Panel.

**PMVI:** Periodic Motor Vehicle Inspection, generally a statewide program for the safety inspection of vehicles either at state-owned inspection stations or licensed private stations. The number of states with PMVI has been decreasing over the years.

**PTS:** Police Traffic Services.

**RSPA:** The Research and Special Programs Administration of the U.S. Department of Transportation, which is responsible for promulgating the provisions of the Code of Federal Regulations pertaining to the transportation of hazardous materials.

**SACOP:** The State Associations of Chiefs of Police, a division of the IACP, consisting of a designated representative of the Police Chiefs’ Association of each state.

**SAFETYNET:** Computerized nationwide data bank maintained by the Motor Carrier Safety Assistance Program for tracking commercial driver enforcement.

**SFST:** Standardized Field Sobriety Testing, a model curriculum developed by the IACP’s Highway Safety Committee and NHTSA for performing uniform and standardized roadside physical tests on suspected drunken drivers, based on medically approved techniques. The standardized tests consist of a walk and turn, one-legged stand, and horizontal gaze nystagmus.

**STEP:** Selective Traffic Enforcement Programs, targeted to the times of day, days of week, locations, and types of violations that cause crashes; an early form of directed patrol, but specifically devised for traffic enforcement.

**TAP:** The Technical Advisory Panel of the IACP that, in conjunction with NHTSA, sets and maintains SFST and DRE standards.
**TERROR ALERTS**: A color-coded system of alerts issued by the United States Attorney General, in consultation with the Department of Homeland Security, putting in place mandated security precautions for all federal agencies and recommended precautions for state, county and local agencies, ranging from green, the safest condition; to red, the condition of high alert.

**TITLE 49**: Title 49 of the Code of Federal Regulations (CFR), which contains the regulations on the interstate transportation of hazardous materials.

**UTCD**: Uniform Traffic Control Devices Committee, a group of primarily engineers who maintain and revise the National Manual on Uniform Traffic Control Devices.

**UVC**: The *Uniform Vehicle Code*, a model code that is maintained by a standing committee of experts, the National Committee on Uniform Traffic Laws and Ordinances.

**VDP**: Violator Directed Patrol.
Associations and Committees

The following is a listing of the associated groups currently active in the highway safety field, together with a brief description of their administrative organization and relationship.

**ALERT**
A nationwide organization of police emergency driver training instructors, ALERT meets periodically, usually at the FBI National Academy in Quantico, Virginia, to discuss matters of mutual interest.

**AAMVA (The American Association of Motor Vehicle Administrators)**
This organization represents the driver’s license and motor vehicle registration agencies in the United States, the District of Columbia, and the Canadian Provinces. The organization is regionalized, with a regional staff member living within each region. It has a Web site at [http://www.aamva.org](http://www.aamva.org), a headquarters in the Washington, D.C., area, and a salaried executive director with the full-time task of overseeing AAMVA functions and staff, including the following:

- **AAMVANET** (The American Association of Motor Vehicle Administrators Network) is a computer network that connects all member agencies and several federal agencies. The commercial driver license information system (CDLIS) and the National Driver Register (NDR) are connected to this network. Administrative messages, as well as driver’s license and registration checks, are available.

- **The Driver License Committee** is comprised of the various administrators involved in issuing driver's licenses. Many issues dealt with in this committee have a direct impact on law enforcement.

- **IRP** (The International Registration Plan) is a prorating
system of registering commercial vehicles between the states. AAMVA and the private sector work closely with member states to encourage and further enhance this concept. Under the concept, a commercial vehicle is registered in the home state and issued a plate marked “APPORTIONED.” At the time of registration, the applicant declares any other IRP member states in which s/he intends to operate, and a prorated portion of the registration fee is forwarded to each of these member states.

- **LEC (The Law Enforcement Committee, formerly the Police Traffic Services Committee)** is the only law enforcement group within AAMVA. This committee is made up of representatives of many of the same agencies that belong to the State and Provincial Police Directorate of the International Association of Chiefs of Police, Inc. It is important to maintain the law enforcement presence at AAMVA in order to have an impact on AAMVA’s decisions in the driver’s licensing and registration areas. The additional benefit of having the support of both the IACP and AAMVA on law enforcement issues is positive. The motor vehicle administrators, because they are the dues paying members of AAMVA, have the controlling votes to affect any decisions within their own administrations, and the police input, from a practical standpoint, is mostly advisory.

- **The Registration and Title Committee**, as in the case of the Driver License Committee, affects law enforcement directly. The issues of whether one or two plates should be issued to a vehicle, what kind of plates should be issued, and how they should be displayed, as well as anti-theft issues affecting the titling of motor vehicles, receive serious consideration by this committee.

**AASHTO (The American Association of State Highway and Transportation Officials)**

This association consists mainly of the directors of the public works and highways or transportation agencies in the United States. Its main thrust is in Washington, D.C., and concerns the federal highway trust fund monies that are dispensed by Congress.
This group is well-staffed and powerful as a lobbying group. Generally, the practical way for law enforcement to have input and dialogue with AASHTO is through a state member agency rather than through the association staff.

- The Traffic Safety Committee deals with traffic safety issues but mostly from the engineering standpoint. There is no representation from the area of law enforcement on this committee, nor is AASHTO currently represented in any law enforcement groups.

**ASLET (The American Society for Law Enforcement Training)**
Headquartered in Frederick, Maryland, this fast-growing association is a loosely knit group of national law enforcement instructors, both free-lance and employed by state and local training institutions and police departments. The group is largely comprised by use of force instructors, although other instructors are welcomed. It holds an annual conference at a different location each year, as well as regional conferences. It has a Web site at http://www.aslet.org

**CALEA (The Commission on Accreditation for Law Enforcement Agencies, Inc.)**
An organization co-founded by the IACP, NSA, and NOBLE that operates a voluntary accreditation program for law enforcement agencies and a "recognition" program that partners with state accreditation groups. Its Web site is http://www.calea.org

**CSG (The Council of State Governments)**
This national organization has representation from the executive level of each state's government.

**CVSA (The Commercial Vehicle Safety Alliance)**
Made up of enforcement agencies in many states of the United States and in Canadian provinces, this federation is responsible for enforcing the state-level equivalent of the federal Motor Carrier Safety Administration’s Rules, and the Hazardous Materials Regulations contained in Title 49 of the Code of Federal Regulations. In some states, membership consists of the state police and highway patrol; while in others it consists of the agency that issues
contract carrier operating rights, the state transportation agency that operates the scales used for truck weight and size enforcement, or whatever agency handles the federal Motor Carrier Safety Assistance (MCSAP) Program for that state. To join CVSA, a state must agree to conduct uniform roadside safety inspections of motor carriers and apply a sticker recognized by other member jurisdictions, so as to avoid putting interstate truckers through multiple roadside inspections in different states during the same time frame.

**HAPCOA:** The Hispanic American Police Command Officers’ Association, a group of Police Chiefs, Superintendents and other ranking command law enforcement officers of Hispanic American origin.

**IACP (The International Association of Chiefs of Police, Inc.)**
Headquartered in Alexandria, Virginia, the IACP has a membership of 20,000 police executives around the world, and operates with a salaried executive director and paid staff. It has a Web site at [http://www.iacp.org](http://www.iacp.org) and another Web site that provides a wide variety of information and enables members to communicate with one another and to obtain the answers to mutual questions and problems, at [http://www.iacpnet.com](http://www.iacpnet.com).

- **S&P** (State and Provincial Police Directorate) is comprised of 49 state police, departments of public safety, and highway patrol agencies in the United States, plus several provincial agencies in Canada and the Royal Canadian Mounted Police, which also provides traffic enforcement in some provinces in Canada. S&P has a division director and staff at the IACP headquarters. The division is divided into four U.S. regions that also include the contiguous portions of Canada. These regions are the Mountain Pacific, North Central, Southern, and North Atlantic. Each region has a regional chair, and one general chair on a nationwide level represents the S&P Directorate on the executive board of the IACP.

- **HSC** (IACP Highway Safety Committee) is a standing committee of the IACP that consists of a cross-section of
state and local police commanders who set policy and determine the IACP goals in the area of highway safety. The committee is appointed by the IACP president, and is comprised of up to 30 members. The members come from all types and sizes of law enforcement agencies, with consultants and representatives from the private sector as well. Other law enforcement groups, such as sheriffs and government agencies, such as the Federal Highway Administration and the National Highway Traffic Safety Administration, are also represented. S&P personnel provide staff support to the committee and its two subcommittees.

- **DRE Section** (Drug Recognition Experts) has been established within the IACP S&P Directorate to represent the DREs across the country. The Chair of the Highway Safety Committee appoints its members. DRE training leads to a certification program that establishes minimum skills for detecting and prosecuting the drug-impaired driver.

- **TAP** (Technical Advisory Panel) contains representatives from various disciplines, such as prosecutors, chemists, medical personnel, and police officers who are directly involved in the DRE and SFST programs and who are appointed by the Chair of the Highway Safety Committee. TAP advises the Highway Safety Committee and assists with keeping the DRE and SFST curricula and certification regulations updated.

- **ETATS** is the Enforcement Technologies Advisory Technical Subcommittee of the Highway Safety Committee (formerly SMATS, the Speed Measuring Advisory Technical Subcommittee). Its members are appointed by the Chair of the IACP Highway Safety Committee, and the membership consists of police officers, operators of testing laboratories, and manufacturers of traffic radar and LIDAR (Light Detection and Ranging) devices and automated enforcement equipment, such as red light running cameras and photo speed measuring devices. ETATS advises the Highway Safety Committee on the radar testing
program, which is overseen by the HSC and involves two
testing laboratories, one on the East coast and one on the
West coast, and an established consumer product list
(CPL) of acceptable radar and lidar units.

- **State and Provincial Police Planners** consists of plan-
ners from the state and provincial agencies, including state
police, highway patrols, and departments of public safety,
comprising the IACP S&P Directorate. The group meets
annually to discuss mutual issues affecting their agencies.
The S&P Directorate provides staff to the Planners.

- **SPADS (The State Police Academy Directors’ Assosciation)** consists of the commanders and managers of the
state police and highway patrol agencies in the United
States and Canadian provinces who operate training acad-
emies and are attached to the members of the IACP’s State
and Provincial Police Directorate. Annual meetings are
held and items of mutual concern are discussed. The S&P
Directorate provides staff to SPADS.

- **SACOP (The State Associations of Chiefs of Police)** is an
IACP directorate consisting of a coalition of state associa-
tions representing police chiefs in their respective states.
State police agencies and major city chiefs may belong to
some local SACOP associations in addition to being rep-
resented independently. SACOP is represented on the
IACP Executive Board by a general chair and receives as-
sistance from the IACP staff.

- **Vehicle Theft Committee** is a standing committee of the
IACP that oversees research and makes recommendations
to the Association regarding the problems of theft of mo-
tor vehicles and heavy construction equipment.

- **The Major City Chiefs** is a group of chiefs from the lar-
ger metropolitan areas of the country. Meetings are called
to discuss issues of mutual concern and to seek solutions.
This group neither has a dedicated representative on the
IACP Executive Board nor dedicated IACP staff; how-
ever, because of their prominence and professional com-
petence, individual members usually are represented as individuals on the IACP's Board of Officers.

IADLEST (The International Association of Directors of Law Enforcement Standards and Training)

This group is composed of the staffs and directors of the states’ POST (Police Officer Standards and Training) councils, boards, commissions and other regulatory agencies that set the standards for police officer certification and training. Membership is also extended to staffs of certified police academies in each state and to similar agencies in Canada and other nations. IADLEST recommends model standards for POST agencies and police academies and develops model curricula in many areas, including police emergency driver training and the operation of electronic speed measuring devices, such as radar, photo radar, and LIDAR. The group has an Executive Director who operates out of an office in Albion, Michigan, and its financial offices are located in Hilliard, Ohio. IADLEST has an annual meeting each June, and meets in the fall at the site of the IACP Annual Conference; its Executive Board meets once during the Winter in conjunction with the National Sheriffs’ Association’s conference in Washington, DC. It has a Web site at http://www.iadlest.org.

NCSL (The National Conference of State Legislators)

This group is composed of speakers of states’ houses of representatives, presidents of states’ senates, majority and minority leaders and whips, and influential committee chairs and members of the various states’ legislatures. It meets periodically to discuss trends in legislation and to share resources and ideas.

NCUTLO (The National Committee on Uniform Traffic Laws and Ordinances)

This group is responsible for maintaining the cutting edge of legislation and for publishing the uniform vehicle code (UVC), a recommended model code used by law enforcement agencies, motor vehicle administrators, and legislators to formulate new traffic laws and ordinances. The goals of the group are (1) to have uniformity among the traffic laws and ordinances of the various states and jurisdictions, so persons traveling from one state or commu-
nity to another will not unwittingly find themselves in violation of some unique law that exists only in one jurisdiction; and also (2) to address traffic safety problems with innovative and effective legislation. This group is comprised of a cross-section of voting members, including officials of state agencies, nonprofit organizations, and dues paying private sector representatives, who serve indefinite terms. The secretariat is currently located at the Center for Public Safety of Northwestern University in Evanston, Illinois. The group meets at least biennially to debate proposed changes to the Uniform Code.

**NGA (The National Governors’ Association)**
This organization consists of the governors of the 50 states, as well as those of the U.S. territories, and the premiers of the Canadian provinces and their top staffs. Members meet periodically to discuss issues of mutual concern among the states, and to support, propose, or endorse legislation in many areas, including criminal laws and highway safety.

**NOBLE (The National Organization of Black Law Enforcement Executives)**
Headquartered in the Washington, D.C., area, NOBLE is comprised of African American command officers in law enforcement agencies. It conducts training programs in areas such as cultural diversity and domestic violence, promotes proactive policies to end discrimination in law enforcement agencies, and takes positions on legislation.

**NSA (The National Sheriffs’ Association)**
Comprised of the elected law enforcement officials at the county level throughout the United States, NSA has a Traffic Safety Committee and is also represented on the Highway Safety Committee of the IACP with special consultant status.

**NSC (The National Safety Council)**
This large, nonprofit safety organization focuses on the prevention of home and industrial accidents and, in part, on traffic safety. It also franchises a nationwide model defensive driving curriculum, including one targeted at police driver training.

**NTC (The National Troopers' Coalition)**
This fraternal and professional organization is for rank-and-file members of State Police and Highway Patrol organizations.

**UTCD (The Committee on Uniform Traffic Control Devices)**

This working committee is composed mainly of traffic engineers employed by state highway departments and departments of transportation. It maintains the *Manual on Uniform Traffic Control Devices*, the engineer's bible for the installation of traffic lights, signs, striping, and other traffic control devices. The IACP has one member (and alternate), who represents the law enforcement point of view on the issues discussed. The discussions are lively, and law enforcement has one vote.
PART TWO:
Community-Oriented Traffic Policing
Are Effective Traffic Officers An Endangered Species?

Sometimes effective traffic enforcement in certain localities appears as though it has gone the way of the Dodo bird.

The next time you take a trip for an hour or more, count how many police officers you see who have stopped violators or whose vehicles are parked where they can strategically observe the traffic flow. Better yet, observe how many officers pass stranded motorists without stopping to assist. And when was the last time you noticed an officer in a marked patrol car watching an intersection for stop sign violations, or surveilling a stretch of road for motorists passing over solid lines?

More dangerous still is the number of heavy commercial vehicles traveling at speeds of 80 mph and more, often practically riding the rear bumpers of some small passenger cars in front of them, awaiting a chance to pass. Often, these drivers have been exceeding the allowable hours of driving under federal regulations, and may be popping stay-awake pills just to keep their eyes open. These big rigs are often overloaded, and few could stop within the distance prescribed in the federal rules. They are only infrequently stopped and cited for speeding, yet if they collide with other vehicles at those speeds, it is a prescription for instant death to innocent users of the highway.

Inconsistent, Untargeted Enforcement

Too frequently, when enforcement does take place, it consists of issuing a batch of citations at a location where motorists may be exceeding the speed limit but crashes are minimal, instead of targeting a location where unsafe actions are contributing to crashes.

This type of inconsistent, “here today and gone tomorrow” enforcement only arouses ire and disrespect on the part of the public. Motorists driving at legal speeds tend to be passed as though they
are standing still, and some motorists routinely disregard traffic control devices. Is it any wonder that criminals in some jurisdictions no longer hesitate to ply their trade for fear of being stopped by an alert traffic officer? Or that some motorists whose aggressive driving mirrors an aggressive personality are increasingly settling traffic disputes with gunfire? Why should license revocation be a deterrent, if the odds against being stopped are so great? And is it any wonder that despite improvements in vehicle and roadway safety and public crusades, the deaths, suffering and lost productivity from traffic crashes still make them America's number-one public health hazard?

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Accountability Problems

If you ask your officers how they can drive around for eight hours without making a traffic stop, they will say they are busy running from call to call. Yet more creative use of whatever uncommitted time is available would yield major dividends in the fight against traffic deaths and injuries.

Some departments have bred a generation of officers who rely on moving radar for all their traffic activity—if, indeed, they regard traffic work as real police work at all. Officers with this attitude lose the many opportunities presented when serious crimes are detected through a supposedly random traffic stop.

They also miss out on the public relations benefits accrued by them personally and by the department from providing a variety of services and a sense of security to the traveling public.

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Policy Considerations

Reversing this trend needs to start at the top. As administrators, through our written policies, public pronouncements and personal examples, we need to demonstrate that we believe traffic work is an important part of every uniformed officer's job. We should insist that line supervisors accompany traffic officers on their shifts occasionally, and call them to task if they fail to stop vehicles for
not only moving traffic violations but also for equipment violations, or if they fail to spend part of each shift on visible traffic patrol.

Making Use of Data

Systems should be in place to review the traffic productivity of our officers, focusing on the number of contacts per hour rather than setting a quota for citations. We need to look at the quality and variety of citations and warnings issued and match them up through an effective traffic records system to be sure the traffic laws are being enforced at the times and places where they can reduce collisions. We must be responsive to public complaints about dangerous traffic conditions. And we need to retrain our field training officers to be sure they acquire the skills that good traffic officers should have, and pass them along to the new officers on the department.

Another valuable use of data is when police departments capture the apparent race and the gender of the motorists stopped by their officers, as well as the frequency and results of consent searches, and periodically analyze these data. This type of information, if used wisely, can raise “red flags” that point out any instance of bias-based enforcement, such as illegal profiling, and potential incidents of gender harassment. Some agencies, such as the Ohio State Highway Patrol, make this statistical information available to the public on their Web sites. Caution is advised, however, in the interpretation of this data. The raw data is of little value unless one knows the racial makeup, not only of the jurisdiction itself, but also of the traveling public, which—particularly on Interstate highways—may vary considerably from the resident population of the area. It is also important to account for the fact that certain types of violations, such as safety belt violations, tend to be committed in greater numbers by some age and ethnic groups. In such cases, the answer is not to stop issuing tickets to members of those groups—because to do so would be to forgo the opportunity to save lives—but rather to combine enforcement with educational and public relations programs to increase the rate of voluntary compliance among those groups.
Conclusion

If we allow good traffic work to go the way of the Dodo bird, we will eventually consign the entire patrol function to the same fate, because traffic is such an integral part of visible, alert patrol tactics. Once this type of police work makes it to the endangered species list, it will take more than a couple of additional accreditation managers sitting in the office to restore sanity to our troubled streets and highways.
Traffic law enforcement gives officers at the state, local, and county police levels the unparalleled opportunity to save lives. The causal relationship between consistent, goal-oriented enforcement and casualty reduction stands clear and unimpeachable. Traffic enforcement is demonstrably justifiable on its own merits. Yet, today an emerging secondary benefit reinforces the value of roving patrol officers. They have become major crime fighters!

America's long-standing reliance on the motor vehicle has put crime literally on the nation's streets and highways. Murderers, robbers, auto thieves, and drug traffickers all travel by motor vehicle. And when they violate traffic laws—a frequent occurrence because criminals typically are preoccupied by their crimes—that familiar police light appears in the mirror. This once meant two things: a short conversation with the officer and a traffic citation. Today, much more can follow.

What happens in those few moments when an officer approaches a violator describes the quiet revolution that is taking place within law enforcement. Officers more frequently recognize that the violator doesn't quite fit the circumstances.

The subject's demeanor, the caliber of responses to questions, a lack of knowledge about the vehicle—these and similar factors noted by the alert, trained observer recommend further investigation. And further investigation pays off in criminal arrests.

None of this results from mere luck. Specialized training, a growing reservoir of favorable experience and—perhaps most importantly—the intelligent wariness of the individual combine to transform him from a traffic officer into something more. It's as if we're getting two people for the price of one: an officer skilled in traffic and another knowledgeable in general criminal investigative techniques.

Unfortunately, some police officers, due to lack of training or prejudiced attitudes, have targeted persons of particular racial or
ethnic groups, resulting in bias-based enforcement. Police departments should make sure that they have adopted policies that prohibit bias-based enforcement practices, and that they have trained their officers how to avoid using these tactics and still patrol effectively. They should also have monitoring procedures in place to address these practices if they occur. The best way for officers to avoid bias-based enforcement practices is to ask themselves the “But for” question when stopping or searching a vehicle—“But for this person’s race or ethnicity, would I have stopped him/her?” Vehicle stops should be based on reasonable articulable suspicion that a law has been violated, not on race, age, gender or ethnicity.

That is not to say, however, that officers responding to a specific subject description are wrong to pull over and interview anyone answering that description. That is not bias-based law enforcement—it is simply using common sense.

Traffic Enforcement and Crime Reduction

University of Maryland Criminologist Lawrence S. Sherman reinforces the importance of traffic law enforcement in reducing general crime: “The higher the level of traffic enforcement, the lower the level of robbery. Aggressive traffic enforcement creates a broad general effect of deterrence.” He adds that some crimes—robbery, rape, burglary, aggravated assault, and car theft—can be prevented by a visible police presence.

This is precisely what highway patrols and the traffic units within state, county, and local police agencies offer: a visible presence and aggressive traffic enforcement. But the record now shows they provide the added bonus of potential criminal detection. The alert officer, patient and thorough, may capture a felon, recover contraband, or disrupt a crime in progress.

For example, a California Highway Patrol officer jotted down the plate number of a Georgia car because he suspected it should have been registered in California. A follow-up check with Georgia authorities showed the car was sought in connection with the kidnapping of a 12-year-old girl. Two weeks later the officer spotted the
same car, determined that it was still wanted, called for backup, and made the stop. The result: one kidnapper arrested, one 12-year-old rescued.

A motorcycle officer saw two men running across the freeway, each carrying a large box. They darted into the bushes before he could reach them. Two hours later he sighted the same pair, again sprinting across the freeway and carrying large boxes. This time he arrived just as they disappeared into the shrubbery. He ordered them out, but they emerged empty-handed. A search produced several boxes loaded with small appliances. The pair had systematically shoplifted merchandise from a nearby mall, each time dashing across the freeway to a motel room.

A third officer drove by a parked car; nothing appeared unusual, until he saw two heads duck below the window line. He checked the license plate by computer and received the return message that the subjects were considered armed and dangerous. By now the vehicle was moving, and the officer followed, while calling for backup. The pursued vehicle fled at high speed. Moments later the car crashed, and the occupants were captured. Both were wanted on suspicion of kidnapping, armed robbery, rape, grand theft and attempted murder.

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**Violator-Directed Patrol**

Several years ago, the U.S. Drug Enforcement Administration conducted an “Operation Pipeline” drug interdiction seminar in New Mexico, opening the vista of expanded criminal enforcement by traffic officers. Yet, the troubling echo sounded by those already involved in Pipeline was the required specialization of personnel, meaning that traffic responsibilities had to be reduced proportionately. For agencies already struggling to handle traffic with diminishing uniformed strength, siphoning resources to yet another new program was unappealing. But the concept of drug enforcement made real sense; the challenge became how to mount an unrelenting traffic enforcement effort, while expanding the capacity to conduct criminal investigations.

Arizona met this challenge through a program called VDP (Violat-
tor Directed Patrol). VDP concentrated uniformed strength in areas with a high frequency of collisions, and it upgraded the criminal investigation training of highway patrol officers—initially in a targeted area, but eventually including all officers. VDP listed simple, practical objectives:

1. Provide maximum patrol visibility in areas of high-collision frequency.
2. Concentrate traffic enforcement on violations causing the most collisions.
3. Develop the ability and the willingness of the individual officer to increase criminal apprehensions, drug seizures, and recoveries of stolen vehicles.
4. Work closely with the Criminal Information Bureau by providing criminal intelligence information and referrals on patrol-generated criminal cases.
5. Increase, through training, the ability of officers to apprehend criminal violators.

In practice, Arizona found that a VDP project in a given area virtually eliminated collisions, thereby realizing the traffic safety objective. The criminal investigative objective required more time, because the skills being taught were new. Training dealt with myriad subjects. Officer safety was stressed, particularly in situations requiring searches or arrests. The fundamental cautions were reemphasized: Wear gloves, watch for needles, and call for backup.

Time was invested in teaching probable cause. A few of the basics: Is the driver the registered owner? Is the driver's ID valid? Are vehicle and driver from the same location? Does the driver know where and when the car was last serviced? Is the car a rental? If so, did the driver rent it? Is the driver authorized on the rental agreement? Is luggage in the vehicle? How long is the trip? These questions were asked, plus many more. As training progressed, one thing became clear; there is no profile of the “typical criminal” or “typical drug trafficker.” There may be indicators, certainly, but no-cut-and-dried formula. Experience reveals that people and vehicles of every description can be criminally involved. When you look at behavior rather than at race, age, or gender—factors over which the driver has no control, you help to
ensure that your suspicions are not bias-based.

Any stop begins with a traffic infraction, observed and identifiable. Development of probable cause for suspected criminal activity starts only after the legitimate traffic stop. And very often, it ends with a consent search, another critical element in many investigative sequences. Consent is the key word. The subject must consent, preferably in writing.

Arizona's results were rewarding. The Highway Patrol Bureau (500-plus officers) recovered 600 to 700 stolen vehicles per year before VDP. The figure doubled to 1,413 with VDP. Drug seizures and felony arrests reflected similar increases. All of this was achieved while maintaining the desired emphasis on traffic safety objectives; in fact, Arizona's traffic fatality rate stood at an all-time low.

The California Highway Patrol initially became involved in Operation Pipeline because several Pipeline highways traverse the state, notably Interstate Routes 5, 8, 10, 15, and 40. Officers working these highways learned the pertinent identification skills and legal latitudes. So did commercial officers, whose investigative abilities were upgraded through a program known as CONET (Commercial Officer Narcotic Enforcement Team). CONET also counts as full partners the 20 drug-sniffing dogs now fielded by the CHP.

Next came training of all field officers, bringing the number of skilled patrol observers to approximately 5,000. The results describe the payoff. The CHP makes more in-custody arrests than any other California police agency, and many of the arrests are of suspected felons.

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**How VDP Works**

The new sensitivity imparted by the training boosted drug seizures and drug arrests, but the trigger mechanism remains a traffic stop. The seemingly minor infraction can start a chain of events leading to a narcotics find. Here are examples:

1. The driver of a vehicle stopped for a broken windshield
could produce neither a driver's license nor a vehicle registration card. Prior to storing the vehicle, the officer made a routine inventory. The trunk contained 227 pounds of marijuana.

2. A motorist whose car engine was misfiring approached an officer who was issuing a citation and sought help to arrange a tow. The officer noticed that the vehicle displayed no registration stickers. He checked the plate number and discovered the vehicle was listed as stolen. He arrested the driver. A subsequent vehicle search uncovered drug manufacturing equipment, methamphetamines and marijuana.

3. Two men aboard a tractor-trailer stopped for a traffic violation exhibited what the CHP calls indicators—not a definition, but a suggestion to investigate further—of possible criminal association. Written consent to search the truck led to the discovery of 1,452 pounds of cocaine, valued at $57 million on the street.

4. Cocaine proved to be secreted in a passenger car searched with the driver's consent after being stopped for a traffic violation. A drug-sniffing K-9 quickly located a metal box, disguised as a gas tank, attached to the rear undercarriage. Inside: 20 pounds of the drug.

5. A freeway beat officer, going off-duty and heading toward his office, spotted a wrong-side driver on a city street. He made the stop, found the subject was under the influence; a vehicle inventory turned up a hypodermic syringe containing a brown liquid. Interrogation led to an admission that the subject was on parole. The parole office authorized a search of the subject's home, which uncovered several drug caches, including one in the wife's purse. She also was arrested for possession of narcotics.

6. Occasionally, the evidence simply presents itself. Investigating a crash, officers found an Uzi machine gun had been ejected from one vehicle. That dramatic clue led to a search of the suspect's clothing, revealing marijuana and a
bundle of cash.

7. Finally, a traffic stop of a man driving a rental truck led to a consent search. This time the contraband was not drugs, but stolen furniture worth $13,000.

Go Where the Problem Is

Forty years ago, traffic enforcement emerged from the dark ages of hit-and-miss deployment to the logical and effective strategy of selective enforcement. Go where the biggest problem is; attack the major causes. That's the basic reason drunk driving became such a high enforcement priority and why safety belt enforcement is emphasized today. Effort applied in those two areas produces proportionately greater benefits.

Criminal enforcement in those earlier years was mostly a bonus. Felony arrests were infrequent, not because criminals weren't using cars, but rather because the importance of emphasizing criminal enforcement had not yet made itself widely felt within traffic work. The necessity for combining skills began to overtake all police agencies, as phrases such as “cut-back management” and “doing more with less” became familiar. The urgency to run tighter ships is never more obvious than now, when governments at all levels are short of funds. The tendency to expect more of public employees is common and police agencies are not exempt.

Criminal investigators now look to road patrols for help, both in gathering intelligence and in intercepting criminals on the streets and highways.

The reaction of state police and highway patrols has been positive, but their response was restrained because the resource equation seemed out of balance. Shifting emphasis always means shifting resources from one priority to another—or does it? That ultimately proved the key—finding a way to absorb a new responsibility without undermining existing duties. Officers working traffic enforcement—fulfilling a critical safety mission—can undertake the criminal identification task, as long as they can handle it in parallel with the basic traffic assignment. History now declares
that they can and they do, and that's why the new program works so well.

It also provides an answer to the challenge sometimes issued by irritated motorists reacting to a traffic stop: “Why aren't you out arresting criminals?” We are, but in addition to—not at the expense of—the traffic law enforcement responsibility.

Patrolling our streets and highways remains the vital task of protecting public safety, through the proven deterrence of aggressive, intelligent traffic law enforcement. That won't change. What has changed is the level of police officers' capabilities. They just got better. And the public is reaping the benefits.
“Community policing” is the watchword of the current Century. Most progressive communities have long ago jumped on the bandwagon, and reports from consultants examining law enforcement agencies from Boston to Los Angeles have recommended its adoption as the best response to the crime problem. Refinements to community policing's basic concepts, such as Professor Herman Goldstein's “problem-oriented policing,” have achieved success in localities as diverse as Newport News, Virginia, and London, England.

If this type of policing is being touted as the answer to crime, perhaps it is time to look at its potential impact on a problem that is more preventable and looms much larger in terms of its devastating effect on the public—the daily toll of death, injury and property damage on our nation's streets and highways.

In a recent year, according to statistics from the National Highway Traffic Safety Administration (NHTSA), a highway death occurred every 13 minutes in the United States. In contrast, the FBI Uniform Crime Reports indicated one murder every 21 minutes in that same year—that is, 18,967 deaths due to murders versus a total of 40,115 deaths in fatal traffic crashes. Additionally, 3.2 million persons were injured in traffic crashes and economic damage totaled $230.6 billion—more than 18 times as much as the estimated $13 billion economic loss due to crimes.

If our mission is truly “to protect and serve,” how better to accomplish this than by making our streets and highways safer for those who use them on a daily basis? Is there a way to apply the concepts of community policing to the traffic problem?

Although the definition of community policing still appears somewhat hazy, the following principles seem to have emerged almost everywhere it has been truly implemented (as opposed to those jurisdictions where it is embraced only in theory):
1. An admission that the police alone cannot solve the problem; *direct participation by citizens* is also required.

2. A shift in the focus of problem definition to a *customer orientation*, and a corresponding concentration on those problems identified by the citizens themselves as being of greatest concern.

3. An emphasis on *proactive, rather than reactive, policing*, replacing a total preoccupation with 9-1-1 calls with efforts targeted at particular problems.

4. The identification and implementation of *a range of non-traditional approaches*.

5. The redirection of officers from their cruisers into more direct contact with the community, along with the delegation of decision-making authority to the patrol officer's level.

Let's examine these principles and see how community oriented policing strategies can be applied.

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**Admitting the Need for Citizen Help**

Although our streets and highways have grown relatively safer over the past decade, with the death toll per 100 million vehicle miles traveled dropping, an increase in licensed drivers and registered vehicles, as well as in congestion, is clogging both our arterial and our city streets. Traffic crashes remain the leading accidental cause of death in the U.S. and are responsible for a major negative impact on our economy. Most state, county, and local police departments are understaffed and can use all the help they can get.

Just as Neighborhood Watch programs have helped discourage residential burglaries and led to the apprehension of criminals, so can group and individual action by citizens lead to the identification of unsafe streets and highways and the apprehension of drunken and drugged drivers, as well as of those whose total disre-
spect for law and order leads them to drive after their licenses have been suspended or revoked.

A few states have experimented with REDDI (Report Every Drunk Driver Immediately) toll-free telephone lines where citizens can report drunk drivers, but we have only begun to scratch the surface of available citizen assistance and involvement. Our crime prevention officers need to team up with our traffic officers and let participants in Neighborhood Watch know how to report dangerous drivers. Taxis, public utility vehicles and others with commercial two-way radio communications, drivers with cellular phones and truckers with CB radios can all be enlisted in the war on dangerous driving.

Having Our Customers Identify Problems

Social scientists have discovered that, in terms of its effect on the quality of life in the United States, the fear of crime is perhaps as important as the presence of crime itself. Similarly, practitioners of community policing have found that helping residents clean up neighborhoods of such nuisances as abandoned cars and dilapidated buildings allows people to feel safer on the streets, instills more pride in communities, and gets citizens into the habit of working with the police.

Just as people fear a gang of roughnecks on the street corner or the presence of a neighborhood drug hangout, so do they fear for the safety of their children playing near the street if their neighborhood is plagued by screeching tires at all hours.

Thanks to interstate speed limits and monitoring criteria, traffic enforcement efforts in recent years have been diverted to the interstate system. Citizens who do not respect the arbitrary 55 mph speed limits posted in areas selected because of population figures rather than of traffic hazards, have come to regard speed violations as trivial. We must try to restore respect for traffic laws by deploying more officers to the locations where the citizens themselves are troubled by dangerous drivers. We must teach our officers to rely on more than just a radar gun. People will feel safer—and those prone to disobey the law will be more effectively de-
tered—if some of the low-profile radio cars now sitting at crossovers could spend more of their time in high-visibility activities, such as monitoring solid lines, stop signs and school bus stops; sitting in locations where neighbors complain about careless drivers; and frequently checking vehicles with defective lighting equipment while patrolling an area characterized by licensed drinking establishments. The information that we need in order to target enforcement toward the locations, times and types of violations that most concern citizens can come from a number of sources:

1. Telephone calls to the police station from citizens complaining about traffic conditions should be properly referred for action, not ignored.
2. Some police departments make available a bulletin board on their Web sites where citizens can register such complaints.
3. Public information officers should monitor radio talk shows, editorials, and letters to the editor of local newspapers to be more aware of public concerns, and should pass this information onto traffic commanders.
4. Community officers who learn of these concerns at neighborhood meetings should always follow through with appropriate enforcement action.

Targeting Proactive Enforcement

As police departments move away from the notion that all calls for service, regardless of their nature, require an immediate response by uniformed officers in radio cars, and adopt differential response strategies that permit the use of directed patrols designed according to crime analysis, we need to examine our traffic records systems, as well. Do our traffic records adequately identify the times of the day, days of the week, locations and violations that are causing the most serious traffic crashes? Do the traffic citations issued indicate adequate enforcement against these types of violations, or are our officers simply looking for easy targets?

In developing directed patrols, we need to be sure that traffic enforcement is one of the priorities, and that it is targeted toward the known causes of crashes and the traffic problems of most concern
to our citizens. We must also encourage our officers to stop and direct traffic whenever possible at locations where congestion poses an annoyance to the traveling public.

Using Nontraditional Approaches

Saturation enforcement and the issuance of traffic tickets have traditionally been the primary means used by police to make our streets and highways safer. However, just as proponents of community policing have employed a broad range of strategies and involved other government and private agencies to attack the crime problem, these strategies will also alleviate traffic problems. If available manpower does not permit adequate enforcement at a location where illegal left turns are causing collisions, why not team up with the Public Works Department to erect temporary barricades or some other solution? Why not convince the city to condemn and tear down a vacant building to make room for a left-turn storage lane? The possibilities are limitless, just as they are in any other form of community policing.

Delegating Authority

In these days when risk management and national accreditation are moving us closer to a painting-by-the-numbers style of law enforcement, we must find new ways to empower our employees to work on innovative solutions within the community and to make it clear that they will not be penalized for doing so. We must replace enforcement strategies that too often lead to officers sporadically “swooping down out of nowhere” to ticket citizens in response to a commander’s once-a-month concerns about activity, or a loud complainer who gets the right ear at headquarters.

Enforcement can be efficient and still not be effective, but effective enforcement by its very definition is always efficient. We need to move our officers out into the community, both to perform high-profile stationary observation at strategic times and locations and to make them available and approachable to citizens who wish to exchange valuable information on neighborhood problems,
crime and other concerns. It is no longer a viable excuse to say that our officers “don't have the time”; indeed, we cannot afford not to develop this type of interactive policing.

Conclusion

The economy of the United States and Canada goes through cycles. One time the stock market will be cranking and producing near-record returns, and the next, a downturn or even a recession will loom. Even in boom times, however, police departments find it difficult to obtain the resources they need for the demanding jobs that lie ahead. They also find it difficult to hire qualified personnel, because the very qualifications and traits they are looking for in police candidates—moral integrity, excellent written and oral communications skills, and fitness and dexterity—are the same skills private industry is looking for, and the police are seldom funded adequately to compete with private sector salaries. Nevertheless, with deaths, injuries and property damage from traffic crashes eclipsing all other accidental causes of human suffering and economic loss, we cannot afford to neglect the traffic problem. By adapting community policing strategies to traffic enforcement, we can “work smarter” and obtain more community support for our efforts.
Community Policing and Traffic Enforcement: Not Mutually Exclusive

Many jurisdictions around the world are embracing the concepts of community policing and problem-oriented policing as a means to draw the police and the public closer together and to make the most efficient use of scarce resources.

Citizens want law enforcement to help them with many concerns, including street-level drug usage, deteriorating neighborhoods, and crimes of violence.

Community policing and problem-oriented policing each posit the theory that the problems of crime and disorder in the community cannot be solved by the police alone. The roots of these problems go deep into our culture and times. We need commitment, involvement, and support from the total community as we go about the task of reducing fear and making a safer environment.

These new policing styles also realize that the officer on the beat or in the squad car, delivering direct police services to the people, is often in the best position to recognize problems and must be given reasonable latitude to develop innovative and nontraditional solutions to these problems, in concert with the community.

The IACP Highway Safety Committee is concerned that, in adopting these new policing strategies, communities do not overlook the number one public safety problem today, in terms of deaths and serious injuries and its impact on the quality of life: traffic crashes. Nationally in the United States, more than 40,000 people are killed in traffic crashes each year, and 3.2 million are injured. Thus, traffic deaths remain, by far, the largest single cause of accidental death. Traffic crashes cost U.S. society $230.6 billion a year in economic loss—including uninsured work losses, vehicle damage costs, and cargo loss—and outstrip cancer, heart disease, AIDS and all other causes of death for Americans age one to 44 years. The situation is similar in most
other industrialized nations. As we redouble our efforts to improve policing methods and obtain more community support and involvement, let us make sure that traffic enforcement is not neglected. Without safe streets and highways, we cannot truly say we are reducing the level of community violence and fear, and making the streets safe for our citizens.
After a decade of decline, traffic deaths on our nation’s highways are edging up again. And after a decade of success in preventing the percentage of highway deaths that are alcohol-related, these, too, are on the increase. Despite the many improvements in engineering of vehicles, highways and signage, and despite increased educational efforts, the single most effective way to have a positive impact on reducing carnage on the road is consistent, effective enforcement of the traffic laws.

Along with the increase in serious traffic crashes, we are seeing a decline in street-level enforcement. One of the first specialized units to fall to budget cuts in many police departments is the traffic unit. Without a specialized unit, many police officers today do not see traffic enforcement as one of their priorities. In some cases the leadership of their departments sends them a signal that traffic enforcement is not all that important. In the worst cases of all, a generation of officers who were allowed to slough off traffic enforcement as unimportant have advanced to supervisory positions, where they fail to keep track of what the officers under their commands are doing in traffic enforcement, and are breeding yet a succeeding generation to whom traffic means only working a paid detail for extra money, not something that needs to be done every hour of every day.

Finding Excuses Not to Enforce Traffic Laws

It is easy to find convenient excuses for not making traffic stops: “I don’t want to be accused of racial profiling”; “traffic stops are too dangerous”; “the only time someone registers a complaint about me is when I make a traffic stop”; “I’m focusing on drugs and other big busts”; or “traffic stops and community policing don’t go together.”
Meantime, on average, a person was injured in a traffic crash somewhere in the United States once every 10 seconds last year, a person was killed every 12 minutes, the economic cost of traffic crashes was estimated at $230.6 billion—money that could be used instead to reduce the national debt, fund college loans for deserving high school seniors, provide better medical care for the disadvantaged, put more police officers on the street, or fund any of the other services that government should be providing its citizens. This is not to mention that the victims of traffic crashes and their next of kin hurt every bit as much and suffer every bit as excruciatingly as the victims of crimes.

Viewed in this context, the convenient excuses for not insisting that the entire uniformed force regards traffic enforcement as an important part of its responsibilities do not sound as valid anymore.

The argument that traffic stops should be ignored in order to focus on more important crime is perhaps the most bogus of all. Burglars, by and large, do not walk to and from the jobs they pull—they ride in motor vehicles. Bank robbers don’t case their targets and flee from the scene of the crime very far on foot—they soon jump into a motor vehicle to make good their escape. Serial killers and rapists by and large do not stalk their victims on foot—they move from place to place in cars. Drugs don’t move into your community on horseback—they are transported in motor vehicles. And the 9/11 terrorists didn’t hitchhike up and down the eastern seaboard for a year before they hijacked those airplanes on that fateful day—they drove. Many criminals are easy pickings for alert officers who are constantly on the lookout for traffic violations. Criminals frequently pay little attention to other laws, such as fastening their safety belts, registering their vehicles on time, speeding and reckless driving, driving after drinking or taking drugs, and keeping their vehicles’ equipment in shape. The annals of law enforcement are filled with cases where dangerous criminals were apprehended as the result of what started out as a stop for something as simple as failing to use their turn signals.

The police are the department of state, county and local governments that the most complaints are received about, but the para-
dox is that we are also the department that the most compliments are received about! The government also has to defend more lawsuits against the police than any other of its other agencies. This is because our officers have more contacts with citizens than any other government agency. However, if you really believe that the public’s conception of community policing doesn’t include traffic stops, simply survey the people in your community as to what they feel the most serious problems in their neighborhoods are, and what services they would like to see the police increase. We guarantee that traffic problems will rate either number one or number two among citizen concerns, in quiet residential communities and in crime-ridden inner cities alike. Citizens want to see the police on the street, and they don’t want to see them ignoring traffic violations. If your officers enforce the traffic laws in ways that are firm, fair, consistent and courteous, the public will not only accept it, they will applaud you for it.

But, you say, what about the fears my officers have of being accused of racial profiling? And how do I answer the officers who say that the only time public complaints are lodged against them is in connection with a traffic stop—ergo, no more traffic stops, no more complaints?

Many of the “profiling” complaints that are registered against officers are really based upon the officers’ attitude rather than upon whom they chose to stop. America is truly the “land of the free,” and citizens take seriously what they view as their God-given right to travel, free of interference. When the flashing lights go on and they first spot a police cruiser behind them, a spot of fear and a spot of resentment begin to well up inside even the most law-abiding of citizens. What transpires between the officer and the citizen at that point is one of the most crucial of all police-citizen interactions.

This, of course, assumes that the officer is stopping a normally law-abiding citizen—not a homicidal maniac, a wanted criminal, a terrorist, or one of the many other dangerous people who also populate our streets and highways. Between the deaths and injuries that occur to officers from being struck by passing traffic as they are standing alongside the violator’s door, having their
cruisers struck in the rear end as they sit inside them writing tickets, or being attacked without warning by criminals behind the wheel who feel they have nothing to gain and everything to lose if officers discover what they are up to, traffic stops are also statistically among the most dangerous tasks your officers undertake.

Proper Training Equals Proper Traffic Stops

It makes sense, therefore, that at least as much time should be spent training your officers in the proper way to make safe and legal traffic stops, as is spent on building searches, domestic violence complaints, crime in progress calls and other potentially dangerous duties. Yet in many cases, very little training is offered on this subject beyond the basic academy level, and very little direct street supervision occurs with supervisors “covering in” on traffic stops and observing the way their officers handle them.

The majority of illegal profiling complaints can be avoided if our officers are taught to apply the “but/for rule” to their traffic stops and searches. They must be taught to ask themselves: “But for this person’s race or ethnicity, would I have stopped her/searched him?” If the answer is “no,” then this is probably a stop based on illegal profiling. Illegal profiling is wrong—legally, tactically and morally. It undermines an officer’s integrity and the public’s trust of the police, and encourages officers to be less than candid about the circumstances surrounding an arrest, search or seizure. Violators should be stopped and searched based on their behavior, not on their race or ethnicity, unless officers have specific suspect information that causes them to hone in on someone of a particular physical description. However, this does not mean that officers should hesitate to stop someone for whom there is articulable reasonable suspicion of wrongdoing simply because that person is a member of a minority group. Minorities, too, support traffic enforcement—they simply do not want to be unfairly targeted.

Beyond selecting the persons whom they stop, the next most
critical phase is the officers’ approach of those persons. It is tactically critical, so officers will not be injured or killed; and it is critical from a human relations standpoint, because the image of your department and of all officers everywhere is riding on these one-on-one contacts between individual officers and individual motorists.

Each of us is a potential traffic violator some of the time. The law books are filled with traffic laws, and they vary from one jurisdiction to another. Moreover, some motorists, who were reared riding in daddy’s car with a radar detector on the dashboard, may regard speeding as a sporting contest between them and the police. The purpose of traffic stops is to reduce crashes and increase police visibility in the community, and it is too easy to lose sight of that purpose during that first few seconds of dialog between the officer and the motorist.

The four purposes of a traffic stop are to halt an ongoing violation, to have a symbolic effect on other potential violators, to discover evidence of a more serious crime, and to change the motorist’s future driving behavior for the better. Once an officer has pulled a violator over, s/he has halted the ongoing violation and already satisfied the first purpose of the stop, without ever leaving the front seat of the police car. And passing motorists, seeing one of their numbers pulled over, have already had their consciences tweaked and their awareness of police presence heightened. By careful observation and questioning of the violator, any evidence of a more serious crime will soon be discovered. But the extent to which the motorist’s future driving behavior will be affected for better or for worse, is riding on the communications skills of your officer.

Citizens Want Traffic Laws Enforced

When focus groups are held with minority citizens and with other citizens from all walks of life, they tell us that what they expect from officers at traffic stops are two things: “greet us respectfully and in a pleasant manner,” and “tell us why you stopped us.” It pays for your officers to be courteous, because their reputations, as well as that of the department, depend on it;
moreover, an officer never knows when s/he may meet that motorist again—as a juror, an important witness to a crime, or a future city council member! Discourteous officers also make life more difficult—and even more dangerous—for the next officer who encounters a person who has a lingering bad taste in his or her mouth for the police, based on one or more previous bad experiences.

Officer Safety is Important, Too

Officer safety at a traffic stop is paramount, but it can’t subsume everything else. Beyond selecting a safe location for the stop, calling in the stop, proper use of emergency warning devices, proper placement of the police vehicle, keeping the vehicle’s occupants and their hands in sight, a cautious approach, and calling for backup if things don’t look right, officer/violator human relations begin once the officer has walked up to the vehicle. FBI studies of officers killed sometimes include verbal debriefings of the killers and have shown that officers who are too gullible, too quick to lower their guard simply because a motorist is pleasant or smiles back at them, not quick enough to take control of a situation, or give the appearance that they are not physically and mentally alert, are the ones that killers try to take out. Officers must master the art of achieving a balance between command presence and a courteous, non-confrontational attitude. They must learn to give the driver a chance to explain his or her actions without arguing the merits. They must learn not to give motorists “lectures,” but to allow them instead to “save face.” They must learn not to be overcome with anger or arrogance when a motorist is disrespectful—“contempt of cop” is not a crime, and ego should never prevent an officer from disengaging from an argument rather than getting hung out there to the point where there is no way out but to make an “attitude arrest.”

The Effective Officer’s Approach

Why is it that some of the most active officers who write the most tickets get the least citizen complaints lodged against them, while other officers who rarely stop a vehicle engender resent-
ment every time they do it? What verbal and non-verbal approaches separate these two types of officers?

The most effective officers seem to have a systematic verbal approach they use all the time, with the exception of known felony stops. First of all, *they greet the motorists and introduce themselves cordially:* “Good morning, ma’am, I’m Officer Jones of the Falls City Police Department.” Why do this? It’s an accepted thing in polite society when you meet someone for the first time to introduce yourself. It serves to break the ice. It’s harder to dislike a fellow human being with a name than a shadowy figure behind mirrored sunglasses. Also, it serves to defuse the first two questions that probably popped into the citizen’s mind—“Who are you?” and “By what authority are you stopping me?” If the citizen has to ask the question, s/he may ask it in a manner that the officer takes either as sarcasm or as a challenge. Answering the question before the citizen has the chance to ask it prevents this from happening.

The next thing the motorist wonders is: “Why are you stopping me?” The effective officer also answers this question before it is asked, because step two is to *tell the motorist why you stopped him or her.* “I stopped you, ma’am, because I observed your vehicle go through the intersection back there without stopping for the red light.” Now, there is no question in the motorist’s mind why s/he was stopped. And, by attributing the violation to the vehicle rather than to the motorist, the officer has avoided the direct criticism that comes from the finger pointing use of the word “YOU” and prevented personalizing the matter between the officer and the motorist. Will this cause the motorist to argue that the officer didn’t see what s/he claims to have seen or to offer some excuse for the violation? Perhaps, but the motorist is likely to do this anyway. If s/he offers an excuse, the officer can listen respectfully and patiently. If the motorist blows off a little steam in this manner, it does no harm; if s/he makes an incriminating admission, noting it down at the time will help in traffic court, in the event there is a “not guilty” plea. An officer must learn not to take personal affront to what a violator says, not to lecture the motorist or embarrass him or her in front of others, to be good listeners and not get upset at little bursts of resentment. Personal safety must always be defended; but when we defend
pure ego, we step out onto a limb that the motorist can easily saw off. In fact, some effective officers even invite motorists to offer explanations by saying something like, “Was there some reason, ma’am, why you did not stop back there?”

Then, and only then, does the officer ask the motorist for his or her license, registration, and proof of insurance. The minimal risk that a motorist will drive off before the officer has his or her papers in hand is trifling compared to the potential arguments that are saved by giving a proper greeting and self-introduction and giving the reason for the stop.

Throughout the contact, the officer should be alert for other potential violations—expired registration tags or inspection stickers, defective safety equipment, indications of alcohol or drug use, excessive nervousness, inconsistent statements, etc. Once satisfied that there are no other problems, the officer should excuse himself or herself and retreat to a safe location to complete the paperwork and perform any computer check(s). The retreat should be made as tactically as the initial approach.

The Role of Cultural Competency

Officers today need to be culturally aware. People from low context cultures, such as those of white European descent, tend to show less emotion and their words carry more meaning than their gestures. For persons from high context cultures, such as African Americans, Hispanics and Asians, expressions and emotional context carry more of the message. In addition to their preference for logic vs. emotion, conversational distance also varies among cultural groups. Also, many new immigrants may not understand English very well. However, one does not have to be an expert in cultures in order to communicate well. A general rule for all cultures and languages is not to talk down to people or treat them in a demeaning manner; to take your time when dealing with someone from a different culture; and to show them respect.

After carefully re-approaching the motorist, any ticket or warning to be issued should be delivered in a non-confrontational
manner, simply explaining what action the officer is taking and what, if anything, the motorist must do to resolve the issue, such as mailing in a fine or requesting a trial. “Piling it on,” i.e., issuing multiple summonses out of a single stop, is usually not as effective as issuing a citation for the most serious violation and warnings for the others. Many police departments today require their officers to give motorists pamphlets that explain the reasons why the police enforce traffic laws, as well as the seriousness of traffic crashes. If there is no legal reason to hold the driver further, his or her papers should be returned, and s/he should be free to go, with an appropriate closing—such as “thank you for your cooperation” or “please drive safely.” If the driver is upset, the officer should try to defuse the tension and give the motorist time to calm down before s/he resumes driving. Otherwise, the officer should ensure the person can safely re-enter the traffic stream, by directing traffic around the vehicle, if necessary. The officer then returns to the police car; clears the stop with communications; and, if a consent search was conducted, records that fact and the results thereof.

If a motorist indicates s/he wishes to complain about the officer, the officer should politely instruct him or her of the proper procedure to follow and should provide his or her supervisor with a “heads up” at least by the end of the shift.

Looking Beyond the Reason for the Stop

Often as the result of a traffic stop, an officer will see something that triggers further suspicion. At this point, the stop is no longer an unknown risk stop, but has become one with a potentially elevated danger level. A request for backup is in order. If the officer suspects more to the stop than what meets the eye, any questions should begin in a friendly and casual way that keeps the vehicle’s occupants off guard—conversing with only one person at a time, preferably outside the vehicle where an eye can be kept on any other occupants. Multiple occupants should never be permitted out of the car at the same time. Suspects often will make damaging admissions or will consent to searches, even knowing they are carrying contraband, because of the officer’s approach and skill as a conversationalist and questioner.
With proper training in body language and in non-verbal and verbal cues to deception, your officers will soon learn to tell when a subject has something to hide. Such signs as excessive nervousness, breaking eye contact at critical times, momentarily closing his or her eyes, long hesitations and stalling tactics before answering, trying to change the subject, overstating denials, “target glances” at the officer’s body or weapon, answering a question with a question, qualifying statements such as “I don’t seem to recall,” trying to interrupt or correct other occupants, and failure to make strong, quick denials of wrongdoing are but a few of these verbal and non-verbal cues that may give officers reasons to request consent searches or even to detect circumstances that will legally justify a search without a warrant.

Most importantly, if a consent search is performed and nothing incriminating is found, the officer should close the contact on the most positive note possible. The person should be left with a good feeling for law enforcement. The vehicle should be left the way it was found, not in a mess; if the officer inadvertently caused some damage, the person should be told how to file a claim. The person should be thanked for his or her cooperation and good citizenship, if s/he agreed to the search; should be told that such cooperation helps to keep society free from drugs and contraband; and should be apologized to for being inconvenienced. And the officer should always document and record the reasons for—and results of—any search for his or her own protection.

Now is the time to reverse the dangerous upward creep of traffic deaths and injuries. Now is the time to convince your citizens that you intend to do something about their number one concern—traffic. And now is the time to find out just how productive and effective your individual officers and supervisors are, and to train them to conduct traffic stops properly so that they will receive more “thank yous” than complaints when they make those stops. The reputations of your department and of law enforcement in general, as well as of homeland security, are riding on this.

1 This article was adapted from the original one by Earl M. Sweeney appearing
in the July 2003, issue of the Police Chief, a publication of the International Association of Chiefs of Police, Inc.
PART THREE:

Setting Policy For Successful Traffic Enforcement
Setting Policy for Successful Traffic Enforcement

As the head of a law enforcement agency, you have the responsibility to provide guidance and direction to your employees in order to accomplish the goals of your organization. As well, you should encourage them to participate actively in establishing a standard of professionalism that will bring credit to them as individual officers and to you and your organization.

Deaths, injuries, and economic losses from traffic crashes constitute the number one or number two public health problem in nearly every country in the free world, even in some emerging third-world nations. A successful police administrator will use the “bully pulpit” of policy making to ensure that his or her officers place the proper priority on traffic enforcement activities.

Defining Your Agency's Mission

Begin at the very basic level of your agency's mission statement. Make certain that the mission and value statement contain clear and decisive wording that clearly tells both the public and the members of the department that traffic enforcement is seen as a vital component of any community or service-oriented policing effort, and as the responsibility of every uniformed officer, regardless of rank or assignment.

Your department should also have a value statement that provides a moral compass for the department. There are many ways in which a value statement is relevant to traffic enforcement. Departments with an effective set of values that are modeled by everyone from the officers on the street to the chief executive, will instinctively understand that such practices as ticket-fixing or bias-based enforcement stray from the course set by the department’s moral compass. Departments should tie each of their rules and regulations to one or more of the department’s values, and use the value statement as an example when counseling or correcting un-
acceptable behavior.

You should also manage your law enforcement agency according to a management-by-objectives or total quality management approach that includes a long-range strategic plan, and be sure that traffic control and enforcement activities are represented in this plan.

To emphasize this perspective at the operational level, traffic productivity should be an aspect of the periodic personnel evaluations of all uniformed officers. Data should be collected on which to base these evaluations. To avoid accusations of setting a quota for enforcement, base your evaluation criteria on all self-initiated contacts, and do not overemphasize citations.

First-line supervisors should take corrective action whenever an officer spends an appreciable amount of time on the road without making a reasonable number of self-initiated traffic contacts. Likewise, mid-managers should hold first-line supervisors’ feet to the fire to ensure they’re carrying out their responsibilities. A component of each field training officer program should include sufficient emphasis on traffic activities. Programs such as Traffic-Stat, an offshoot of the COMPSTAT program pioneered by the New York City Police Department, can help you hold your supervisors accountable for reducing crashes and citizen complaints regarding traffic problems.

When writing policies for your department, consult the standards contained in the manual of the Commission for Accreditation of Law Enforcement Agencies, Inc. (CALEA). That way, even if your department is not presently accredited, should you desire to become accredited at some future date, you will have a lot less work to do to conform your policies to CALEA standards.

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Concentrating Your Efforts

When you begin reviewing or developing traffic policies, concentrate first on the highest liability areas, which include pursuits, emergency responses, roadblocks and other forcible stopping tactics, and drunk and drugged driver enforcement. Other important
areas affecting traffic safety operations include fleet crash review, transportation of prisoners, mandatory safety belt use, fuel economy standards, and vehicle specifications and equipment.

Liability for you and your department arises when you do not have a policy, and even more so when an existing policy is inadequately explained through training or is not enforced.

The policy and procedure manual should consist of procedural guidelines your members will use to perform their daily duties, as well as the policies themselves, which will be short descriptions of agency goals in particular situations. Detailed procedures for carrying out the policies should be explained clearly and concisely. When writing policies, make sure you focus on the expected results, not just on the methods to be used in performing tasks.

The IACP’s Highway Safety Committee publishes the *Manual of Police Traffic Services Policies and Procedures* that is available without cost to any IACP member agency. This publication can provide you with a template for evaluating the topical areas and important points that you should consider in your own policy manual.

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**Fleet Crash Review**

Officers should be given the opportunity to have their peers and supervisors review the events surrounding all fleet crashes in which they are involved. Also, they should be allowed to be present at that review and to offer any explanation of the event they think is necessary.

When preparing a crash review procedure, you should specify how the crash is to be investigated. In some instances, it may be appropriate to have the crash investigated by another law enforcement agency having jurisdiction in the area. On occasion, however, it may be appropriate for your department to conduct its own internal crash investigation. Your policy should address the various situations, and clearly describe under which option each investigation is to be conducted, as well as the routing of any investigative reports for supervisory review.
In the event that not all of your department fleet crashes are reviewed routinely by a crash review board, your policy must clearly describe the procedure for reviewing the reports and the protocol to be followed for convening a crash review board if deemed appropriate.

The policy should provide a framework for the members of the crash review board to be impaneled, including the panel’s membership, its inclusion of peers, supervisory participation, and testimony both from the involved officer and from a crash reconstructionist, as well as the time frame for preparation of the report, notation of any training deficiency(ies) or employee negligence, and violations of the law.

The policy should emphasize that any disciplinary action taken as a result of the report will be separately considered and is not the responsibility of the board. The duty of the board is simply to determine whether or not the crash was avoidable and if there are training or retraining implications.

Transportation of Prisoners

The purpose of a prisoner transportation policy is to provide guidelines to your employees when they are moving prisoners or persons in custody from one place to another. The following are several issues that should be addressed by any such policy.

To comply with the Americans with Disabilities Act (ADA), the policy should explain the procedures to follow when taking into custody persons with physical disabilities.

Include the inspection of the department vehicle for the possible presence of weapons at the beginning of the shift, following the transportation of a prisoner, and at the conclusion of the shift.

A policy on the transportation of juveniles and female prisoners should be developed. If a prisoner of the opposite sex must be transported and no officer of the same sex is present, require the transporting officer to contact communications and have the name of the prisoner recorded, along with the time the transport began.
and the mileage; as well as the time, mileage, and location at the conclusion of the transport.

Your prisoner transport policy should require that the safety screen be in place, and that the rear seat door handles be deactivated. The policy should also cover situations when it is unavoidably necessary to transport prisoners in vehicles without cages.

All prisoners should be handcuffed with the handcuffs double-locked, with their hands behind their backs and their palms facing outward. Exceptions to this are special situations such as transporting a prisoner obviously in a state of pregnancy, with a physical disability, or with injuries that could be aggravated by standard handcuffing procedures; or handling one who is violently resisting arrest or manifests a mental disorder such that s/he poses a threat to himself or herself, or to the public. In the latter case, other devices, such as a straitjacket, are required. Prisoners should never be handcuffed to any part of the vehicle, and the procedure of “hog tying” prisoners by handcuffing their arms through their legs should never be utilized because of the problem of prisoners’ dying from positional asphyxia.

If any type of chemical weapon has been used on a prisoner at the time s/he was taken into custody, the prisoner should be decontaminated prior to transport, if possible, and monitored closely by the transporting officer for any signs of illness.

Safety Belt Use

All departments should have a mandatory safety belt use policy for the protection of the officers, the prisoners they transport, and the welfare of the general public, as well as for the purpose of reducing worker's compensation claims and injuries by members of your work force.

The law enforcement cop-out that a safety belt “prevents me from exiting my vehicle quickly at an emergency situation” is a myth that portrays safety belts as unsafe and should not be tolerated. Officers using safety belts can get in and out of cars almost as quickly as those who do not.
Safety belts hold drivers in place so that they are less likely to lose control in minor collisions or during pursuits. In vehicles equipped with automatic shoulder harnesses, it is doubly important that lap belts be fastened because of instances where motorists wearing only shoulder harnesses have been decapitated in crashes. Even if vehicles are equipped with air bags, safety belts are important to hold drivers behind the wheel and to prevent injuries in side and rear collisions.

The legal ramifications of allowing your officers to disregard safety belts in police vehicles are far-reaching and generally negative. Any decision to implement a non-mandatory safety belt policy should be made only after consultation with the department’s legal advisor.

Child safety and booster seats should be available in the event that it becomes necessary to transport an infant or a small child in circumstances such as a domestic violence or child abuse incident.

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**Fuel Economy**

In times of budget restraints, fuel economy is essential for the efficient operation of the department. You need to plan for those events that may require a cutback on active patrol.

Computerized records of the fuel mileage of various vehicles will indicate drivers whose uneconomical driving habits may make them candidates for additional training in economical driving.

Various policies, such as “park, talk and walk,” as well as those that encourage officers to avoid excessive idling of the vehicles’ engines, are important to have in place and to be enforced. Even in states or provinces with cold climates, devices that will recirculate the heat from the vehicle’s heater core and keep its interior warm for a period of time, even with the engine shut off, are available.
Vehicle Purchase Policy

In many cases, your vehicle purchase policy will be dictated by a centralized purchasing agency, which may have little or no knowledge of police vehicle requirements.

Develop a rapport with people in the centralized purchasing agency to make them more aware of your needs and requirements. You might even invite a purchasing agent to go on a ride-along with an officer to gain a fuller appreciation of how the police vehicle is the officer's “place of business” for eight or more hours a day, as well as of the fact that exposure to high-speed driving conditions in all kinds of weather makes the police officer more likely than the general public to be involved in a crash. The size and weight of a vehicle still are important factors in surviving a crash. These facts, in addition to the need to transport prisoners, are more than ample justification for the purchase of full-size police vehicles.

When deciding the type of vehicles to be purchased, a state police or highway patrol agency may require a different type than a city police department. The size of the engine will also depend on your individual needs. Certain units, such as K-9 or SWAT teams or those that must patrol country roads, may have special requirements such as those met by vans, four-wheel drive vehicles, and station wagons.

As a general rule, vehicles such as vans, pickup trucks and sport utilities should never be used for pursuit or emergency response to calls at high speeds, due to their high centers of gravity and their handling characteristics that do not lend themselves to this type of driving. Some manufacturers are making SUVs available with dynamic stability control systems that use sensors and microchips to apply brakes on specific wheels to prevent an impending skid or rollover, but these systems are typically in the luxury price bracket that most law enforcement agencies cannot afford to purchase. SUVs or pickup trucks may be the only practical form of patrol vehicle for some types of terrain, such as Indian reservations, beach patrols along the seashore, and severe winter driving conditions in hilly or mountainous areas. Fish and wildlife officers, as well as some deputy sheriffs in midwestern and western states, use...
pickup trucks as patrol vehicles.

Despite the unfavorable collision record of motorcycles, with proper vehicle selection and intensive training, motorcycle patrols can be extremely effective in rapidly transporting officers through congested traffic conditions and to the scenes of emergencies. They also provide an extremely low-profile way to apprehend habitual traffic violators who have acquired the knack of spotting conventional cruisers. They are an effective means of escorting dignitaries or leading parades. Motorcycles have even been used successfully in crowd control situations. Motorcycles should not be used for pursuit and should yield a pursuit to a conventional marked cruiser as soon as one is in position to assume the task.

If unmarked vehicles are utilized in your fleet, your policy should provide that totally unmarked vehicles driven by plainclothes officers should never be used to stop motorists except under extreme emergency conditions. Likewise, they should undertake a pursuit only under the most extreme conditions, and then should relinquish the pursuit at the earliest possible opportunity to an available marked unit.

When an unmarked unit stops a motorist, especially a female motorist late at night, it may be advisable to dispatch a marked unit to the scene as soon as possible to take over the situation.

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**Vehicle Specifications**

You should analyze the needs of your department before preparing vehicle bid specifications. You will want to survey departments of similar size and demographic makeup to determine how they rate specifications for their vehicles. You may wish to look at items such as fuel economy, acceleration, the availability of air bags, and top-end performance.

The protocol for acceptance or non-acceptance of bids should include developing a formula that considers not only the bid price but also the performance capabilities of the vehicle. For example, the formula might give 100 points for the base price, meaning the bidder with the lowest price gets 100 points in the bidding process.
Then, vehicle dynamics could account for up to 20 points; acceleration, 30 points; braking deceleration, 10 points; top speed, 30 points; ergonomics and capability of accommodating communications gear, 10 points; and fuel economy by city EPA standards, 10 points.

You may want to specify certain items of equipment such as undercoating, gas shocks, a power seat, power door locks, wiring and ignition main power, ashtray relocation for radio equipment, cruise control, silicon radiator hoses, bumper guards front and rear, locking gas caps with three keys, power windows, power disconnect for the rear windows, an anti-theft system, and built-in radio wiring in your acceptance formula.

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**Suspension Systems**

Suspension systems in police package vehicles are conducive to fast cornering and turning, and allow the driver to take severe bumps without interfering with the control of the vehicle. If you do not specify a police suspension on your vehicles, you sacrifice ease of driving, officer comfort, ability to pursue and apprehend, and good tire wear characteristics.

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**Ease of Maintenance**

Although a minor consideration in most instances, maintenance might cost you a lot of money, if you bid a foreign or non-standard vehicle. An inconvenience, such as an inaccessible oil filter, can be an expensive proposition when you have a fleet of several cars with the same problem.

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**Studies and Testing**

The Michigan State Police testing program is probably the best in the nation for testing police vehicles from every U.S. and some foreign manufacturers. Copies of these studies are available on an annual basis from the Michigan State Police and from the Bureau
Vehicle Equipment

The following cautions and concerns apply to the purchase of police vehicle equipment.

- **Strobe Lights.** Many departments that patrol areas experiencing considerable fog, rain or other inclement weather favor strobe lights mounted on the exterior of vehicles. Strobe lights also draw less current and are easier on batteries. However, unless strobe lights are properly set up, they can be extremely blinding to both motorists and the officers themselves, and there have been concerns that strobe lights flashing at a certain frequency may trigger seizure-type disorders in some individuals. Devices are available to control the intensity of strobe lights.

- **Rotating and flashing lights.** Any type of flashing light—including strobe lights—is most effective when it has a long “on” cycle and a relatively short “off” cycle. Some tests indicate that red lights are more visible in the daytime, and that blue is more visible at night. In most jurisdictions, there are DMV regulations that control the color of emergency lights and allocate certain colors to specific emergency services, to distinguish between police, fire, emergency medical vehicles, highway maintenance vehicles and wreckers. In some cases, roof lights may need to be supplemented with grill-mounted lights because the roof lights may be too high to be observed in the mirrors of vehicles when the police cars are directly behind them.

- **Fiber-optic lights.** The availability of fiber optics has made it possible to produce a variety of compact emergency lights that can be mounted in the rear window and over the front windshield of police cars. These lights do not seem to produce the same amount of glare as strobe lights. Like strobe lights, they do not require a lot of elec-
trical current to operate and seem to be very effective warning devices.

- **Takedown and alley lights.** These lights, when mounted on a cruiser’s light bar, enable officers to illuminate the interiors of vehicles during car stops, or the areas to the right and left of the police car when checking alleys or commercial establishments. Great care must be taken in the installation of takedown lights, however, to be sure police cars will not blind oncoming motorists when conducting roadside traffic stops.

- **Radar.** If your vehicle is equipped with radar, certain safety precautions should be provided to prevent unnecessary exposure of the officer to microwave radiation. Current information indicates that modern radar sets emit less radiation than cellular phones or portable radios. However, it is still advisable to make sure that the radar antenna is always pointing away from the driver and passengers; and that if a hand-held radar set is utilized, it is turned off and stored on the seat when not in use, never in the lap of the driver. All radar equipment within the vehicle should be properly secured to protect the officer in the event of a crash or high-speed emergency operation.

- **Siren.** A siren should be placed in a location to the front of the vehicle to minimize noise levels when broadcasting on the car radio, and to project the sound outward most effectively.

- **Color.** Studies have shown that white is the most visible color for patrol vehicles.

- **Striping.** There are many schools of thought regarding the painting, striping and coloring of police vehicles. Most agencies strive for distinctiveness: You want your vehicles to be readily identified by the public and to instill a sense of pride in the department and the community. However, safety should take precedence over distinctiveness. Striping should be of the highly reflective variety, and the reflectorized areas should be large enough to
command immediate attention. On the rear end of the police vehicle, an inverted chevron design similar to a highway barricade will transmit the message to motorists that there is a hazard in the road ahead, and to drive safely around it. To the sides, it is most effective to outline the doors or the window frames with reflective materials, so drivers approaching from an angle have a realistic idea that what they are seeing is another vehicle, and can judge the size of the police vehicle and give it a wide berth. Striping is equally if not more important than lighting. Striping takes no power from the battery, is effective both day and night, and does not glare at or blind oncoming motorists. Of course, it is necessary that the vehicle be kept clean, because dirty striping loses much of its effectiveness.

- **Cage.** Equipping your patrol vehicles with a transport cage and roll bar will provide safety for both the officers and any prisoner who is transported. Automotive engineers express differing opinions as to whether the installation of a cage adds needed rigidity to the vehicle in the event of a crash (it almost certainly will in a rollover situation) or whether it defeats to some degree the vehicle’s built-in “crush” zone that is engineered into the vehicle to absorb part of the energy from an impact. It may come down to a tradeoff between some compromise of the crush zone vs. the potential danger to the officer if a prisoner gets loose and attacks the officer while the vehicle is in motion.

- **Tires.** Tires should be of a type that is speed-rated for highway patrol or for city work, as is appropriate.

With the advent of air bags on both the passenger and driver sides of modern patrol vehicles, and with the proliferation of other types of airbags, such as door-mounted side airbags and ceiling-mounted airbags, the mounting of specialized police equipment becomes more difficult. Under no circumstances should these safety devices ever be disconnected, unless the passenger side is disconnected under the condition that there is absolutely no possibility a passenger ever will be transported in the right front seat. The radio
and other equipment should be placed at locations where the officer can readily access them without taking his or her eyes off the road. If that is not possible, then you should position them a little lower so that the sense of touch can get the officer into the system or using controls that the officer needs in order to function properly. Many police equipment manufacturers now produce mounting racks that they claim are compatible with air bags.

We hope this brief outline of items to be taken into consideration in the area of traffic enforcement policy will be of value to you. Additional information may be obtained by reading the periodic model policies issued by the IACP Policy Center and by Americans for Effective Law Enforcement (AELE).
Two of the most dangerous activities in which police officers engage are rapid response to emergency situations and vehicular pursuits. When these activities result in death or injury to police officers, traffic law violators or innocent third parties, they not only result in victimizing many persons, but they also attract widespread media attention and criticism of law enforcement agencies.

There are no reliable nationwide statistics as to exactly how many emergency responses or pursuits end in collisions or result in deaths or injuries. Some sources claim that as many as 35% of all pursuits result in collisions; but the statewide SPIDR database—maintained by the California Highway Patrol under a state law that requires all pursuits to be reported to the CHP—indicates that this number, at least in that state, is considerably smaller. Likewise, where some sources claim that most police pursuits originate for minor traffic offenses, the CHP statistics indicate that a fair number of them involved felonies.

Regardless of the actual numbers, it is obvious that the operation of police cars and other emergency vehicles at speeds above the posted limit is fraught with many dangers, and that police departments owe it to their reputations, their officers, and the public to carefully control them.

Emergency Call Responses

Although vehicular pursuits make the headlines most often, Code 3 (lights and siren) responses to emergency calls are no less dangerous and actually happen far more frequently. There are many sad stories of unnecessarily fast or reckless responses that end in tragedy. One such is the story of New Jersey housewife Michelle Norton who was present in her vehicle with her two teenage sons, one of whom was driving, when it was struck—while making a left-hand turn—by a Maine Deputy Sheriff traveling at 90 mph+ speeds over a rise en route to a call of an elementary school-age
child who was refusing to obey his parents, a call that was can-
celled almost as the crash occurred. One of Mrs. Norton’s boys
died in her arms; the other, later on at the hospital, wiping out the
Norton line forever. Mrs. Norton—in cooperation with the Inter-
national Association of Chiefs of Police, ALERT, the American
Association of Law Enforcement Emergency Response Trainers,
and the National Highway Traffic Safety Administration
(NHTSA)—narrated a very poignant and heart-rending video that
tells her story. It is highly recommended viewing at police acad-
emies and during in-service training programs, and is available

The keys to minimizing the chances of crashes resulting from
emergency responses lie in having proper policies governing these
responses, proper training of officers making these responses,
good record-keeping that tracks these responses and their results,
and proper field supervision and discipline to ensure that policies
are followed and that adequate investigations are conducted when-
ever responses result in crashes.

Oftentimes, police departments will find that they are making un-
necessary high-speed responses to calls, when responses at or just
above the posted speed limits would have been just as effective.
Training dispatchers to properly screen calls and to use a matrix to
assign response codes to officers can avoid having officers rush to
the scene of a burglary which was just discovered, but which actu-
ally happened hours ago; or to a minor traffic collision where the
vehicles have been pulled off the road and where there is neither
injury nor the likelihood of a second collision. Another frequent
source of collisions is high-speed responses to burglar alarms, the
majority of which in most jurisdictions turn out to be false alarms
triggered by homeowners or by faulty alarm systems. Unneces-
sary collisions also occur when one officer rushes Code 3 to back
up another officer on a traffic stop or other incident where there is
no indication of an emergency and where the second officer has
not even requested backup. Another frequent source of collisions
is when officers get caught up in the excitement of the moment
and take unnecessary risks. A common cause of crashes is when a
police car fails to follow vehicle code provisions that require slow-
ning and stopping if necessary when traveling past a stop sign or red
light at an intersection. Department policies should require slow-
ing and stopping if necessary at all intersections, and street supervisors should take action when it appears that this policy is being violated.

The following are suggestions concerning emergency responses:

- Criteria should be developed for dispatchers to use in questioning callers and in assigning appropriate response codes: urgent/lights and siren; at or slightly above posted speeds with no lights and siren, but without delay; and non-urgent. However, supervisors and responding officers should be given some latitude in upgrading or in downgrading the dispatcher-assigned response level, depending upon the circumstances as they are unfolding in the field; and dispatchers should be instructed to downgrade a response, if additional information is received that indicates less urgency. Basically, a lights-and-siren response should only be made to a potential life-threatening situation or to one which could result in serious bodily injury or in a serious secondary incident, if officers do not arrive as quickly as possible.

- Policies should require responding officers to continually evaluate multiple factors, including road, traffic and weather conditions; the urgency of the call; the physical, mental and emotional condition of the officer; the mechanical condition of his or her vehicle; the potential harm to the public or other officers, if a high-speed response is not made; and slowing down the response at any time it appears that the danger from the speed of the response is greater than the harm that will be caused by arriving a few seconds or minutes later.

- Policies should require officers engaging in emergency responses to use caution and slow down or stop, as necessary, to avoid collisions at intersections and crosswalks; not to drive the wrong way on one-way streets or on freeway entrance ramps; and to be particularly careful in locations where there may be pedestrians or bicyclists.

- When multiple officers are responding to an incident, dispatchers should warn the units that more than one emergency vehicle is responding and should advise them to exercise care because their own siren may drown out that of
another emergency vehicle.

- Training programs should emphasize the dangers of high-speed responses and, at least annually, should reacquaint all officers with the department’s policies and procedures in regard to these responses. Trainers should emphasize that if a responding vehicle becomes involved in a crash, it not only will not reach the scene to help out, but it will also tie up other emergency responders handling the officer’s crash.

- Training programs whenever possible should include periodic hands-on retraining in the dynamics of skid control, braking distances, the dangers of rollovers and the necessity of driving defensively. If for some reason an agency is not able to provide hands-on retraining, at the least each officer should receive annual or biennial classroom training in safe driving techniques for emergency vehicles.

Vehicular Pursuits

A vehicular pursuit occurs whenever a police officer in a police vehicle attempts to stop another motorist who is aware that the officer is trying to stop him or her and who engages in evasive action to avoid being stopped.

As with emergency responses, history is replete with stories of pursuits that have gone awry, resulting in death or injury to police officers, to those they were pursuing, and/or to innocent third parties. One such incident happened to IACP Past President John T. Whetsel, then Chief of Police of Choctaw, Oklahoma and later Sheriff of Oklahoma County. An Oklahoma Highway Patrol Trooper chasing a motorcyclist at high speed for a minor traffic violation came through a “stop” intersection and broadsided a vehicle driven by Chief Whetsel’s wife in which his daughter as a passenger, killing both occupants of that vehicle. Tragically, when Chief Whetsel responded to the scene, he was unaware that his own wife and daughter were the victims, until—while sitting in the ambulance comforting the Trooper—he identified by the lights of the wrecker a police association sticker on the bumper of the car and realized it was, in fact, his personal vehicle driven by his wife. The Law Enforcement Television
Network (LETN) made a video of Chief Whetsel’s story that is available from LETN and that is a very thought-provoking tool to use in police training courses on the subject of pursuit. Police pursuits gone awry have also been the source, over the years, of some of the most serious civil disturbances in the nation.

Will Technology End Pursuits Someday?

Law enforcement hopes that sometime in the future technology will make pursuits unnecessary. Scientists and defense contractors continue to experiment with various devices that would enable the police to interrupt the electronic ignition on the vehicle being chased, or to turn off its fuel supply from the electric fuel pump. Problems with these devices to date include the cost, the ability to target a particular vehicle and not affect other vehicles or other electronic devices in the vicinity, and the assurance that all vehicles in the fleet—new and used—are equipped with the devices. In the meantime, police departments are having some success with remote controlled spike strips that can be carried in the trunks of cruisers and deployed—in advance—in the path of an oncoming chase. They work well when a police car equipped with them is available to respond to a location far enough ahead of the chase to place them in the roadway in time. However, patrol coverage being what it is, there is often no car available to deploy the spikes. Also, care must be taken to avoid deflating the tires on other vehicles in the vicinity, and there must be time to get innocent vehicles pulled to the side of the road and for the officer who deploys the spikes to retreat to safety. A Vermont State Trooper was killed after deploying road spikes and retreating to the median strip, when the fleeing motorist crossed into the median to avoid the spikes and struck the Trooper. A final problem with spike strips is that several new luxury sedans, SUVs and sports cars come with “run flat” Kevlar™ belted tires made from the same materials as bullet-resistant vests. If these tires become more prevalent on vehicles, spike strips will be rendered useless.

To Pursue or Not Pursue – A Legal and
Ethical Dilemma

In the meantime, police agencies and their officers are faced with a difficult choice for which there are no easy solutions—whether to chase or not, in any given situation.

The International Association of Chiefs of Police recognized this dilemma in adopting its sample policy on police pursuits by stating that no “one size fits all” policy on police pursuits is possible. The IACP notes that conditions vary greatly from one jurisdiction to another, and even from one pursuit to another. A small, seaside tourist community in New England with cobblestone streets crowded with pedestrians and bicyclists might require a “no chase” policy, whereas a state or county highway in wide open country with few intersecting roads or blind rises might make chases at even high speeds relatively free of risk. In between these two extremes are many variables—cities where experienced supervisors at headquarters and in the field can control a chase by radio and call it off if they feel it is becoming dangerous, to rural communities where a single, part-time police officer is the only officer on duty for many miles and must make all the decisions himself or herself, for example. There are also varying road, weather and traffic conditions, the experience of the pursuing officer, the condition of the police vehicle, the seriousness of the offense that initiated the chase, and dozens of other factors at play in every pursuit situation, and only seconds in which to make decisions. It is easy for persons unfamiliar with law enforcement to say that chases are unnecessary because the police can radio ahead for another car to set up a roadblock and stop the vehicle being chased, but often there will be no other car available and in position to intervene.

The United States Supreme Court ruled in Brower v. Inyo County, 489 U.S. 593 (1989), that under certain conditions, roadblocks can constitute a form of deadly force, which can only be used in limited circumstances. Others argue that if the police are able to read the license plate number on the vehicle being chased, they can pick the evader up on a warrant at a later date. However, the license plate alone is not proof of who was driving the vehicle at the time, and many times the vehicle being chased will be a stolen car or someone who has committed a crime and will flee the jurisdiction. To say that the police would never pursue someone who sought to evade them in a motor vehicle would only lead to more dangerous
behavior on the highways, because people would know that all they need do to avoid capture would be to speed up and leave the police trailing in their dust. Also, such a policy would overlook the fact that the person who flees may be a serial murderer, someone who has just committed a serious crime or escaped from custody, or someone who fears discovery for an undiscovered crime. Officers rarely know in advance why a person has chosen to run from them. To say that officers will only pursue persons who have committed serious felonies against other persons means that individuals who are fleeing because they are wanted for a crime of which the police are unaware, and persons whose driver’s licenses have been suspended or revoked and are unsafe to be on the road, can evade capture simply by speeding up, because the police will not institute a pursuit under such circumstances.

On the other hand, a “wide open” pursuit policy invites disaster. All too frequently a pedestrian; a child on a bicycle; or an innocent motorist coming the other way at an intersection, rounding a blind curve or cresting a hill is struck and killed or seriously injured either by the police car or by the person the police are chasing. Young and inexperienced officers sometimes let their egos get in the way of common sense and feel it is a badge of dishonor if someone outruns them. There is also the problem of “pursuit fixation” where an officer becomes almost hypnotized by the sound of the siren and the excitement of the chase and fails to recognize when the danger posed by the chase has begun to outweigh the benefits to society of catching the culprit. What police departments are left with is making a choice among a series of imperfect and possibly dangerous options.

Pursuit Policy Considerations

In its sample policy on vehicular pursuit, the IACP notes that police departments should be free to examine their own unique circumstances and tailor pursuit policies to the needs of their jurisdictions—anything from a total ban to a more liberal policy. The decision to initiate pursuits—when they are allowed by policy—must be based on the pursuing officer’s conclusion that the immediate danger to the officer and the public created by the pursuit is less than the immediate or potential danger to the public, should
the suspect remain at large.

In deciding whether to initiate or continue a pursuit, the officer should take into consideration road, weather and environmental conditions, population density and vehicular and pedestrian traffic, the relative performance capabilities both of the pursuit vehicle and of the vehicle being pursued, the presence of other persons in the police vehicle and/or in the pursued vehicle, the likelihood that the fleeing person can be identified and captured without a pursuit, and the seriousness of the offense.

All emergency vehicle operations should be conducted in strict conformity to whatever exceptions that the state vehicle code or local traffic regulations provide for police vehicles in emergency situations. All warning equipment on the police vehicle should be activated. The communications center should be informed of the location, direction, and speed of the pursuit, as well as the reason for the pursuit; and should be kept updated throughout the incident. Available supervisors and air support, if available, should be notified; the radio channel should be cleared; and necessary information relayed to other officers and jurisdictions.

Pursuits should generally consist of no more than two police vehicles—a primary and a secondary unit, with all others staying clear of the pursuit or following at legal speeds to provide backup when the pursuit has ended. Unmarked patrol units and motorcycles should not engage in pursuits once a marked unit becomes available. Intervention tactics short of deadly force—such as spike strips, low speed tactical intervention techniques, and low speed channeling with advance warning—should be used, only if it is possible to do so with safety and by officers who have received appropriate training in their use. Decisions to discharge firearms during a chase, to use roadblocks, or to force a vehicle off the road at speed must be governed by state law, common sense and the agency’s use of force policies. They should be first authorized, whenever possible, by a supervisor and should only be used if they do not present an unreasonable risk to innocent persons. In most cases discharge of firearms would be absolutely prohibited, except in self-defense and after recognizing that a moving vehicle makes an unsuitable and inaccurate platform for the deployment of a firearm.
The primary pursuing unit should be required, along with any supervisors monitoring the pursuit, to continually re-evaluate the situation and disengage or follow at legal speeds, if the danger of the pursuit outweighs the public safety benefits of an immediate apprehension; or if the suspect has been identified, immediate capture is not necessary to protect the public or officers, and later apprehension is feasible.

There have been numerous instances where at the conclusion of a pursuit, officers under the pressure and excitement of the moment have employed unnecessary or unreasonable force in taking suspects into custody. Training and policy must stress the use of proper officer safety tactics balanced with no unnecessary force; and supervisors, when available, should respond to the termination point to take control.

Pursuit policies should take into account situations where a pursuit spills over into an adjoining jurisdiction or a pursuit from an adjoining jurisdiction crosses into the agency’s area, and should provide guidance to officers for when this happens.

Whenever an officer engages in pursuit—whether or not it is successful, s/he should be required to file a written report detailing the circumstances. An appropriate supervisor should critique the report to determine if policy was complied with and to detect and correct any training deficiencies. Police pursuit statistics should be maintained and analyzed periodically to ascertain the percentage of pursuits that resulted in crashes and to identify, as well, those additions, deletions or modifications warranted in departmental procedures.

All officers who drive police vehicles should be given both initial and periodic update training in the agency’s pursuit policy and in safe driving tactics.

Traffic Stop Safety—A
Four-Pronged Approach

With increasing traffic volumes and higher travel speeds, the safety of police officers when stopped at the roadside conducting traffic stops or crash investigations is an issue of growing concern to police traffic executives.

Of the 78 police officers killed in the line-of-duty in the United States in 2001, 64—or 82%—of them lost their lives as the result of traffic crashes or being struck by vehicles, according to Federal Bureau of Investigation statistics. These cases included officers struck by passing vehicles while standing alongside violators’ vehicles, officers struck while directing traffic, and officers who died while sitting in their police vehicles completing paperwork when their vehicles were struck at high speeds from the rear—in some cases their vehicles bursting into flames and trapping them inside. At least 14 officer deaths in the past decade occurred when their police vehicles burst into flames when struck from the rear.

Many efforts are ongoing to address these problems. The Ford Motor Company convened a Blue Ribbon Panel of engineers and police officers to look at the issue. The National Highway Traffic Safety Administration (NHTSA) conducted a defects investigation of the Ford Crown Victoria, the nation’s most popular police vehicle, and concluded that there was no inherent safety defect in this vehicle that made it more prone than any other to death or serious injury in rear-end collisions. The Highway Safety Committee of the International Association of Chiefs of Police established the Law Enforcement Stops and Safety Subcommittee (LESSS) to look for ways to make traffic officers safer by studying police vehicles, traffic stop procedures, and environmental factors that could endanger officers. The work of this committee is envisioned to be ongoing.

To provide as much safety as possible for our officers requires a four-pronged approach. We must consider the police vehicle itself; the aftermarket equipment that we install in the vehicles, including lighting equipment and markings; the tactics that our officers use; and the roadway environment and the rules of the road that govern it.
Vehicle Design

The typical U.S. police car is a full-size, rear-wheel-drive sedan purchased with a “police package” consisting of a high performance engine, beefed-up cooling system, electrical system, suspension system and drivetrain. A growing number of front-wheel-drive vehicles are also being adapted for police packages. Each of the above vehicles meets all federal motor vehicle safety standards (FMVSS). Ford has recently begun crash testing for rear-end car-to-car collisions at 75 mph. However, some of the crashes that have occurred in real life have involved impacts at 90 mph and above—impact speeds at which it would be virtually impossible for the occupants of a conventional vehicle to survive without serious injury.

One of the key factors in vehicle safety design is the ability of the body parts to crumple at a particular rate, thus absorbing the energy of the crash and reducing the likelihood of injury to the occupants. When struck at high enough speeds, this crumpling effect sometimes will prevent the doors from being opened, leaving the occupants stuck inside the vehicle. In the event of fire, this can be fatal, unless the occupants are able to escape quickly. These fires are most likely to occur if something interrupts the integrity of the fuel system, fuel spillage occurs and there is some sort of a spark to ignite the fuel and cause a fire or explosion.

Considerable research is ongoing by vehicle manufacturers to improve the integrity of fuel systems. Bladder technology is being tested, and manufacturers are also experimenting with various types of fire suppression systems that might be mounted in vehicles to try and quickly extinguish such a flash fire. Each of these technologies has various drawbacks to it, and may or may not be practical in the real world. In the meantime, Ford has developed fuel tank shields that it has made available as a free dealer-installed retrofit on Crown Victoria cruisers to reduce the likelihood of any sharp rear suspension components puncturing the fuel system. It has also increased the height of the rear bumpers, and has developed a drop-in Polyethylene and Kevlar™ “trunk pack” as an optional item in which police departments can store various police
equipment to prevent items from piercing the back seat or the fuel tank in rear-end impacts.

Four-door sedans are not the only vehicles used for police work, however. The sport-utility vehicle, or SUV, is becoming increasingly popular. Its interior roominess makes it easier to transport the many items of equipment that must accompany today’s police officers on their rounds. The additional roominess makes it easier to install a prisoner transport cage and leaves more legroom for persons being transported in the back. The high, commanding driving position makes it easier to see the road ahead when stuck behind a line of traffic. And in snow-belt communities or locations with gravel roads or with beaches, four-wheel drive makes remote patrol locations more accessible. Offsetting these advantages to some degree are poorer fuel economy, a higher purchase price and higher maintenance costs.

Most SUVs are constructed on pickup truck chassis and have high centers of gravity. This makes them more prone to rollovers than conventional vehicles. Most SUVs that are sold for police use carry attached warning stickers advising that they should neither be used for emergency call responses nor for pursuit driving, due to these inherent instability problems.

Fish and game officers, Indian Country police and many rural sheriffs patrol in four-wheel drive pickup trucks, due to the rugged and remote country that they are responsible for policing. These vehicles with their added distance from the chassis to the ground make it easier to negotiate remote canyons and washes, but carry with them most of the disadvantages of SUVs, including poorer fuel economy and inherent handling instability. They, too, should not be used for either high-speed responses or pursuits.

Several luxury SUVs are now equipped with dynamic stability systems that are designed to detect impending skids or rollovers and apply the brakes to one or more wheels in an attempt to bring the vehicle back into equilibrium and stop the skid or rollover. Unless their vehicles are equipped in this manner, police departments should caution their officers not to engage in high speed driving with SUVs or with pickup trucks.
Aftermarket Equipment

A great deal of thought goes into the safety design of today’s automobiles and light trucks. Much of this work can be negated by the improper installation or placement of police equipment in the vehicle.

For example, the trunk of the typical police car may contain a crowbar, a shovel, a fire extinguisher, measuring devices, flares, first aid kits, radio transmitters, video camera controllers and a variety of other specialized pieces of equipment, some of which are sharp-edged; are installed with sharp-edge bolts or screws; or are installed in an insecure manner. In the event of a rear-end collision or a sudden stop, those insecurely-installed items can be catapulted forward and can spear into the passenger compartment or puncture the fuel tank or a fuel line, causing injury to the vehicle’s occupants or, in the case of a spark being present, producing a flash fire or an explosion. Studies of rear-end collisions where the fuel system caught fire have indicated that as many as one in three of these incidents were due to items stored in the vehicle’s trunk, and another one-third were a combination of items from the trunk and vehicle components impinging on the integrity of the vehicle’s fuel system. Of police agencies surveyed by Ford’s Blue Ribbon Panel, 80% said they had no policies or procedures for packing equipment in the trunks of their police vehicles.

Items improperly mounted or left unsecured in the interior of the police vehicle can also present hazards to the vehicle’s occupants in the event of a crash or rollover. These range from dashboard-mounted radar sets, laptop computers, equipment consoles, items left on the rear package shelf or the backseat, to shotguns in shotgun locks and other protruding items. There is conflicting evidence as to whether prisoner transport cages and plastic replacement rear seats improve the integrity of vehicles in the event of a crash or defeat the designed crumple rate and make it more difficult for the vehicle to absorb the energy of certain types of crashes.

Items mounted on the dashboard improperly can be struck by a deploying airbag, in the event of a crash, and can become dislodged, striking and injuring the vehicle’s occupants.
The following suggestions are made as to aftermarket equipment:

- Ford offers a template which is downloadable at http://www.cvpi.com and which should be made available to persons installing police equipment in the trunks of Crown Victoria Police Interceptors. This template shows the safest locations for such installations.
- When purchasing aftermarket police equipment, inquire of the manufacturer or the distributor as to what testing has been undertaken and what the recommendations regarding installation are.
- Make sure items in the trunks of police vehicles are fastened down and are secured with fasteners strong enough to withstand crashes, so that sharp-edged metal from flimsy fasteners installed with inadequate bolts, nuts, or screws cannot puncture fuel system components.
- Ensure that items such as crowbars, jacks and other heavy or sharp-edged items are stored laterally, with the points directed at the sides of the vehicle rather than fore and aft.
- Provide secure trunk packs, such as the one Ford has designed for the Crown Victoria Police Interceptor, for the storage of items.
- Cause vehicles’ trunks to be inspected periodically by field supervisors to ensure that items are safely stowed.
- Instruct your equipment installers to give careful thought when mounting equipment in the interiors of vehicles, so installations will not impede the operation of safety belts or front or side airbag systems, come loose and act as shrapnel in the event of collisions or rollovers, or pose hazards to the driver or the passengers in the event of collision.

Vehicle Marking and Lighting Systems

When purchasing and installing vehicle markings and lighting systems, it is necessary to consider two things—planning for the lowest common denominator and deciding what message you wish to send.
Planning for the lowest common denominator means that you need to consider the audience you are trying to reach with your message. The most critical part of this audience includes the impaired driver, the elderly and confused driver, the fatigued driver, the distracted driver, and the young and inexperienced driver. You must also plan for the worst possible viewing conditions—the dark and rainy night and the glaring sunshine. Even experienced police officers tell us that sometimes when traveling in their personal vehicles and coming upon several police cars stopped at the roadside handling an incident, they find that an overabundance of dazzling, flashing and pulsating lights makes it difficult for them to determine exactly what is going on and what they need to do to either stop or safely pass by the incident. In some cases, improperly aimed takedown lights and alley lights that blind oncoming traffic may exacerbate the situation. Some researchers feel that too much lighting may cause a driver to momentarily steer in the direction of the light (sometimes known as the “moth-to-flame” effect) rather than steer clear of it. If this message confuses even the police themselves, imagine what it does to the lowest common denominator!

In recent years, it seems that “more is better” has been the philosophy in terms of police car lighting, and this may not be the most effective type of warning to send. In fact, police vehicles likely need to send two different types of warnings. The moving police car on an emergency run seeking clearance through traffic needs to say: “POLICE—MOVE OVER AND LET ME THROUGH!”; while the stopped police car at the roadside needs to say: “THERE IS A HAZARD IN THE ROAD—SLOW DOWN AND DON’T HIT US!” Two types of lighting may in fact be required to send these two disparate messages. Each situation requires that a single, clear message be sent, telling drivers what they are expected to do because motorist-confusion can place officers at unnecessary risk.

The Florida Highway Patrol and the Arizona Department of Public Safety have conducted experiments with emergency lighting and have made changes to their lighting systems as a result. Preliminary research in Arizona suggests the use of red and blue lights in conjunction with amber lights. (Amber universally means caution, red is most visible during the daytime and blue is most visible at night.) It also favors rotating lights over flashing lights, and mul-
tiple instead of single beams. The newer fiber optic lighting systems seem to hold considerable promise both for visibility without creating glare and for low current consumption where battery drain is a consideration. Photocell devices that adjust the intensity of strobe lighting depending on whether the vehicle is being operated under daylight or dark conditions are helpful, as well as instructing officers to reduce the intensity of strobe lights when parked at the roadside, especially on dark, rainy nights.

The California Highway Patrol has an admirable roadside safety record despite having thousands of cruisers making millions of motor vehicle stops a year on some of the nation’s most highly congested and heavily traveled highways. It favors a minimalist approach to lighting once the vehicle has been pulled over, preferring four-way flashers and flashing lights to the rear.

Highly reflectorized markings are an excellent way to increase a vehicle’s conspicuity. They do not create any battery drain and can be arranged to send the type of message you want to give. It is best to have markings or color schemes that delineate the contours of the vehicle, so approaching traffic knows that what it is looking at is another motor vehicle, as well as its approximate size and shape. Chevron patterns on the rear-end give a clear indication of a barrier and are helpful. The Arizona DPS found in its tests that the most visible highway colors for vehicles are cream, white, and yellow. Statistics gathered by the International Association of Fire Chiefs seem to indicate that lime yellow fire trucks are struck less frequently than the traditional red apparatus.

When attempting to clear traffic on an emergency run, it is important to have patterns of light intensity and flashing or pulsation that will quickly catch the motorist’s eye without blinding or confusing him or her. Here is a case where more may actually be better, as long as the message being sent is consistent and makes it easy for traffic to judge the size, speed and direction of the oncoming emergency vehicle. Thought must also be given to the height of the warning device. It must be positioned high enough that it can be seen in a line of traffic, yet low enough be visible in the motorist’s inside rearview mirror, bearing in mind that the traffic mix includes low sports cars, higher SUVs and a variety of other vehicles.
Some departments have begun securely placing within easy reach of the driver, hammer-type tools that are designed to easily break a car window or cut a safety belt, in order to enable officers to escape more easily from struck police vehicles if the doors are jammed.

Officer Tactics

It may be time to re-think the tactics that officers have been using on traffic stops and at crash investigations, and to address new tactics through policies and training.

Traditionally, on an unknown risk stop, officers park slightly offset to the left to provide themselves with a protective “aisle” by which to approach the driver’s door of the vehicle being stopped. They retreat to the police car to write the citation or warning, after obtaining the violator’s driver’s license and registration. On a high-risk stop, officers angle the left front fender of the cruiser outward and turn the front wheels all the way to the left to provide protection from the engine block and wheels in the event of gunfire. At the scene of a collision, the police car parks behind the disabled vehicles and uses the vehicle and its emergency lights to protect the scene while the officers are working in the roadway. Paperwork is completed inside the police car.

According to a survey by the Blue Ribbon Panel, 75% of officers in departments responding to the survey parked their cruisers offset to the left during a traffic stop, 72.5% stopped behind the violator’s vehicle, 65% approached the violator’s vehicle on the driver’s side, and 46.2% turned their front wheels to the left when stopped on the right shoulder of the road.

Based on more than 100 computer simulations conducted by Ford engineers for the Blue Ribbon Panel, the panel recommended making right shoulder stops with the cruiser offset to the left of the violator’s vehicle, with officers positioning themselves adjacent to the right of the passenger door of the rearmost vehicle (usually the cruiser) and minimizing the amount of time they spend in their cruisers by using portable radios and completing paperwork out-
side the car when environmental conditions allow. The Blue Ribbon Panel suggests an acronym that it feels will reduce by up to one-fourth the risk of officers being struck. The acronym is **STOP**—When possible, **S**pace between vehicles should be one car length or at least 15 feet, **T**urn the steering wheel fully toward the **shoulder** of the road, **O**ffset in relation to the stopped vehicle in front should be 50% of the width of the police vehicle, and stop **P**arallel to the roadway. Unfortunately, not all highway designs and environmental conditions permit officers to follow these guidelines for every stop or roadside encounter. The value of the passenger vs. driver’s side approach to violators’ vehicles is open to some debate in law enforcement circles and is obviously dependent on road shoulder and weather conditions, but it should be seriously considered and taught at least as an option.

Officers investigating collisions or rendering assistance to motorists may need to consider alternatives to the traditional use of the police car as a barrier, if circumstances require the officer to spend any amount of time in the police vehicle at the scene. If a wrecker is present and equipped with adequate warning lights, it might be prudent to park the police vehicle in front of the collision scene and in front of the wrecker, rather than to the rear. The same would hold true if fire apparatus are present at the scene. If there are no victims still in the vehicles and damage is minor, it might be best to park the police vehicle, if equipped with overhead warning lights, in front of the damaged vehicles or well off the road, and activate the four-way flashers on the damaged vehicles in addition to the cruiser’s warning lights. Officers should always wear reflective vests—both day and night—when directing traffic or investigating at crash scenes.

If flare patterns are laid down, they should take into account that a vehicle traveling 60 mph is approaching at 90 feet per second, and officers should arrange the flare patterns to give as much advance warning as possible. If vehicles will be in the roadway for any significant period of time, consideration should be given to having adequate help at hand to direct traffic, and to requesting barriers from the DOT in order to set up a proper traffic or detour pattern.

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**Roadway Environment and Rules of the**
Road

In the past, the need for police vehicles, wreckers and fire apparatus to have space to park along the roadside without interrupting the flow of traffic has not received much attention when highways are being designed or redesigned. One of the advantages of a close partnership between law enforcement, other public safety services, and state and local highway officials is to bring these considerations to bear when road projects are being planned. The provision of “pullover spots” at intervals would enable police officers to choose spots to stop violators where both vehicles can stop outside the travel path for other traffic.

When officers have a choice of locations for stopping vehicles at night, unless circumstances dictate otherwise, they should try and make the stops in well lighted areas that are not on or just beyond curves, rises or dips in the road, and that have adequate shoulders or other areas to pull off, such as driveways of business establishments.

Some jurisdictions have passed “move over” laws or ordinances that require motorists—when encountering police vehicles stopped at the roadside displaying emergency lights—to slow down to a designated speed and to provide a specified amount of clearance when passing. If such “safe passage” laws are enacted, they should be accompanied by publicity, by notification in state or provincial driver’s license manuals, and by posted signs throughout the jurisdiction.

The Motorcycle as a Traffic Enforcement Tool
Motorcycle units constitute a specialized enforcement tool. They can perform many diverse policing assignments. A decision to activate a specialty unit of this nature requires long-term management commitment because the expense of such a unit and the use of personnel are often questioned. A successful motorcycle unit requires the assignment of qualified personnel, the purchase of quality equipment, the adoption of rigorous safety procedures and appropriate management direction. Such a unit can contribute significantly toward extremely effective public relations, to the resolution of specific problems that cannot be handled by a normal patrol vehicle, and additional career opportunities for line personnel.

**Goal Orientation**

The motorcycle unit should not be the result of a haphazard management decision. If you are considering a unit for a medium- to large-size law enforcement agency, plan for an entire detachment or squad consisting of at least six motor officers and a sergeant. Anything less is really not cost-effective or productive. (Such assignments as DARE motorcycles will not be included in this discussion, as this type of vehicle is used for a special safety education assignment.)

**Patrol Activities**

A motor unit should be used in conjunction with crash problem areas, citizen complaints, special emphasis patrols, or other specific assignments. As a normal practice, the unit should not be assigned to work during the hours of darkness. This type of unit works best when it is highly visible. Citizens see one motorcycle in an area, and they comment to their friends and neighbors that they have seen a motorcycle working that specific place. However, when four motorcycles are observed working an area, the same civilians will report seeing a “dozen motorcycles stopping every violator.” The motor units are so versatile they can work traffic in all directions and have the ability to get to the violator in congested traffic areas. Ideal work assignments for motor units are speed and HOV [High Occupancy Vehicle: restricted commuter
lane] enforcement, but they can be used for almost any type of assign-
ment. For prisoner transportation purposes, however, consider-
adation must be given to the proximity and availability of conven-
tional patrol units. Due to the danger involved, motorcycles
should not be used for pursuit, and should yield any pursuit und-
taken to the first available marked police unit.

The key to patrol assignments is repetition. First, identify the
problem and problem area. Assign the motor unit to the location
for a week; then return to the problem area once or twice the fol-
lowing week and periodically each month after that. The motoring
public will associate that area with motorcycle enforcement. The
motor unit thus becomes extremely effective in solving that spec-
cific problem. This type of enforcement must be done as a unit to
be effective.

Training

Training is a must. If your agency cannot train or have the motor
officer trained properly, do not consider a motor unit. A minimum
of two weeks of motorcycle EVOC (Emergency Vehicle Opera-
tions Course) training should be mandatory, and a yearly recerti-
fication program is highly recommended. Without the proper
training and a commitment to officer safety, your program will be
prone to failure. The commitment is costly, but the results are
worth it. The rates at which civilian motorcyclists are involved in
collisions, and the prospect of death or serious injury when they
are involved in collisions, are sobering indeed and must be taken
into account. Motorcycles, due to their small size, are relatively
inconspicuous to other traffic, and people have a tendency to pull
out of side streets or pull out to pass, directly in front of a cycle.
Slippery pavement, “corduroy” paving conditions, soft shoulders
and other hazards are particularly dangerous for motorcycles.
Only with proper and continuous training can police officers ac-
quire and retain the skills needed to give your motorcycle unit an
admirable safety record.

Cost
A motorcycle unit is expensive to equip and to maintain. The motorcycles need servicing every 2,500 miles; tire changes should be required approximately every 5,000 miles; and motorcycles are susceptible to all kinds of minor problems. Having a local service facility and a spare motorcycle for every six officers will eliminate down time for servicing.

Many agencies, such as the Washington State Patrol, assign each motor officer both a motorcycle and a patrol car. This arrangement provides greater versatility to the trooper and the department.

If you will be moving motorcycles around the state for different functions, motorcycle trailers or other forms of transportation are recommended. Typically, two motorcycles are transported per trailer, and the motor officers and their gear occupy the patrol vehicle that is performing the towing operation.

Shifts

A motorcycle unit works best on a weekday shift assignment. Traffic congestion is heavier during the normal workweek, and the versatility of the motorcycle is at its full potential. Weekend shifts should be reserved for special events, such as dignitary protection, holiday weekends or special events. The motorcycle unit should avoid late-night shifts or any activity after the hours of darkness. The decreased nighttime visibility of the police motorcycle detracts from its effectiveness, and the added visibility restriction placed on the operator can lead to unnecessary patrol vehicle collisions.

If the department has enough motorcycle units, consider placing your detachments on a 4/10 work schedule to allow for reduced overtime due to court appearances, and increased coverage during the morning and afternoon rush hours.

Inclement weather can reduce the effectiveness of the motorcycle unit. If the temperature drops below 35 degrees Fahrenheit, the motor officer risk factor increases dramatically. Motorcycles, by
their very nature, are single-track, articulated vehicles and need to
lean in order to complete a turn. Any type of contaminated surface
will reduce the cornering coefficient of the roadway enough to
present a hazard to the officer. Alternative transportation should
be available to the motor officer during cold weather conditions.
Rain is generally not a problem, if the proper equipment is pro-
vided to the motor officer.

Equipment

Due to the restricted space on the motorcycle, special equipment is
needed. Typically, the side saddles bags are used for storage, and
the rear center box is used for the radio equipment. An absolute
necessity is a communication system designed for the weather
conditions experienced by the motorcyclist. Helmet transmission
capabilities greatly improve the officer’s ability to communicate.
Each officer should be issued a hand-held radar unit to assist with
speed enforcement. The unit supervisor should be provided with a
portable cellular phone. Specialized clothing, such as jackets and
rain gear, will help to protect the officer during tours of duty.

An equipment inspection should be conducted twice a year, to
monitor the condition of the motorcycle units. The motorcycles
should be assigned on a permanent basis to a specific officer, who
will be riding the same motorcycle every day. Each motorcycle,
even of the same make and model, handles a little differently, and
the officer can be held responsible for both the mechanical and
cosmetic conditions of the motorcycle, if the units are assigned to
specific individuals.

Public Relations

A motorcycle unit is an effective public relations device. It can be
formed into a motorcycle drill team, displayed at local or state fairs
and at shopping malls to assist in spreading the law enforcement
message, and used as a recruiting tool. Children love to sit on the
motorcycle. Both the parents and the children are left with a positive image of your department and its personnel.

Personnel

Motorcycle assignment is not for everyone. Officers considered for the assignment should have at least four years of line experience. In addition, they should be self-motivated, mature, safety-oriented, capable of making good decisions, and physically able to handle the assignment. The selection criteria should not be based on riding experience, which has little merit if a good training program is in place. An inexperienced rider will often outperform the experienced rider at the end of the training period. Respect for the motorcycle and the department's goals outweigh riding experience.
Concealed vs. Visible Patrol Tactics

Using unmarked patrol cars as part of any comprehensive traffic enforcement program is a valid consideration, as well as the decision of when to apply hidden, concealed, or highly visible patrol tactics. While some of the issues, such as stealth, uniformity and safety seem obvious, others, such as legal, philosophical and fiscal concerns, are subtler.

Marked Vehicles

Advantages:

Fully marked patrol vehicles provide high visibility to the motor- ing public and serve a two-fold purpose: A deterrent factor is pro- vided, and the public can readily identify a source of help during time of need.

Of paramount value is the physical protection provided by a fully marked patrol car. A light bar, spotlight and full markings offer maximum visibility, whether the officer is conducting a routine traffic stop or providing assistance along the highway. At the scene of traffic collisions or any blockage of the roadway, the protection provided by fully marked units is most valuable. Its presence not only offers physical protection to the officer and citizens at a scene but also warns approaching traffic.

The fully marked patrol car also keeps liability to a minimum. It is obvious and indisputable in its authority. While the full markings and light bar offer an important safety element in a pursuit, they also ensure compliance with statutory requirements for felony charges of eluding pursuit, i.e., the defendant knew that it was a police officer attempting to stop him.

Disadvantages:
The light bars on the marked vehicle—because of wind resistance—negatively affect acceleration and top speed, as well as fuel economy.

By virtue of their high visibility, fully marked vehicles create a “halo effect” within their immediate vicinity. Violations, especially flagrant ones, occur less frequently in their presence. Experience indicates that the duration of the “halo effect” is relatively short-lived in the absence of the marked vehicle.

Unmarked Vehicles

*Advantages:*

Unmarked patrol cars offer, to some degree, stealth and anonymity. Within a police fleet, they can be valuable for travel, for inconspicuous transport details, and for non-line and supervisory or command transportation, as well as for traffic functions.

As a traffic enforcement tool, unmarked vehicles may expose officers to more frequent, as well as more flagrant violations. They can be especially valuable when used in the capacity of an “emphasis patrol” where chronic violators are being targeted. Excessive speed, truck violations, radar detector reliance and erratic drivers can all be targeted with the unmarked patrol vehicle. Roadside signs warning that unmarked police cars are in use, serve as deterrents even during the hours when such vehicles are not being operated.

As previously noted, improved performance and economy are also a benefit of the patrol vehicle operated without the light bar.

Oddly enough, according to one Illinois survey, the semi-marked vehicle (no light bar) actually holds one safety advantage over the fully marked vehicle. This survey indicates that not only were there proportionately fewer semi-marked vehicles involved in collisions, they averaged less damage than their marked counterparts. The explanation suggested for this phenomenon was that police officers assume that roof-mounted emergency lights project unchallenged authority. When the light bar is removed, officers have
to become more cautious drivers. There are also more recent indica-
tions—based on an increasing number of instances where motor-
ists, many of whom are intoxicated or elderly and confused, col-
lide with police cars stopped at the roadside while displaying
flashing emergency lights—that too many emergency lights on
light bars may send confusing signals to motorists and that in some
instances, “less may be better.”

**Disadvantages:**

Among the concerns with totally unmarked vehicles are that they
offer less visibility when responding to emergencies, when protect-
ing crash scenes, or when engaging in traffic stops, especially
when 360-degree protection or visibility on a high-speed highway
from some distance down the road is required. Some argue, how-
ever, that the difference in safety at crash scenes is not as statist-
tically significant as one might assume.

The unmarked vehicle does not immediately project the authority
that the fully marked vehicle does. This reality may present par-
ticular problems in certain situations, such as a pursuit where it is
necessary to warn oncoming traffic of the presence of the police
vehicle, or when stopping lone female occupants or persons who
are carrying valuable cargo. The possibility of someone imper-
sonating a police officer is greater in jurisdictions where unmarked
units are used for traffic patrol. Policies that describe the means
officers in unmarked cars will use to identify themselves to the
motorists they stop, and that provide for the dispatch of marked
units to the scenes of vehicle stops in the case of female motorists
who appear to be frightened or in doubt, should be considered.

The incorporation of unmarked vehicles into a police fleet also de-
creases the uniformity of the fleet, and makes it more difficult to
investigate citizen complaints of officer misconduct with official
vehicles.

**Additional Considerations**

When comparing the marked to the unmarked vehicle, one must
consider to what degree the patrol vehicle will actually be “un-
“Totally marked” would suggest full, uniform markings, light bar, a spotlight, door seals, reflective striping and official plates.

“Semi-marked” vehicles would be the same BUT with light bar removed—“low profile” vehicles. Some organizations, such as the Connecticut State Police, allow officers to carry readily detachable light bars in the vehicles’ trunks and to display them on some occasions, but have the option to be “semi-marked” at other times.

The “traditional” unmarked car could be considered a vehicle with a standard police package and equipped with no light bar or markings, with varied color but official plates.

“Totally unmarked” vehicles are those of varying makes, styles and colors; with no markings; and with undercover plates. These have traditionally been limited to undercover, investigative, or administrative use.

Departmental philosophy, goals, and objectives should all be addressed when considering the use of unmarked cars, as well as the percentage of their inclusion in the fleet.

The expense considerations regarding fleet selection are many. They include—but are not limited to—purchase price, resale value, operating expense, economy, uniformity of servicing, outfitting expense, and safety and liability.

Each individual department—considering its specific philosophy, goals, and objectives—must evaluate the pros and cons of each traffic enforcement tool and select the vehicle that best serves its specific needs.

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**Take-Home Vehicles**

Some police departments, including many of the State Police agencies in smaller states, issue cars to their officers on a 24-hour basis. The officers are allowed to take them home and respond directly from their residences rather than coming to headquarters.
first. This is particularly effective in areas that do not have 24-hour coverage of every beat or sector, where officers must be recalled to handle emergencies that occur during their off-duty hours. Where departments do issue take-home cars, a single officer is responsible for a vehicle; maintenance costs and damage tend to be lower, as there is greater accountability. The vehicles do not have to be replaced as often. This cost savings must be weighed against the expense of purchasing additional vehicles, radios, lights, sirens, cages and other equipment.

In other departments, the officers are not only allowed to take their vehicles home at the end of the shift, but they are also allowed to use them for personal business, even to transport family members. Officers are required to sign on the air whenever they are using the vehicles, on or off-duty. The theory is that the unpredictable presence of marked cruisers in all neighborhoods of the community has a deterrent effect and reduces community fear. Officers are required to carry defensive equipment and police identification whenever they are operating these vehicles, and are permitted to make traffic stops for hazardous moving violations or to investigate suspicious activity. They may be expected to serve as back-ups on dangerous calls and even to respond to some calls when the nearest on-duty unit is some distance away. In cases where the officers have family members in the vehicle, the policy of most departments is that the officer will serve as a witness or trained observer, but not become directly involved in a situation that might lead to endangering the family members or exposing them to a situation where their loved ones could be killed or injured in their presence. Departments considering this type of take-home vehicle policy should realize that, human nature being what it is, there will be situations where a small minority of officers will misuse the privilege and commit egregious violations of the law or common sense. It is recommended that personal use privileges only be given to officers with several years’ experience and with exemplary conduct records.

In a very few departments, such as Honolulu, Hawaii, some officers own or lease their own vehicles and use them as primary police units. The department furnishes radios, lighting equipment and other law enforcement necessities, and has contracts, leases or other financial agreements to reimburse the officers for the ex-
pense of operating and maintaining their vehicles. This again has the advantage that a variety of makes, models and colors of vehicles are in use, providing the element of unpredictability and surprise. The tendency to engage in dangerous pursuits or poor driving habits is curbed, because officers are thought to be less likely to take unnecessary chances when they own the vehicles. All the previously described disadvantages of the 24-hour assignment of department-owned vehicles or vehicles that are not fully marked are also applicable to this system of patrol.

Concealed vs. Visible Patrol Tactics

Attractively marked police vehicles can be an important component of a community policing or service-oriented policing effort. Through the use of color schemes, logos and slogans, they can be used to project a professional—or even a caring—image for the police department. Many police departments have even gone to the expense of establishing “store front police stations” at various locations within their jurisdictions. Such departments, which also park fully marked police vehicles in strategic locations where they can conduct surveillance of vehicular and pedestrian traffic and be seen by motorists and pedestrians, will often find that people will stop and report crimes or suspicious circumstances to officers. Moreover, the more visible police officers are as they go about their everyday duties, the more they create an impression of “omnipresence” and the more they are likely to slow down speeders and deter both traffic and criminal violations. In many cases, it seems to make little sense for an agency to go to great expense to bedeck police vehicles with artwork and markings, and then encourage hidden enforcement tactics that undo the deterrent effect of the markings.

The public also sometimes tends to resent what they consider unfair tactics on the part of the police, particularly in a jurisdiction where enforcement efforts are more sporadic than consistent. Unmarked cruisers and “in-the-hole” enforcement techniques making use of concealed or hidden observation may leave a bad taste in the public’s mouth. Even the most solid citizens may drive down the road flashing their headlights on and off to warn approaching motorists that a police vehicle is parked in a concealed
location. Citizens also sense a double standard when they see police vehicles parked in the breakdown lane at night and running radar with their lights off; they instinctively know that, in most jurisdictions, there is no traffic code exception that legalizes such tactics.

When a law enforcement agency deviates from highly visible tactics, it may adopt either “concealed” tactics—in which the vehicle is not parked in a highly visible location, but is nevertheless visible if the motorist is sharp-eyed—or “hidden” tactics—whereby a deliberate effort is made to conceal the police vehicle from view. Concealed or hidden tactics may be justified when on the lookout for a wanted person or in an area where regular, visible patrols have been ineffective in getting a particular traffic problem under control. If unmarked cars are to be used as a regular component of traffic enforcement, the agency should consider posting signs that advise motorists that the police patrol in unmarked cars. The agency should also adopt operating procedures that inform the officers how to identify themselves when making traffic stops, and how to handle situations where the person they are attempting to stop may doubt the identity of the officers.

Related Articles and Studies


April 1983.

Stoica, Ted L. “Police Vehicles: Visibars on State Police Cars.”

Use of Aircraft in Traffic Enforcement

Fixed-wing aircraft and helicopters are increasingly being used for traffic enforcement. Aircraft equipped with time/distance measuring devices are an especially effective means of dealing with serious moving traffic violations, especially on the interstate highway system. Helicopters are particularly useful in monitoring pursuits and preventing the escape of pursued vehicles, as well as hovering over and illuminating the scenes of nighttime felony traffic stops and conducting surveillances involving drug couriers. All types of aircraft are useful in managing congestion at highway crash scenes and special events.

Speed Enforcement

A “Bear in the Air” can easily apprehend frequent and habitual speeders who rely on radar or LIDAR detectors and citizens’ band radios to escape detection, as well as many other types of violations, such as driving while intoxicated, improper passing, and following too closely. By timing the progress of a vehicle between measured points marked along the highway, the computed speed is the violator's average speed over a distance of a quarter mile or more, whereas radar gives more of an instantaneous measurement of speed at a given point. Thus, a driver caught by an aerial/ground team can hardly claim that he briefly sped only to pass another vehicle or dodge an obstruction in the road.

Statistics show that a combined air/ground team can enforce traffic laws more efficiently than ground units alone, will consume less fuel, and can provide increased productivity per hour of patrol.

Controlling Public Reaction

When an agency begins using airborne enforcement, it can avoid a negative public reaction by inviting the media to witness enforce-
ment activities. If careful statistics are kept on all activities to guard against claims that expensive aircraft are primarily used to ferry dignitaries around, and if strict guidelines are established as to who can ride in the planes and for what purposes, complaints can be averted. Judges, key legislators, and news media representatives should be invited to personally observe a routine mission. Statistics will reveal that the typical speed of violators cited is far in excess of what the average citizen would consider reasonable. In fact, the aircraft will usually prove to be most effective in apprehending flagrant violators, including those traveling at nearly triple-digit speeds. By reducing high-speed pursuits, these apprehensions are accomplished with maximum consideration for the safety of other road users. Finally, aircraft can be instrumental in hunting for escaped prisoners, spotting forest fires, delivering emergency blood supplies to distant hospitals, transporting SWAT teams, and engaging in marijuana eradication activities. The press and the public should be made aware of these potential benefits.

Legal Authority

The mission statement of the aircraft unit should contain legal authority for all flight operations, including transportation. Most police agencies possess the authority to conduct aerial operations when directly related to a law enforcement function; however, they may lack authority for other operations, such as executive transportation. Many agencies are mandated to provide security, as well as transportation, for governors, mayors, and other officials, and that mandate gives them legal authority to utilize law enforcement aircraft.

Organizational Structure

Most law enforcement aviation divisions are managed by command staff officers who have aviation experience, because managing a fleet of aircraft and crewmembers requires making decisions specific to aviation and federal regulations. These decisions may be based on knowledge of requirements for licensing, training, flight experience, aircraft maintenance, and inspection intervals.
An aviation manager must also possess the experience necessary to make decisions regarding specific flight requests, with consideration given to suitability of aircraft, runways, weather, and other related data.

**Equipment Selection**

The majority of law enforcement support missions can be accomplished with light, fixed-wing aircraft. Such aircraft can fly at reduced air speeds safely and efficiently for long periods of time, and are far more fuel and maintenance efficient than rotary-wing aircraft (helicopters). Should a mission require vertical take-off and landing or the ability to hover, rotary-wing aircraft are the only option. Fixed-wing aircraft are used almost exclusively for highway enforcement activities. They are fuel efficient and far less fatiguing on crewmembers than helicopters, and can be utilized for a variety of missions including photography and transportation. Generally, high-wing aircraft are chosen for these purposes, as the crew has an unrestricted view of the ground when flying at low altitudes.

Mission requirements will generally dictate equipment selection; however, multi-engine turbo-prop aircraft are preferred for most short to medium-length missions. Their jet engines offer high reliability and improved take-off performance over reciprocating engines, and their pressurized cabins and de-icing equipment provide all-weather capability. Light, reciprocating, twin-engine aircraft are generally a poor selection for multi-person transportation because they do not possess the above capabilities.

Aircraft selection is best accomplished through the use of industry consultants, who can provide a wide range of data to aid in your decision process.
Personnel Selection

Commissioned law enforcement officers tend to be effective crewmembers because their missions routinely require decisions and actions consistent with accepted law enforcement practices. It is generally more effective to train an experienced police officer as a crewmember than to train an aviation professional to think and act as a police officer. Most law enforcement agencies have a pool of police officers that have flight experience from which to select crewmembers.

Maintenance

Aviation departments with one or two light, fixed-wing aircraft may prefer to have their maintenance contracted by a local vendor, while those with helicopters, turbo-props, or multiple fixed-wing aircraft will more effectively provide their own in-house maintenance. The Alaska Division of State Troopers is an example of an agency that requires an in-house maintenance capability. The vast area patrolled by the troopers makes the use of aircraft an everyday necessity, and their maintenance crews are capable of tearing down a plane to the basic airframe and completely overhauling it. All maintenance personnel should possess the required federal licenses and receive training for each aircraft they service, even though these may not be federal requirements. When considering the purchase of the first aircraft, an agency should research the ongoing costs—such as the requirement to rebuild an aircraft after a given number of hours of operation—and make sure an adequate operating budget is requested.

Contracted Maintenance Services

Agencies with one or two light fixed-wing aircraft may wish to contract with a vendor for maintenance. This contract should provide for 24-hour call-out, record keeping, FAA or federal document preparation, appropriate logbook entries, and parts procurement.
Transportation Activities

All transportation activities should be directly related to a police function or be mandated by specific laws, such as the “requirement to provide transportation for governors,” to avoid criticism of misuse. While aircraft are a necessary and efficient means of transportation, the public at times views them as extravagant if utilized for unnecessary transportation. All flights—most importantly all transportation flights—should be recorded on an individual flight sheet with all pertinent data such as destination, crew, flight times, and authorization.

Training

All crewmembers should receive scheduled flight training that includes an initial instructor course and an annual refresher program for each aircraft flown. Industry standards for complex aircraft crews call for full-motion simulator training for initial courses, as well as annual refresher programs for complex aircraft.

The complexity of the national airspace system, more critical insurance industry standards, and increasingly complex aircraft require higher training standards.

Progressive managers realize that safety is paramount to program longevity, and those agencies that incur crashes historically have not continued to support aviation programs. A strong training program cannot be overemphasized.

Operations Manual

Each aircraft enforcement unit should have an operations manual detailing conduct for all operations, from flights to aircraft maintenance. Contents should include job descriptions, division orders, flight operations, aircraft maintenance, health, and safety.
Operational Costs

To provide a basis for reimbursement, as well as future budget planning, operating costs per hour should be computed for each aircraft flown. Many agencies make their aircraft available to other governmental agencies on a reimbursement basis, a practice that helps offset operating costs.

Exempt Operations

Federal Aviation Administration (FAA) regulations in the United States provide for certain government aircraft to operate outside federal requirements for airworthiness, registration, licensing, and some maintenance standards, if declared “public use aircraft.” While there may appear to be advantages in doing so, this provision should be used with caution, as it can result in degradation of standards.

Insurance

Many government agencies are self-insured and do not purchase additional insurance for their aviation operations. They may feel protected, but should liabilities arise, generally there is no provision to replace damaged equipment. This results in the governmental entities having to re-appropriate funding to cover losses—funding which is sometimes difficult to achieve. Additional or excess insurance for equipment and passengers, therefore, is strongly recommended. Insurance “riders” for certain activities—such as deploying personnel outside the fuselage during flight, i.e., rappelling by SWAT teams—usually is cost prohibitive, and allowing these exercises to take place generally is not recommended.
Use of Automated Enforcement

Traffic volumes are increasing throughout North America, usually faster than roads can be improved to handle them. Congestion is a daily fact of life, not only in major urban areas, but in our sprawling suburbs as well.

Coupled with this problem is a growing public contempt for speed limits, traffic signs and signals, and an increase in aggressive and distracted driving. Fatal traffic crashes, which had trended downward for a decade or more, have begun to creep upward once more. Serious and disabling personal injuries from crashes are increasing the fastest, because improvements in vehicle safety and road design and more widespread use of safety belts result in some crashes that would otherwise be fatal resulting in non-fatal but disabling injuries.

Traffic law enforcement by conventional means—uniformed officers in marked cruisers—has become a virtual impossibility during daily rush hours in many jurisdictions, and the intensity and congestion that rush-hour traffic produces now drag on well into the evening. It has become too dangerous and in some cases impossible for police cars—even if officers are able to detect speeders or aggressive drivers—to safely pull out into traffic, catch up to violators and pull them over. Even if an officer is successful in pulling a motorist over under these conditions, the traffic stop may cause a serious crash or a tie-up that only exacerbates the congestion. This means that there is no deterrent to dangerous driving at those times, and no fear of getting caught. The same is true for traffic light violators. In fact, in some communities it is not safe for vehicles to start up as soon as the light turns green, because typically three or four vehicles will run the red light from the other direction. “T-bone” collisions at intersections can be particularly deadly.

A number of jurisdictions today are using automated enforcement, in the form of photo radar, of red light running cameras, or of photo lidar—separately or in combination. Photo radar and photo
red light running cameras show great promise in solving the problem of rush-hour enforcement. They have been successfully used in Europe for many years, as well as by some pioneering jurisdictions in the United States, including Paradise Valley, AZ, Washington, DC, Fairfax County, VA and several others. Cameras, coupled with computers, can detect and photograph violators by day or even by night, and produce citations to be mailed to the registered owners of offending vehicles, if an ordinance is in place holding the owners responsible. Photo enforcement also eliminates claims that the motorist was illegally profiled—the camera is color-blind. Cameras accompanied by publicity programs and warning signs that photo enforcement is in place can deter aggressive driving behavior.

When considering the acquisition of photo enforcement technology, it is often best to deploy red light running cameras first, before using it for speed enforcement. Public support is generally greatest for the red light running enforcement; once public support and confidence have been attained, further applications can be considered.

The states of California, Colorado, Delaware, Georgia, Illinois, Maryland, Nevada, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Utah, Virginia and Wisconsin all have state vehicle code sections that address automated enforcement. Among the local jurisdictions with city ordinances authorizing photo enforcement are Toledo and Dayton, Ohio; Charlotte, North Carolina; and the District of Columbia. The National Committee on Uniform Traffic Laws and Ordinances has a model statute which is available online at http://www.ncutlo.org/autoenforce622.htm

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Photo Radar

At a time when these programs should be proliferating, opposition to them is mounting nationwide. In Washington, DC, for example, according to The Washington Times, a City Council member threatened to spearhead an effort to eliminate photo enforcement. He said he had received too many citizen complaints, and admitted to having received several photo tickets himself.
Civil rights advocates and some members of the Congress oppose the programs as an invasion of privacy, and fear that the technology could be used someday to track the movements of innocent citizens. And, there are sporadic reports of citizens who claim to have been innocent victims of mistaken identity being inconvenienced or even forced to pay undeserved tickets. Some of the private vendors who manage the programs and furnish the equipment, and who receive a financial share of the fines collected, do not always make it convenient to challenge a ticket.

“Commandments of Photo Enforcement”:

1. When negotiating or renewing contracts for photo enforcement technology, try to maximize the police department’s control and operational involvement in the deployment and operation of the devices. Leave as little as possible to the civilian vendor. The ultimate goal should be, over time, to relegate the vendor to maintaining the equipment itself and to have civilian employees of the police department, such as Traffic Aides or Police Auxiliaries, operate the equipment, analyze the photos, access the registration databases, send out the tickets and manage the appeals process.

2. Pay particular attention to creating a fair, user-friendly “due process” system for contesting an erroneously issued ticket and—equally important—ensure that each person who is issued a ticket be informed as to how that ticket may be contested. The process should give a motorist the sense that his or her rights are being protected. Resolve cases of reasonable doubt in favor of the motorist. Strengthen quality control procedures at the front end that prohibit the mailing of citations to vehicle owners in cases where photos are blurry or otherwise not completely legible. Never resolve identifications in favor of numbers or revenue. Mail out safety brochures with each citation, perhaps including—with permission, of course—a photo spread of a seriously injured victim who was struck by a red light violator at an intersection, telling his or her story.
3. Deploy photo technology only at those times and locations where it will be most likely to deter collisions and to increase safety—based upon analyses of crash data and of citizen complaints—and when traffic volumes and other conditions make conventional cruiser enforcement of traffic laws ineffective. There is no substitute for face-to-face contact between motorists and community-minded officers. It is resented less, and it affords opportunities to detect other violations or suspicious behavior that cameras cannot provide. Overuse of photo technology might also produce the unintended result of personnel cutbacks.

4. Pre- and post-deployment statistics should be analyzed to determine how much impact the technology has had on crash reduction and neighborhood traffic complaints. When we can prove there are fewer crashes and more citizen satisfaction with the police, it becomes difficult for the naysayers to argue with this success.

5. Camera deployment should be preceded and accompanied by extensive and ongoing publicity as to the location and purposes of the program. Sir Robert Peel, the father of modern policing, pointed out as early as 1829 that deterrence and prevention are the principal objectives of the police. Publicity should emphasize the life-saving benefits of the program, not its revenue-raising potential. The objective should not be to have the program pay for itself or make money for local or county government, but to save lives and reduce property damage.

6. Develop and implement policies and procedures that are sensitive to individual privacy issues and that carefully limit thereby the collection, filing, use, dissemination and retention of photos.

7. Invite your most experienced officers to provide input to management as to what the enforcement tolerances should be for photo enforcement. Tolerances should be set according to common sense and with regard to the
actual and potential hazards existing at deployment sites, and in no case lower than what a reasonably well-trained and experienced officer would adopt as his or her threshold for issuing a ticket.

8. Traffic signal timing should never be altered when photo red light cameras are installed. If anything, traffic engineers should be encouraged to experiment with extended amber light cycles prior to deciding on photo enforcement at a particular location, to see if this less expensive alternative can cut down on red light running.

9. It is as true in police work as in the military that you cannot expect what you do not inspect: Don’t install photo enforcement and assume you can trust the program to the equipment vendor or even to department employees, and manage by benign neglect. Both regular and unannounced inspections, performance audits and financial audits are the only way to ensure that the program is operating properly.

10. Periodic and ongoing evaluation; assessment and reappraisal; and listening to the “talk of the community,” as expressed in citizen complaints, political pronouncements, news reports, letters to the editor and talk show conversations, should occur to constantly take the community’s pulse on enforcement issues. Making proactive use of the department’s Web site, public information officer and the speaker’s circuit to tout the program’s accomplishments in terms of lives and property saved—not revenue—and to clear up misconceptions about the program will ensure that your citizens continue to reap the lifesaving benefits of photo enforcement.

**Operation:**

With photo radar, a camera mounted on a pole at the roadside or in a vehicle is connected to a radar unit that, when it detects a speeding vehicle, snaps a digital photo of the vehicle. The photo is downloaded to a database, the license plate in the photo is checked against the motor vehicle registration database for the jurisdiction
that issued the plate, and a citation is mailed to the registered owner of the vehicle.

The cameras work night and day, in all kinds of weather. Typically, police officers or civilian employees in a marked or unmarked van will park near the location where the equipment is deployed. In the typical case, the camera will take two photos—one of the front of the vehicle showing the front license plate and the face of the driver, and another from the rear of the vehicle showing the rear license plate. In jurisdictions that issue only a rear plate or in localities where privacy concerns or privacy regulations preclude showing the driver’s face, only a photograph of the rear license plate is taken. In most of those jurisdictions, a law or ordinance has been passed making the registered owner responsible for paying any fine levied, unless the owner identifies the driver, who is then held responsible.

Several companies that make this equipment also offer “turn-key” operations, where company employees operate the equipment, analyze the photos and mail out the citations, in return for a percentage of the fine monies collected. This enables a jurisdiction to get into the program with no capital investment.

Red light running cameras are mounted at intersections; detect whenever a vehicle drives past the stop line without stopping, if the traffic light is red; and take photos of the vehicle and the license plate(s). In similar fashion to photo speed enforcement, a traffic ticket is generated and mailed to the owner of the vehicle.

Combination setups combine a radar measurement of the speed of the vehicle through the intersection, with detection of whether or not the vehicle stopped for the red light. These enable the detection and ticketing of reckless drivers who travel at excessive speeds through intersections in an effort to “beat light changes.”

Jurisdictions that use photo enforcement generally post signs conspicuously to warn motorists that such equipment is in use. These signs serve a deterrent value, because a jurisdiction will normally have only a few cameras and move them about from place to place, but with the signs posted in a ubiquitous manner throughout the jurisdiction, motorists are not aware of exactly
when or where the cameras are in use. Some communities even deploy “fake” camera housings to give the impression that cameras are present at locations when they actually are not.

**Advantages:**

Photo enforcement offers a solution to the problem of rush-hour enforcement. It enables tickets to be written without chasing anyone or risking a crash. It enables enforcement to take place at more locations than would otherwise be possible. In most locations where photo enforcement is deployed at intersections, collisions are reduced. In a few instances, jurisdictions have recorded an initial rise in rear-end collisions when drivers—fearing that photo enforcement is in place—brake rapidly on yellow to avoid running the red light, however.

Photo enforcement also removes the problem of each traffic officer setting his or her own tolerance level and enables a uniform threshold at which tickets will be issued throughout the jurisdiction, regardless of the personalities involved. It eliminates arguments between officers and motorists, as well as claims of racial profiling.

**Disadvantages:**

Photo enforcement should not be used to replace or reduce the number of traffic officers on patrol. Cameras cannot detect additional violations such as defective equipment, drunk drivers, or drivers with criminal warrants. They cannot detect vehicles carrying contraband. They are ineffective against stolen cars and rental cars. They are incapable of making allowances such as traffic officers might, e.g., someone who is rushing his wife to the hospital or who has some other legitimate reason for exceeding the speed limit. They should only be used to supplement—not to supplant—traffic officers.

There is a certain “big brother’s watching you” aspect to photo enforcement that causes public concern, especially amongst persons who are strong advocates of personal privacy. However, with traffic violations being the number one or two concern of most citizens today, most people will support a photo enforce-
ment program, if it is properly set up and run, and is accompanied by an advance and ongoing public relations effort.

One major concern occurs when a photo enforcement program is highly successful and brings in considerable revenue to the jurisdiction. The jurisdiction can become overly dependent on this revenue source, and can put pressure on law enforcement to produce more and more tickets. Once the public sees the program as another form of taxation rather than as a means to save lives, they will withdraw their support and even openly oppose it. The reputation of both the community and the law enforcement agency is harmed.

A vendor owning the equipment and operating the program somewhat independently of the police presents a unique set of problems, even though it may save police staffing and payroll. The private vendor receiving a percentage of the tickets paid may have little incentive to adjust or rectify any ticket that is erroneously issued. It is easy to erroneously issue a ticket, if the person examining the photo not only improperly identifies the state or province of issue, but also the plate type. Many states have the same numbering schemes for a variety of plates, such as commercial, passenger car, veteran, etc.; if the plate type is misread or cannot be read, the wrong person will receive the ticket. In some jurisdictions, motorists who were wrongfully accused have reported receiving a frustrating “run-around” in dealing with vendors and/or the police department in an effort to rectify the mistake. Quality control can also be poor with a vendor-run program, unless there is thorough and continuous oversight by the law enforcement agency.

Some jurisdictions initiate little, if any, effort to track down motorists who do not respond to automated tickets. This produces the unfair result that the honest motorist who pays a ticket is punished, but the dishonest scofflaw gets a free ride. In order for citizens to respect the program, every effort should be made to ensure a ticket is paid once it is issued. In jurisdictions where the registered owner is legally responsible for the ticket, a warrant against the owner should be obtained, or a request for the owner’s home jurisdiction to suspend his or her driver’s license or registration plates should be made when someone from an-
other jurisdiction attempts to evade the satisfaction of a ticket in yours.

**Procedures:**

Before deploying automated enforcement, the police department should experiment with other means of accomplishing the same purpose. For example, with a red light running problem, sometimes simply increasing the length of the yellow light cycle will eliminate many of the intersection crashes.

Once the determination is made to use photo enforcement, if at all possible the department should make the investment and own the equipment itself. If this is not possible, a stringent contract should be written that ensures the department has total oversight and control over the program, including quality control and performance audit provisions.

The posting of warning signs and the giving out of appropriate traffic safety public information on an ongoing basis should precede the deployment of automated enforcement. Appropriate highway safety literature should be mailed out with every ticket.

Some of the issues that arise when prosecuting photo enforcement cases in court include authentication of the photos, chain of evidence, enabling statutes, misuse or dissemination of the photos and privacy issues, standing to bring an objection, proper notice or posting of signs to advise that photo enforcement is being used, equal protection (disparate treatment for police, rental, corporate, and out-of-state vehicles), and burden of proof.


One source of thought-provoking information on this type of enforcement is the publication entitled, *Guidance for Using Red*
PART FOUR:

Allocation, Deployment and Evaluation of Traffic Personnel
How many officers do you need for your patrol function? Most chiefs would like to answer this question by saying, “As many as I can get.” Unfortunately, with the fiscal restraints facing law enforcement today, few chiefs are likely to be offered as many officers as they want. In fact, in addition to being asked to justify the number of additional officers being requested, chiefs are often being asked to account for the number they already have.

Justifying the number of officers needed for patrol is not an easy task. Agencies serving jurisdictions with similar populations may have very different patrol officer needs based on the geographic size of the community, community demographics, the number and size of adjacent communities, the road network, and the historical role of the police in the community. What chiefs need is a formula or model that can take local circumstances into account and provide justification for staffing levels.

Development and Use of the PAM

Recognizing the need for chiefs to justify patrol personnel needs, the Northwestern University Traffic Institute, under contract to the National Highway Traffic Safety Administration (NHTSA), has developed a means for providing that justification. The result was the development of the Police Allocation Manual and its companion, the Police Allocation Manual User's Guide (referred to hereinafter as the Manual and the Guide, respectively, and collectively as the PAM). There are three sets of these volumes, one each for state, county and municipal-level law enforcement agencies.

Purpose of the Manual

The PAM is designed for use by law enforcement agencies whose mission includes the delivery of patrol and traffic services. The Manual may be used to determine staffing levels for a traffic divi-
sion with limited patrol coverage or for a patrol division with traffic responsibilities. The Manual is designed to help agencies address the following questions:

1. What is the total number of officers, field supervisors, and command personnel required to provide acceptable levels of patrol and traffic services?

2. How should we allocate the total number of patrol officers by geographic regions or time periods to maximize agency productivity?

Field Usage

Based on field experience, the PAM has been found to provide both immediate and long-range benefits. The procedures in PAM provide agencies with a logical and explicit format in which to frame requests for additional staff and/or staff deployment. In addition, it is anticipated that the manuals will serve as catalysts for stimulating further discussion and research in staffing and allocation for law enforcement agencies.

The most recent version of the Manual is derived from earlier editions that were based on a review of procedures used by law enforcement agencies throughout the United States and Canada. The framework and rationale presented in the Manual are the result of a distillation process that identified the “best” procedures, and then modified and blended those procedures into a comprehensive model for determining appropriate patrol staffing levels and deployment patterns.

The PAM model uses time-based procedures. The model determines staffing and allocation requirements based on the time required for four major officer activities:

- **Reactive Time.** Time spent on Calls for Service (CFS) activities. The major CFS activities for many agencies are traffic crashes and reports of criminal incidents.

- **Proactive (Self-Initiated) Time.** Time spent on self-initiated activities.
tiated activities—such as traffic enforcement, motorist assists, or completing field interrogation cards.

- **Proactive (Patrol) Time.** Time spent patrolling highways and neighborhoods to provide “visibility” for general deterrence and “availability” for self-initiated activities and timely responses to reactive time activities.

- **Administrative Time.** Time spent on activities that are not reactive or proactive—on-duty court time, meals, vehicle maintenance, training, or agency administrative duties.

The central formula in the PAM model determines the average number of on-duty officers required per day.

The formula is:

\[
\text{Avg No. of Officers Req'd for Avg No. of Officers}
\]

\[
\text{Avg No. of On-Duty Activities (Nr)} + \text{Avg No. of Min Per Hr Per Ofcr for Self-Int. Act. (ms)} - \text{Avg No. of Min Per Hr Per Ofcr for Admin. Act. (ma)}
\]

\[
1 - \frac{60}{60}
\]

Many of the procedures in the PAM model are used to determine appropriate values for \(N_r\), \(N_p\), \(m_s\), and \(m_a\).

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**How To Use the Manual**

The *Police Allocation Manual* consists of four chapters and one appendix. Chapter 1 provides a brief introduction of the purposes and the uses of the Manual. Chapter 2 describes the PAM patrol staffing and allocation model. Chapter 3 contains eight work sheets, each with instructions that provide a step-by-step process for determining patrol staffing levels. Chapter 4 contains one work sheet for determining patrol staffing allocations over several geographic areas or time periods. Appendix “A” contains work sheets that can be used as alternatives to the procedures presented in Section 5.2 in Chapter 3.
Different versions of the PAM are available for state agencies vs. county agencies and local agencies.

Additional information about the PAM procedures also can be found in the companion document, the *Police Allocation Manual User's Guide*. The *Guide* presents implementation, data definition, and data collection strategies used by the field test agencies. Also included in the *Guide* is a summary of key input values and numerical results obtained by the agencies that field-tested the *Manual*. The appendix materials in the *Guide* include a list of the input data required to use the PAM model (Appendix “A”), a glossary of key terms and notations (Appendix “B”), a detailed example showing all nine work sheets in completed form (Appendix “C”), and derivations of all key formulas used in the model (Appendix “D”).

Assessing how well any organization is doing its job can be a difficult task. Companies that sell products are usually assessed on their sales and profits. For law enforcement agencies, however, there is no tangible product to sell and no profit margin to analyze. While it is possible to track traffic crash or crime rates, many things beyond the control of the police can affect them.

Developing Quantifiable Measures

Developing the means to measure the effectiveness of law enforcement is not a new concern; the issue can be traced to some of the earliest critical studies of American law enforcement.

Out of this background, the National Highway Traffic Safety Administration (NHTSA) recognized the need for a comprehensive set of quantifiable measures covering the full spectrum of police traffic services (PTS). Prior to that time, virtually no comprehensive work had been done in the field. Most agencies used few, if any, performance measures and those in use were localized and not validated.

To meet that need, the Northwestern University Traffic Institute (TI), under contract to NHTSA, has developed two documents: PTS Performance Measures, Vol. 1: User's Manual and PTS Performance Measures, Vol. 2: Background and Development. These volumes contain descriptions of 12 key performance measures, work sheets for computing them, information on the use of measures in general, and a set of over 100 additional measures for agencies that want to do more comprehensive measurement.

Why Measure PTS Performance?

The effective management of traffic services (or any other police
function) is directly related to the manager's ability to measure the performance of relevant operational and support units. To do this, traffic operations have to be compared to well-established objectives and performance levels. A coordinated set of validated measures is needed that is part of a comprehensive, nationally-accepted management framework for PTS.

The *PTS Performance Measures, Vol. 1: User's Manual* is designed to provide a set of validated goals, objectives, and measures that are clearly understood by all users in the same way and that produce useful, reliable data for assessment of agency traffic operations. When widely used, the *Manual* will allow an agency to compare its traffic performance not only internally over time but also against that of comparable agencies.

Many benefits accrue to the agency that is using a validated set of goals, objectives, measures and, eventually, standards to assess its operations:

- The agency will have the opportunity to begin training staff to think in terms of evaluating its operations with quantifiable measures.

- Adoption of such a system will make operational data readily available. Consequently, decisions will be made with a level of confidence that spreads throughout the agency, similar to a fuzzy picture that is brought into focus.

- An historical record of operational programs can be developed, using these data. This will be useful for judging trends and providing a track record for outside evaluation if needed.

- An agency with a clear set of objectives, the attainment of which is measured regularly, demonstrates that it is managed effectively. Because it is able to show where resources are applied and what is working, the agency can justify requests for additional resources where analysis shows the need.
The User's Manual Format

The most workable format for making the 12 key measures usable by law enforcement agencies was to place them in work sheets. A separate work sheet was developed for each measure, providing users with step-by-step instructions for carrying out appropriate data collection and computations. The measures' work sheets form the core of PTS Performance Measures, Vol. 1: User's Manual. Other sections of the volume include a manual overview, general guidelines for performance measurement, background information for each key measure, and information on how to use and present the results of measures' usage.

PTS Performance Measures, Vol. 2: Background and Development.

This volume is designed to serve as a companion to the PTS Performance Measures, Vol. 1: User's Manual. It contains the full set of PTS-related goals, objectives and measures from which the 12 key measures were selected. It also contains a detailed management framework for police traffic services that served as the basis for the development of the goals, objectives and measures, as well as the historical background of PTS management. Volume 2 also includes appendices that contain an extensive bibliography of literature relating to PTS management and performance measurement, as well as the names of individuals and agencies contributing to the development of this project.

How To Obtain the Manual

No matter what the potential value of the materials produced by this project, they will not be of significant use to the law enforcement community, unless they are widely used by law enforcement agencies. Therefore, making the law enforcement community aware of the performance measures system and the two PTS Performance Measures volumes are important to the project's ultimate success. Law enforcement agencies wishing to obtain copies of PTS Performance Measures, Vol. 1: User's Manual and PTS Per-
formance Measures, Vol. 2: Background and Development can contact Mr. Garrett Morford, Chief of NHTSA's Enforcement and Justice Services Division at (202) 366-4295.

With widespread use of the performance measures system, the law enforcement community will, for the first time, have a tool to permit it to assess its delivery of traffic services and to make comparisons with similar agencies.
PART FIVE:
Alcohol and Drugs
Alcohol and Drug-Impaired Driving

Alcohol and drugs are part of virtually every culture worldwide. These cultures have evolved over hundreds, even thousands, of years. With the use of these potentially mind-altering substances comes also abuse. Modern societies are mobile societies, and automotive travel is the principal means of movement. For those empowered to ensure safety on the highways, there is an irreconcilable conflict between substance abuse and safe driving.

The cost of this conflict is high, and its greatest impact is, perhaps, on future societies. NHTSA reports that drunken driving crashes are a leading cause of death among young people in the United States. In recent years, alcohol-related deaths in the United States have occurred at the rate of one every 38 minutes. The 17,448 alcohol related fatalities reported in 2001 accounted for 41% of the total highway fatalities that year and represented a reduction from the 20,159 recorded 10 years ago, a reduction of 8% from the 49% of all fatalities that were alcohol-related in 1991. Recently, there has been a slight upward trend detected in alcohol-related crashes, much of which is believed to be caused by hardcore drunken drivers—those with high BAC levels who are repeat offenders. Alcohol-related crashes cost Americans $46 billion a year.

Similar statistics on the effect of drugs on driving are difficult to find. Many drug-impaired drivers are never detected or, when detected, are arrested as alcohol-impaired only. If involved in crashes, they are not chemically tested for drugs other than alcohol. Conservative estimates suggest that thousands die and tens of thousands are injured annually as a result of drug-impaired driving. In a 1988 study by the University of Tennessee Medical Center that analyzed urine samples of crash-injured drivers, drugs—other than alcohol—were detected in 40 percent of the samples.

Many drug users routinely abuse more than one drug simultaneously. This practice, known as “poly-drug use,” may be more common than single drug use in certain settings. Many drug abus-
ers drink alcohol to disguise their use of drugs. In a study of drugged driving arrests by the Los Angeles Police Department, 47 percent had consumed alcohol and some other drug. Poly-drug use can produce a synergistic impairment of the user's ability to drive. This condition is particularly deadly and is prevalent among younger drivers. A study of 440 drivers, aged 15 to 34 years old and killed in California during a two-year period, detected alcohol and marijuana in one-third of the victims. More than half had consumed a drug or drugs other than alcohol.

To reduce the highway mortality rate from alcohol and drug impairment requires altering culturally rooted behaviors. Behavioral change may best be accomplished through ongoing programs of vigorous enforcement, coupled with ambitious education and information activities. Thus, there is a broad range of issues involved with alcohol and drug enforcement on the highway.

Effective Statutes

The effectiveness of a statute is measured by its ability to deter impaired driving. The National Committee on Uniform Traffic Laws and Ordinances (NCUTLO) provides a standard in its Uniform Vehicle Code (UVC) by which each jurisdiction may measure its own statutes. Five essential components are identified in the UVC's model statute: emphasis on driving ability, statutory blood alcohol concentration limits, compulsory chemical testing, significant punishment upon conviction, and administrative license suspension.

While substances affect different individuals to differing degrees, laws should emphasize the impairment of the driver—not the type, legal or illegal, or even the amount of the substance ingested.

The effects of alcohol consumption are well known. Although they vary with the individuals consuming it, all persons are considered impaired by alcohol when its concentration in the blood (BAC) reaches 0.08 percent. Statutes should provide that presumptive evidence, per se, exists to suggest that a driver's ability to operate a motor vehicle is impaired when his or her BAC exceeds 0.08 percent.
The law should require all drivers to submit to field sobriety tests and a chemical test or tests, at the option of arresting officers, to determine the level of alcohol and/or drugs in their blood, as a condition of holding driver's licenses. Consent to a chemical test should also be implied when drivers are incapacitated or killed while driving motor vehicles. Prosecutors should be discouraged from plea-bargaining DUI offenses down to charges such as failure to submit to a chemical test. If the evidence is there, both charges should be prosecuted.

In order to deter impaired driving, the penalty must be sufficient to outweigh the relatively low risk of apprehension. This punishment should include a substantial fine, imprisonment for repeat offenders, and a lengthy license revocation with no provision for “drive to work” licenses or similar provisions that water down the effect of the license revocation. Research by social scientists has indicated that license revocation is the most effective deterrent to drunken driving—stronger, even, than a jail term.

In addition to motor vehicle license revocations through the court system, the process can sometimes be speeded up through an administrative license revocation (ALR) law where the police officer is empowered to seize the license of any person who refuses to submit to a chemical test or who tests above the legal limit. The person is issued a temporary license valid for not more than 30 days. The motor vehicle licensing agency holds an administrative hearing and imposes a license revocation if it finds, by a preponderance of the evidence, that the person was driving with a BAC in excess of the legal limit or refused to submit to a chemical test. Many ALR statutes also provide for license revocation for any person under the age of 21 driving with any measurable or detectable amount of alcohol, which the UVC defines as a BAC of 0.02 or greater. Other organizations and authorities recommend the more literal definition of 0.00, because the drinking age is now 21 years in nearly all states, and this age group largely represents novice drivers. However, due to the accuracy range of breath testing devices, most states have settled for what they view as a more practical 0.02 limit.

Unfortunately, in some jurisdictions ALR laws have not lived up to their promise. Motor Vehicle Hearings Officers in some juris-
dictions have turned ALR hearings into the equivalent of full-blown court trials, applying the criminal rules of evidence strictly and dismissing cases on the least technicality. Law enforcement agencies in these jurisdictions often use the ALR laws as little more than a plea-bargaining tool to gain “guilty” pleas at the criminal trial. State Supreme Courts in a majority of the states have pointed out that an ALR hearing is administrative in nature, and that the full panoply of criminal procedures need not apply.

Alcohol and the Commercial Driver

The National Transportation Safety Board studied alcohol and drug involvement in heavy truck collisions in which the drivers were killed; 33 percent of the victims tested positive for drug abuse. These drivers had consumed alcohol, marijuana, cocaine, over-the-counter stimulants, opiates, PCP, or a combination thereof. In addition, the study indicated that these drivers were also more likely to violate other laws. They were more likely to have had prior alcohol or drug histories, were more likely to violate federal hours of service regulations, and more likely to drive with suspended or revoked licenses.

The U.S. Department of Transportation responded to the dangers posed by commercial vehicles through changes in the uniform Commercial Driver License (CDL) requirements in Title 49 of the Code of Federal Regulations. 49 CFR prohibits commercial operation with a BAC of 0.04 or greater. Regulations prohibit driving within four hours of consumption of any alcoholic beverage. DOT has instituted a mandatory drug-testing program among motor carriers, who are required to randomly drug test 50 percent of the average number of interstate operators each year. All 50 states have incorporated the federal regulations into their state motor vehicle laws, thereby making them enforceable by authorized law enforcement officials at the state level.

Specialized Enforcement Strategies

Enhanced patrol is a general term for a variety of strategies and
techniques that dedicate personnel for enforcement. This includes roving patrols and saturation patrols in a targeted geographical patrol area. The target areas are identified by a high incidence of collisions or by crash rates. Often, saturation patrols are coordinated with several agencies and jurisdictions to multiply their effectiveness and to share resources. This is particularly effective where booking procedures can be consolidated, or if a particular agency possesses specialized equipment such as a Breath Alcohol Test (BAT) Mobile. BAT-Mobiles are motor homes outfitted with breath testing instruments and serve as mobile police stations. They can be brought to the scene in rural areas or stationed on-site at sobriety checkpoints.

The National Highway Traffic Safety Administration (NHTSA) has conducted research that has determined certain “cues” that can be used by officers on patrol in order to detect alcohol-impaired drivers. It has also developed a separate set of cues for the detection of impaired motorcycle operators. Examples of the cues include such things as jerky starts and stops, straying over the fog line or the centerline, to a number of more specific indicators related to cars and trucks. NHTSA publications containing these cues and the results of its research indicate that when a certain number of cues are present, the statistical probability is that a driver is impaired. These publications are useful in training classes for officers, in drafting standard operating procedures for patrols, and in prosecuting cases.

Sentencing Options

Statutes should provide judges with a variety of sentencing options in DUI cases, including the mandatory installation and usage of ignition interlocks on convicted offenders’ vehicles. These devices require that a driver pass a breath-alcohol test before the vehicle’s engine can be started.

Statutes also should provide for more severe penalties for aggravated DUI offenses (those persons with alcohol levels above 0.15, those with a minor in the vehicle, second and third offenders, those involved in collisions, etc.) and require mandatory alcohol screenings to identify hardcore drunken drivers, who then should be re-
quired to undergo extensive counseling and treatment.
Standardized Field Sobriety Testing

The Standardized Field Sobriety Test (SFST) is a battery of three tests administered and evaluated in a standardized manner to obtain validated indicators of impairment and establish probable cause for arrest. These tests were developed as a result of research sponsored by the National Highway Traffic Safety Administration (NHTSA) and conducted by the Southern California Research Institute.

A formal program of training was developed and is available through NHTSA to help police officers become more skillful at detecting DUI suspects, describing the behavior of these suspects, and presenting effective testimony in court. Formal administration and accreditation of the program is provided through the IACP.

The three tests comprising the SFST are (1) the horizontal gaze nystagmus (HGN), (2) the walk-and-turn, and (3) the one-leg stand. These tests are administered systematically and are evaluated according to measured responses of the suspect.

HGN Testing

Horizontal gaze nystagmus is an involuntary jerking of the eyeball which occurs naturally as the eyes gaze to the side. Under normal circumstances, nystagmus occurs when the eyes are rotated at high peripheral angles. However, when a person is impaired by alcohol, nystagmus is exaggerated and may occur at lesser angles. An alcohol-impaired person will also often have difficulty smoothly tracking a moving object. In the HGN test, the officer observes the eyes of a suspect as the suspect follows a slowly moving object, such as a pen or small flashlight, horizontally with his eyes. The examiner looks for three indicators of impairment in each eye: if the eye cannot follow a moving object smoothly, if jerking is distinct when the eye is at maximum deviation, and if the angle of onset of jerking is within 45 degrees of center. If, between the two
eyes, four or more clues appear, the suspect likely has a BAC of 0.10 or greater. NHTSA research indicates that this test allows proper classification of approximately 77 percent of suspects. HGN and VGN (vertical gaze nystagmus) may also indicate consumption of seizure medications; phencyclidine; or a variety of inhalants, barbiturates, and other depressants.

**Divided Attention Testing**

The walk-and-turn test and one-leg stand test are “divided attention” tests that are easily performed by most sober people. They require a suspect to listen to—and follow—instructions while performing simple physical movements. Impaired persons have difficulty with tasks requiring their attention to be divided between simple mental and physical exercises.

In the walk-and-turn test, the subject is directed to take nine steps, heel-to-toe, along a straight line. After taking the steps, the suspect must turn on one foot and return in the same manner in the opposite direction. The examiner looks for seven indicators of impairment: if the suspect cannot keep balance while listening to the instructions, begins before the instructions are finished, stops while walking to regain balance, does not touch heel-to-toe, uses arms to balance, loses balance while turning, or takes an incorrect number of steps. NHTSA research indicates that 68 percent of individuals who exhibit two or more indicators in the performance of the test will have a BAC of 0.10 or greater.

In the one-leg stand test, the suspect is instructed to stand with one foot approximately six inches off the ground and count aloud by thousands (One thousand-one, one thousand-two, etc.) until told to put the foot down. The officer times the subject for 30 seconds. The officer looks for four indicators of impairment, including swaying while balancing, using arms to balance, hopping to maintain balance, and putting the foot down. NHTSA research indicates that 65 percent of individuals who exhibit two or more such indicators in the performance of the test will have a BAC of 0.10 of greater.

The effectiveness of SFST in court testimony and evidence de-
pends upon the cumulative total of impairment indicators provided by the three-test battery. The greater the number of indicators, the more convincing is the officer’s testimony. Because SFST is administered according to national standards and is supported by significant research, it has greater credibility than mere subjective testimony. Some courts have ruled that unless a test is conducted according to the SFST protocols, the results are inadmissible at trial. Prosecutors must be prepared to explain to the courts that although the protocols are quite specific, field conditions do not always permit following them to the letter. For example, a perfectly dry, level piece of roadway—free of any pebbles—may not always be available at the location of the accosting. This lack of laboratory-perfect conditions should go to the weight of the evidence, not to its basic admissibility. A test administered as closely as possible to the protocols under the conditions present at the scene can still render valuable evidence.

It is important to emphasize to officers that they should not “shortcut” or improvise the SFST process. When they deviate from the standardized method of conducting the tests, or when they skip certain steps, such as going immediately to angle of onset in the HGN test, they open themselves to criticism by the defense attorney who is trying to raise a reasonable doubt in the minds of the judge or jury.

It should also be emphasized that regardless of a defendant’s failing the SFST and the chemical test, the single most important component of a trial is the testimony and opinion of an experienced officer as to the defendant’s impairment, especially if the test results are excluded from evidence on a technicality. An officer’s incident report or arrest report on every such occurrence should be comprehensive and include observations of the defendant from the moment the vehicle was first observed, through the arrest and until the subject is released from the officer’s custody. If the individual had trouble walking up the steps to the police station or using the telephone to call for bail, this information should be recorded for future testimony.
Alternative Testing Methods

Sometimes, an officer will encounter a disabled driver who cannot perform the SFST. In such cases, some other battery of tests, such as counting aloud, reciting the alphabet, or performing finger dexterity tests, may be administered. Several appellate court decisions have indicated, however, that if an officer administers a test that requires a subject to respond orally in other than a routine information-giving fashion, such as requiring that person to indicate the date of his or her sixth birthday, and if that driver is in custody at the time, *Miranda* warnings should be administered first, because the officer is seeking information that is testimonial or communicative in nature.
Roadside Checkpoints

Roadside checkpoints provide law enforcement personnel with a ready means to monitor and check driver’s licenses, vehicle registrations, vehicle equipment, and the public vehicle identification numbers (PVINs) mounted on the dashboards of vehicles and readily visible through the windshield.

Because some courts and licensing authorities now issue restricted licenses to offenders, roadside checks allow officers to monitor compliance with court-ordered and statutory restrictions. Law enforcement personnel can contact increased numbers of vehicle operators without first having to make traffic stops. Roadside checkpoints also enable officers to conduct vehicle registration inquiries and detect uninspected or unsafe vehicles.

A primary tool used by drug couriers to transport illegal drugs is a vehicle registered to someone other than the operator, such as a leased vehicle. Vehicle registration checks often thwart attempts to transport significant quantities of illegal narcotics and cash.

The roadside checkpoint also affords us a means to quickly review vehicle safety equipment and ensure compliance with special equipment. An officer can determine compliance with regulations pertaining to tires, exhaust, safety belts, mirrors, glass, lights, and related equipment. Vehicles not in compliance can be removed from the roadways or issued citations or defective equipment repair orders.

Site selection is an important aspect of roadside checkpoints. Sites should be selected for their ability to provide for the safety of the public and the police. A safe site requires adequate visibility for approaching motorists, and ample space to park police and violators' vehicles without blocking driveways to nearby residences or business establishments. Further examination of a vehicle may be necessary, and allowing it to remain in the roadway can constitute a traffic hazard. Sites should also be assessed for daylight and night operations, taking into consideration the previous factors.

Sobriety Checkpoints
The sobriety checkpoint is a highly visible enforcement mechanism. All motorists approaching a designated area of highway are stopped and briefly investigated for signs of intoxication. Its purpose is to maximize deterrence, by increasing the risk perception of motorists who drive while impaired by alcohol or drugs. Evidence suggests that sobriety checkpoints can reduce the number of alcohol-related crashes, as much by the deterrent effect that they have as by the actual number of drivers they detect.

The legality of these checkpoints has been challenged in the courts on the grounds they violate the Fourth Amendment prohibition against illegal search and seizure. The U.S. Supreme Court upheld their constitutionality in 1990 in the case of Michigan Department of State Police v. Sitz, 496 U.S. 444 (1990). The Supreme Court ruled that the Fourth Amendment does not forbid the initial stop and brief detention, without individualized suspicion, of all motorists passing through a highway checkpoint established to detect and deter drunk driving and conducted in conformity with guidelines on operation, site selection, and publicity. Despite the federal ruling, certain states have since enacted legislation or interpreted their state constitutions in such a manner as to forbid these checkpoints or to require individual court orders authorizing them.

NHTSA and the IACP’s Highway Safety Committee have published operational guidelines that police administrators should consider in order to ensure that sobriety checkpoints are legal, effective, and safe. These guidelines stress that checkpoints should be part of an ongoing program to deter impaired driving, should have judicial support, and should conform to department policy. The location should be pre-selected by management based on statistics, and there should be special warning devices, visible police authority, chemical testing logistics, contingency planning, effective detection and investigation techniques, operational briefings, comprehensive public information and public education efforts, and post-incident critiques based on data collection and evaluation.

Site Operations

Generally, roadside sobriety checkpoint locations should not be
selected on an ad hoc basis by the line officers that conduct them, but instead should be determined by law enforcement commanders or first-line supervisors. To deter drinking drivers, advance publicity of a checkpoint is advisable. Warning signs should also be placed along the highway to notify motorists in advance, and adequate lighting should enable motorists to quickly spot the checkpoint and react it. The warning devices on vehicles and reflectorized equipment worn by officers should be deployed. Officers should be sure that the lights of police cruisers or other stopped vehicles do not blind oncoming motorists.

Checkpoints should be chosen so as to provide ample room and safe locations to pull vehicles over, by officers in full uniform and readily identifiable. Officers should briefly greet each motorist and explain the purpose of the stop. After a brief conversation and, perhaps, a check of the driver's license, registration, inspection sticker, and equipment, officers should determine whether or not the driver appears to be impaired. If not, they should quickly wave the motorist on his or her way. Any motorist selected for further investigation on the basis of reasonable, articulable suspicion should be pulled off the road to a location where additional inquiry can be conducted.

If reasonable, articulable suspicion of DUI exists, a PBT (preliminary breath testing) device can be employed. Some PBT devices are so sophisticated that they no longer require a motorist to blow into them, but operate as “sniffers” to check for the presence of volatile substances when passed in front of the driver’s nose and mouth. If alcohol or controlled substances are detected and the driver appears impaired, administer the Standardized Field Sobriety Test (SFST) and place the driver under arrest, to be transported to a breath-testing site, or to a “BAT-Mobile.”

When stopping vehicles for roadside checks, officers should devise a system that prohibits the constitutionally impermissible random stopping of vehicles and complies with the provisions of the U.S. Supreme Court decision in Delaware v. Prouse, 440 U.S. 648 (1979). This case can be complied with either by stopping every vehicle so that each driver has an equal chance of being accosted, or by stopping of every tenth or every twentieth vehicle so that the officer does not exercise individual discretion in deciding which
vehicle is to be stopped and all cars have an equal chance of being selected.

However, roadside checkpoints in high-crime areas were addressed by the U.S. Supreme Court in *Indianapolis v. Edmond*, 531 U.S. 32 (2000). The Court ruled the stopping of all vehicles in a high-crime area in order to detect illegal guns and drugs constitutes an impermissible violation of motorists’ right to privacy.

On the other hand, in *Illinois v. Lidster*, 540 U.S. ___ (2004), the Supreme Court upheld a roadside checkpoint where police, attempting to solve a fatal hit-and-run crash, set up a checkpoint at the exact location of the collision a week later and at the same time of day, for the purpose of stopping motorists and inquiring if they had seen the collision and could describe the vehicle or driver involved. The Court said that the seriousness of the particular crime, coupled with the brief and focused police encounter to ask the occupants of vehicles, as members of the public, for their help in providing information about a crime in all likelihood committed by others, were minimal invasions of personal privacy and did not violate Fourth Amendment standards.

Compliance with these suggestions will result in a constitutionally permissible roadside inspection procedure in most jurisdictions.
Highway Drug Interdiction

Highway drug interdiction is a strategy to intercept the flow of illegal drugs and related currency during transport along public highways. Interdiction includes procedures as routine as observing the interiors of vehicles stopped for traffic violations and as deliberate as developing psychological profiles of suspects, behaviors, and vehicles. Federal law provides for the seizure and civil forfeiture of assets, including vehicles connected to illegal drug trafficking.

Operation Pipeline/Convoy

The U.S. Drug Enforcement Administration (DEA) is the coordinating agency for highway drug interdiction activities. It has provided training, seizure data, and information to interested law enforcement agencies throughout the United States.

The EPIC Data Base

The DEA’s El Paso Intelligence Center (EPIC) maintains a database on drug seizures. It provides access to information relating to date, location, highway, vehicle, occupants, destination, concealment methods, and firearms encountered in seizure incidents. An intelligence database, Zones of Drug Intelligence Activity (ZODIAC), shares intelligence information relating to transportation of drugs and related currency. EPIC is accessible 24 hours a day for database inquiries about persons or vehicles that have been involved in seizures or arrests.

Training Availability

The DEA has provided training to state and local law enforcement agencies upon request. The DEA also has produced a variety of
printed reference materials for law enforcement agencies. For in-
formation regarding any DEA-sponsored program, consult the
DEA Web site or contact your nearest DEA office.

Departments using drug interdiction methods need to be particu-
larly careful that their officers do not engage in illegally profiling
motorists based on their race or ethnicity. All indicators must be
based on behavior, not on immutable characteristics of individuals.
Drug Recognition Experts

Often the behavior of a suspect is abnormal for alcohol impairment alone, or field or breath tests indicate that the suspect's BAC is lower than the level of impairment suggests. Either of these observations is common when encountering poly-drug users. Most jurisdictions have laws that prohibit DUI by alcohol, drugs, or a combination thereof.

Drug Recognition Experts (DREs) are officers who have been specifically trained to recognize the effects of drug impairment. The DRE examines such suspects and makes trained observations to determine whether to request a blood or urine test, and to guide the laboratory technician toward what general categories of drugs to look for in analysis of the sample. The DRE’s examination also provides evidence of observable drug effects to help confirm the lab analysis.

Recognizing Drug “Signatures”

DREs are trained to recognize distinguishable “signatures” of certain categories of drugs, identified through five observations by DREs: vital signs (pulse, temperature, and blood pressure), psychophysical responses (coordination of mind and body), signs of administration of drugs (such as injection sites), eye responses (horizontal and vertical gaze nystagmus, eye convergence, and pupil size), and physical and behavioral characteristics (such as muscle rigidity or flaccidity, hyperactivity).

A DRE’s observations cannot substitute for a chemical test or lab analysis. Only such an analysis by a qualified forensic chemist can accurately identify or quantify a particular drug. This analysis is an important step in the acquisition of gathering evidence in drug-related cases.
History of the DRE Concept

The DRE concept was designed and tested by members of the Los Angeles Police Department in the 1970s, and has been practiced in that department and many others since 1982. Reliability and validity studies were conducted by the Johns Hopkins University Medical Center. The DRE techniques have been recognized by NHTSA since 1984, and the IACP’s Highway Safety Committee developed and has administered national standards for the training and certification of DREs since 1989. At this writing, 5,683 trained and certified DREs, of whom 1,127 are instructors, work in more than 100 programs in 38 states. The Highway Safety Committee, through its Technical Advisory Panel (TAP), continues to update the standards based on ongoing research sponsored by NHTSA, decisions of the nation’s state and federal appellate courts, data provided by State toxicologists, the medical profession and the field experience of DREs on the road and in the courtroom.

NHTSA Prerequisites

NHTSA has individual, departmental, and jurisdictional prerequisites for the training of DREs. The trainees should already be proficient in using standardized field sobriety testing techniques and should demonstrate a commitment to DUI and drug enforcement. The sponsoring agency should make an ongoing commitment to deterring impaired driving and to providing the command support to allow the DRE to function at maximum effectiveness. Finally, the jurisdiction where the DRE will operate must have a legal and political framework consistent with effective enforcement of drug-impaired driving violations.

NHTSA has also established specific prerequisites as part of its DRE training curriculum. The student must be employed or under the direct control of a public criminal justice agency or an institution involved in providing training services to officers of law enforcement agencies. S/he must achieve the learning objectives of a two-day pre-school, demonstrate proficiency in the use of the SFST, possess good communication skills or a demonstrated abil-
ity to testify in court, and be willing to serve as a DRE upon completion of the training.

The department must have an active drug enforcement and DUI enforcement program; be proactive in training officers in SFST consistent with the IACP’s guidelines; maintain records of individual officers’ SFST activities; have access to adequate chemical testing resources, adequate facilities, and equipment to support the drug evaluation and classification examinations; maintain a management information system capable of accurately tracking alcohol and drug enforcement activities; and have the firm support and commitment of the chief law enforcement officer and other appropriate officials.

The state or community must have laws that permit analyses of chemical samples obtained from persons suspected of impaired driving; allow the arresting officer to specify the type of test or tests to be given to suspected impaired drivers (blood, breath, or urine); and specifically provide testing for drugs other than alcohol. Local prosecutors must demonstrate a willingness to introduce SFST evidence in DUI cases and to participate in the training to become familiar with drug evaluation and classification procedures. Local judges must demonstrate a willingness to accept SFST evidence in court and to consider DRE evidence in alcohol and drug cases. Finally, the political leadership of the jurisdiction should express support for the DRE program.

A *Drugs that Impair* curriculum has also been developed as an offshoot of the DEC program, that DREs and DRE instructors use to train schoolteachers, probation and parole officers, and others who need rudimentary knowledge sufficient to enable them to identify drug users in the classroom and those who are violating the terms of their release by using illegal drugs. These abbreviated programs do not enable non-police officers to function as DREs, but they do provide them with enough knowledge to determine if persons have been using illegal drugs and to refer them to a DRE or a medical practitioner for a more comprehensive evaluation.
DRE Training and Certification Process

**DRE Instructor Training**

NHTSA and the IACP have developed a training program that certifies officers as DRE instructors and enables them to train other officers in these skills. To become a DRE instructor, an officer must first be a certified DRE. Then, s/he is eligible to attend the intensive instructor development process, which includes instruction in teaching techniques and student evaluation. The student is also required to practice teach under the watchful eye of DRE Instructor Trainers.

**Record-keeping and Quality Control**

The IACP’s State and Provincial Police Directorate staff maintains a national database on all certified DREs and DRE instructors. A certification lapses if an individual fails to meet periodic recertification requirements, or to remain active in the program. Each State and Province that participates in the program has a State or Provincial DRE Coordinator who monitors the certification requirements for the DREs in that locality, and who functions as a conduit of information from the national program to a designated DRE contact in each law enforcement agency that participates in the program.

**Basic DRE Training and Certification**

Once the prerequisites have been met, DRE training is a three-step process. Phase I is a two-day orientation to the techniques and procedures for evaluating drug-impaired suspects. Phase II is seven days’ instruction in drug evaluation, physiology, effects of drugs, and legal considerations. At its conclusion, students are required to pass a written exam. Phase III consists of supervised field training and working with actual drug-impaired suspects. After a student has competently performed a minimum of 12 suspect evaluations identifying three of the seven different drug categories, s/he must complete a comprehensive written examination before obtaining the IACP certification.

Certified DREs must renew their certification every two years.
Recertification requires each DRE to have performed a minimum of four acceptable evaluations since the date of the last certification, successfully complete eight hours of IACP-approved recertification training, and submit updated documentation of DRE activity. A DRE will be decertified for failing to maintain standards and certification requirements, or by demonstrating substantial unethical or unprofessional behavior.
Breath Testing Instruments

NHTSA annually publishes a list of breath testing instruments rigorously examined for accuracy and approved by NHTSA for their ability to accurately determine breath alcohol concentration, and thus blood alcohol concentration. The department of health or other appropriate agency in each state reviews the NHTSA list and test results, and issues a list of devices approved for use by law enforcement agencies in that particular state.

Captured Samples

Exhaled air can be categorized into essentially three types of samples: tidal breath air, reserve breath air, and alveolar breath air. Tidal breath air is air exhaled in the course of normal breathing. It is the most shallow of the three types. Reserve breath air is exhaled when the body is exerted. It is produced through deeper breathing than tidal breath air, but great volumes of air are both inhaled and exhaled with little residence in the lung. Alveolar breath air is deep lung air. Since breath testing instruments are intended to measure indirectly the concentration of alcohol in the blood, it is essential for accuracy that the breath sample captured by the instrument for analysis be representative of the air in the alveoli of the lung, because it is in the alveoli that the 2100:1 equilibrium ratio between alcohol in the breath and alcohol in the blood occurs.

Infrared Instruments

Infrared breath measuring instruments operate on the principle that each chemical compound has unique infrared energy absorption characteristics. Ethyl alcohol absorbs energy in the 3.42 micron region of the infrared spectrum. The amount of alcohol contained in a sample can be calculated by observing energy loss when a known energy is applied to the sample. In the infrared devices, infrared energy is projected through a breath sample. A photo-
detector identifies a decrease in wave amplitude caused by the absorption of energy by the alcohol. The amount of energy absorbed is equal to the breath alcohol concentration. The greater the alcohol concentration, the lower the wave amplitude. A computer on the instrument determines the breath alcohol content based upon the amount of energy loss, and then applies the 2100:1 conversion ratio to provide a digital readout of the suspect's blood alcohol content.

Because infrared instruments are based upon infrared absorption spectra, which are chemically unique, they cannot be influenced by compounds such as acetone, which may have some chemical characteristics in common with ethyl alcohol. In fact, some infrared instruments also provide data on the concentrations of other compounds contained in the breath sample, as well as that of alcohol.

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Wet Chemical Instruments

When infrared instruments are not used, law enforcement generally uses wet chemical instruments, which operate on the basis of color changes produced through the chemical reaction of ethyl alcohol with chromate salts. These devices obtain a measured volume of alveolar breath and pass that sample through a known volume and concentration of a solution of chromate salt and acid. Chromate salt is yellow. As it reacts with the alcohol in the breath sample, it is chemically altered, resulting in a lighter color. The higher the alcohol concentration, the greater the color change.

A wet chemical instrument measures the difference between the light transmittance of a standard chromate/acid solution and the light transmittance of a sample solution. The difference in transmittance measured is directly proportional to the amount of alcohol in the breath sample.
Preliminary Breath Testing Devices

PBT instruments are portable instruments for the purpose of BAC screening as part of the pre-arrest field-testing. The suspect driver blows for several seconds through a plastic or glass tube, and the PBT provides an instantaneous determination of blood alcohol content.

In most jurisdictions, the legal basis for the use of these instruments is contained in the implied consent laws. While results of PBTs generally are not admissible as evidence of DUI, they do provide officers with additional objective information to establish probable cause for arrest and further chemical testing. They also help to detect persons who may be suffering from an illness or injury, such as diabetes or head injury, and are in need of chemical treatment, but would otherwise be mistaken for an intoxicated person.

There are essentially three types of PBTs: electro-chemical, semiconductor, and disposable chemical.

In electro-chemical PBTs, alcohol in the breath is absorbed into a fuel cell where it is oxidized, producing electrical current. The higher the alcohol content of the breath, the greater the current output of the fuel cell. By measuring the current produced, the instrument determines the breath alcohol content, and the BAC conversion is displayed with the aid of a computer chip.

In semi-conductor PBTs, alcohol increases the electrical output of the semi-conductor. By measuring the voltage output, the breath alcohol content can be determined and the BAC conversion is displayed.

Disposable chemical PBTs are glass or plastic tubes containing a measured amount of the chemical, which is reactive with alcohol. As the suspect exhales through the tube, alcohol contained in the breath reacts with the chemical contained within. The greater the breath alcohol content, the greater the chemical reaction observed.
Non-Invasive or Passive Alcohol Sensors

Passive alcohol sensors (PASs) are instruments that detect the presence of alcohol in normally expelled breath. They require no cooperation from the driver. During the roadside interview of the driver and examination of documents, the officer places the PAS within six inches of the driver's mouth. It contains a small fan which samples the ambient air for examination. An electrochemical mechanism analyzes the air for the presence of alcohol.

Some instruments are concealed within a flashlight and can be used as a passive or active detector. NHTSA studies indicate these devices are effective during sobriety checkpoints when the decision whether or not to continue breath testing must be made quickly.
PART SIX:

Speed Management
Speed Management Programs

Speeding—exceeding the posted speed limit or driving too fast for conditions—is a significant threat to public safety. Federal, state, and local governments should develop balanced programs that use the most cost-effective strategies for decreasing crash risks from excessive speed.

When police administrators decide to initiate a speed management program, they must first make a comprehensive review of the community or patrol area, including its crash data, arrest statistics, criminal activity, demographics, and geography. In addition, they should discuss the program objectives and anticipated outcomes with rank-and-file police officers, traffic safety experts, community leaders, judges, prosecutors, and traffic engineers.

Speeding is directly related to the severity of vehicle crashes. As speed increases, the potential for injury and damage also increases. A speeding driver will have less distance to react to a hazard, since his or her vehicle is covering more distance than it would at a slower speed. Also, as speed increases, so does the total stopping distance.

An important factor in speed management and crash reduction is speed variance. Speed variance is the difference in travel speeds between vehicles on the road. Vehicles that are traveling substantially above, as well as those traveling substantially below, the average speed of traffic are the most likely to be involved in crashes. Vehicles traveling considerably faster than the normal flow of traffic—the egregious violators—also are the most likely to engage in aggressive driving behaviors: weaving in and out of their lane, tailgating, and passing in unsafe locations.

Planning the Program

In order to plan an effective speed management program, the speed-related or speeding problem must first be identified—if a problem does not exist, there is no need for a program. Once the
problem is identified, however, specific goals and objectives must be established.

A successful speed management program must include the following elements:

- Establishment of rational speed limits
- Strict enforcement of speed limits
- Public information programs
- Support of the courts

With a goal of changing driver behavior, it is important to deter drivers from speeding. Deterrence is accomplished by ensuring that drivers are aware of the perceived risk of apprehension and know that speeding will result in swift, certain and meaningful punishment.

Other key components of a successful speed management program are the sanctions and adjudication process. The courts play a key role in the process. It is imperative that judges agree that the established speed limits are reasonable. To maximize the deterrent effect of the program, there must be consistent treatment of violators.

Speed management is a holistic program involving engineering, education and enforcement. A speed enforcement program, one component of a comprehensive speed management program, should be reserved for situations in which the speed limits are appropriately set, yet the speeding problem continues. Initiating a speed enforcement program for revenue enhancement should be resisted. This approach is doomed before it starts. Eager financial analysts may quickly see the potential for revenue to feed some government body, but that is not the fundamental basis for a comprehensive speed management program.

A formal written agency policy should be adopted for speed management programs, and every component necessary for its success must be included. A component crucial to the success of any program is public support and commitment. Further, a program without the organization's commitment to execute it is a paper tiger and will not accomplish any of its stated goals.
The policy should address the necessary training for implementation and also should include a section on evaluation. Over time, this policy will need to be further defined and changed. If no formal evaluation mechanism exists, there will be no means to argue the success of the program or to defend it against its critics.

Role of Traffic Records Systems

Any speed management program must be supported by a traffic records system to provide a variety of statistical measures concerning speeding.

The primary component of a traffic records system is a detailed crash history. Before beginning any traffic safety program, a study should be performed to determine where, and why, crashes occur. This information can often be obtained from the state or local Department of Transportation or by review and tabulation of crash reports submitted by officers. Once the problem locations have been determined and the primary causes of crashes identified, commanders can formulate plans for enforcement efforts.

An engineering study to determine speed variance should be conducted on selected roadways to determine the need for a speed management or speed enforcement program and, if so, on exactly which roadways. Speed variance is the distribution of all speeds on a roadway compared to its average speed; the larger the variance between the speeds of vehicles using the roadway, the greater the potential for crashes.

Speed limits take into account a variety of factors, such as geography, roadway design, general safety, and the type of area, e.g., school zones. When these speed limits are compromised, then the factors that helped justify the limits are compromised as well.

Benefits of A Program

An effective speed management program can do more for a law enforcement agency than simply controlling speeds and reducing
crashes. A speeding vehicle provides the probable cause necessary to legally stop it. A properly conducted traffic stop for a speeding violation sometimes yields criminal charges. Additional probable cause developed during the course of the stop may lead to the discovery of more serious criminal acts for which the violator can be charged. These charges often include: possession of stolen property, unlawful flight, possession of stolen vehicles or illegal drugs, illegal immigration, and other traffic charges such as DUI and driving after suspension.

Public Information Aspects

Some of the problems associated with a speed management program can be reduced—although never eliminated—if a careful and deliberate public information and education campaign is initiated before the program begins. Working with the news media is one way this can be accomplished; driver education classes and public speaking opportunities are other ways. Publicizing the training that the officers receive will also emphasize the program. Mall displays and public events are additional ways to acquaint the public with the program.

A police administrator should be prepared for negative feedback on a speed management program, especially for its speed enforcement component. There are always those who will quickly criticize a program or bring up some scandal involving a police department and speed enforcement. Realizing this fact, the police administrator must continue to relate the program to concise goals.

Internal Problems

In addition to objections from the public, police officers themselves may resist a speed enforcement program. Some officers will call speed enforcement “robot work” and not relate their individual efforts to the total law enforcement mission. These problems will be difficult to address.

To increase the probability of a successful speed enforcement pro-
gram, the law enforcement manager can design it in such a way as to minimize internal objections to speed enforcement:

- Avoid setting quotas
- Rotate personnel frequently
- Schedule speed enforcement for limited hours in a day to reduce monotony
- Combine a speed enforcement program with a DUI enforcement program: The speed enforcement program can be operated during those times when drunk driving is likely to occur. This combination will diversify the efforts expended and will receive greater support.

Cost Considerations

The cost of setting up a speed enforcement program can vary from a few hundred dollars to tens of thousands of dollars, depending on the complexity and the extent of the program.

An initial consideration is the type of speed-measuring devices to be used to identify speeders. In addition to the many choices and manufacturers of devices, discounts are also available for large purchases. Often law enforcement agencies can collaborate on equipment bids to get the best price.

The equipment will need technical service. If a police department does not have the staff to perform this task, the costs must be budgeted.

Most of the administrative costs of the program can be absorbed by the existing staff. If a department has a weak data support system, this shortcoming will also need to be addressed in terms of cost considerations.

Finally, a department having difficulty implementing a speed enforcement program because of insufficient staffing may have to budget for overtime.

Expect additional court expenses when a speed enforcement program is implemented. These costs are difficult to estimate; how-
ever, good training should limit the number of challenged cases.

Speed Enforcement Grants

A police department can offset some costs for speed enforcement programs by applying for, and receiving, federal funds. In 1966, the Highway Safety Act was established under Title 23 of the U.S. Code, thereby making funds available to Governor’s Highway Safety Representatives to assist states and localities in organizing their highway safety programs. The use of Section 402 funding is allowable for speed enforcement programs. The Governor’s Highway Safety Representative in each state can provide specific information about funding speed enforcement programs.
Speed-Measuring Devices

A speeding citation should be based on an officer’s opinion of the speed of the violator’s vehicle, independent of any electronic device. Electronic speed-measuring devices should be used solely to confirm the officer’s opinion, not to be the basis for the issuance of a speeding citation. Law enforcement agencies primarily use four types of speed-measuring devices: speedometer, radar, stop watch, and lidar. There are two additional types used to a lesser extent: aircraft and automated devices. Each has its own advantages and disadvantages.

**Speedometer**

Although often neglected in today's age of technology, speedometers are the least expensive method of clocking speeders and can be extremely effective. Radar and lidar detectors are useless against officers who are proficient in speedometer clocking.

The patrol car speedometer is used to pace vehicles. The most important component of this method is an accurate speedometer that is certified. A speedometer can be calibrated and certified in several ways: attaching a fifth wheel to the rear of the vehicle; using a certified stopwatch to clock the patrol car’s speed over a measured course; or using a dynamometer, which allows the patrol vehicle’s wheels to rotate in place while the speedometer is checked against the device for discrepancy (probably the best method and also the most expensive).

The advantage of the dynamometer method is that it can be combined with maintenance procedures, so the patrol officer does not have to certify the speedometer while on patrol. Using the dynamometer also allows more administrative control.

**Radar**

The most popular technology used for speed enforcement, radar—
an acronym for “RAdio Detection And Ranging”—involves the transmission of electromagnetic waves that reflect off a moving object. When the wave is reflected, it changes frequency and is interpreted by the radar unit in a speed calculation. This change is referred to as the Doppler effect or Doppler shift. Radar can be used either in a stationary or moving mode.

Stop Watches, or Average Speed Computers

Mounted in the patrol car, an average speed computer is a device that uses a programmed computer to measure speed by dividing the distance traveled by the time it took to travel that distance. Whereas radar and lidar devices are primarily used to measure maximum speed, average speed computers measure average speed over a specified distance. Average speed computers can be used in both moving and stationary modes. Since they do not use electromagnetic waves, they are undetectable by radar detectors. The most common brand of this technology is VASCAR®.

LIDAR

Lidar (LIght Detection And Ranging) has recently been adapted for law enforcement use in speed measurement. Lidar devices use an infrared light wave emitted at frequencies that allow the beam to be focused into an extremely narrow target area. The devices are usually used in the hand-held mode. They can be used through glass with reduced range; therefore, an open window or exterior use is recommended.

Lidar has become more popular with the proliferation of radar detectors. Detection of the lidar beam is possible, but the benefit of devices detecting the lidar beam is limited: When detection devices intercept the beam, their activation and concomitant notification to the driver correspond to the clocking of the vehicle with the lidar device.
Aircraft

This method of speed enforcement uses a combination of ground-based units and aircraft (fixed-wing or rotary). Painted lines on the pavement are used to identify a measured course. This method of enforcement, like the Stop Watches or Average Speed Computers discussed above, is based on the formula \( Speed = \frac{Distance}{Time} \). As vehicles travel on the measured course, a stopwatch is activated in the aircraft. Once the course is completed, the speed is calculated; if the vehicle was speeding, the description is broadcast to ground units. The vehicle is pulled over, and the vehicle and speed are verified. The aircraft, typically the high-wing design that allows an unobstructed view of the ground, can also be used for marijuana eradication activities, emergency transport, traffic monitoring, surveillance, and other law enforcement programs.

Automated Speed Enforcement

This extension of conventional speed-measuring devices uses photography (either wet-film or digital) to capture an image of the speeding vehicle and registration plate when a violation occurs. The date, time, and speed can be superimposed onto the print. Some can also capture the image of the driver. The speed sensor may be either radar- or lidar-based and—depending upon the particular system—can be used in staffed or totally automated applications. It is usually used in jurisdictions where specific legislation permits its use and where vehicles have both front and rear registration plates.

Drone Radar

This method uses an unmanned radar station to trigger motorists' radar detectors. The theory is that when detector alarms sound, drivers will slow their vehicles down because they will not know where the police officer is. These units can be mounted in moving vehicles, concealed in highway signs, or installed in highway work vehicles and in many other locations.
The FCC and NHTSA have regulations that must be met in order to use this method of speed management. Overuse of this method will reduce its effectiveness.

Testing Programs for Speed-Measuring Devices

Each manufacturer of a speed-measuring device has a method of certifying the operational capabilities and reliability of its units. All the manufacturers’ guidelines should be followed. In addition, a technician, either employed or retained by a law enforcement agency, should certify the units at least annually. The IACP, through its Highway Safety Committee, recommends, as a minimum, that the certification period for speed-measuring devices not exceed three years, or, that the certification test be performed after a device is repaired. There may also be legislative requirements in different jurisdictions that should be followed. A judicial ruling may create, as well, a certification schedule in a given jurisdiction.

The IACP operates a certification-testing program using regional testing laboratories located in San Diego, California, and in Jacksonville, Florida. This program was established in the 1970s after police radar had been in existence for several years. NHTSA, through a cooperative agreement with the IACP and in collaboration with the National Institute of Standards and Technology’s (NIST’s) Office of Law Enforcement Standards (OLES), developed performance specifications and provides testing of speed-measuring devices. In 1982, the IACP began publishing the results of this testing. Most radar unit manufacturers submit units for testing. Those products meeting the specifications are listed on the IACP’s Consumer Products List (CPL). The most current list can be found at http://www.theiacp.org/profassist/radar.htm.

Speed-Measuring Device Testing Program: How It Works

The following radar and lidar speed-measuring device tests are conducted at the IACP’s laboratories: Consumer Products List
testing, critical performance testing (CPT), and recertification testing. The very abbreviated descriptions of the testing procedures set forth below do not include required pass rates or the steps that follow if these rates are not met.

**Consumer Products List (CPL) Testing.** A manufacturer of a new model of speed-measuring device that wishes its product appear on the CPL must submit the unit to the IACP to be assigned to the appropriate laboratory for testing against the appropriate performance specifications. If the model passes, it is entered on the CPL. The first 200 units of the model to be produced must then be submitted for critical performance testing (CPT). The CPT—a less stringent version of the CPL test—has been determined to be sufficient to ensure the accuracy and performance of each new unit. These tests are performed at the manufacturer's expense prior to delivery to any agency for use in the field.

**Critical Performance Testing (CPT).** An IACP member will contact each manufacturer to obtain units of each model appearing on the CPL and will ship them to a laboratory designated by staff. As an alternative, members who have purchased, but who have not unpacked new units may be asked to assist in the program by sending such units to a laboratory for CPT at no charge. If an appropriate pass rate is not attained or if failures remain high, a recall of all units and/or the removal of the model from the CPL could result. All of these tests are performed at the manufacturer's expense.

**Re-certification Testing.** This program element provides law enforcement agencies with the opportunity to have in-service units tested for accuracy at any interval the agency considers appropriate. It has been suggested that units be certified as mentioned above. This service can be accessed by contacting [http://www.theiacp.org/profassist/radar.htm](http://www.theiacp.org/profassist/radar.htm). The charge to the agency for this service is minimal.

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**Safety Precautions**
Department policies should specify certain safety procedures to be followed when operating police traffic radar. The antenna should be pointed away from the officer, and the unit should be turned off when not in use. A hand-held unit should not be placed between an operator’s legs when transmitting or in any other location close to the body. However, the testing process to qualify for the CPL has shown that the typical police traffic radar unit emits less electromagnetic energy than cellular telephones or hand-held portable radios.

Some police departments have gone the extra step and have mounted the radar antenna outside the patrol car to further minimize exposure to microwave emissions reflected from objects in the vehicle's interior. This method is even more popular as today's police vehicles come equipped with driver and passenger-side air bags, thus limiting the amount of equipment that can be mounted on the dashboard.

A police department should keep both maintenance and certification records for all units. These files should be kept for the life of the unit.

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**Speed Enforcement Policy**

Every police department utilizing a speed enforcement program needs written policies and formal training guidelines.

Enforcement of traffic laws is successful primarily through the principle of deterrence. The fundamental concept is that credible threats of punishment deter unwanted behavior.

**Elements of the Deterrence Process:**

**A. Behavior must be definable, understandable, and detectable.**

The behavior that we want to stop, in this case, is traveling at unsafe, unacceptable speeds over rational speed limits. Enforcement operations should take a top-down approach
for establishing the enforcement threshold. Speed measurements at selected road segments should be used to determine the top five percent of speeds. This information should be used to establish the enforcement threshold. The enforcement threshold should never be less than five miles per hour above the posted speed limit. This top-down strategy will not overwhelm the law enforcement officers, the prosecutors, or the courts. This strategy promotes public and court acceptance of enforcement by targeting only the most egregious violators. The overall goal of the enforcement efforts is motorist compliance, not issuance of citations.

B. Deterrence depends upon the perceived risk of apprehension.

The public must be aware that speed limits will be strictly enforced. Highly visible, highly publicized enforcement efforts enhance this perception. The involved enforcement agencies should commit additional resources above the norm for speed enforcement efforts at the selected roadway segments. This effort will provide a consistent law enforcement presence without the appearance of a "speed trap" being in operation. The strategy should still allow enforcement officers to be available to respond to other law enforcement activities as necessary.

C. Deterrence depends on the swiftness, certainty, and severity of punishment.

Once caught, speeders must be adjudicated quickly with a high likelihood of significant penalties.

Operational Considerations

A. Officers

Basic enforcement speed-measuring device—e.g., radar, lidar, and VASCAR®—operator training programs developed by NHTSA should be offered to officers involved in speed enforcement. In addition, officers involved in speed
enforcement should comply with the enforcement and operational procedures established by department policy. Traffic officers assigned to patrol should devote a significant portion of their shifts to speed enforcement.

B. *Marked Police Vehicles*

It is desirable that speed enforcement on the selected roadway segments be highly visible. Marked police vehicles frequently patrolling those roadway segments provide this visibility. The use of unmarked vehicles for speed enforcement should be kept to a minimum. Unmarked police vehicles tend to give the public the perception that the roadway segment is a “speed trap.” This perception should be avoided.

Unmarked vehicles do have a place, however, in enforcing against aggressive driving and road rage. They are most effective when the officer in the unmarked unit does the clocking or makes the observations, and radios ahead to another officer down the road in a marked unit to make the stop.

C. *Speed-Measuring Devices*

All speed-measuring devices used in speed enforcement efforts should be listed on the IACP’s CPL. In addition, selected speed-measuring devices should comply with the testing procedures governing accuracy and reliability that have been promulgated in the IACP’s Speed-Measuring Device Testing Program Administration Guide.

D. *Speed Display Trailer*

The use of speed display trailers on selected roadways will inform motorists of their travel speed and encourage compliance to established speed limits.

E. *Aircraft Speed Enforcement*

Fixed-wing aircraft using VASCAR® or similar equipment constitutes a very effective means of apprehending
speeders. It can keep a team of several ground units busy. It can detect the “high-rollers” (those traveling at speeds of 90 mph or greater) and can radio ahead to have them pulled over in a safe manner, thereby avoiding high-speed pursuits. The combined air/ground effort results in more citations per hour and in less fuel consumption per citation than roving ground patrols.
PART SEVEN:

Collision Investigation
Too often today, police agencies fail to investigate traffic collisions because of a lack of personnel and a shift in priorities. When this happens, we fail to “protect and serve” as we should.

**Purposes of Investigating and Reporting Collisions**

Ideally, a collision should be both investigated and reported. Police administrators must be mindful of the purposes of investigating and reporting. The ultimate purpose is to make our roads and highways safe. More immediate purposes are to combat criminal activity, promote safety, and ensure just results in civil litigation.

**Detecting At-Fault Drivers.** Although investigation frequently reveals who is primarily responsible for the collision, sometimes technical reconstruction is required. The at-fault driver can be charged with the violation(s) that caused the crash and, if convicted, can be punished or given remedial driver training. If the number of previous violations is sufficient for suspension of the driver's license, the individual can be taken off the road. If every collision is not investigated as a matter of policy, many individuals who should be charged will slip by and may become involved in other, possibly fatal, crashes.

**Detecting Incompetent Drivers.** A crash may be caused by a driver's physical or mental deterioration through illness or age. The investigator can request retesting to determine if that individual can still drive safely, if restrictions should be imposed on him or her, or if the driving privilege should be suspended or revoked. In the absence of an investigation, such a driver would continue to be a highway menace.

**Detecting Distracted Drivers.** It has long been recognized that crashes are sometimes attributable to a driver becoming distracted through such actions as looking back over the shoulder to converse with an occupant in the back seat or to discipline a child, looking
for street numbers on buildings or houses, fumbling with the radio
dial or tilting the head back to drink from a soda bottle or cup—in short, doing anything that, for several seconds, may take full attention away from the driving task. Driver cell phone usage has also emerged as a factor in some fatal crashes. Cell phones are frequently held in one hand while a driver steers with the other hand. Dialing a number seems to present a special problem, as does looking at documents while conversing with someone on the cell phone. Attention to driving can be seriously affected for longer periods of time with the presence of a cell phone in the vehicle. Some jurisdictions now require by law the driver to pull over when using a cell phone, while others require hands-free cell phone operation. Still, some behavioral scientists feel that the mental effort required to keep up a cell phone conversation—hands-free or not—distracts too much from the driving task.

**Apprehending Criminals.** Finally, the crash vehicle may be stolen or be being used for an unlawful purpose—transporting drugs or even abducting a kidnap victim. If the crash is not investigated, the stolen vehicle or contraband might never be recovered nor the abducted person rescued. The driver may be evading arrest or recapture. If injured in the crash, the driver may be unable to flee and can be apprehended by the officer arriving at the scene. Without an investigation, these criminal acts might not be discovered and penalized, thereby causing the deterrent value of our laws to be eroded and making enforcement more difficult.

**Hit and Run Collisions.** Hit and run collision investigations are most effectively handled by investigators possessing specialized training. Officers responding to a crash scene and discovering that it is a hit and run case should immediately call for personnel with knowledge in this area of investigative expertise to assist them.

The usual priorities of directing traffic away from the crash site; helping the injured; securing the scene; and searching for, protecting and documenting evidence should be followed, but with special care taken to keep police and other emergency vehicles from running over areas containing evidence. Examples would be obliterating tire tracks left by the hit and run vehicle, or scattering broken glass or parts that may be from that vehicle. Such evidence often indicates the direction of the vehicle at impact and the direc-
tion it headed when fleeing from the scene. It may also be the only link between the hit and run vehicle and its driver. Blood, body tissue, and other DNA from the victim may indicate the location of the victim at impact and verify contact between the vehicle and the victim.

If there are witnesses to the crash, they should be interviewed. If they are able to give a description of the hit and run vehicle and/or driver, this information should be immediately relayed to the investigating officer and to patrol units.

Hit and run collisions frequently require follow-up investigation. In a case involving a fatality, this often begins with an autopsy to reveal the full extent of visible and non-visible (internal) injuries received by the victim. These injuries may indicate the manner in which they were inflicted and the orientation of the victim at the moment of impact. Broken bones and injuries to tissue may indicate the direction of force that caused them.

The victim’s clothing should be immediately sent to a forensic laboratory. The fabric may have left prints on the hit and run vehicle. If the suspect vehicle shows such prints, lab experts can match them to the fabric of the victim’s clothing. Hair found on a suspect vehicle can be matched to preserved samples of head and leg hair from the victim. Paint from the suspect’s vehicle can also be matched to any traces of paint found by the lab on the victim’s clothing.

All agencies should be aware of how training in these areas can be invaluable to officers investigating hit and run cases.

**Use of Motor Vehicles to Cover Up Homicides.** Vehicles have been used to carry out homicides, and to cover up homicides committed at locations far removed from the staged crash. These homicides may not have involved the motor vehicle as the homicide instrument.

A body lying on the road and showing signs of having been run over by a vehicle may look like an ordinary hit-and-run, when actually the victim was murdered earlier in some other location by some other means.
A driver found at the bottom of a gorge pinned behind the steering wheel may appear to have fallen asleep and driven off the roadway, whereas s/he was really bludgeoned unconscious and buckled loosely into place behind the wheel, with the accelerator pedal jammed in the open throttle position and the selector lever pulled into DRIVE to send the vehicle over the brink. To the unpracticed eye, the injuries from the beating might be mistaken for those received from the impact of the vehicle with the bottom of the gorge.

The victim's death may have resulted not from the previous blows but from internal injuries at impact.

Unless such so-called “accidents” are thoroughly and critically investigated, sometimes with the help of forensic pathologists, the foul play might not be discovered, and the perpetrators might get away with their crime.

Drivers Without Licenses or Insurance Coverage. The above purposes of collision investigation are the most familiar to the public. Such cases are highlighted regularly on television and in the newspapers. Yet, other purposes that may not receive any publicity are essential to traffic enforcement and contribute toward making our roads safer. An investigation may reveal that the driver has neither liability insurance coverage nor a valid license. A victim suffering property loss, injury, or death of a family member may find it costly, difficult, or impossible to receive compensation, without the findings of a collision investigation.

Defective Equipment. Equipment problems also cause collisions. The crash vehicle may be uninspected and have a leaky exhaust system or worn brake linings or pads. It may have defective lamps, brake lights or windshield. It may not meet the design and equipment standards mandated by law. This is especially important for heavy commercial vehicles, whose greater size and weight make them especially formidable in a crash; or for a taxi or bus, whose deficiencies can expose many riders to injuries or even death. Without an investigation, such vehicles might not be taken off the road.

Vehicle Design Defects. Investigations may uncover problems in the design of the vehicle or equipment. It may be prone to rollover, have its fuel tank located where it is particularly vulnerable,
or come equipped with tires susceptible to failure when under-inflated. With no policy requiring the investigation of every collision, such findings might never come to light or be recorded; inherently dangerous designs would never be corrected. When the reports and the statistics do not support the charges, a record of the investigations of all crashes gives manufacturers a means to defend against wrongful accusations of faulty product design.

Roadway Defects. An investigation can reveal problems with the roadway design or conditions, or with traffic control devices. Such problems may have contributed to similar crashes in the past and continue, unless reported to the Department of Transportation. How many times have drivers skidded off wet pavement while negotiating an incorrectly banked curve, or sideswiped a car when attempting a last-second lane change on a highway with confusing or awkwardly placed turn arrows or with an exit sign hidden by an overgrown shrub? Another factor contributing to crashes is the absence of warning signs for dangerous intersections, steep downgrades, sharp curves, narrow bridges, or stop signs and traffic signals that the driver comes upon unexpectedly.

Insurance Settlements. Unrelated to safety but important to those affected, an investigation can provide a means for civil litigation to help the aggrieved party(ies) recover just compensation, and establish a basis for insurance companies to determine payments for property damage, personal injury, medical expenses, and disability. A perceptive, well-trained officer will detect crashes that have been staged to bilk insurance companies—a crime now of such proportions that it adds substantially to the cost of insurance for every motorist. If law enforcement settles for a filed report based solely on a telephone conversation between the desk sergeant and the driver, insurance fraud will flourish.

Collision Reporting

A qualified officer or civilian investigator should properly investigate every collision. It is also important to file a standard accident report for every collision. These reports allow the federal and state governments and law enforcement agencies to compile statistics to assess objectively the effectiveness of police traffic enforcement.
The concept of selective traffic law enforcement rests on data that show the violations that actually cause serious crashes, and the locations and times when they are most likely to occur.

These statistics also help police agencies gauge the level of enforcement within each area of their jurisdictions, beef up high collision areas, and move units from one location to another as required. Insurance companies use these statistics to sort collisions by sex, age, location and demographics, to aid in setting rates.

Levels of Investigation

The severity and circumstances of a collision will determine the proper level of investigation. In their order of complexity, the levels are usually called at-scene investigation, advanced (technical) investigation, and reconstruction.

At-Scene Investigation. Basic to any collision is an at-scene investigation. Ideally, the first responding officer will conduct this and file a standard accident report.

Certain evidence, such as incipient skid marks or temporary view obstructions (a vehicle parked on the shoulder at the time of the crash), tends to be short-lived. The sooner it is recorded, the better.

But the officer's first task is to make the collision scene safe and prevent a second crash. Traffic must be immediately redirected by means of cones and flares. Next, the officer must care for the injured, summoning a rescue unit if needed, and then observe and record facts pertaining to the collision. These include all measurements, such as the length of tire marks and the final rest positions of collision vehicles and bodies from permanent reference points; the drag factor of the roadway surface; view obstructions; the condition of the collision vehicles, including lamps and tires; the condition of the roadway, traffic signs and signals; and the weather and environmental conditions (daylight or nighttime). A field sketch should be made to show the direction of travel of the vehicles and the location of all relevant objects.
To document damage, the officer should photograph the vehicles and the collision scene, and permit measurements to be made from the photos if necessary. Photos are particularly persuasive in court. Finally, the officer should check all drivers for indications of intoxication or other impairment, interview all drivers and witnesses, and record their addresses and telephone numbers. If a digital camera is used to photograph evidence, it is a good idea to also take a few photos with an instant or conventional film camera, in case it becomes necessary to prove that the digital photos have not been altered and properly represent the scene as it existed at the time the photos were taken.

The at-scene investigation is concerned primarily with data gathering and recording. It may also involve some interpretation of the collected data. For example, from the skid mark measurements and the drag factor, the officer can calculate the minimum speed of the vehicle at the beginning of the skid.

Ideally, every officer should be qualified to conduct an at-scene investigation. By attending and successfully completing a state-approved course, an officer can become qualified to investigate crashes. Such courses generally consist of classroom and hands-on training of 40 to 80 hours. They may be conducted by a municipal police department, a county sheriff's office, the state highway patrol or state police, a POST council, or by a private law enforcement training organization or institute.

**Application of Technology to At-Scene Investigation.** The Washington State Patrol and other agencies have discovered that the use of lidar devices in their distance measurement mode can save considerable time at crash scenes, provide more accurate measurements, clear the roadway and restore the traffic flow in a speedier fashion, and return the investigating officer to patrol duties.

Using laser devices for crash measurements requires the proper training of the officers who will use it. Photogrammetry also is widely used today. It enables accurate measurements to be made at a later date from a series of photographs of the crash scene. Photogrammetry enables the road to be cleared and the traffic flow
to be restored more quickly, and reduces the length of time that emergency response workers are exposed to traffic hazards at the scene.

**Advanced (Technical) Investigation.** Whereas an at-scene investigation should be conducted for *every* collision, an advanced investigation is undertaken whenever the data obtained at the at-scene level is considered insufficient to complete the investigation.

The purpose of the advanced investigation is to collect additional data for determining the charges to be brought against one or more of the individuals involved, for litigation reasons, or for laying the foundation for the next level of investigation—re-construction.

Unlike the at-scene investigation, which is initiated immediately or as soon as practicable after the collision, the advanced investigation may take place at a later time. Data, including that from the at-scene investigation, will be interpreted, as well as collected. Since much of the evidence at the scene may already have disappeared, the advanced investigation may depend heavily on the completeness and accuracy of the data recorded in the at-scene investigation.

The same officer who conducted the at-scene investigation, if trained and qualified, may conduct the advanced investigation. This officer is expected:

- To determine the drag factor of the skid surface(s) and the minimum initial speed of each vehicle (unless already calculated in the at-scene investigation);
- To determine time-distance relationships and solve momentum problems;
- To match marks on the roadway with the parts on the vehicle causing this damage, to determine the point of impact;
- To determine what is impact damage to the vehicle and what is contact damage;
- To match the damaged areas of the vehicles to determine the principal direction of force (PDOF);
• To correlate injuries with the parts of the vehicle impacted by the occupants (occupant kinematics);

• To determine if headlamps and other lamps were ON or OFF at impact;

• To determine if any fire damage occurred before or after impact;

• To determine if a mechanical or electrical failure contributed to the crash (this may require the help of a specialist); and

• To prepare a scale drawing of the scene from measurements and notes made at the scene.

Officers can receive advanced investigation training by successfully completing a POST-approved course at this level. The length of this training is up to 80 hours, and includes classroom instruction and hands-on activities. A prerequisite is usually the completion of a basic collision investigation course, such as at-scene investigation, or several years' practical experience in at-scene investigation.

**Collision Reconstruction.** Reconstruction is the highest of the three major levels of investigation, and is usually undertaken only in support of litigation or research. Its main purpose is to determine how the collision occurred. It deals primarily with direct and immediate causes of the crash. These frequently entail behavioral errors on the part of the drivers.

The findings are mostly objective, supported by the facts uncovered or determined by investigation at any of the three levels. The purpose may be extended to attempt a determination of why the collision happened (called “cause analysis” and sometimes regarded as a separate and even higher level of investigation). This phase looks at all the circumstances of the crash in order to identify the probable and possible contributing factors. The findings are to some extent speculative. Take, for example, a case where two vehicles crash head-on. The direct cause is that
one vehicle suddenly crossed the centerline and encroached on the opposite travel lane, placing this vehicle in the path of an oncoming vehicle. The probable indirect cause may be that the driver of the encroaching vehicle fell asleep, inasmuch as the collision occurred at 3:00 A.M., and the driver had been driving continuously since the previous noon.

Reconstruction expands on all the principles of at-scene and advanced investigation. In addition, it includes impulse—or the force exerted by each vehicle upon the other—and energy loss through crush—or the extent of deformation of the vehicle caused by the impulse. It may involve experiments to ascertain performance and other capabilities of the vehicle, or to determine driver and pedestrian behavior. Reconstruction entails assembling all the technical data required to build a case for court.

Among the duties of the reconstructionist are the following:

- Cooperating closely with the attorney, if litigation is involved;
- Interpreting photos, information contained in field notes, and all other recorded data from the at-scene and advanced investigations;
- Using photogrammetry to determine distances between objects and location of objects;
- Matching paint, glass and vehicle parts found at the scene to the vehicle being sought after its driver fled;
- Determining who was the driver of each vehicle;
- Determining occupant movement (occupant kinematics) and how injuries were received;
- Checking all calculations made previously and performing any additional calculations required; and
- As needed for the courtroom presentation, preparing scale diagrams of the scene—often via specialized computer-
aided diagramming software—showing vehicle and body positions, time-distance relationships, and momentum vectors.

Although a reconstructionist usually has greater depth of knowledge and broader experience than an investigator qualified only in at-scene or advanced investigations, and can make more inferences from existing data, s/he is very dependent on the thoroughness and quality of the investigations conducted at the scene, and may have to work largely with the evidence that has been preserved and recorded earlier.

Officers can receive training in reconstruction by attending a POST-approved course of up to 80 hours in length. Such a course combines classroom instruction with hands-on activities. The prerequisite is usually successful completion of a state-approved course in advanced (technical) investigation.

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**Use of Statistical Databases**

Computers make it easy to gather many facts into a database. Today, highway safety databases are available to government, law enforcement agencies, insurance companies, or any interested party. Their scope ranges from highly specialized to very broad. Several are compiled by the National Center for Statistics and Analysis (NCSA) operated by the National Highway Traffic Safety Administration (NHTSA).

NHTSA's Fatal Accident Reporting System (FARS), established in 1975, collects and tabulates data on fatal crashes from all 50 states, the District of Columbia, and Puerto Rico. NHTSA contracts with each state government to provide information on fatal crashes within the state. Using a standard format, analysts input data directly into NHTSA's central data file by microcomputer and modem. Each crash report has 90 coded elements that are reported on three forms:

1. Accident form (time and location of crash, first harmful event, if hit-and-run, if school bus involved, number of persons and vehicles, weather conditions)
2. Vehicle/driver form (vehicle type, role of vehicle in crash, impact points, most harmful event, driver's record and license status); and

3. Person form (age and sex of each person, whether driver/passenger/non-motorist; alcohol and drug involvement, injury severity, restraint use).

Although FARS is focused strictly on fatalities, its data may be used in evaluations pertaining to a wide range of issues, among them: legal drinking age legislation, motorcycle helmet legislation, repeat offenders, restraint use, 65 mph speed limit, safety design of cars and light trucks, and safety of large trucks on the highway.

NHTSA's General Estimates System (GES) was established in 1988 to identify highway safety problem areas, to provide a basis for regulatory and consumer initiatives, and to form the basis for the cost/benefit analyses of highway safety programs. It covers approximately 45,000 crashes per year of all severities, from property damage through fatalities, reported on roads throughout the United States, and involving all types of vehicles. Coders contracted to NHTSA enter the data directly from a sampling of police collision reports.

The Federal Highway Administration (FHWA) also operates a number of database systems, especially those dealing with commercial vehicles.

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**Selective Enforcement Programs**

Among the police traffic safety programs shaped by conclusions drawn from statistical databases, the Selective Traffic Enforcement Program (STEP) probably has the widest recognition. This program addresses the kinds of traffic violations that are major causes of collisions, and concentrates enforcement at those locations where most of these violations and resulting collisions occur, at the times of day and on the days of the week when their incidence is the highest. With the limited resources available to law enforce-
ment, this program attempts to maximize the productive use of officer time to achieve a meaningful reduction in fatalities, injuries and property damage.

STEP relies on the existence of an effective traffic records system. The system should be uniform within the state so that the data is recorded uniformly and facilitates proper analysis. Data from collisions should be analyzed, as well as data from citations issued and reports generated by traffic officers. A database provides an objective guide to designing the program. It indicates where a problem actually lies, not where somebody thinks it lies. A program not matched to the problems pointed out by data will miss the mark, and can never bring good results.

In establishing a STEP program, an agency should appoint an effective manager. S/he should adopt practical measures that address the problems identified by the data, assign the required number of officers to each identified high collision-frequency location, and provide them with proper equipment. The agency should continue to collect data after implementation of the program, and use the resulting updated database when evaluating the program. Regular evaluation is essential to keep abreast of changes in violation and collision patterns, to discard a program revealed to be ineffective, and to introduce modifications to further improve an already effective program.

Liaison of Law Enforcement with Traffic Engineering and Roadway Maintenance

Although the police can control the drivers and vehicles on the roadways through enforcement and thereby make the roadways safer, they cannot directly remedy unsafe roadway design and markings or perform needed roadway repairs—functions that are also basic to roadway safety. They are nevertheless in a position to observe and discover these unsafe conditions, and to report them to the local Department of Transportation, or whatever government office is responsible for traffic engineering and trafficway maintenance.
Certain collision data contained on the standard collision report form used statewide by all law enforcement agencies—number and types of vehicles involved, location, time of day, day of week, and violation(s) causing the collision—are reported to the state. The state tabulates and analyzes this information and, if the referral procedure is working, informs the Department of Transportation of any problems in its respective jurisdiction. If correcting the problem is complex or would involve a major change, the DOT may first initiate an engineering study to determine if correction is feasible and how best to carry it out.

Since the referral procedure sometimes gets bogged down, the police agency that has observed an unsafe traffic-way condition, or reported a collision in which an unsafe traffic-way condition was a contributory cause, should contact the local DOT office directly by telephone or memo. The effectiveness of this informal referral system depends on the dedication of both the reporting police agency and the local DOT office, and on the degree of rapport that exists between them. For law enforcement officers, the lesson here, as in many other aspects of police work, is that law enforcement cannot accomplish every objective on its own. Good liaison and good relations with other organizations are essential.

Through the cooperative efforts of the groups specializing in each of the areas discussed in this chapter, our highways will be made safer.
PART EIGHT:

Commercial Vehicle and Hazardous Materials Regulation
Commercial Vehicle Safety

Commercial vehicle safety became a national priority only a few years ago. Before that, state and provincial authorities developed safety programs independently. The resulting welter of conflicting requirements created confusion for commercial vehicle operators, and an uneven effect upon highway safety.

Background

Federal Motor Carrier Safety Regulations: In 1986, the U.S. Department of Transportation's Federal Highway Administration (FHWA) responded to the proliferation of state programs by adopting the Commercial Motor Vehicle Safety Act. This act defined new national standards for commercial drivers, the equipment and maintenance of vehicles, and the fitness of operating companies. These standards are now incorporated in the Code of Federal Regulations (CFR), Title 49.

FHWA policy encourages states to enforce uniformly these regulations for both interstate and intrastate drivers and carriers. Federal regulations tend to focus on interstate transportation, whereas intrastate regulation becomes largely a state and local responsibility. Safety considerations dictate consistent application of commercial enforcement and inspection efforts in both realms.

Motor Carrier Safety Assistance Program: The Federal Motor Carrier Safety Administration (FMCSA) also administers the Motor Carrier Safety Assistance Program (MCSAP), which provides grant funding to states seeking to enhance their commercial enforcement efforts, particularly those addressed to the safe movement of hazardous materials. A practical impact of MCSAP grants is significant expansion of on-highway truck inspections.

The awarding of MCSAP funds hinges on state submission of detailed state commercial vehicle safety plans (CVSPs), which must permit the state to adopt and consistently enforce federal commercial vehicle regulations or equivalent state rules; maintain state and
local spending for commercial vehicle safety programs at levels existing prior to receipt of the grants; and emphasize enforcement of state and local laws related to commercial vehicle operation. This plan must be performance-based, indicating the grant-ee’s specific commercial vehicle safety goals and its means of achieving those goals, as well as a system to monitor its progress in accomplishing goals.

The Commercial Vehicle Safety Alliance: The Commercial Vehicle Safety Alliance (CVSA) is a non-profit organization of federal, state, and provincial government agencies and representatives from private industry in the United States, Canada, and Mexico dedicated to improving commercial vehicle safety. The Alliance serves as the major focal point for bringing together state/provincial officials with truck/bus industry interest and federal governments in a unique discussion and problem solving interchange. The CVSA brings together the perspectives of enforcement agencies, commercial carriers, and environmental interests to obtain the best possible solutions to commercial vehicle transport concerns. CVSA’s ability to achieve uniformity, compatibility, and reciprocity is enhanced by its activities in six strategic areas:

1. Commercial Vehicle Safety Operational Standards and Practices
2. Strategic Partnerships and Public Outreach and Education
3. CVSA Organization, Operations, and Resource Base
4. Commercial Vehicle Safety Training and Certification
5. Commercial Vehicle Safety Data and Information
6. Commercial Vehicle Safety-Related Technology Assessment

The most visible aspect of the CVSA is the decal issued by all participating states. This decal indicates a commercial vehicle has been inspected and passed a critical safety item inspection. This decal is recognized by enforcement agencies and is valid for three
months after the inspection. This helps avoid duplication of effort by states and allows for better utilization of assets to remove unsafe equipment from the highway.

Because CVSA has become the major arbiter of commercial vehicle inspection procedures throughout North America, the FMCSA and other national organizations accept and recommend the use of CVSA criteria for truck inspection.

SAFETYNET: SAFETYNET is the information arm of MCSAP. This automated network accepts safety data collected from inspections completed by roadside inspectors and makes it available to other participating jurisdictions.

Federal Motor Carrier Safety Regulations

Federal regulations deal with commercial (truck and bus) drivers, operating companies, and vehicles.

Drivers were brought under the umbrella of the federally required, but state-issued commercial driver's license (CDL). A CDL requires advanced levels of knowledge and operating skill. Bus and truck drivers must demonstrate behind-the-wheel capability in the types of vehicles they seek to operate. Specific license endorsements are required to haul hazardous materials or to drive passenger transport vehicles, double/triple trailers, or tank vehicles.

The written knowledge exam for a CDL tests not only the fundamental areas of driving rules and safety considerations but also an understanding of air brake systems, hazardous materials, and pre-trip inspection procedures.

Drivers may hold only a single CDL issued by their home states, thus ending the formerly common practice of obtaining multiple licenses to circumvent license suspensions or revocations in a particular jurisdiction. CDL information is centralized in the Commercial Driver's License Information System (CDLIS), which is accessible to state motor vehicle licensing agencies. Applicants for a commercial license can be routinely checked through CDLIS.
Federal standards also define circumstances that can lead to revocation of the CDL.

Carriers are subject to federal on-site review of vehicle inspection and maintenance procedures and records, driver qualifications and hours of service compliance, crash histories and related subjects. Carriers receive a “safety fitness” rating—certain aspects of the company's operating authority can be terminated for carriers judged unsatisfactory. Some states maintain similar or more restrictive statewide inspection and rating systems, which generally reach more carriers more often than the federal system. Carrier evaluations form an essential element of an overall commercial vehicle safety program.

Police officers who are unfamiliar with commercial vehicle enforcement frequently find it difficult to recognize who is the motor carrier when stopping a truck on the highway. In some cases involving an owner/operator, the driver and the carrier may be one and the same. In other cases, the carrier may be a third party, other than either the driver or the owner of the vehicle. The motor carrier will generally be licensed with an ICC (Interstate Commerce Commission) or the U.S. DOT identification number conspicuously displayed on the outside of the vehicle.

Vehicles must conform to federal requirements for equipment, markings, placarding, and operating condition. State requirements sometimes are more stringent than the federal ones. Most commercial vehicle inspections are conducted by state authorities, whether on-highway or in-terminal.

Commercial Vehicle Enforcement Programs

Effective commercial vehicle enforcement programs include three major elements: (1) on-highway enforcement by officers on regular patrol against moving violations; (2) inspections of both vehicles and terminals; and (3) the weighing of trucks.

Road patrol officers need no additional training to enforce commercial vehicle moving violations, such as speeding and unsafe
lane changes. But for officers making even cursory checks of commercial vehicle equipment, maintenance and loading, special knowledge is essential, along with instruction in assessing the validity of truck registrations.

On-highway enforcement historically is complicated by trucker reliance on CB radios and on other short-range communications equipment to thwart patrol officers. Due to security concerns, particularly the potential for hijacking/stealing commercial vehicles, the CVSA has requested its members to curtail the use of unmarked police vehicles to stop commercial vehicles. Tactics that may be employed to assist in compliance with traffic laws and regulations include using additional patrol resources to cover “bypass” routes around established road check or fixed inspection/weighing facilities. The use of concentrated “strike force” details also can be employed to target areas with a high incidence of non-compliance with laws or areas determined to be high crash corridors.

The growing use of commercial vehicles to transport illegal drugs emphasizes the possibility that a traffic stop may harbor the potential for a major drug seizure. How to recognize that potential, and how to proceed in a fashion that does not jeopardize subsequent prosecution, requires special training in commercial vehicle drug interdiction techniques. All patrol officers should be trained in basic commercial vehicle awareness. Minimal training in commercial vehicle operations and documents can greatly assist a patrol officer in the detection and/or apprehension of a criminal operating a commercial vehicle. Even if the stop does not lead to sufficient information on which to effect an arrest, the potential for intelligence-gathering indicating the possibility of future criminal activity is greatly enhanced by a patrol officer who understands the “basic” operations of the trucking industry.

Commercial Vehicle Inspections

Most states have standardized their commercial vehicle safety checks of trucks and buses, utilizing the CVSA standards. Under CVSA, there are five levels of inspection. Level I, the most thor-
ough inspection, includes both the vehicle and driver and requires approximately 42-48 minutes without placing the vehicle out of service. Trucks and buses that pass a Level I, critical item inspection receive a CVSA decal, valid for 90 days. During that period, member jurisdictions typically waive repeat inspections, concentrating instead on vehicles without decals. This in-depth inspection is called the North American Standard Driver/Vehicle Inspection Program (NASTI), also labeled the North American Standard, or NAS.

Other levels of inspection are less pervasive and require less time, except Level V, the in-terminal inspection of a vehicle, which can be as detailed as NASTI and result in the issuance of a certificate.

The driver of a vehicle bearing a valid CVSA sticker might be subject to a “driver only inspection” that, among other procedures, checks his license, log book, safety belt use, driver sobriety, and signs of fatigue.

A program of complete commercial vehicle safety must include hazardous materials enforcement; size and weight limits; vehicle equipment; compliance with permit and federal motor carrier regulations requirements; towing; load and securement; and special vehicles, such as school buses, if applicable, and farm labor vehicles.

A comprehensive program reaches commercial vehicles in several possible locations to ensure reasonably thorough coverage, and contacts carriers via terminal inspections. Vehicles are typically inspected and weighed at major scale/inspection facilities, and by roving commercial vehicle enforcement officers. Other facilities may include platform scales, pit scales, and multiple sites.

Terminal inspectors check driver timekeeping records and hours of service, maintenance procedures and vehicle condition, compliance with hazardous materials regulations, and safety practices of passenger stage carriers and hazardous materials transporters.

Everyone involved in the inspection process, from uniformed police officers to civilian inspectors, must have completed the train-
ing pertinent to their assignments.

Some state agencies maintain computerized information on carriers and shippers, collating vehicle inspection data, crash and hazardous material histories, incident histories, on-highway enforcement information, and terminal inspection findings in one central database. SafetyNet—the FMCSA database—attains a similar national approach, utilizing information made available from the states. Driver and Vehicle Exam Reports that reflect the North American Standards of FMCSA and the out-of-service criteria of the CVSA form the base for the federal SafetyNet information system.

Data Collection From Commercial Vehicle Citations

Various data are used as part of a national strategy to focus inspections on audits of commercial motor carriers. Crash statistics and information from roadside safety inspections, as well as complaints, are collected to identify those carriers in most need of attention. The Congress has mandated that the FMCSA collect data on citations issued by state and local law enforcement agencies and include it in this decision-making process.

State-level police agencies are asked to report moving violations to the FMCSA and to collect this information from county and local agencies as well. A major concern of state police agencies is how to modify citation forms to include the U.S. DOT number, or some other carrier identification, since this data needs to be tracked to the motor carrier rather than to the individual driver. Another issue is how to transmit the data to FMCSA.

Pilot projects were set up in several states to measure the effectiveness of this data in triggering terminal audits of motor carriers to uncover safety violations, as well as to determine the technical and administrative problems involved in capturing the data.
Hazardous Materials
Transportation Enforcement

The U.S. Department of Transportation (USDOT) estimates that four billion tons of regulated hazardous materials move annually in America, much of it on highways. That huge and growing volume increases the chance that a crash or incident will release a harmful product, requiring a specialized response.

Federal emphasis on the safety of hazardous materials transportation, echoed strongly by the states, seeks to prevent spills and the crashes that can result in spills, and to increase state and local capability to handle spills with the least adverse consequences for people and property.

In 1986, the Office of Technology Assessment compiled a bellwether report on hazardous materials movement in America and concluded that most hazardous products are transported without incident, yet the potential remains for catastrophe. Singled out as a foremost problem were people who are poorly trained, who don't coordinate well, or who fail to communicate thoroughly.

For police and fire departments—the first responders to a hazardous materials incident—the most uncomfortable statistic was that only one in four uniformed personnel had received adequate training to deal with a hazardous material spill.

Today, that percentage has increased, but training remains a cardinal issue for law enforcement, particularly police traffic agencies, whose personnel invariably will be the first arrivers at any highway incident.

Federal Regulations

Title 49 of the Code of Federal Regulations contains the general requirements for hazardous material transportation in America. It classifies and defines hazardous materials; lists packaging re-
quirements including design, testing, and labeling; describes vehicle loading, marking, and placarding requirements; explains shipping papers; lists necessary emergency response information; lays out employee training specifications; and addresses driving, parking, and route selection rules, with special reference to the movement of radioactive materials.

The federal Research and Special Products Administration (RSPA) also has produced guides describing procedures for inspecting shipments of hazardous materials, radioactive materials, and spent nuclear fuel, as well as cargo tanks. Some states have built upon these federal regulations by developing in more detail such elements as safe routes and stopping places, and as the handling of specific materials like explosives and radioactive substances.

Further federal transport requirements were formalized in the Hazardous Materials Transportation Uniform Safety Act (HMTUSA) of 1990. This act, which describes the urgency of developing a national program to promote public health and welfare, began to untangle the web of conflicting state and local requirements essentially by pre-empting them, and calls once more for far-reaching training of first responders.

An alliance for uniform hazardous material transportation procedures, made up of 28 state and local government officials, has been charged by HMTUSA to develop guidelines that state and local jurisdictions can use for registering and issuing permits to hazardous materials carriers.

The alliance was formed to present recommendations to the USDOT for inclusion in future federal regulations. State registration and permit programs may be pre-empted, unless they conform to these regulations. To test its recommendations, the alliance developed a pilot state registration program that incorporated a “base state” process for the registration of hazardous materials carriers.

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Cooperative Hazardous Materials

8-9
Education (COHMED)

COHMED is a joint federal-state-local-private sector effort to promote uniform enforcement of hazardous materials transportation regulations. The organization is administered by state enforcement officials, and parallels the CVSA in its intent to bring uniformity to the specialized area of hazardous materials regulation and enforcement.

Other training sources include the USDOT/RSPA (www.hazmat.dot.gov); the Dangerous Goods Advisory Council (DGAC), which sponsors a variety of specialized courses in conjunction with the RSPA; the Transportation Safety Institute (TSI), a federal training center located in Oklahoma City; and various hazardous materials program policy documents produced by state agencies.

Hazardous Materials Incident Emergency Management

The Superfund Amendments and Re-authorization Acts (SARA) of 1986 required the federal Occupational Safety and Health Administration (OSHA) to prepare regulations, now identified as Title 29 of the Code of Federal Regulations (CFR), to protect employees involved in handling hazardous waste. The regulations also define the training requirements for personnel, including police officers, who respond to hazardous materials incidents.

29 CFR now describes five levels of training for emergency responders. Three are particularly pertinent to police: (1) the first responder awareness level, for a person who understands the hazards and risks of a hazardous materials spill and triggers the response necessary to protect life and property; (2) the first responder operations level, which requires knowledge of spill containment and how to minimize exposure risk; and (3) on-scene commander level, for a person with the capability and authority to take charge and direct all facets of protecting public safety and the containment and neutralization of the spill.
For the awareness level, training must be sufficient to ensure competence in understanding hazardous materials and the inherent risks associated with a spill or incident; recognizing the presence of hazardous materials and identifying their type, if possible; understanding the employer’s emergency response plan and the need for site control; and making notification to the communications center in recognizing the need for additional resources.

First responder operations level training, usually a minimum of eight hours, must include the first responder awareness elements, plus the knowledge to choose proper protective equipment for on-scene personnel; the ability to perform basic spill containment and confinement procedures consistent with equipment and personnel available at the scenes; an understanding of basic decontamination procedures and how to initiate them; and an understanding of operating procedures at the scene.

On-scene incident commander training, usually an additional 24 hours, must be sufficient to ensure competency in properly conducting the agency’s incident command system, initiating agency emergency responses, and coordinating an emergency response with other agencies that may become involved. In addition, the trainee must know the risks faced by people working on-scene at a hazardous materials spill, including personnel wearing chemical protective clothing; be aware of both the state and federal regional response plans or teams; and realize the importance of decontamination procedures and know how to conduct them.

The importance of constant police readiness emphasizes the need for thorough training, reinforced by frequent in-service updates for both management and line personnel.

Every police vehicle used for traffic patrol should carry in it the latest edition of the federal USDOT Emergency Response Guidebook. This concise book contains a rapid reference by which officers can determine, from the numbers and other information on placards and shipping papers, the classification of hazardous materials being transported and the general cautions and instructions for containment of spills and evacuation of the public.
For further information on incident management and control, see Part Eleven, “Roadway Management Through Engineering and Enforcement.”
PART NINE:

The Driver Licensing System
Driver Licensing

Motor vehicle administrators of the various states and Canadian provinces generally are responsible for issuing driver’s licenses. As well as serving as the *de facto* identification document of choice, the state-issued driver's license also is used for:

- The rapid verification and identification of persons who are driving motor vehicles;
- The operation of a secure license testing system which provides separate written and skill tests for various types of vehicles, such as motorcycles, passenger vehicles, and commercial vehicles;
- Managing a pointer system targeting unsafe drivers for license suspension or revocation to remove hazardous drivers from the roads; and
- Identifying and tracking traffic violators through the court system and preventing persons from defaulting on traffic citations.

The License as a Positive Identifier

When first issued, driver's licenses were intended to verify that the holder complied with the regulations associated with vehicle operation and the privilege to drive.

A driver's license database typically contains a variety of information, including some—but not always all—of the following: driver's date of birth, social security number as a primary or secondary identifier, blood-type, an indication if the driver is an organ donor, and certain physical characteristics such as height, weight, and hair and eye color.

Over a period of time, the driver's license has assumed the role of a positive identifier. This acceptance is based upon the somewhat erroneous belief that an airtight screening process is employed to verify that the license data are valid.
The state and provincial agencies issuing driver's licenses are finding that positive identification of applicants is nearly impossible because of the absence of a national identification system. Currently, the verification of a U.S. birth certificate is ineffective for identification purposes. Problems of identification presented by legal and illegal aliens create added concern about the absolute identity of non-U.S. citizens.

Motor vehicle administrators have never sought to have driver’s licenses serve as the national identifier. However, when photographs were added to licenses to aid in positive identification and to reduce fictitious usage, their usefulness for other purposes soon became apparent. Today, it is virtually impossible to cash a check, to board a commercial aircraft, to obtain government benefits, to access certain restricted areas, or to rent a car without displaying a valid photo license. In fact, many states and provinces have now passed laws that require motor vehicle agencies to issue “non-driver’s photo identification cards” to elderly persons who no longer drive, to mentally handicapped persons, to persons whose licenses are under suspension or revocation, and to others who would otherwise be disadvantaged by being unable to identify themselves.

In the past several years, the use of a digital image photo license—in lieu of an instant photo—has increased. All states and most provinces are using this method, which provides more effective security and identification and which permits photographic information to be transmitted via computer to police officers in the field. Some of the value of these systems has been negated, however, by privacy advocates who have passed laws in some jurisdictions that prevent the retention of these images or their use for law enforcement purposes.

These documents offer advantages over instant photo technology. Central electronic image storage makes access to the pictures and information much easier. Digital imaging has eliminated some of the fraudulent practices that plagued previous photo technology. Multiple duplicate driver's licenses, held by the same or different people, are more difficult to obtain, if the licensing authority takes the time to compare the appearance of the person applying for a duplicate license to the digital image of the original applicant.
Auditing of the driver’s license production procedure also helps to eliminate abuse by individuals who create fraudulent licenses used in check and credit card fraud, in drug trafficking, in underage drinking, in tobacco usage and, especially, in illegal immigration.

The implications for law enforcement go far beyond these obvious benefits. With a central image database of every driver in a state, the public safety community has a ready-made storehouse of photos to be used in criminal investigations, except for those jurisdictions where stringent privacy laws prevent such usage. Due to the electronic nature of these images, they can be obtained in seconds via a computer retrieval unit in the department or even faxed or thermal printed directly to the patrol car. These same images also can be brought into a photo array for suspect identification. The uses for these images are limited only by the wants and needs of the public safety community. The public safety community, particularly law enforcement, should be continually alert to legislation that limits and/or precludes the transmission to a police officer of the digital image driver's license and pertinent information.

After the Pentagon and World Trade Center terrorist attacks, nationwide concerns arose in the United States over the ease with which illegal aliens could obtain driver’s licenses by using counterfeit supporting documents. In fact, several of the 9/11 terrorists had obtained multiple driver’s licenses from various jurisdictions and had driven extensively throughout the Eastern seaboard and the Midwest, apparently scouting potential targets for attack.

Over the past several years, there has been widespread criticism of loopholes in the system of issuing driver’s licenses and a call for national standardization of driver’s license formats and data elements. Responding to such criticism, some civil libertarians oppose such standardization for fear that it would lead to some sort of “national identity card” that people would be required to display, similar to practices in some totalitarian nations.

Another major problem is the use of fraudulent driver's licenses by minors to purchase alcoholic beverages. A number of states have addressed this problem through the use of special licenses, or the addition of identifying features to the licenses of persons under the age of 21 years, so law enforcement, bartenders and package store
employees can readily identify them. For example, many states now issue a vertical driver’s license/ID card valid for persons under 21 years old.

Strategies to prevent counterfeiting and fraud include the use of biometrics, micro-printing, watermarks, digital photo overlays, and optical varying devices (typically holograms). Many states include additional security features in their documents that are not publicized outside their agencies. Other strategies include attacking the problem at the source by training license issuing agents and examiners to better spot phony supporting documents, such as birth and baptismal certificates, social security cards, and immigration paperwork.

Many licenses contain magnetic strips and/or bar codes to provide coded recording of driver’s license information, if a citation is issued in the field. A typical traffic stop in a jurisdiction using this technology can go something like this: The driver's license with an encoded magnetic stripe and/or bar code is read by an in-car unit. This unit then transmits the information to the department's central computer that runs a standard check of traffic and criminal records on the individual. This information is returned to the car, either by the dispatcher or through an in-car computer. This same computer may display the photo of the driver from the driver’s license database. Information on the type of violation is then entered into the unit. This generates the printed citation to be given to the driver and at the same time updates the departmental computer and transfers the violation information electronically to the courts and the DMV. Multiple entries of the same information are avoided, thus saving precious patrol time while, at the same time, eliminating clerical errors.

Numerous jurisdictions have converted to this technology. Work is progressing on digital standards (common data elements and compatible records) so that a national and, perhaps, an international network of digitized images can be established. This progress emphasizes the importance of public safety’s, particularly the law enforcement community's, efforts to maintain a proactive relationship with motor vehicle departments.

In an effort to strike a reasonable balance between these competing
interests and still address an escalating problem of fictitious, fraudulently altered and fraudulently obtained driver’s licenses, the American Association of Motor Vehicle Administrators (AAMVA) invited the IACP, other law enforcement groups and vital statistics agencies to join a task force to work on ways to provide at least minimal standardization from jurisdiction to jurisdiction, and to combat fraud. One of the most controversial issues that the task force encountered is how to handle the problem of licenses for aliens, and whether such licenses should be issued to expire when the aliens’ privilege to remain in the country expires.

Graduated Driver’s Licenses

In a response to the statistically high number of crashes involving teenage drivers, the National Highway Traffic Safety Administration has advocated the issuance of “graduated driver’s licenses” to minors as their first licenses. These licenses typically carry restrictions that may include an introductory period during which the minor cannot carry underage passengers, specified nighttime hours between which the minor cannot drive, and/or a period during which the minor must be accompanied by a licensed adult before s/he can begin to drive on his or her own.

National Driver's License Compact

The National Driver's License Compact (NDLC) program has several administrative components, including an application to law enforcement.

Prior to the NDLC, a person in one state who was convicted of a traffic violation in a neighboring state would not have had that violation reported or charged against his or her record in his or her home state. Also, nonresident drivers who were issued citations were often physically arrested and required to post bond or surety for court appearances for even non-jailable motor vehicle offenses.

Under the NDLC program, which is administered by AAMVA, the majority of states report violations by nonresidents to the driv-
ers’ home states. The charges are then added to the offenders’
driving records as though the violations had occurred in their home
states.

For example, a driver charged with DUI in an NDLC state will
have his or her license suspended in his or her home state as well.
Also, a nonresident driver can promise to appear in court, or to pay
a waiver and be released without bond. If s/he fails to satisfy the
court appearance, a mechanism permits the issuing state to revoke
the driver's privileges until s/he complies with the laws of the other
state.

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**Administrative License Revocation (ALR)**

State government traditionally has retained the responsibility of
issuing and regulating driver's licenses. Upon conviction, the
courts have been permitted to limit or suspend driver's licenses or
operating privileges. A current trend is to remove the license sanc-
tion from the courts, to eliminate unnecessary delays associated
with court backlogs, and to reduce the impact of plea bargaining.

The National Highway Traffic Safety Administration advocates
the on-the-spot revocation by police officers of the driver's li-
censes of those persons they arrest for driving under the influence
of alcohol or drugs.

In states with this legislation, police officers are empowered to
confiscate the driver's license of a person arrested for impaired
driving when that person either refuses a chemical test of blood,
breath or urine or tests above the prescribed limit. The license is
usually forwarded to the licensing agency, and the holder is issued
a temporary permit to drive pending a hearing. The benefit of
ALR is that action is less complicated and immediately removes a
known hazardous driver from the roads.

Most states have some version of ALR in operation; it is a condi-
tion for some states to receive additional federal highway safety
funds. Although the system is claimed to get drunk drivers off the
road more quickly, it is not without its critics. In some jurisdic-
tions, the police feel that administrative law judges and hearing
examiners are more prone to dismiss cases for hyper-technical reasons than are criminal court judges, and that the system just adds one more layer of complexity and ties police officers up at another hearing.

**Detecting Suspended and**
Revoked Driver's Licenses

The revocation or suspension of a driver's license is potentially very effective because it separates persons with physical or mental disabilities, as well as those with poor driving records or attitudes, from the other users of our highways.

In practice, however, this strategy is not as effective as it should be, because many persons continue to drive after their driving privileges have been suspended or revoked and are not detected by law enforcement. This problem leads to a breakdown in respect for the law, clutters our highways with dangerous drivers, and frustrates the criminal justice and driver's licensing processes.

Although detecting and apprehending suspended or revoked drivers is difficult, few police activities yield higher dividends in improving traffic safety and promoting respect for the law.

Several associations, including AAMVA, advocate strict enforcement of laws relating to the operation of vehicles while licenses are suspended or revoked. Repeated national studies indicate that license suspensions are an effective sanction used in traffic law enforcement. For this reason, law enforcement generally opposes limited or “drive-to-work” licenses as a dilution of the law and too subject to potential abuse.

The Need for A Policy

Police agencies need policies to ensure that appropriate enforcement action is taken when a suspended or revoked driver's license is found. The policy should not permit an officer to lodge a charge of driving without a license as a substitute for driving after suspension. Policies should advocate that driving after suspension cases are pursued to conviction and not dropped as part of a plea bargain, especially when accompanied by DUI charges. When a motorist displays a suspended or revoked license, the individual should be charged with that separate offense, as well as with driving after suspension. The license should be confiscated and re-
turned to the state or provincial licensing agency.

Police agencies should form task forces to contact anyone who fails to turn in his or her driver’s license, if it is under suspension or revocation. Officers should confiscate the license and return it to the licensing authority. The individual should be charged with failing to surrender a suspended or revoked license.

Violator-directed patrols are effective when police departments are notified by licensing agencies of the suspension or revocation of the driver’s license of a person who is a habitual motor vehicle offender.
The National Driver Register (NDR)

The National Driver Register (NDR) is a central repository of information on individuals whose driver’s licenses have been revoked, suspended, cancelled, or denied, or who have been convicted of certain serious traffic-related violations, such as driving while impaired by alcohol or other drugs.

When an individual applies for a license, state driver licensing officials query the NDR to determine if the individual’s driving privilege has been withdrawn in any other state. Because the NDR is a nationwide index to driver records from all states, a state needs to submit only a single inquiry to obtain this information. The information obtained from the NDR assists state driver licensing officials in determining whether or not to issue a license.

The Federal Aviation Administration and the Federal Railroad Administration also use the NDR to process their inquiries for the detection of driving violations, especially alcohol-related ones, among their applicants for certification. In addition, the U.S. Coast Guard recently was authorized to receive NDR information regarding their applicants for certification.

Every state has established electronic access to the NDR file—a major step for states that issue licenses over the counter rather than require a waiting period.

As required by Public Law 97-364, the NDR has converted to a Problem Driver Pointer System (PDPS) to improve the timeliness and reliability of NDR information. Under the PDPS, the NDR no longer contains substantive data. Instead, it contains only identifying information to enable it to check whether or not adverse action has been taken against an individual—not specific information about why an individual’s name appears in the NDR file; such information will be maintained by the state that executed the adverse action.
When a match occurs with a record on the NDR file, the NDR electronically points to the state where the adverse action is maintained, retrieves that information, and relays it to the state of inquiry. In this way, the state of inquiry is assured of receiving the latest information available regarding the driver’s record.
Motorcycle Licensing 
Requirements

Motorcycle collisions contribute significantly to the large number of deaths and injuries occurring on our nation's highways.

They account for nearly seven and one-half percent of all traffic deaths in this country but represent only two percent of the nation's registered vehicles. More than 80 percent of all motorcycle crashes result in injury or death, and DUI on a motorcycle is an especially risky venture.

In a recent year, more than 3,200 motorcyclists were killed in traffic crashes. The death rate per 100 million vehicle miles traveled for a motorcyclist is over 26 times that of an automobile occupant.

The Problem of Unlicensed Motorcyclists

A substantial number of the riders killed in motorcycle crashes are unlicensed or not properly licensed to operate a motorcycle. In 2002, one out of four motorcycle operators (25 percent) involved in fatal crashes were operating the vehicle with an invalid license at the time of the collision.

The following list of motorcycle validation codes is provided to assist officers who stop motorcyclists to determine if their driver’s licenses are valid for the operation of motorcycles.

<table>
<thead>
<tr>
<th>STATE</th>
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PART TEN:

Protection of Automobile and Motorcycle Occupants and Riders
A little more than a decade ago, highway safety priorities counted safety belt and child safety seat use as just one of many goals—an important one, but not a priority. The drunk driver commanded somewhat more attention but not to the degree this menace deserved.

Today that has all changed and we address both subjects with equal vigor—removing drunk drivers from behind the wheel and putting all vehicle occupants into approved safety restraints.

Alcohol-related fatalities declined from 60% of all fatal crashes in 1982 to 41% in 2002; however, recently there has been a slight upward trend reported. Alcohol-related deaths still number 17,419 a year, slightly below half of all highway crash deaths. We are doing better, but not well enough!

The Role of Occupant Protection

Safety belt use saves over 15,000 lives and prevents 200,000 moderate-to-critical injuries each year. NHTSA estimates that if ALL passenger vehicle occupants over age 4 had worn safety belts in 2002, a total of 21,317 fewer lives would have been lost in traffic crashes; in other words, the loss of life would have been cut in half! Studies also show that the use of safety restraints cuts the number of injuries in traffic crashes by one-half.

The following statistics, provided by NHTSA, dramatically show the impact that safety belts can have in traffic crashes:

- From 1975 through 2002, an estimated 164,753 lives were saved by safety belts and more than 1.5 million moderate-to-critical injuries were prevented.

- Over the same period, safety belts prevented an estimated
770,000 moderate-to-critical injuries, 571,000 in jurisdictions that have mandatory belt use laws.

- Lap and shoulder belts, when used, reduce the risk of fatal injury to front-seat passenger car occupants by 45% and the risk of moderate-to-critical injury by 50%, and air bags—combined with lap and shoulder belts—offer the most effective safety protection available for passenger car occupants. In 2002, an estimated 2,248 lives were saved by air bags; from 1987 to 2002, a total of 11,663 lives were saved by air bags.

- Fifty-nine percent of the 19,103 passenger vehicle occupants killed in traffic crashes in 2002 were unrestrained. Among passenger vehicle occupants over four years of age, safety belts saved 14,164 lives in 2002.

- Three-quarters of the uninjured occupants of passenger cars involved in fatal crashes were using restraints.

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Safety Belt Use Laws

The July 1984, ruling by the U.S. Department of Transportation on automatic occupant protection began a wave of legislative action resulting in the enactment of safety belt use laws in many states. The goal of these laws was to promote belt use and thereby reduce death and injuries in crashes.

As of this writing, 49 states and the District of Columbia have mandatory adult belt use laws, some as a primary violation and some as only a secondary violation (enforcement action can only be initiated if the driver is stopped for another violation). New Hampshire remains the lone holdout, requiring restraints only up to age 18. Reported safety belt use ranges in the other 49 states from 25 to 90%, varying widely from state to state, reflecting factors such as differing public attitudes, enforcement practices, legal provisions, and public information and education efforts. NHTSA estimates that the implementation of state belt use laws has reduced traffic fatalities by seven percent a year.
Types of Occupant Protection Systems

Safety belts were first installed on passenger vehicles in 1956, and shoulder restraints were added in later years. Using a combined safety belt and shoulder restraint keeps the driver from hitting the dashboard, windshield, or rear-view mirror—“submarining” under the dashboard.

The addition of automatic passenger restraints by some manufacturers resulted in miniature electric motors which deploy the shoulder strap when the driver sits in the car and the ignition is turned on. However, many drivers take no further action after the shoulder strap is deployed and do not fasten their safety belts. This defeats the engineering that went into the restraint system, because the shoulder restraint alone is not protective without the lap belt fastened.

In fact, the National Transportation Safety Board has highlighted instances where motorists using the motorized shoulder belt without the lap belt have been decapitated in crashes.

Driver and passenger-side air bags are now mandatory in most new passenger vehicles. These devices contain sensors that detect rapid deceleration characteristic of a collision and—through an explosive device—deploy an air bag that blows up, similar to a balloon, preventing the driver from impacting the interior of the vehicle. In some vehicles, rapid deceleration also fires a tiny explosive charge in the safety belt mechanism that tightens the belt around the occupant. Also, some open sports cars and convertibles now have automatic rollover hoops that deploy in the event the car leans to the degree that a rollover is impending.

Many new vehicles also come equipped, either as an option or as standard equipment, with side curtain air bags to protect the vehicle’s occupants in the event of a t-bone collision.

Because of the potential danger to a child sitting in a safety seat in the front of the vehicle if an airbag inflates in front of him or her, some pickup trucks and two-seater sports cars have switches that the driver can use to temporarily disable the front passenger air bag when transporting a child in a safety seat. Others have sensing
devices that sense the presence of someone over a certain weight in the front seat and—in the absence of someone of that weight—disable the passenger air bag.

The presence of an air bag does not relieve the driver or passengers from the responsibility of utilizing lap and shoulder belts. A dashboard or steering wheel air bag provides little protection in a side collision. Lap belts and shoulder harnesses provide the added protection of keeping the driver behind the wheel and in control of the vehicle to allow for last-minute emergency maneuvers, and of preventing the driver and passengers from being hurled around the interior of the vehicle and colliding with one another.

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**Child Safety Seats**

Law enforcement and education can make the difference between life and death for our children. All 50 states, the District of Columbia, and Canadian provinces have child restraint use laws. When used correctly, child restraints are 71 percent effective in preventing deaths of infants (less than 1 year old) and 54 percent effective in preventing deaths of toddlers (1-4 years old) in passenger cars; they also are 67 percent effective in reducing injuries.

In 2002, 100% use of child safety seats nationwide for children under five could have prevented 485 fatalities and approximately 49,000 serious injuries. The usage rate for children four and under in 2003 was estimated at 77%, and approximately 376 lives of children under the age of five were saved in 2002 as a result of child restraint use. Over the period from 1975 through 2002, an estimated 6,567 children’s lives were saved because they were secured in child restraints.

Even though child safety seats are proven lifesavers, many drivers still do not use them, purchase unapproved seats, or use them incorrectly. Incorrect use is a major contributor to deaths and injuries each year.

Many cases of incorrect use are as simple as turning the seat toward the proper facing position for that age child—rear-facing po-
sition for infants and forward-facing position for older children. The best position for rear-facing child safety seats is the middle position of the rear seat of the vehicle. Simply not following the manufacturer's instructions for properly installing the seat also nullifies its benefit. The best place for any child in a safety seat is in the rear seat of the car, properly secured with a safety belt system recommended by the manufacturer of the safety seat.

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**Policies and Training Programs**

The National Highway Traffic Safety Administration has a model OPUE (Occupant Protection Usage and Enforcement) program that is available to law enforcement agencies to train members of their departments to act as instructors. The training program uses a model curriculum that includes teaching participants to write safety restraint enforcement policies. State POST Academies provide this training, and all law enforcement agencies are urged to have at least one member trained in OPUE.

There are some cultural issues with safety belts. NHTSA figures indicate that members of some minority groups have a lower safety belt compliance rate than the rest of the population. This has implications for safety belt enforcement. Some officers say they are hesitant to stop members of these minority groups for safety belt violations for fear that they will be accused of illegal profiling. When officers hesitate to enforce these laws, they deny these very minority group members the lifesaving benefits that flow from having these laws enforced.

The solution to improving compliance among the African American and Hispanic communities lies in a two-pronged approach—education and enforcement. Community policing approaches that put officers in the schools, speaking to community groups about the lifesaving benefits of safety belts and/or using “safety belt convincer” devices that simulate crashes with belted and unbelted occupants—when presented at shopping malls, fast food restaurants and other locations in minority neighborhoods—can be very effective in spreading the word that it is not “uncool” to buckle up. NOBLE—the National Organization of Black Law Enforcement Executives—has developed campaigns that police departments can
use to increase safety belt usage among minority citizens and will gladly share them with any law enforcement agency that requests information on them.

The National Chiefs’ Challenge Program

The International Association of Chiefs of Police, in cooperation with the National Highway Traffic Safety Administration and numerous corporate sponsors, conducts annually the “National Chiefs’ Challenge” program that recognizes law enforcement agencies throughout the United States for their efforts in promoting the use of safety belts and child passenger safety restraints, as well as for their efforts in reducing impaired driving and speeding.

Each state is encouraged to develop its own statewide competition to feed into the national program. California, Connecticut, Florida, Georgia, Illinois, Vermont and Virginia are among the states that have very active Chiefs’ Challenge programs at the state level.

Information on how to compete in this program is available from the IACP’s State and Provincial Police Directorate and is published annually in the Police Chief magazine. There are numerous categories—arranged according to agency size (number of sworn officers) and to type of department, including municipal police, state police and highway patrols, sheriff’s offices, military police detachments, and college and university police departments. There are also several types of awards, from the “Rookie of the Year” for first-time entrants to the coveted top prize, the Clayton J. Hall Memorial Award. Award winners personally are recognized at the Highway Safety Awards Breakfast at each IACP Annual Conference; this ceremony culminates in one of the first-place agencies winning one year’s free use of a fully-equipped police vehicle.
Motorcycle helmets save lives and reduce injuries. Many states and provinces have laws mandating that motorcycle riders and passengers wear them. In others, these laws apply only to passengers and not to operators, or only to motorcycle riders below a specified age. In recent years, some jurisdictions that had mandatory helmet laws for everyone have repealed or weakened them. Other states that have attempted to pass stronger helmet laws have met with fierce opposition from some outlaw motorcycle clubs and some legitimate motorcycle clubs, as well as persons and groups that see these laws as more government intrusion on individual liberties. Similar to the arguments that we once heard about safety belts, some advocates against helmet laws claim that in certain types of collisions, helmets might increase the likelihood of injury.

The most effective campaigns to retain or strengthen these laws have involved support from the medical profession, welfare authorities and others that argue that the choice a cyclist makes regarding helmets affects more than just that individual. If s/he loses his or her life or receives brain damage that disables him or her for life, his or her family is affected; society is deprived of the contribution that s/he could otherwise have made to it; and, in many cases, the medical and rehabilitative care expenses go on literally forever, exceeding the resources of the individual and his or her family and leaving society in general to bear this financial burden.


All motorcycle helmets sold in the United States are required by law to meet or exceed the minimum performance requirements established by FMVSS 218. These requirements include minimum impact and penetration capability, chin strap retention qualities, and a 210-degree field of view, along with a number of labeling
requirements. To certify that its helmets meet all the requirements of FMVSS 218, a manufacturer places the letters “DOT” on the back of each helmet. This lettering is often referred to as a “DOT label” or “DOT sticker.”

If a manufacturer sells a helmet certified as meeting the FMVSS standard and NHTSA discovers the helmet does not, then NHTSA conducts an investigation that can result in the manufacturer's having to recall the helmets in question.

Recently, the manufacture and sale of costume or novelty helmets has dramatically increased. These helmets, if not sold as motorcycle helmets, are not required to meet FMVSS 218. If the manufacturer does not place a DOT sticker on the back of the helmet, it is not certifying that the product meets FMVSS 218, and it does not claim that it offers any protection at all to the wearer.

A problem arises with a novelty helmet when its manufacturer or distributor encloses or offers a DOT label separately for the consumer to place on the back of the helmet. Reputable manufacturers place DOT stickers on their helmets before shipping them to distributors.

Most state helmet use laws require motorcyclists to wear helmets that meet FMVSS 218. NHTSA has developed a training videotape and an informational brochure to assist law enforcement personnel in identifying helmets that do not meet this national standard. For copies of the video and brochure, call NHTSA at (202) 366-1739.

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**FMVSS 218 Requirements**

A DOT label must be affixed to the center, lower back of each approved helmet.

FMVSS 218 also requires the manufacturer to sew into the helmet liner a label or labels that can be easily read without removing padding or any permanent part. This label must include the following information:

1. Manufacturer's name or identification
2. Precise model designation
3. Size
4. Month and year of manufacture, which can be spelled out [June 1988] or expressed in numerals [6/88].
5. Instructions to the purchaser as follows:
   a. “Shell and liner constructed of [types of materials spelled out].”
   b. “Helmet can be seriously damaged by some common substances without damage being visible to the user. Apply only the following: [recommended cleaning agents, paints, adhesives].”
   c. “Make no modifications. Fasten helmet securely. If the helmet experiences a severe blow, return it to the manufacturer for inspection or destroy and replace it.”
6. A helmet must have an inner liner, about one-inch thick and made of polystyrene (Styrofoam™ or similar product).
7. The chinstrap must be strong and securely attached.
8. There can be no attachments or protrusions over two-tenths of an inch long.

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**Indicators of An Illegal Helmet**

The following is a list of items, in lay terms, which are indicators of illegal helmets.

1. If there are protrusions from the helmet such as the old German style with a spike on the top (World War I vintage), it will not meet the FMVSS standard. (Caution: Some helmets styled like World War II German helmets are legal. Some very reputable manufacturers produce them to meet FMVSS.)
2. If the helmet consists of a beanie that covers only the very top of the rider's head, it probably doesn't meet the standard.
3. If the helmet has a web liner, no padding or padding only, or a thin shell of less than one inch of Styrofoam™ or equivalent product on the inside, it likely will not meet FMVSS 218.
4. Fake helmets usually weigh less than one pound, whereas
legal helmets usually weigh more than three pounds.
5. If the strap is less than one-half inch wide, or is attached to the helmet with a single strap, it probably doesn't meet the federal standard.
6. If the strap is poorly attached with small rivets, it probably doesn't meet the standard.
7. If a DOT label is on the lower back of the helmet, but you suspect it really does not meet FMVSS 218, inspect the inside of the helmet to see if the manufacturer has complied with the labeling requirements previously described. If all labeling requirements are not met, the helmet does not meet FMVSS requirements.
8. Helmets may have labels from the American National Standards Institute (ANSI) or the Snell Memorial Foundation, which has somewhat different requirements. However, the DOT standard is the only one the helmet is required by law to meet.

This information was provided by NHTSA's Safety Countermeasures Division and compiled by the Licensing Department of the Motorcycle Safety Foundation.
PART ELEVEN:

Registration, Title and Inspection Enforcement
Motor Vehicle Registration

The system of motor vehicle registrations carried out in the various states and provinces serves multiple purposes, foremost of which are (1) to identify—for law enforcement purposes—the registered owner of those vehicles traveling our highways and (2) to raise revenue.

A vehicle's license plate provides law enforcement with a means of determining ownership, vehicle make, model, year of manufacture, and other items, all or any of which may prove instrumental in conducting law enforcement activities.

Two-Plate Reflectorized Registration

The proliferation of different plate types bearing the same characters creates problems in detecting stolen and wanted vehicles, and states should avoid issuing duplicate identification, if possible.

Mandating that all vehicles display registration plates on both the front and rear of the vehicle enhances law enforcement's efforts to identify a vehicle rapidly, whether it is from a frontal position or from the rear of the vehicle. Police officers are commonly trained to jot down the license plate numbers of oncoming vehicles they see while responding to a collision or crime scene, in an effort to identify possible fleeing perpetrators or eyewitnesses to the incident. Bicyclists, pedestrians and drivers frequently observe the plate numbers of suspicious vehicles and report them to the police. This assistance has been instrumental in solving many serious crimes over the years.

A study conducted by the IACP and published in 1979 revealed the benefit of two-plate registration. In addition to the rapid identification of a vehicle by police authorities, two-plate reflectorized registration enhances officer safety. By means of today's reflective materials used to cover registration plates, a minimum amount of
light can illuminate the plate as an alert to the police officer for personal safety and for identification purposes.

If for no reason other than officer safety, two-plate reflectorized registration should be incorporated as a primary design for registration plates in every state. Additionally, a reflectorized plate aids in the prevention of collisions with vehicles parked along streets in poorly lighted areas.

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**Enforcing the Two-Plate Requirement**

Vehicles required by law to display two registration plates are easier to identify, and the dual plate registration is effective in thwarting vehicle thefts.

In those jurisdictions where two plates are required, the absence of one plate provides an officer with articulable, reasonable suspicion to execute a traffic stop for a vehicle registration inquiry, leading to the detection of drunk drivers, persons operating under revocation or suspension, and persons transporting contraband.

In today's society, the general public supports laws and regulations that benefit them, even if they may involve an increased or new user fee. It should be the responsibility of law enforcement and other public agencies to demonstrate and convey both to the public and to legislative bodies the benefits derived from a two-plate system. Vehicle owners can see potential benefits in the event their vehicles are stolen. Citizens can appreciate how the two-plate system enhances police officers' abilities to detect criminals and simultaneously heightens personal safety.

Police executives and associations should be proactive in advocating two-plate systems in jurisdictions that do not have them and in fighting back attempts to go to a one-plate concept. However, justifying the need for a two-plate system is difficult unless law enforcement officers aggressively enforce the two-plate requirement by stopping vehicles with only one plate and issuing either warnings or citations to these drivers. Each police department should have a specific policy supporting enforcement against drivers with missing, mutilated, or illegible number plates.
Automated Data Collection At Roadside

Increased refinements in the field of electronics have opened up new vistas of exploration within the law enforcement profession. Sophisticated electronics and computer equipment are making their way into more facets of our daily routines, from the check-out counter at the neighborhood grocery store to the vehicles driven on our highways.

Electronic equipment, such as magnetic strips, bar code scanners, transponders, and computers, can be utilized in law enforcement and highway safety disciplines to eliminate typographical errors and thereby improve accuracy, as well as to evaluate traffic flow patterns, determine traffic demographics, record vehicle registrations, issue citations, and automatically collect highway tolls.

The progressive use of equipment and techniques that uniquely identify vehicles without requiring any action by the driver continue to evolve. An automatic vehicle identification (AVI) device (transponder) containing specific information about a vehicle can be attached to that vehicle. Through the use of a reader capable of interpreting the AVI, law enforcement personnel can instantaneously retrieve for their use the information on the vehicle.

Equipment of this type and capability can enhance vehicle registration requirements and enforcement without placing an officer in a situation of increased jeopardy.
Title Enforcement

Within the law enforcement community, title enforcement responsibilities usually do not generate discussion; however, without specialized training and concentration in vehicle titling and registration, the public can suffer astronomical fraud and economic loss.

Title enforcement requires investigating law enforcement personnel to have a comprehensive knowledge of federal, state and local laws, regulations, and ordinances and to understand the lack of uniformity between the various types of titles, duplicate titles, salvage titles, and manufacturer's statements of origin. As with most sophisticated law enforcement areas and functions, specialty skills have evolved that are essential to effectiveness.

Hidden VIN

Beginning in 1981, all motor vehicles manufactured in the United States or imported for sale for on-road use were required to have 17-character vehicle identification numbers (VINs). In 1987, the Federal Motor Vehicle Theft Law Enforcement Act of 1984 became law. Through the enactment of this statute, vehicles with high-theft potential were required to use component part labeling. A secondary source of identification is the so-called “hidden VIN” (frame stamping, firewall stamping, transmission cross-members, engine markings, and transmission markings). Specially trained officers use these hidden VINs to verify the authenticity of vehicles and/or of component parts.

This secondary source of identification is required by law to be indelibly printed on a label or “inscribed” directly into a vehicle part. This label must be permanently affixed to the component part on an interior surface or location, so it cannot be damaged in a collision or during part installation, adjustment, or removal. It must be located in such a fashion as to prevent its destruction or defacement during normal dealer preparation, including any after-market installation procedures. The label must contain the manufacturer's
logo, or some other unique identifier, plus the VIN. Any attempt to alter the label must either leave traces of the original number or visibly alter the label's appearance. In cases of non-label identifiers, inscriptions to the part must be so that any removal or alteration visibly changes the appearance of the vehicle part.

Determining the location of secondary sources of identification is the responsibility of the manufacturer. In order to assist law enforcement, manufacturers must notify, in writing, the National Highway Traffic Safety Administration (NHTSA) of their numbers and locations within 308 days of the date the vehicle line is offered for sale.

Having the special expertise to investigate cases where secondary sources of vehicle identification are utilized is invaluable to a police agency. The National Insurance Crime Bureau (NICB), a private organization funded by the automobile manufacturers and insurers, has special agents who are available to law enforcement on a regional basis to provide to any state training and other technical assistance in identifying hidden VINs.
Periodic Motor Vehicle Inspection

Furthering highway safety and providing a safe travel environment for our citizens can be accomplished in a wide variety of fashions. Such is the case when a jurisdiction implements by law a periodic motor vehicle inspection (PMVI) program.

Approximately 19 U.S. jurisdictions, plus several U.S. territories and Canadian provinces, have some type of PMVI program for passenger vehicles. These jurisdictions require annual or semi-annual safety inspections at either state-maintained or private motor vehicle inspection stations licensed by jurisdictional authorities. For commercial vehicles and school buses, many jurisdictions require more frequent inspections. Jurisdiction law enforcement agencies are often charged with using specially trained officers or inspectors to perform additional inspections of school buses.

In other jurisdictions, periodic safety inspections by an authorized inspection station are not required, but officers are allowed to stop vehicles to conduct roadside safety inspections.

Increased concern by the Environmental Protection Agency (EPA) over air pollution caused by vehicle emissions has led many jurisdictions to require periodic testing of motor vehicle emission systems. This procedure can be effectively combined with periodic safety inspections in a single system. Law enforcement executives and associations are encouraged to lobby for enacting PMVI in those states and provinces where it does not currently exist.

Although variation exists within the types of PMVI programs, most ensure the periodic inspection of basic safety components, such as steering, tires, suspension, brakes, lighting systems, and glass.
Effectiveness of PMVI Programs

Studies conducted by the National Highway Traffic Safety Administration (NHTSA) have identified vehicle defects as the sole cause in one out of every 43.4 fatal crashes studied. In addition, it has been determined that vehicle defects play a partial role in a much larger percentage of all collisions. The failure of essential mechanical vehicle components—such as ball joints, idler arms, rack and pinion steering units, shock absorbers or struts, tires, and brakes—can cause loss of control of a motor vehicle while it is in motion.

Each jurisdiction is responsible for using any available means to guarantee that vehicle safety components are examined and periodically reexamined to reduce the level of jeopardy that exists while a motor vehicle is being driven.

Public Support for PMVI

While PMVI programs are not always recognized for the benefits they deliver, widespread public support does exist for such programs. Public perception is that the benefits derived from the inspection far outweigh the inconvenience or cost of having to take a vehicle to a service facility for an inspection.

With the proliferation of self-service gasoline stations, no longer is the friendly local attendant looking over a vehicle when it comes in for fuel and advising the driver of the needed replacement of worn components or low tire pressure. Without a PMVI program, what would be a simple, low-cost replacement of brake pads often leads to the expensive replacement of rotors simply because the problem was not caught in time. Thus, PMVI programs can actually reduce the cost of motor vehicle maintenance, as well as enhance safety factors.

Law Enforcement Benefits and Concerns

Requiring an inspection sticker on a vehicle also gives the police
additional articulable, reasonable suspicion to stop a vehicle, and frequently leads to the detection of drunken drivers, revoked or suspended operators, persons transporting contraband, or stolen vehicles.

The primary concerns of state authorities responsible for PMVI programs are to ensure that a quality safety inspection is provided at a reasonable price; that inspection facilities are reasonably accessible and convenient; and that the safety inspection is not utilized as a convenient excuse by unethical mechanics to sell unnecessary vehicle repairs. Periodic auditing of records, plus causing undercover officers to “run” vehicles through the inspection process, serves as effective quality control measures for these programs.

With the conscientious efforts of state agencies, street-level enforcement officers, and public advocacy groups, a PMVI program can be effectively administered and enforced and can contribute enormously, as well, to highway safety.
Rebuilt and Specially Constructed Vehicles

Rebuilt Vehicles

Motor vehicle thieves often utilize rebuilt or reassembled vehicles to conceal the identities of stolen vehicles. Using the salvage parts of several stolen vehicles to rebuild another vehicle, the thief then represents the stolen vehicle as one rebuilt and thereby is able to secure the proper documentation to legitimize the sale of the vehicle.

Secondary concerns regarding rebuilt vehicles are the level of safety those vehicles provide to their occupants and their roadworthiness. Law enforcement officials must take specific measures to ensure that stolen vehicles are not legitimately sold in the public market, and that unsafe vehicles are not allowed to operate on the highways.

To prevent the sale of stolen vehicles, law enforcement personnel should examine all salvaged or rebuilt vehicles prior to issuing titles. Specially trained VIN examiners, generally at the state level, should closely scrutinize each such vehicle for signs of repair and/or part replacement. The examination should include a review of documentation to ensure all replacement parts are accounted for and that component part labels or inscriptions are intact and free of tampering. Any discrepancy should be thoroughly investigated, including an examination of major component part labels and identifiers.

Rebuilt vehicles can offer an affordable alternative to individuals who otherwise could not purchase vehicles, but unscrupulous or incompetent re-builders may shortcut or overlook critical safety components. For this reason, all rebuilt vehicles should be inspected for safety compliance. A check of all vehicle safety equipment should be performed to assure compliance with applicable statutory requirements.
Through a systematic examination at the time of registration and titling, the potential for fraud is significantly reduced while, simultaneously, unsafe vehicles are detected.

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**Specially Constructed Vehicles**

Specially constructed vehicles, “street rods,” and other assembled vehicles pose many of the same problems as rebuilt vehicles. A specially constructed vehicle generally is not visually recognizable as being produced by a particular manufacturer, while an assembled vehicle is distinguishable because its composition is by a well-known manufacturer of commercially produced vehicles.

When the owner of a specially constructed or assembled vehicle requests a title or registration, law enforcement and vehicle titling authorities should ensure that the vehicle is examined for safety compliance. Such vehicles should be required to meet and be in compliance with all state equipment laws prior to final inspection and the issuance of a title.

A particular problem involves vehicles fitted with oversize tires or “jacked up” by other means so that they are extremely high on the road and their centers of gravity have been drastically altered. Such alterations can impair the handling dynamics of such vehicles and lead to component failure and dangerous traffic crashes.

When such vehicles slip through the registration process, street-level law enforcement officers are obligated to enforce state laws and local ordinances regarding such standards as bumper height requirements. Law enforcement agencies should have written policies encouraging their officers to enforce these requirements.
PART TWELVE:

Traffic Incident and Roadway Management through Engineering and Enforcement
Enforcement and Engineering Liaison

The basics of an effective traffic safety program has always involved the “three Es+1”—enforcement, engineering, and education, along with evaluation—working in conjunction for safer roads and drivers. Today, it is recognized that it involves the “four Es, plus OER”—enforcement, engineering, education, evaluation, and other emergency responders, all working together to reduce crashes and to mitigate and manage roadway blockages and crash scenes.

Some crashes are caused by vehicle defects. Adopting mandated federal motor vehicle safety standards, such as safety belts, air bags, collapsible steering columns, padded dashboards, child safety seats, and rollover and side impact protection, have reduced the number of injuries in traffic collisions. Periodic motor vehicle inspection programs in many jurisdictions assure us that vehicles maintain their roadworthiness during their useful lives.

Aggressive traffic enforcement programs by the state police and highway patrol agencies, county sheriff’s offices, and local police departments deter unsafe drivers by causing the suspension or revocation of driver’s licenses for hazardous moving violations. In addition, enforcement efforts to detect vehicle equipment violations remove unsafe vehicles from the road.

Public information campaigns conducted by the National Highway Traffic Safety Administration (NHTSA), state governor's highway safety representatives, state and local law enforcement agencies and licensing authorities, and public groups such as MADD (Mothers Against Drunk Driving), SADD (Students Against Destructive Decisions), and TADD (Truck Drivers Against Drunk Driving), along with high school and commercial driver education programs, violator schools, and driver improvement programs, acquaint drivers with the rules of the road and instill in them proper driving attitudes.

The Final Es and OER

The third E involves engineering. Design, construction, and maintenance of highways and traffic control devices can be instrumen-
tal in reducing collisions.

Enforcement and engineering are encouraged to work in concert with one another to promote highway safety. Police officers on patrol are perhaps the best eyes and ears that traffic engineers can have. By reporting obscured or nonfunctioning traffic control devices and dangerous highway conditions and by providing feedback from citizen complaints and the study of traffic congestion problems, officers can offer important input to traffic engineers. Engineers can work with officers by making highway improvements, such as changing speed zones; erecting new types of traffic control devices; and placing roadside objects, such as utility and sign poles and guard rails, so that out-of-control vehicles are slowed or stopped without causing injury to occupants.

The final E stands for evaluation. Every time you make a change or adopt a new or revised strategy, you should have in mind how you will measure the results. There are many ways to evaluate your results. Pre- and post-surveys of the attitudes of motorists or the public, pre- and post-traffic or speed surveys, pre- and post-crash statistics, comparisons of citations issued for specific periods, and interviews of officers involved in a project are but a few of the methods of evaluation that can be used. This final E is similar to the A in the SARA system that is so widely used in community policing programs—Scanning (to identify a problem), Analysis (carefully looking at all aspects of the problem in order to break it down into its component parts and understand it as fully as possible), Response (devising an innovative, non-traditional approach to the problem, using the public or other governmental or private agencies), and Assessment (determining how successful your approach actually was, and making the necessary adjustments).

OER stands for “other emergency responders” who typically arrive at the scene of a collision or other highway blockage. These include firefighters, ambulance crews, tow truck operators, hazardous materials response teams, and even the media. Enforcement and engineering must work together with these other responders in order to ensure the safety of emergency workers, of involved motorists, of pedestrians at the roadside, and of oncoming traffic and to make certain, as well, the disruption to traffic flow is minimal.
The Precedent Is Set

Years ago, the Bureau of Public Roads, the forerunner of the present Federal Highway Administration (FHWA), held the first national joint enforcement/engineering conference. State traffic engineers and top law enforcement officials met for the first time, many after working in the same state for years.

At this conference, common goals and interests were promoted in the areas of traffic safety and of an efficient transportation system. It was recognized that, in planning new highways, crossovers are needed on controlled access highways to provide access for law enforcement vehicles; moreover, space is required for pulling commercial vehicles over for weight checks and safety inspections. On heavily traveled roads, turn-out areas where police can pull vehicles over for traffic stops can help reduce the incidence of police cars being hit and officers being injured by oncoming traffic during these stops. It was also recognized that both the efforts of engineering and of law enforcement are necessary: Short-term traffic problems can often be solved efficiently by law enforcement actions, while long-term problems are often best removed by engineering solutions.

Now one important organization, the American Association of State Highway Transportation Officials (AASHTO), which represents almost all 50 states, has a Highway Safety Committee. This Committee has two representatives from law enforcement.

Following up on what started at the national and regional levels, many individual jurisdictions provide opportunities for state Department of Transportation officials and state, county and local law enforcement agencies to meet with their counterparts both in statewide conferences and in local and regional meetings within states.

Jurisdictions often schedule regular meetings between these disciplines, even allowing engineers to ride with police officers and see first-hand the situations about which officers are talking. Construction conferences are sometimes held during the planning stages of highway improvement jobs, so law enforcement will have strong input. The need for funding of patrols can be taken into consideration in budgeting for highway improvements. Work zone safety can be discussed and improved.
Resources Available

The Texas Engineering Extension Service (TEEX) of Texas A&M University in College Station, Texas, is an excellent resource on this concept, since TEEX is the driving force behind a successful engineering/enforcement liaison in “the lone star state.” Arizona, capitalizing on the Texas experiment, holds regional and local meetings between DOT engineers and Department of Public Safety commanders and engages in the joint planning of safety projects, including engineering and enforcement concepts, with consideration of all the other disciplines that play a significant role. DOT's top managers attend DPS commanders' meetings and develop mutually agreed-upon policy statements, recognize differences of opinion and deal with them effectively, and emphasize risk management which has reduced lawsuits arising out of allegations of collisions caused by unsafe highway conditions.

In any state where these joint engineering and enforcement conferences are not currently in use, police executives and associations, and highway transportation planners and engineers should be proactive in bringing about such efforts.
Traffic Incident Management: Strategies for Improving Safety and Relieving Traffic Congestion

Over half the traffic congestion in urban areas in the United States is caused by traffic incidents. Traffic incidents also cause other incidents. Approximately 20 percent of all incidents are secondary in nature. These are typically vehicle disablements (overheating, running out of gas, etc.) or crashes caused by traffic maneuvers, such as abrupt braking or lane changing. Response to incidents presents a significant danger to public safety, transportation, towing and recovery, news media, and other responders. The longer an incident remains in place, the longer responders and those involved in the incident are exposed to danger. Quick clearance supported by good traffic control is essential to maintaining safety and mobility.

Traveling in or around urban areas during a peak-use period is irritating at best, but it can be downright miserable when a traffic incident further impedes the traffic flow. In a typical freeway lane capable of carrying 2,200 vehicles each hour, an incident that blocks one lane out of three will reduce that highway’s capacity by 50 percent. Thus, when blockage occurs, the cause needs to be eliminated quickly so that ordinary delays do not become extraordinarily long. Effective Traffic Incident Management (TIM) can help reduce the delay caused by non-recurring traffic incidents.

Problems Caused by Traffic Incidents

Approximately 10,000 police cars a year are involved in crashes responding to incidents or at incident scenes. About 5,000 additional public safety vehicles, such as emergency medical vehicles or fire apparatus, are also involved in crashes. Traffic crashes account for more than half of all on-duty fatalities among law enforcement officers.

Traffic engineers estimate that, for every minute a traffic lane is blocked, it takes four minutes to restore the flow after the incident has been cleared. When an incident occurs during peak-use traffic
periods, even a small reduction in the time taken to clear the incident can greatly relieve congestion, reduce the on-scene exposure time of responders, and reduce the likelihood of secondary incidents.

The most time-consuming phase of incident resolution is incident clearance. Multi-agency traffic incident management programs have shown impressive results in reducing incident clearance time. In the Seattle area, the average duration of truck-involved incidents was reduced from over five hours to less than 90 minutes. In the San Antonio and Washington, D.C. areas, traffic incident management programs reduced incident durations by 40 percent.

The goal of traffic incident management programs is to resolve safely and quickly traffic incidents by:

- Quick and accurate incident detection and notification;
- Rapid response of appropriate resources enabled by planning and reliable incident verification;
- Effective on-scene management of resources, including traffic control, to remove quickly and safely the incident;
- Effective inter-agency communications supported by integrated communications systems; and
- Accurate and reliable information to travelers about the location, nature, impact, and expected duration of the incident.

What Is An Incident?

An “incident” is any event that disrupts the normal flow of traffic. It may be as simple as debris on the road or as complex as a multiple fatal crash involving hazardous materials. Even a simple incident, such as a disabled vehicle in a traffic lane or on a shoulder, can cause significant delay on a freeway. It can be a stalled vehicle or a lost piece of lumber from a truck that causes motorists to change lanes suddenly. Such minor incidents, if detected promptly, can be cleared rapidly with little residual affect on peak-use traffic. Traffic enforcement activity, especially when emergency lighting is used, is a minor incident in itself, but it can cause significant disruptions in traffic flow leading to secondary incidents. Public safety agencies are now beginning to examine policies on the use of emergency lighting with the goal of reducing its use when that can be done safely.

Major incidents, on the other hand, generally include:
• Motor vehicle crashes involving serious personal injury
• Fatal crashes
• Motor vehicles on fire
• Crashes involving hazardous material cargo
• Crashes where a load of cargo is spilled
• Overturned cars or trucks
• Downed power lines across roadways
• Structural failures of bridges or roads

Such incidents result not only in significant delay, wasted fuel, frustration, and higher costs to motorists and commerce but also in significant added safety risks to responders and motorists. Stopped traffic can create secondary motor vehicle crashes. Local streets can become subject to gridlock by motorists trying to avoid the incident scene.

Incidents on freeways present special challenges over incidents on arterial streets. Speeds generally are higher; hence safety issues are more complex. Access to freeways is controlled to provide fewer traffic conflicts and to allow higher safe operating speeds. Control of access, however, creates special problems in responding to incidents. Access points are limited for responders. Traffic congestion builds behind the incident causing problems in getting to the scene quickly. Motorists have fewer options in allowing responders to get past them and may, in frustration, use or block shoulders. Access for large equipment, such as fire apparatus or towing and recovery equipment, can also be problematical.

What Can Be Done?

No single agency can effectively respond to and clear a major traffic incident. Traffic incident management is not a core function of any agency, yet many agencies and private sector organizations have major functions in the resolution of traffic incidents. Traditionally, the agencies charged with motor vehicle crash clearance are police, fire, and rescue services, as well as private towing and recovery companies. If structural damage is done as a result of the incident, or if special equipment is needed for cleanup, the local Public Works or State Department of Transportation (DOT) is called to respond.

An essential part of incident management is the proper guidance and control of road users through the incident area. When detours are required, traffic control devices, if practical, should be used to direct vehicles from the normal path to a new one. When high-
way/rail crossings exist in the vicinity, lane restrictions or other measures taken should avoid conditions where vehicles may be forced to stop on railroad tracks. If this cannot be avoided, officers or flaggers should be provided at the crossings to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place. All temporary traffic control devices should be removed as soon as practical after the incident has been resolved. If the incident requires establishment of detours, large trucks or those carrying hazardous cargo may be required to follow a different route from other vehicles, or may be required to park in a designated area off the highway until the Incident Commander otherwise directs.

With proper planning and inter-agency cooperation, the safety of the traveling public and emergency responders can be better assured, conflicts and rivalries between agencies responding to the same incident can be minimized, and surrounding jurisdictions can be better prepared to handle the sudden influx of traffic.

On-scene traffic control is primarily a function of law enforcement and transportation departments, but can be provided by any trained responder. Traffic management throughout a travel corridor is a function of transportation departments. Private media and traffic reporting services usually obtain traffic congestion information from public sector traffic management programs and from their own sources. Underlying, supporting, and coordinating the response of multiple agencies is a communications infrastructure made up of emergency call-takers and dispatchers and integrated multi-agency communications systems. Many other agencies can be involved, depending on the nature of an incident. These may include environmental agencies, medical examiners, hazardous materials contractors, agriculture and public health agencies, and media. Acting together, these agencies and organizations can significantly reduce the total time to resolve and remove incidents while assuring the safety of motorists and responders.

In the past, tasks were usually accomplished sequentially at a crash site with minimal inter-agency coordination and communication. The police would secure the area around the incident, rescue personnel would work at rendering aid and removing victims, the police would investigate the crash and, finally, wreckers would be called to tow the disabled vehicles. After the incident was cleared, DOT officials would be notified of downed signs or damaged guardrails. At each stage of the incident, responding emergency vehicles would arrive and park wherever their operators could find open space. The result was a mixture of emergency vehicles often blocking each other for long periods of time, even when some ve-
hicles were no longer needed.

Managed response means overlapping as many tasks of the many responding groups as possible without compromising the integrity of any task or safety on the scene. This can only be achieved by extensive planning involving the responding organizations, agreements on procedures and policies, and mutual program action to identify and obtain personnel and equipment resources to accomplish planned tasks.

The National Incident Management System (NIMS) that is used for many other types of emergencies can be easily modified and tailored to the handling of traffic incidents by multiple agencies. This system uses a formal organizational structure where the partners are clearly identified, train together, know their respective roles, and have actively participated in developing and in periodically updating the plan.

The keys to effective traffic incident management are quick and accurate incident detection and notification; rapid response of available resources, including traffic control; safe and quick removal of the incident; effective inter-agency communications supported by integrated communications systems; and provision of accurate and reliable information to travelers in the area about the location, nature, impact, and expected duration of an incident.

Traffic Incident Management Programs

While many locations have coordinated traffic incident management activities involving several agencies, few have true traffic incident management programs. The functions of transportation, law enforcement, fire and rescue, other emergency management organizations, and even news media vary widely and many answer to different executive and legislative bodies at both the state and local levels, so effective coordination and dedication of resources of multiple agencies toward a common goal is extremely difficult. True Traffic Incident Management Programs have a formal organizational structure where the partners are clearly identified, and actively participate in the discussion of problems and needs and in the development of a program plan. Traffic Incident Management Program Plans have a strategic planning process where the program partners agree to goals, objectives, performance measures, and methods for monitoring and evaluation. These programs have multi-year program plans for input into the budgeting and resource allocation of the various agencies, and they also have annual pro-
grams or work plans that define activities on a short-range basis.

Not only do formal Traffic Incident Management Programs provide cohesion among various agencies at different levels of government, but such programs also provide an internal institutional cohesion that helps programs survive changes in leadership in each partner agency.

Recognizing the growing need for multi-agency responses to a variety of highway emergencies and incidents that require closure or partial closure of major thoroughfares, the National Fire Service IMS Consortium, in association with the United States Department of Transportation’s Intelligent Transportation Systems’ Joint Program Office, has made available on the USDOT Web site a publication entitled *Model Procedure Guide for Highway Incidents*. DOT is also conducting state-by-state initiatives to bring emergency service workers, towing and recovery industry representatives, hazardous materials teams, public utilities representatives, and highway transportation officials together to provide them with better training and planning with which to mitigate highway incidents. This should assist in achieving the goal of balancing the myriad competing demands of providing rapid emergency care to persons trapped in vehicles, of mitigating environmental hazards, of investigating mishaps, and of restoring the normal flow of traffic in the most effective manner.

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**Traffic Incident Management Components**

Proper traffic incident management includes providing quick emergency services; removing traffic blockages; protecting incident responders and victims from the hazards of moving vehicles; protecting motorists, passengers and cargo from fire, explosion and other hazards; mitigating any environmental damage; facilitating the response and movement of emergency service vehicles; and facilitating traffic flow past the incident and in the region, recognizing all the while that a blockage at one location can often cause traffic problems downstream and along alternate routes.

Employing these principles in the Seattle area, authorities report that the average duration of truck-involved incidents was reduced from five hours to less than 90 minutes, while in San Antonio and Washington, DC, traffic incident management programs reduced the duration of incidents by 40%.
The components of a proper traffic incident management program include planning, detection and notification, verification and response, site management, clearance, recovery, and motorist information. Many documents on traffic incident management are available on the Internet at http://www.its.dot.gov/welcome.htm

Chapter 6I of the Manual on Uniform Traffic Control Devices (MUTCD) contains information on the types of temporary signs, barriers and other traffic control devices that are approved for use in traffic incident management areas. This MUTCD is available online at http://www.muctd.fhwa.dot.gov/

The Uniform Vehicle Code contains model traffic laws and ordinances to mitigate congestion and to mandate proper driving behaviors at traffic incidents. Information regarding the Uniform Vehicle Code is available online at http://www.ncutlo.org/. The Incident Responders’ Safety Model Law provides for the establishment of an Incident Management Committee, for the designation of an Incident Commander, for liability protection for authorized incident clearance functions, for compensation for incident removal costs, and for the establishment of incident clearance guidelines.

The Uniform Vehicle Code requires drivers when in or approaching a highway incident to maintain a reasonable and prudent speed; to obey the directions of persons directing traffic and all applicable traffic control devices; to vacate any lane wholly or partially blocked; to avoid dangerous stops; to activate emergency flashers, in the event of crashes or mechanical breakdowns; and to remove immediately, whenever possible, vehicles from the roadway. It also provides responders with the authority to move—or to order the removal of—vehicles from the roadway at their owners’ expense.

1. Planning

Management of an incident and the resulting traffic problems are a team effort, and each agency has a specific role to play. Planning minimizes on-scene conflict and confusion, as well as redundant requests for additional services.

Planning involves identifying available resources and making arrangements for obtaining those resources quickly when needed. Planning involves the discussion of jurisdictional and policy issues involving a wide range of topics, such as staging equipment, using emergency lighting, treating appropriately hazardous mate-
rials, and handling on-scene traffic control. Many jurisdictions have developed alternate route plans for freeway closures. Planning for alternate routes involves not only the routes themselves (road capacity, signalization, locations of hospitals and schools, bridges, railroad crossings, underpass height, etc.) but also policies on when and how these routes should be used and how they should be set up and taken down.

Planning for these problems in advance can save valuable time in the deployment of resources and can support on-scene incident site management by promoting coordination, reducing confusion and the need to invent, and saving 30 to 40 minutes of on-scene planning. Saving 30 minutes in the initial stages of an incident by obtaining special equipment resources may result in a two-hour reduction in traffic congestion after the incident has been cleared and also may reduce the potential for secondary incidents.

2. Detection and Notification

Most incidents are first reported to Public Safety Answering Points (PSAPs) by means of cellular telephones. Some areas have other special numbers to report roadway emergencies (*SP, #77, *999, etc.), and most of these also go to a call-taker in law enforcement or a special PSAP. Information is quickly routed to the proper agency (law enforcement, fire and rescue, etc.) for dispatch. Rarely is this information also sent to traffic operations or management centers that are usually left to find out about an incident through their own sources. Even where transportation agencies have traffic management centers, they rarely find out about most small incidents that affect travel on their facilities.

Other means of incident detection include law enforcement patrols, dedicated freeway service patrols, and aircraft patrols. Detection methods used by transportation agencies are usually slower than telephone call-in but may contain more accurate location information. These methods include several types of electronic sensors, CB radio monitoring, CCTV cameras (usually better used as a verification tool), and traffic surveillance using electronic toll tag readers in areas where automatic toll tag usage is high enough to get reliable data.

3. Verification and Response

The verification of the exact nature and location of an incident is usually provided by the first on-scene responders. If the area has
a traffic management center equipped with CCTV cameras, those cameras may be valuable in certain aspects of verification. Quick and accurate incident verification enables rapid and efficient incident response by the right people and equipment. Delayed incident verification can lead to under-response or over-response. Under-response means sending inappropriate resources to the scene, requiring another response of the right resources. Delayed-response becomes more problematical because access to an incident scene may be blocked by traffic. Over-response is the sending of too much equipment or too many people that can hamper incident clearance and, without off-site staging, can block additional traffic lanes that might be used to allow travel past the incident.

While first responders from law enforcement or fire and rescue stabilize the incident scene and provide emergency medical assistance, the incidents themselves often cannot be cleared without “secondary” responders from transportation agencies or towing and recovery companies. This response is called “secondary” because the first responders who already are on-scene usually request it. Providing accurate information to secondary responders is vital in order to obtain the proper resources promptly. Transportation maintenance supervisors, lacking specific information, may travel to the site themselves to assess the incident before calling out their equipment and personnel. This can easily add an hour or more to the overall duration of an incident. Likewise, inaccurate or unspecific information given to towing and recovery companies can result in improper equipment being sent to the incident. The towing industry has long said, “Don’t tell us what to bring. Tell us what the problem is and what kind of vehicles are involved. If we know what the problem is, we can respond with the right equipment.” The Towing and Recovery Association of America (TRAA) has developed a classification sheet consisting of vehicle silhouettes for eight classes of vehicles ranging from Class 1 passenger cars, minivans, and pickups to Class 8 heavy motor coaches and tractor-trailer combinations weighing more than 33,000 pounds. Each of the vehicle classes is associated with different types of equipment needed for towing and recovery. The purpose of this classification scheme is to provide police officers with a tool for describing to towing and recovery professionals the types of vehicles involved so that proper response can be sent.

The speed with which an incident can be detected and verified directly affects the amount of time required to respond to and clear the incident and restore traffic to its normal flow. Police and fire/rescue vehicles have an advantage when responding to
an incident. They are equipped with emergency lights and sirens that assist their operators in navigating through traffic. Initial response by these agencies is already fast. However, the thrust of incident management response is aimed at getting the appropriate equipment and resources to the scene. Support agency vehicles—typically not equipped with emergency lights and sirens—lack the legal authority to respond at the same speed as police and fire vehicles. Plans must be made for ready access to the incident scene for these vehicles, perhaps escorted by law enforcement vehicles.

Response to major incidents is thus implemented through planning for incident response, where personnel available for major incident response are already identified beforehand. Often, police agencies think in terms of patrol officers as being the only ones to respond. In many agencies, however, a variety of officers could be called upon to assist in major traffic incidents—those normally assigned to educational, analytical, or specialty units (such as Warrant Service or SWAT officers), for example. A list of personnel resources for all agencies must be established.

Consider such questions as where to find large front-end loaders to remove spilled cargo or construction barricades. Can auxiliary light units be found and moved to the scene? Where can asphalt be obtained at 2:00 A.M.? A list of these resources, their locations, and contact persons should be developed and maintained.

Assigning officers and service patrols to congested road sections during peak-use periods will reduce the travel time in those areas, once an incident has been detected. When assigned to a patrol area that includes a high-incident section of freeway, an officer can be directed to patrol the freeway during peak-use periods, when not on another call for service. Transportation departments can assign maintenance personnel to patrol tasks during peak-use periods. These actions will create greater patrol of congested areas and prevent routine maintenance activity from being conducted during peak-use periods.

Training of all personnel of the agencies involved in incident management creates a greater awareness of each individual’s role in incident clearance. When properly trained, workers know what their tasks will be and can begin executing activities in accordance with the traffic incident management plan for the specific incident.

A direct correlation exists between effective interagency com-
communications and reduced response time. Transportation officials must be able to communicate with police or fire/rescue personnel on the scene to determine the correct response. Radio or cellular telephones can be used to relay response information to avoid delay, or to make detailed requests for specific equipment and personnel from other agencies. Communications is particularly important when planned alternate routes must be modified due to construction or incident events (such as chemical fumes passing from incident site to alternate route).

Each local Traffic Incident Management Program planning team should consider pre-staged equipment storage areas, administrative traffic management teams, public education programs, central information, processing and control sites, and better identification of exact locations on freeways (more frequent mile-post markers, for example).

Like other facets of traffic incident management, these must be evaluated as to cost, practicality, frequency of use, and overall benefit. Each planning team must select the options that work best in its locality, implement the procedures, and refine their use.

4. Site Management

The effectiveness of any incident response is directly related to the management at the scene. A well-managed response based on a less effective technique may be more successful than a superior technique that is mismanaged. Incidents involving a single agency response require only that the personnel understand their own duties and are effectively supervised. Multi-agency response, on the other hand, compounds the issue of site management. Each agency must understand not only its own role and tasks but also the other agencies’ responsibilities. This creates a need for coordination and control that increases as the incident becomes more complex.

Administrators at the highest level of each agency must instill in subordinates the belief that fast, efficient, and cooperative problem-resolution is the primary goal. In the absence of such an attitude, “turf wars” can develop that will inhibit incident resolution.

A variety of methods can be used to coordinate and control multiple-agency response to incident resolution. The most effective method is to recognize from the outset that each agency must have its own operational command post, which reports to a cen-
Centralized command post comprised of command or decision-making personnel who are not involved in the actual operational tasks of their respective agencies.

Established to coordinate and facilitate the activities of the individual agencies, the centralized command post would not attempt to tell a fire department how to manage a fire in a tractor trailer but would be responsible for ensuring that DOT equipment was properly staged to repair the road surface after the fire had been extinguished. It would also ensure that equipment needed to mark alternate routes was delivered and placed properly. Finally, the centralized command post could serve as the contact point for media information and motorists’ advisories, so conflicting information would not be disseminated.

Fire and rescue agencies and many law enforcement agencies use “Incident Management” systems for on-scene command and control of a public safety incident. These Incident Management systems, also known as Incident Command systems, came out of wildland fire management in the early 1970s. The National Fire Service’s Incident Management System Consortium (NFSIMSC) has developed six Model Procedures Guides for various types of incidents, all of which have the same basic structure and definition of terms, but address command and control issues specific to a certain type of incident, such as Structural Firefighting. The NFSIMSC has developed a seventh Model Procedures Guide for Highway Incidents, which addresses unique site management aspects of highway incidents.

5. Clearance

The clearance phase of incident resolution is the most time-consuming portion. The opportunities for reducing incident duration exist here more than in any other phase of an incident. Integrating the simultaneous operations of a number of agencies and disciplines is a huge challenge. The goal is to have as many overlapping activities taking place as possible without compromising the safety or the successful completion of any of them.

A Traffic Incident Management program team needs to develop multi-agency consensus for policies on:

- Quick removal of disabled or abandoned vehicles
- Use of push bumpers to remove stalled vehicles blocking traffic lanes
- Use of motorists’ assistance (service) patrols to respond to and remove minor, non-crash incidents, which ac-
count for more than 85% of all incidents. These are stalled or disabled vehicles, debris on the road, etc.

- Policies or laws mandating motorists to move vehicles involved in property damage crashes (no injuries) out of travel lanes
- Policies and procedures for pushing or dragging overturned and damaged trucks and cargo off the road
- Policies prohibiting the in-lane off-loading of damaged non-hazardous cargo
- Policies and practices for staging or parking equipment so as to enable the quick opening of traffic lanes as they are cleared
- Setup, maintenance, and removal of traffic control
- Policies for temporary opening of blocked lanes during a peak-use period
- Policies for plugging and containing minor fuel leaks
- Policies for handling spilled engine fluids (diesel fuel, crankcase oil, gasoline, anti-freeze, etc.) that are contained on the pavement so that a full Hazmat response is unnecessary

Crash investigation can be complex and time-consuming. Traditional methods require extensive hand measurement and documentation of evidence for potential crime scenes. Yet less than 20% of all fatal crashes actually end up as criminal cases. Usually by the time law enforcement officers have arrived on-scene, a number of vehicles have already driven through the evidence. Professional investigators have discovered that by making a judicious choice of what actually needs to be measured and by using modern tools, such as photogrammetry, to measure and document a scene, even fatal crashes can be properly measured and documented quickly—often in less than one hour.

In many urban areas, freeway incidents in peak hours involving overturned vehicles and spilled cargo are temporarily “relocated” off the roadway until the peak period is over. This allows the maximum number of traffic lanes to remain open when they are needed. Incident clearance is suspended until after the peak period is over. This technique is used if vehicle recovery will require closing traffic lanes for appreciable periods.

6. Recovery

Recovery is the time segment that begins when the roadway obstruction has been removed and all lanes are reopened for travel and ends when traffic flow has returned to normal. Too often, traffic control procedures are dismantled as soon as the wreckers
pull off with the crashed vehicles. To be truly effective, traffic management must continue until the congestion has dissipated. If traffic has been diverted to an alternate route, that diversion plan should remain until the incident is cleared. It may remain in place until the traffic backup has cleared, if that backup was substantial. Also, traffic controls on-scene and those on alternate routes must be removed in an orderly process so that motorists still have clear direction approaching the remainder of the traffic queue and so those on the alternate routes can find their way back to the primary route.

Incident management is a constant and dynamic process. A plan is devised, implemented during an incident, and finally reviewed afterwards for effectiveness. Most public safety agencies conduct after-action critiques of major incidents, police departments after SWAT operations, and fire departments after major fires. The same review must be conducted for freeway incidents. Each agency must examine its own response. Then, each agency commander must meet and discuss the efficiency of his or her interaction with the other agencies involved.

7. Motorist Information

Often, when motorists are caught in the initial backup of an incident, they will devise their own alternatives. Some may attempt to drive on the shoulders of the road and thereby take the shoulder access away from responding emergency vehicles. Once at a dead stop and in a long backup, some motorists will leave their vehicles and walk to the incident site to see what is causing their delay. Even worse, they may abandon their vehicles and walk to telephones located off the freeway to advise family or childcare providers of their delay. As soon as practical, motorists must be told the reason for the delay and the location of the incident. Those not already at the site should be advised how to avoid the congestion. If they are expected to stay on designated alternate routes, motorists must be confident that these routes are visible and clearly marked. Persons unavoidably caught in a traffic backup, sometimes for hours, must be assured that public officials are working to free them from the circumstances. They should also be told how to obtain assistance if they require it.

The most widely used means of providing information to motorists is commercial radio. In large metropolitan areas, some stations provide regular traffic reports throughout the day at ten or 15-minute intervals. Commercial radio information, however, often has a “news” flavor to it and doesn’t provide specifics about the severity of the problem (the length of the traffic
backup, for instance). In recent years, private traffic information services have become more popular. These services provide information over Web sites, pagers and cell phones, depending on subscriber needs.

Whatever the source, most traffic information services get information from a variety of sources and the information they get and give may not be consistent or accurate. It is important for these media to be involved in traffic incident management programs so that they understand the type of information they should collect and disseminate and know the sources of good information. The primary source of information for private sector media is often public sector transportation management systems operated by state and local departments of transportation. These public sector systems are also the source of information for highway advisory radio systems and for permanent or temporary dynamic message signs.

Traffic Incident Management Policies

The National Fire Service IMS Consortium issued a publication titled, *Model Procedures Guide for Highway Incidents*. This publication was designed for joint use by the Fire Service, Emergency Medical Services, Law Enforcement, Transportation, and the Towing and Recovery Industry and was prepared in association with the U.S. Department of Transportation’s Intelligent Transportation Systems’ Joint Program Office. Copies are available from the National Fire Service IMS Consortium, 600 Maryland Avenue, S.W., Suite 755, Washington, DC 20024.

Many of the ideas contained in this publication are embraced in the latest edition of the *Manual of Police Traffic Services Policies and Procedures* published by the IACP’s Highway Safety Committee.

The *Model Procedures Guide* gives examples of how a traffic incident management system, based on ICS principles, can be applied to situations such as multiple-vehicle motor vehicle crashes, natural disasters such as a hurricane or winter storm, a planned event such as a parade or ceremony, hazardous material spills, or terrorist attacks on an interstate highway.

For example, an everyday traffic incident such as a three-car collision may present problems of scene safety, fuel leak control, extrication, medical treatment, traffic collision investigation, establishing a safe flow of traffic, removing damaged vehicles and debris
from the trafficway, and restoring the trafficway to normal opera-
tion. It will probably involve multiple responders—police, fire,
emergency medical services, and towing and recovery. Actions re-
quired may involve deploying a protection line, establishing tempo-
rary traffic control, rerouting traffic in the area, mitigating fuel
leaks, performing extrication, stabilizing and transporting injured
persons, investigating the cause of the collision, making arrests, re-
moving vehicles, giving out public information on the incident, and
restoring order.

A planned event, such as a parade or ceremony, brings with it an
additional set of tasks and problems, including intelligence and
planning, staging, shuttles, site security, crowd security, dignitary
security, dealing with protesters, parking problems, and various
modes of patrol such as foot, motorcycle, bicycle and mounted.

A terrorist attack brings with it the specter of additional possible at-
tacks; secondary attacks on responders; unknown chemical, biologi-
cal, explosive or nuclear hazards; how to provide emergency re-
sponse through blocked roadways; secondary crashes and other in-
cidents involving blocked traffic; control of spectators; possible
wildfire; communications overload and failure; sheltering in place;
or establishing evacuation routes and notifying evacuees. Multiple
local, state, county, and federal responders will be involved.

Proper and effective incident management policies will fix respon-
sibility for command; will ensure that strong, direct and visible
command is immediately established; will set up an effective inci-
dent organization; will provide a system to process information to
support planning and decision making; and will provide for the or-
derly transfer of command to subsequent arriving officers.

The tactical priorities at such incidents are to stabilize the incident
and provide for life safety; to remove promptly endangered, injured
and non-injured persons; to triage the injured; to provide appropri-
ate field treatment and transportation; to provide for the safety, ac-
countability and welfare of personnel working the incident; to fa-
cilitate the safe flow of traffic past the incident; and finally, to re-
store the roadway to normal operations.
Information Sources

Traffic Incident Management and Public Safety Documents
In addition to the Model Procedures Guide of Highway Incidents referred to above, many documents on incident management and public safety are available on the ITS Electronic Document Library at [http://www.its.dot.gov/welcome.htm](http://www.its.dot.gov/welcome.htm). Visit this site and search using keywords such as “Incident Management,” “Traffic Incident Management,” and “Public Safety.”

Traffic Incident Management Handbook
This handbook is a revision of the Freeway Incident Management Handbook (1991), updating and expanding material contained in the old handbook. This 166-page document is divided into three main sections:

1. Introduction to Incident Management
2. Organizing, Planning, and Designing An Incident Management Program
3. Operational and Technical Approaches to Improving the Incident Management Process

This handbook is designed to assist transportation and public safety agencies responsible for managing traffic incidents in improving their programs and operations. This handbook is for managers who are responsible for traffic incident management program development and support and for field practitioners who are responsible for providing program services on a day-to-day basis.

Regional Traffic Incident Management Programs: An Implementation Guide
Most successful traffic incident management programs are the result of the hard work of dedicated champions in one or more agencies. When these champions leave or change job assignments, programs often suffer when their successors have different priorities or lack the dedication of the champion. While traffic incident management involves many agencies, it is a core function of none of them. State and local agencies have executives and legislative bodies at different levels of government that provide direction for and funding of programs. The coordination of the activities of disparate agencies toward a common end requires institutional cohesion that can be provided through a formalized program involving multi-agency, regional strategic planning to achieve program goals. This document describes a program formation process to
provide institutional cohesion to help assure the continuity and success of traffic incident management programs.

**Incident Management Successful Practices**
http://www.itsdocs.fhwa.dot.gov//JPODOCS/REPTS_TE//8V001!PDF
This document is a 28-page overview of successful practices in traffic incident management across the United States. It describes who the partners are in traffic incident management and lists some benefits obtained in various traffic incident management programs. It also lists issues and lessons learned for incident detection and verification, response, site management, clearance, interagency coordination, training and leadership, and strategic program planning for traffic incident management.

**Links to Incident Management and Public Safety Sites**

**Other Federal Government Sites**


**Professional Organizations**

Institute of Transportation Engineers—Traffic Incident Management Committee - [http://www.trafficincident.org/](http://www.trafficincident.org/)


A workshop on traffic incident management is available from the National Highway Institute of the Federal Highway Administration. This workshop (Course Number 133048) is recommended for any location regardless of the state-of-the-practice in effective management of traffic incidents. Participants include persons from law enforcement, fire and rescue, emergency communications, transportation, towing and recovery, traffic reporting media, and other agencies or companies involved in resolving traffic incidents. The primary facilitators for this workshop have had many years of on-site experience in managing traffic incidents.

Information about this workshop and other training courses is available from the National Highway Institute at http://www nhi fhwa dot gov/

For more information on traffic incident management programs, contact David Helman, Federal Highway Administration, Office of Travel Management, HOTM-1, 400 Seventh Street, S.W., Washington, D.C. 20590.
The Incident Command System

An issue for law enforcement is acquiring the necessary systems and skills to manage effectively frequent, complex emergency incidents while avoiding the problems associated with past responses. The National Interagency Incident Management System (NIIMS) and its on-scene management component, the Incident Command System (ICS), offer the greatest potential for law enforcement application.

Incident Command System

ICS operates on both conceptual and operational levels. At the conceptual level, it represents agreement on common organization and terminology for multi-agency personnel to manage resources and activities efficiently at incidents involving two or more emergency response agencies. ICS encompasses not only fire emergencies but also all natural and technological emergencies—from earthquakes to hazardous materials transportation incidents and civil disturbances. ICS works with—and parallel to—the Multi-Agency Coordination System (MACS) in defining and focusing information collection, processing and distributing resulting data, and identifying related human and material resource needs. Its effectiveness depends on voluntarily accepting its terminology and concepts into the daily operation of each agency, from handling of routine, single-agency incidents to complex, multi-agency operations.

Multi-Agency Coordination System

MACS is a coordinating process involving top agency managers. It integrates the collection, processing, and dissemination of information necessary in multi-agency operations and provides for rapid allocation of required resources during major incidents.

Operational Characteristics

The ICS was developed and designed to meet a number of criteria
critical to effective incident management, including the capability
to provide for single jurisdiction/single agency involvements; sin-
gle jurisdiction/multiple agency involvements; and multi-juris-dic-
tion/multiple agency involvements. The organizational structure is
adaptable to any emergency or incident, is applicable and accept-
able to emergency responders throughout the country, and is read-
ily adaptable to new technology. It provides the ability to expand
an operation logically from a single-unit response on up, with
common elements and organization, terminology, and procedures.
It can be implemented with the least possible disruption to exist-
ing systems.

ICS consists of eight components utilized interactively. These
components include common terminology, modular organization,
integrated communications, unified command structure, consoli-
dated action plans, manageable span of control, pre-designated in-
cident facilities, and comprehensive resources management.

ICS consists of five major functional areas: command, operations,
planning, logistics, and finance/administration. Through these ma-
jor functions and subordinate functions in each category, the inci-
dent commander has all the management tools necessary to handle
any size or type of emergency.

Law Enforcement Application

ICS is readily adaptable to law enforcement and other emergency
response disciplines. Since its adaptation by the San Bernardino,
California, Sheriff’s Department in the early 1980s, law enforce-
ment agencies began recognizing its value in managing police
emergencies.

The key to the success of law enforcement ICS is the ability to
modify and adapt the system to regional and law enforcement
needs while keeping it completely compatible with the fire service.
For effective and efficient operations to occur, the management
mechanism of major emergency response disciplines (fire, law en-
forcement, EMS, and transportation departments) must have read-
ily interchangeable and recognizable components and terminology.
Unlike the fire service, which is likely to have a company officer
and several firefighters responding to an incident on a given piece
of apparatus, law enforcement response generally consists of a
single officer/single patrol unit. This reduced manpower situation
requires the initial police responder to perform both command and
tactical functions (in a simple motor vehicle collision, this would
be overall management and investigation), unlike the fire service response, whereby the company officer assumes command and subordinate personnel perform the tactical functions. To adapt the ICS system successfully, police personnel must be trained, and ICS must be integrated into daily operations.

The effectiveness of ICS training increases when an integrated approach involves regional law enforcement agencies and representatives of other emergency disciplines. This enhances closer working relationships and on-scene coordination and cooperation. Training conducted by the Massachusetts State Police includes not only state police supervisors but also representatives from other law enforcement agencies, the Massachusetts Department of Transportation and Turnpike Authority, representatives of towing associations, Port Authority supervisors, and representatives of other emergency response providers. Interagency relations have been improved; and the concept of teamwork, vital to the management of complex incidents, has been established and reinforced. In addition to its effectiveness at highway transportation incidents, the ICS has evolved into an all-risk management process for all types of emergencies and all law enforcement activities. Response to the natural and technological disasters, civil disturbances, security and crowd control details, and the entire gamut of law enforcement activities can be managed through the ICS implementation and use. The ICS is a widely accepted tool among law enforcement agencies because it is logical and easy to implement yet still compatible with the ICS utilized by fire and other primary emergency response disciplines. It has been accepted and endorsed by the IACP’s Highway Safety Committee as the preferred method of handling major highway emergencies.
Abandoned Vehicles and Shoulder Collisions

Each year, thousands of vehicles break down and are left abandoned on highway shoulders. Law enforcement officers have long considered these abandoned vehicles as traffic hazards, regardless of how far off the road or how short a time they are allowed to remain.

Over a ten-year period, Washington State experienced more than 3,000 collisions involving abandoned vehicles—resulting in 40 deaths, 1,774 injuries and nearly $36 million in economic loss. Police efforts to remove these vehicles were hampered by the issue of property rights, weak impound legislation, and a general resistance on the part of the courts and the public to recognize abandoned vehicles as traffic hazards.

Overview

The Washington State Department of Transportation stated, “Millions of dollars are spent each year to make highways safer and the roadside features more forgiving to errant drivers. Why, then, do we tolerate parked or abandoned vehicles to remain along our highways for extended periods of time? We have designed standards that require a ‘clear zone’ on limited access highways. Nothing can be placed in this zone without providing protection to the motorist in the form of a guardrail, barrier, crash cushions, or breakaway supports. Yet, we allow heavy vehicles to stand a few feet or even inches from the traveled lanes.”

The prompt removal of abandoned vehicles is necessary in the interest of traffic safety; however, because removal involves a tow bill for the vehicle's owner, the issue has always been controversial. A motorist who runs out of gas and is going to return in a few hours becomes upset to learn that the police removed the vehicle and he must now pay a tow company to recover the vehicle. Yet the same motorist who balks at paying the tow bill is first in line to file a claim against the state for “failure to protect” when he discovers his vehicle has been vandalized, stolen, or damaged.

In Washington, state law allows a 24-hour grace period for vehicles stopped along the roadway before they are deemed to be a
traffic hazard. Although several state laws forbid such stopping and standing, this rule clouds the issue.

The Washington State Supreme Court supported abandoned vehicle impoundment when it ruled that police impounds were appropriate as a part of a police “community caretaking function, if the removal of the vehicle was necessary in that it was abandoned, impeded traffic, or posed a threat to public safety and convenience.” Even with this judicial support, however, resistance persisted in the lower courts. When an officer makes a decision to impound, the agency risks paying the tow bill. In one year alone, the Washington State Patrol paid more than $21,000 for 160 tow bills at the direction of the courts.

The Washington State Patrol explored the relationship between aggressive impound policies and shoulder collision rates. As a result, a more aggressive policy encouraged impoundment if the trooper judged a vehicle to be a traffic hazard. Shoulder collision rates in three counties in the Puget Sound metropolitan area decreased 18.3 percent by the end of the first year.

Problem Areas Identified

To document the problem of abandoned vehicles, the Washington State Patrol conducted a study focusing on four areas of concern:

1. Whether or not stopped, parked, or abandoned vehicles in the right-of-way of limited access highways jeopardize public safety;
2. Agency impound policies;
3. State highway shoulder collision rates; and
4. Court reaction to law enforcement-initiated impoundment of abandoned vehicles.

Analysis quickly identified three problem areas in analyzing interstate shoulder collision data over a nine-year period:

1. Shoulder collision rates on urban interstate highways were extremely high compared to rural interstate highways.
2. Injury rates for shoulder collisions were substantially
higher than the rates for all other collision categories.

3. The average age of vehicles struck was 9.6 years.

The study noted that 70 percent of all shoulder collisions had occurred in the state's three most populous counties; 41 percent involved injuries.

The study recommended a two-hour impound policy for all abandoned vehicles on limited access highways where the speed limit was 55 mph or less, and four hours for all other limited access highways. It also suggested urban areas should post restrictive signs advising that abandoned vehicles were subject to impound.

Following the study, the state Department of Transportation looked at the shoulder collision problem again and found that, over a 7-year period, 3,165 shoulder collisions had occurred on interstate, limited access, or other state highways: 57 percent of them occurred in urban areas; and 43 percent in rural areas. Additionally, 55 percent occurred at night. These collisions caused 40 deaths and 1,774 injuries. These findings reinforced the need to remove abandoned vehicles in all areas, urban and rural, day and night.

### Determining Impound Policies

When considering any state's liability in determining impoundment policies, a “catch-22” situation clearly arises. If vehicles are promptly impounded, the crash potential is reduced, but the state's likelihood of paying a contested tow bill increases. If vehicles are not promptly removed and are vandalized or struck, the state's liability is even greater when the relatively small cost of a tow bill is compared with potentially large costs of wrongful death or serious injury lawsuits. One wrongful death award can cost the state much more than paying hundreds of $100.00 tow bills.

Police departments which patrol high-speed highways should choose the most aggressive impound policy that is legal, in order to protect the public interest and reduce liability. An aggressive public information campaign can help raise awareness of the abandoned vehicle problem. Additionally, law enforcement agencies should lobby their legislatures to request changes to eliminate length grace periods contained in motor vehicle codes.

Agencies that fail to develop and enforce impound policies may
face court-imposed costs, and shoulder collision rates likely will rise, thereby increasing the agency’s potential liability. It is hoped that sufficient evidence is now available to convince court officials, the public, and police administrators that vehicles abandoned anywhere upon highway rights-of-way are hazardous to the public safety.
Reducing Crime in Rest Areas

Law enforcement agencies throughout the country are plagued with rest area crimes. These crimes irritate and annoy the public, make them fearful, and frequently harm tourism.

The first step in attacking the problem is to determine the crime problem, as well as its location and extent, and to identify or profile the people causing these crimes.

Developing a Plan

To develop a plan to eliminate rest area crime, law enforcement must coordinate efforts with other agencies that manage the rest areas, such as the DOT or the Department of Parks and Resources. It is important to elicit the opinions and support of the officers on patrol and the personnel of these other agencies. We should consider multiple concepts to eliminate crime, including the installation of signs, rest area maintenance, officer and citizen awareness campaigns, and enforcement. Goals and objectives should be set for any plan and should correspond with the police department’s mission and goals.

Crimes occurring in rest areas include prostitution, open sexual activity, vandalism, theft of abandoned vehicles, open-air drug markets, panhandling, vagrancy, car jacking, and car clouting.

Establishing Operational Procedures

When a plan has been devised, the department needs to establish the operational procedures to carry it out. One of the first steps is to set up a covert surveillance in order to determine the extent of the problem and the specific behavior to be targeted.

Typically, a covert surveillance will reveal such problems as an extraordinary number of people cruising in cars or on foot and seeking sex with other persons. Often these individuals will be openly drinking or using narcotics in public, exposing themselves, vandalizing the toilet areas with graffiti, and cutting holes in toilet walls. Illicit sexual acts, homeless persons using rest areas as
places to live, and criminals lying in wait to commit a crime of opportunity will soon be observed, along with their intended victims, the motoring public—tourists, travelers, and truck drivers who use the rest areas for their intended purposes.

Once information is obtained from covert surveillance, it is best to solicit volunteer officers to perform an undercover enforcement operation. Planning should go into such areas as

- The type of clothing undercover officers will wear;
- The number and location of backup officers and when they will be deployed;
- Various communications signals and emergency signals;
- The role of the supervisor;
- Tactics to be used in contacting subjects;
- Arrest procedures, including bookings, transportation, and issuing citations;
- Providing undercover officers with false identification, tactics and strategies;
- Notification of patrol commanders and working units that an undercover operation is in progress;
- Subtle identification means that undercover officers can use to identify themselves to on-duty officers; and
- Any necessary equipment for the operation.

Training Requirements

The most important step prior to implementing a rest area enforcement operation is training all the persons involved. This training should focus on

- The laws to be enforced (elements of each crime),
- Descriptions/characteristics of targeted individuals, areas, and crimes,
- Communications procedures,
- Equipment use,
- Guidelines for arrest, supervision, and operational procedures, and
- Civil rights issues and respect for alternate lifestyles.
Implementing the Operation

Immediately prior to beginning the operation, all involved officers should be gathered for a thorough briefing and be identified to one another. Any equipment, such as a surveillance van and video, should be checked to ensure it is in proper working condition. The laws of arrest, entrapment, and preferred methods of making an arrest while out of uniform should be reviewed.

Typically, arrests will be made for such offenses as patronizing a prostitute, public indecency, possession of a controlled substance, minors in possession of alcohol, possession of drug paraphernalia, possession of child pornography, contributing to the delinquency of minors, open containers of alcohol in motor vehicles, DUI, and other traffic offenses.

Critique Procedures

Following each shift and at the conclusion of the operation, critiques should be held not only for the officers and their supervisors but also for other agencies involved, such as the DOT and the Fish and Wildlife Service. Participants should brainstorm on how the operation worked and on how it can be improved. All participants should have an opportunity to express their ideas.

Collection and Analysis of Data

Reporting procedures should be established at the beginning of the operation and should be carefully followed. Data should be inputted and analyzed to determine the effectiveness of the operation and to defend against possible later public criticism.

Monitoring Rest Areas for Further Problems

Once covert operations have ceased, officers on routine patrol, as well as DOT employees and others, should be impressed with the necessities for continued monitoring of the rest areas and for notifying supervisors if illegal activities reappear. A brief, intensive period of enforcement will have a “halo” effect for a few weeks or months, but unless the operation is repeated from time to time, the
problems will reappear.

What Departments Have Learned

Some departments, such as the Washington State Patrol, have had great success in implementing rest area enforcement operations. A great deal can be learned from the experience of these agencies. Some of the things that the Washington State Patrol identified include the following:

1. More than six hours of training is required to prepare officers adequately for this type of operation.

2. Not everyone can play the role of decoy. Troopers who have worked their entire careers in uniform and in marked cars may find it difficult pretending to be prostitutes; few can play this role effectively. Most are uncomfortable, especially when they must listen to others talk about sexual experiences, likes and dislikes. Nobody likes working the toilets, looking for open sex acts or for persons exposing themselves. In addition, they are sometimes subjected to ridicule and joking by their peers. Officers can become burned out very quickly; for this reason, all officers assigned to these programs must be volunteers and be rotated as frequently as necessary.

3. By beginning the program with undercover surveillance before arrests are made, you will learn that certain times, much more than others, are more productive for working rest areas.

4. Persons seeking sex will be found at the rest areas both day and night. Sometimes, there will be so many that it is overpowering for the officers. Suspects are easily spooked, but they will return. A rest area can be cleaned out, but thirty minutes later it will be full again. Some persons seeking prostitutes will parade the sidewalks, while others will hang around picnic table areas or cruise the woods. Open sex acts may occur in both of these locations. Other people will loiter or sit in the toilets for long periods of time, and open masturbation and oral sex acts can be observed. Persons seeking sex at rest areas seem to park their cars at the rest areas for very long periods of time, some for hours. Very few will be willing to pay money for sex.
5. The most common forms of vandalism are spray painting mirrors; scratching phone numbers on walls, mirrors, and toilet stalls; placing graffiti and phone numbers on walls with black grease markers; and cutting holes in the walls of stalls. An inexpensive solution to the latter problem is to have DOT place stainless steel panels over walls to prevent the holes from being cut.

6. Vandalism to the rest area grounds will include holes cut in chain link fencing; trees broken off; trails through brush which disturb vegetation; and littering of the area with beer cans and bottles, used condoms, needles and syringes, used toilet tissue, and pornographic magazines.

7. Alcohol and narcotics use will consist of drinking in public, personal use of marijuana, and the use of harder drugs.

8. Problems with vagrants and homeless people will include people living in their cars in the rest areas and attempting to beg money, food and drinks from rest area patrons. Some of these people are frightening in appearance and tend to scare away tourists. Because of First Amendment considerations, it is generally recommended that prosecutors or departmental legal advisors be involved in the planning stages of the operation to determine to what extent homeless people can be removed from the rest area.

9. Moving traffic violations are abundant and may occur so often that there will not be enough officers to contact all violators. These offenses include improper or unsafe backing (usually by a lone male driver looking for a better place to sit) and driving the wrong way (usually involving a lone male looking for a partner). When the rest area is so full of vehicles with lone male drivers, incoming drivers must turn and go the wrong way in order to find a place to park on the travel trailer side of the rest area. Because of the open container and drinking-in-public violations, officers should also look for DUls. Parking violations are usually caused by over-full rest areas or by people looking for places to park where persons seeking sex won’t bother them.

10. Because of the multitude of problems that appear, it is best to enforce all violations occurring at rest areas. In this way, the maximum deterrent effect is realized.
Organizing the Detail

In a busy rest area, it is advisable to have as many as six officers on an assignment, set up in teams, with each team assigned a decoy and surveillance person. The surveillance person is responsible for keeping all of the members aware of the decoy's whereabouts and activities at all times. A marked unit, if available, would be assigned to the program to provide transportation to jail for those arrested. If an extra marked unit is not available, then nearby officers should be notified of the operation, and a marked unit called to assist in booking suspects. Because of the wide use of police radio scanners, officers must be extremely circumspect in radio transmissions affecting the operation.

With a six-person team, one officer is given the assignment of being a decoy and allowing persons to approach the decoy and discuss sex, while three additional officers, a detective, and a supervisor provide surveillance and look for other crimes.

The decoy, during conversation with suspects, tells them that the decoy charges for these services—and the decoy only "plays for pay." When an offer of a specific sexual act with an agreement for a fee is reached, the suspect is arrested for prostitution. The decoy may or may not allow the suspect to touch the decoy’s person; if so, only the arm, shoulder, or leg area should be touched. Officers playing the role of decoy should not allow themselves to be touched in the area of the groin or buttocks or, in the case of females, the breasts.

Decoys should tell suspects who try to touch them that they do not allow themselves to be touched prior to payment. If decoys are touched in the groin or the breast area, they should immediately tell the suspect to stop. A suspect who continues should be arrested for assault or a similar offense that prohibits unprivileged physical contact.

Unit members not playing the role of decoy should be told to arrest anyone who touches them in the groin, breast or any other area where they do not wish to be touched, especially while using the toilet facilities or areas where it is known that sexual practices occur.

Supervisors should review each arrest and determine whether or not the officer has probable cause to book the suspect or issue a citation and release the individual on a written promise to appear.
Information on arrests should be logged into a computerized program. Once a suspect moves through the court system, the arresting officer should be notified of the case disposition, which is then added to the computer file.

Each officer assigned to conduct surveillance of a decoy should be equipped with a portable radio that communicates with the other officers and the command post. Each decoy should have a pre-arranged signal to alert the surveillance officer and others when an arrest is to be made. The surveillance officer is responsible for keeping supervisors and others aware of the whereabouts of the decoy at all times.

Media Coverage

Departments should not overlook the advantages to be gained by effective media coverage of efforts to clean up rest areas. At the same time, a department contemplating such a program must be aware it is absolutely essential to conduct it in a manner that does not penalize persons for their lifestyle choices but, rather, in a manner that focuses on illegal sexual behavior that is harmful to the community.
Preventing Wrong-Way Collisions on Freeways

In some localities, many serious crashes result from wrong-way driving on freeways, and the prevention of these violations becomes an important public safety issue.

According to a report issued by the California Department of Transportation's Division of Traffic Operations, half of the wrong-way driving on freeways results from deliberate, illegal U-turns. Measures taken to improve ramp operation would not affect this half of the wrong-way problem.

For the other half, none of the physical barriers tested to date appear appropriate. Methods other than physical barriers have, however, proved helpful in decreasing incidents of wrong-way driving.

Effective Treatments

Effective treatments include repainting or adding wrong-way pavement arrows; reorienting, moving, or adding wrong-way sign packages; modifying the trail-blazing freeway entrance packages; placing edge lines in pavement markings; upgrading signs of high-intensity reflective sheeting; and modifying lighting.

Occasionally, more extensive measures can be used to solve the problem at unique locations, including airport-type pavement lights, modifying the design of ramp terminals, and adding ramps to incomplete interchanges.

Important to note is that drivers involved with alcohol or drugs cause three-quarters of the fatal wrong-way crashes. This fact presents a difficult challenge in terms of developing appropriate engineering solutions.

Additional wrong-way pavement arrows may be beneficial. The use of larger “Do not enter” signs may be considered if an off-ramp continues to be a problem.

Larger, highly reflective signs may be helpful for confused or elderly drivers. Using red pavement lights activated by wrong-way drivers may be considered at locations where traditional treatment
is not effective. The condition of wrong-way signing packages at off-ramps and directional signs is important.

Always consider the option of using a second set of wrong-way and “Do not enter” signs and wrong-way arrows farther along an off-ramp. The option of using additional signs and markings on selected ramps may give drivers a second chance to realize that they are headed the wrong way before they enter the freeway.

Results of Studies—Remedial Measures Taken

Wrong-way signs and 24-foot white wrong-way pavement arrows are installed on many of California's freeways. White-on-green freeway entrance signs at either side of on-ramp entrances are also posted to aid motorists in finding the correct way onto the freeway. Further studies on wrong-way sign colors indicate that white-on-red is seen the earliest of any color; thus, the “Do not enter” and the “Wrong way” signs should both be red and white. These signs and pavement arrows were adopted as a national standard in 1967 in the Manual on Uniform Traffic Control Devices.

“Do not enter” signs should be located low enough for good visibility to the headlights of vehicles entering the wrong way.

Camera surveillance reveals that the most effective corrections for wrong-way movements include the installation of freeway entrance signs at on-ramps, and “Do not enter” and “Wrong way” signs at off-ramps; posting supplementary trail-blazing signs and extra lighting at on-ramps; reducing the off-ramp throat opening; and eliminating the free right turn from the off-ramp.

More than half the fatal and injury crashes occur at locations where sight distance is less than 1,200 feet on mainline freeway lines. A few types of ramps and interchanges, such as the cul-de-sac, buttonhook, trumpet, and two-leaf clover have a greater number of wrong-way collisions than other types. Also, left-hand off-ramps can appear to be on-ramps to the wrong-way driver and should be avoided during design and construction.

California has red-backed reflective pavement markers on the lane lines on freeways, and the Department of Motor Vehicles has educated the public to the concept that the driver who sees red reflectors is going the wrong way. Because these reflectors have proven to be of limited value with drunk drivers, they are now installed
only in the vicinity of off-ramps as a secondary treatment.

Parking lot spike barriers have been tested to determine if they could be used at off-ramps to stop vehicles from entering the wrong way; however, they were found unsuitable. The spikes, even when modified in shape, would not cause tires to deflate quickly enough to prevent a vehicle from entering the freeway. Under high-volume traffic the spikes broke, leaving stubs that would damage the tires of right-way vehicles. It was believed that some right-way drivers, upon seeing the spiked barriers, would hit their brakes and create a hazardous situation.

California designed movable gates to bar traffic from high occupancy vehicle lanes. The gates are designed to stop even the heaviest vehicle; however, they take approximately 20 seconds to lower or to raise—far too slow for a wrong-way vehicle entering a ramp. With the present state of the art, gates are not appropriate for retaining a wrong-way vehicle.

Georgia tested a pump-up device that presents a physical curb-like barrier to the wrong-way driver, but it was found unsuitable for reasons similar to those of the spike barriers.

California tried adding horns and flashing red lights over the wrong-way signs, but these were found to be ineffective and drew complaints from neighbors.

One device that shows promise is red, airport-type pavement lights, embedded in the pavement across an off-ramp, activated by wrong-way vehicles. These were shown by camera monitoring to reduce further wrong-way entries. About half of the wrong-way drivers at these ramps braked before reaching the wrong-way sign. Nearly half continued past the signs but braked before the pavement lights. Some, however, continued past the pavement lights and went out of view of the camera.

A check of the driving records of typical wrong-way drivers indicate that they have received more traffic violations and felony convictions and have been involved in considerably more collisions of all types than the average motorist. The majority of wrong-way drivers were male. Another complicating characteristic is that many make intentional U-turns on freeways—they do not enter via an off-ramp. Nearly half of the wrong-way crashes are caused by U-turns, and the other half are caused by wrong-way entries via off-ramps.

Field reviews must be conducted by transportation officials to
make sure that signs and markings at these locations are in good repair, and that there are no conditions that could mislead drivers.

High-intensity reflective sheeting for signs can be adopted for wrong-way and freeway entrance sign replacements and upgrades. Using larger signs also provides more visibility, especially for elderly drivers. Thermal plastic pavement wrong-way arrows can be installed. They have high reflectivity and great durability.

Synthetic materials have been developed for anti-theft signs in urban areas with high instances of vandalism, motivated by the aluminum resale value. An anti-graffiti coating has also been developed. Innovations in reflective coatings continue to be made. The electronic system for pavement lights should be carefully selected for its reliability under varying moisture conditions.

Wrong-way crashes show distinct patterns by time of day, a trend that may have implications for directed patrol enforcement. These crashes peak at around 2:00 to 3:00 A.M., although this is more noticeable in the urban areas. The bars are required by law to close about this time. The higher traffic volume during the day in urban areas probably depresses the wrong-way crashes during these hours. Urban areas have a much greater number of wrong-way crashes than rural areas.

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**Enforcement Efforts**

State police, highway patrol officers and local police can make a valuable contribution in combating wrong-way driving.

Most vehicle codes contain provisions such as sobriety, turning movements, and sign theft, which can be enforced to good advantage by the police.

Crash reports reveal that the typical wrong-way crash is caused by a driver who is either driving under the influence of alcohol or drugs, or had been drinking or consuming drugs. Various police programs can help remove these drivers from the road.

One important program is the Sobriety Checkpoint. Its aim is to detect and remove drinking drivers from the road and to reduce alcohol-caused collisions. In any state in which state law and appellate court decisions allow the use of sobriety checkpoints, they should be seriously considered as a means of preventing wrong-way crashes on freeways.
Highway-Rail Grade Crossing Safety

Police should not overlook intervening variables in traffic safety that can be affected directly or indirectly by the private sector. For instance, railroads maintain private roadbeds that intersect more than 155,000 public highways in the United States. More than 3,500 collisions occur at these intersections each year, resulting in almost 400 fatalities and 1,200 injuries. A motor vehicle-train collision is many times more likely to produce fatalities than a roadway collision.

Highway-rail grade crossing traffic enforcement should be given every consideration in the aggressive pursuit of traffic safety. Collisions that occur at these intersections usually are a result of motorist inattention or impatience, which is especially apparent after observing motorist behavior at these crossings.

Law Enforcement Liaison with Private Sector Traffic Safety Programs

The Federal Railroad Administration (FRA), using data provided by United States railroads, maintains a detailed analysis that may prove beneficial to police when conducting safety studies within their communities. By using this data in conjunction with programs offered by the private sector, agencies can implement effective enforcement strategies. Such programs are supported by federal and state funds, such as the OOT (Officer on the Train) and GCCI (Grade Crossing Collision Investigation) programs for police.

OOT is a highway-railroad grade crossing safety awareness program coordinated through a national railroad safety program, Operation Lifesaver, which places police officers aboard trains to radio traffic violations to other officers strategically located at or near grade crossings. The selection of these sites is based on previous collisions and traffic violations.

The GCCI course is a highway-railroad grade crossing safety awareness program coordinated through the Operation Lifesaver program. Tailored to specific law enforcement agency needs, the course usually lasts one to three days and is provided at no cost to
the agency.

Section 402 manpower funding may be available from the U.S. Department of Transportation’s National Highway Traffic Safety Administration (NHTSA) for these programs.

Operation Lifesaver is a nationwide, nonprofit public information and education program dedicated to reducing crashes, injuries, and fatalities at highway-rail grade crossings. You can obtain more information by contacting:

Operation Lifesaver, Incorporated  
1420 King Street, Suite 401  
Alexandria, VA 22314  
800-537-6224
PART THIRTEEN:

Pedestrian Safety
Pedestrian Safety

After vehicle occupants, pedestrians represent the second largest category of motor vehicle deaths. In 2001, motor vehicle crashes claimed the lives of 4,882 pedestrians in the United States, a decrease of 16 percent from the 5,801 killed in 1991. Approximately 78,000 more were injured. In 2001, 12 percent of all traffic deaths involved pedestrians.

The loss of human life and suffering caused by these crashes are a serious national health problem. Each year, the economic cost of salary loss and medical expenses also amounts to billions of dollars.

The federal government has designated pedestrian safety as one of the national priority highway safety program areas. Pedestrian safety is a nationwide concern, and effective countermeasures exist to address the problem, but law enforcement agencies must take the initiative.

Reasons Behind Lax Enforcement

Although pedestrian safety has been identified at the federal level as a serious problem, it may not be perceived as such at the state and local levels. Many communities are unaware of pedestrian safety issues or are forced to overlook them because of budget constraints.

Law enforcement activity on pedestrian safety has been limited because of several reasons. One of the biggest reasons is a significant lack of technical information available to the law enforcement community. Some departments give pedestrian law enforcement a low priority because of other demands, such as violent crime, drug intervention, increased calls for service, or lack of manpower. In these circumstances, concerned police agencies are faced with the challenge of creating a demand for enforcement of pedestrian laws within their agencies or communities.
A police agency becomes more involved with pedestrian safety issues for a variety of reasons, one of the most common of which is a local tragedy. The publicity surrounding such an event often sends the community to the police for leadership in solving what may be a pedestrian safety problem. Another reason for police involvement is the identification of pedestrian issues through the analysis of collision reports. Whatever the reason, it then becomes time for someone within the agency to develop expertise in pedestrian safety issues.

Changing Attitudes and Behavior

As with other traffic safety programs, a pedestrian safety law enforcement program requires using the “3 Es + 1” (enforcement, education, and engineering, followed by evaluation) approach.

Changing pedestrian and motorist behaviors and attitudes about pedestrian safety is an ongoing process that requires an ongoing commitment. The commitment neither takes a great deal of time nor drains resources, but it will demonstrate to the community that your police agency takes pedestrian safety seriously. Other community organizations may be encouraged to follow your lead, and together you can utilize community policing concepts to improve pedestrian safety.

The Pedestrian Crash Picture

Children under age 16, the most inexperienced users of the road system, accounted for 10 percent of the pedestrian deaths in 2001 and have nearly 28.3 percent of the total pedestrian injuries and fatalities combined. Yet, persons of this age comprised only 23 percent of the U.S. population. Their resiliency to injury is probably the reason for the proportionately lesser percentage of fatalities experienced by this age group. Of the child pedestrian crash-es, 2.5 percent result in death.
The fact that working adults have years of experience using the road system may explain why adults, comprising almost 60 percent of the population, had only slightly more than 50 percent of the pedestrian casualties. The resiliency of youth fades in this group, however, and it experiences a fatality rate equal to its population numbers. Of the crashes involving working adults, 6.8% resulted in death.

Older adults have fewer casualties than would be expected for the size of this age group due to, perhaps, their many years of experience and a lowered use of the road system. But a frailty factor likely operates here, and a large percentage of these incidents—14.2 percent—resulted in death to the pedestrian. As seen in the table above, older adults are more likely to die as a result of their pedestrian injuries.

When pedestrians are involved in motor vehicle crashes, the results are usually disastrous. Some 4,882 pedestrians were killed in 2001 in traffic crashes, often the result of alcohol use by the pedes-
trian, the motorist, or both, and excessive speed. These causes accounted for almost 15 percent of all annual fatalities.

Males were over-represented in these casualties, accounting in 2001 for about 68% of the pedestrian fatalities. The male pedestrian fatality rate was 2.35 for every 100,000 population—more than twice that of females.

Nearly the same number of pedestrians were killed on weekday days (54 percent) as on weekday nights (46 percent). However, weekend nights saw almost twice as many pedestrian fatalities as did weekend days, and these two evenings accounted for 34 percent of all pedestrian fatalities.

Approximately 48 percent of all pedestrian fatalities in 2001 occurred on Fridays, Saturdays, or Sundays—17 percent, 18 percent and 13 percent, respectively.

Most pedestrian fatalities (69 percent) occurred in urban areas, and 79 percent of fatally injured pedestrians were at non-intersection locations. The majority of these incidents occurred during good weather conditions (90 percent) and at night (64 percent). Forty-five percent of the victims under the age of 16 were killed in crashes that occurred between 3:00 P.M. and 7:00 P.M.

People 70 years and older had the highest pedestrian fatality rates and were more likely to sustain serious injury or death if struck by a motor vehicle. They accounted for 18 percent of all pedestrian fatalities.

Almost one in every five (19 percent) children under the age of 16 who was a victim of a traffic fatality was a pedestrian at the time, and almost one in every five of those (again, 19 percent) was under the age of five. Pedestrian mishaps were the single largest cause of death of children ages 5-9 years.

Alcohol involvement, either for the driver or for the pedestrian, was reported in 41 percent of the motor vehicle crashes that resulted in pedestrian fatalities. Nearly one-third (33 percent) of the pedestrians involved were intoxicated, with BAC levels of 0.08 or greater. The intoxication rate for drivers involved was only 12
percent, less than the 36 percent of that for pedestrians. In only about 5 percent of the crashes, both the driver and the pedestrian were intoxicated.

Pedestrian Safety Programs

Commitment by the law enforcement agency's chief executive is essential to the success of a pedestrian law enforcement program. Involving the community in the planning and implementation of such a program is equally important.

The goals of a pedestrian safety law enforcement program are to have citizens be aware of—and comply with—the pedestrian laws and to have police officers enforce these laws.

It is only logical to have both the police and the community working together on a program aimed at citizen behavior. Probably no single organization has a great deal of time to devote to pedestrian safety; however, by pooling resources you can have a significant impact.

The method agencies use to train officers placed on traffic assignments enhances the effectiveness of a pedestrian program. Recruit schools and traffic commanders need to explain and emphasize the reasons why pedestrian law enforcement is important. They need to sell their officers on enforcement by using educational efforts.

Suggested training tools for educating police officers about pedestrian law enforcement include using the same safety messages communicated to the general public by television, radio, or brochures; placing articles about pedestrian safety and enforcement concepts in police memos and bulletins; and developing enforcement videotapes to be shown at roll call.

When issuing a citation to a pedestrian or motorist for a pedestrian violation, officers should be encouraged to run a check on the violator's license. The officer may find that the violator is a wanted criminal or is driving on a suspended license. Officers will then see that they are not only reducing the pedestrian problem but also are responding to other crimes.
For traffic officers to enforce pedestrian laws and be dedicated to the program, police supervisors must communicate their support and provide positive reinforcement, and top management must trust its commitment.

Obstacles to Enforcement

Throughout the country, police agencies run into obstacles when trying to enforce pedestrian laws. These obstacles include a lack of interest or understanding; the severity of other law enforcement programs; insufficient training or funding; weak laws governing impaired pedestrians; and inadequate support from the judicial system, where many judges do not support efforts to ticket pedestrian safety violators.

By decriminalizing public intoxication, lawmakers intended that public drunks would be treated rather than punished. However, when that law changed and the resources directed toward public health facilities for alcohol treatment never materialized, police officers were left with no permissible law enforcement response and no places to take public drunks.

In some jurisdictions, the increased emphasis on anti-DWI programs, as well as the fact that a large number of people believe that it is safer to walk or ride a bicycle than to drive when alcohol has been consumed, has led to more intoxicated persons on foot and an increase in the number of alcohol-involved pedestrian crashes.

We can often remove some of the obstacles to pedestrian safety enforcement by learning from the successes of other jurisdictions. Invite police officers or commanders from other agencies to explain how pedestrian laws are enforced, and how tickets are issued in their jurisdictions. Inform judges and prosecutors about your program and the statistics concerning pedestrian crashes. Involve members of the judicial system in planning your pedestrian law enforcement program.

Planning to enforce pedestrian laws where they have not been enforced before will only lead to resistance, unless the public is educated beforehand. The pedestrian safety program is effective only
when it successfully integrates enforcement, education, and engineering.

Once a community has been educated about pedestrian safety and understands the importance of following the laws, it is more likely to support a law enforcement program. Educational programs can mobilize community support for pedestrian law enforcement, which is crucial to its success.

Ten years ago, people did not expect to be arrested for DWI and, if arrested, expected to receive minimal punishment. Today, the behavioral norm has changed, and DWI is considered a serious offense and carries serious penalties and a social stigma. The difference often is attributed to organized public support and demand for enforcement from groups like Mothers Against Drunk Driving (MADD).

Educating the public will change attitudes, improve skills, and increase knowledge about pedestrian safety issues.

Pedestrian Education Issues

Some pedestrians dart out into the street without stopping or looking for traffic, and others cross at intersections without checking for turning traffic.

Pedestrians sometimes do not understand what flashing “Don't walk” signals mean. They mean, “Continue your trip but do not start if you have not yet begun.” Pedestrians often begin crossing the street as the “Don't walk” signal is flashing, instead of waiting for the next signal cycle. A steady—rather than flashing—“Don’t walk” signal also confuses many pedestrians and is even more emphatic than the flashing signal, and means that a pedestrian may not enter the roadway when it is illuminated. Some pedestrians, though, disregard crossing signals altogether and cross the street when they think it is clear.

Pedestrians frequently do not realize the importance of being able to see motorists, as well as of being seen by them. Some walk along the roadway in the direction of traffic and cannot see traffic
coming up behind them. Others walk in the street or along the roadway at night wearing dark or non-reflective clothing, and do not carry flashlights.

Pedestrians are unaware of the dangers involved by stepping out of a vehicle once it has been disabled. When pedestrians step out of a car, they often walk too closely to the road. When they cross, they may misjudge the speed of oncoming vehicles, especially on high-speed roadways.

Children do not perceive moving vehicles in the same way adults do. Their peripheral vision is not fully developed, and they lack the ability to judge the speed of oncoming vehicles. Pedestrians crossing high-speed roadways or rural roads are often unable to judge the speed of oncoming vehicles. Some pedestrians walk through parking lots or pass driveways without looking for moving vehicles.

Crashes usually involve a behavioral error on the part of the pedestrian, the motorist, or both. Motorists' behavioral errors can be seen in exceeding the speed limit; failing to slow down when driving through residential areas in which children are playing; and failing to reduce their speeds on city streets, in shopping areas, or in the vicinity of crosswalks where pedestrians are abundant. Many motorists turn without looking for pedestrians crossing their paths, particularly in right-turn-on-red situations. They ignore the law requiring them to yield or stop for pedestrians in crosswalks.

Motorists may back up without checking for pedestrians behind their vehicles, a particular hazard for delivery trucks calling on households. Also, motorists may pass stopped vehicles, such as school buses, and thus endanger pedestrians.

Properly planned and sustained enforcement programs and public education make people adopt intelligent practices for both walking and driving. You can assist by developing a public information campaign, with a media packet—containing information about pedestrian laws, high-risk behaviors, crash statistics, and particularly dangerous intersections or areas of your community—to be distributed to newspapers, radio, television, and community bulletins.
Publicity Efforts—A Necessity

Holding a media conference when pedestrian issues are more likely to gain attention, such as when schools open or close, can be a particularly effective time to kick off a pedestrian safety program. Newspaper articles can be used to ask the public to identify the most hazardous areas in the community for pedestrians. Active or retired officers can provide public information at scheduled programs in local schools and clubs.

Dispatching a brochure about pedestrian safety with all traffic citations and written warnings is another effective method of educating the public. You may also wish to consider including a survey about pedestrian safety as a means of obtaining information about how much individuals know about this topic.

You can ask public transit agencies to include pedestrian safety advertisements on the exteriors and interiors of their buses. Motor vehicle authorities should be encouraged to include a section on pedestrian laws, rights, and obligations on driver's license tests, in driver education programs, and in violator schools.

In your educational efforts, personalize the issue by showing how a loved one could be a pedestrian at risk. Victims' stories told from a point of view as survivors are effective in such campaigns. Because most drivers also walk, appeal to them from both perspectives. How do they behave toward pedestrians when they are driving, and how do they expect drivers to behave toward them when they are walking?

Utilities, banks, and other institutions and organizations can be encouraged to include pedestrian safety information in monthly billings and mailings. The state Motor Vehicle Division can be asked to include such information with automobile registration and driver’s license renewal notices. Senior citizen groups and youth groups, such as the Boys Scouts, can be used to assist with mailing tasks. Encouraging and supporting a pedestrian advocacy operation is also useful. When preparing educational material, stress safety—
not punishment. Inform citizens about situations that can be dangerous for pedestrians, rather than simply telling them about the jaywalking tickets they can receive.

A good idea is to integrate pedestrian safety with corporate health and traffic safety programs, such as occupant protection, impaired driving, smoking cessation, and weight control. Your message can reach many more people than it would if you were doing it alone, and your limited funding and resources are thus maximized for a greater impact.

Your pedestrian safety program will be much more effective if you gain the support of government officials, community leaders, and organizations by forming a pedestrian safety committee of individuals who have an interest in traffic safety issues. Potential members can include representatives from government; the Safety Council; the school system; media; automobile clubs; youth, civic, and senior citizen organizations; traffic engineers; and hospital or trauma center personnel. Networking with community groups is an excellent method for obtaining citizen input as you develop and implement pedestrian safety programs.

Cooperation with Engineers

Traffic engineering countermeasures can improve pedestrian safety by modifying the physical environment. Solutions can range from painting crosswalks to constructing pedestrian overpasses.

Engineering and enforcement interventions to improve safety can include modification of stoplight signals to increase pedestrian crossing time, new roadway markings to emphasize crosswalks, pedestrian signals on median islands, oversized speed limit signs, and increased police enforcement of the speed limit.

City planning departments should be made aware of pedestrian issues and should consider them when approving site plans. Typical urban problems, such as traffic volume, limited resources, and crime, pose problems for pedestrians that may not be addressed as a community grows.
Engineering factors regarding pedestrian safety should be integrated into the community plans, including overhead crosswalks, sidewalks, marked crosswalks, street lighting, shortened city blocks, and curb ramps for the disabled.

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**Strategies for High-Risk Populations**

Specific pedestrian populations have been identified as being high-risk. They are either over-represented in pedestrian crashes, or they put themselves in vulnerable positions as pedestrians. These high-risk individuals include older adults, alcohol-impaired pedestrians, and children.

Police departments should increase enforcement in areas where there are high concentrations of older adults. When pedestrians see officers ticketing violators, they will be more law-abiding themselves.

Even the timing of “walk” signals in some jurisdictions is problematic. There are cities where the “walk” light is on for such a brief period of time that it is impossible for an elderly or infirm person to cross the road. The yellow warning begins to flash almost as soon as the person has entered the crosswalk, causing some pedestrians to panic and avoid crossing at crosswalks, and attempting more dangerous mid-block crossings instead.

Crossing guards can be assigned to high-concentration areas at peak times or at designated times publicized to older adults. Placing crossing guards in concentrated areas greatly reduces the opportunities for motorists to violate pedestrian laws. Sometimes, volunteer crossing guards can be obtained through organizations such as the AARP (American Association of Retired Persons) or retired police officers' groups.

Officers profiling beats for community policing purposes should determine where older pedestrians walk to shop, eat, or exercise, particularly in areas with high concentrations of older adults, such as retirement communities or senior centers. The Department of Social Services or senior citizen centers can help police departments identify such locations, as well as the times when older...
adults are most likely to be in high-traffic areas. Suggestions can be made to older adults about the safest times to be pedestrians.

Many older pedestrians are killed while crossing legally in crosswalks. A high rate of older pedestrians is involved in right-turn-on-red and left-turn crashes. Radio and television public service announcements, which reach wide audiences, can stress messages aimed at older adults in order to make them more aware of their limitations, encouraging them to adjust their driving and walking behaviors accordingly.

Video or slide presentations can be made to older adult organizations, including church groups and social clubs, which are frequently eager to have programs of interest presented to their members.

Mature motorists programs are available from the AARP and the American Automobile Association. These training programs cover the issue of dealing with back or neck problems that may interfere with an older driver's ability to check for pedestrians before backing out of a driveway or parking space and other issues, such as slowed response time, sensory deficiencies, mental deficiencies, and other behavioral defects.

The police should inform traffic planners of the engineering needs for older adults. Offer suggestions for countermeasures that will aid older adults:

- Bigger signs;
- Timed push-button crossing lights to allow a longer pedestrian crossing time;
- “Count-down” pedestrian signals;
- Refuge islands to provide a safe haven for those unable to cross the street during one pedestrian crossing signal cycle;
- High-visibility crosswalks with overhead lighting, flashing lights, or reflectors to allow motorists and pedestrians to see them better;
- Delayed green lights on all-way stops for motorists, so pedestrians can cross in any direction or get a head start on crossing before vehicles make their turns; and
• The construction of fences and barricades to direct pedestrian flow to intersections and discourage mid-block crossings.

Alcohol-Impaired Pedestrians

Law enforcement options for handling intoxicated pedestrians are limited now that public intoxication has been decriminalized. Education is the best way to encourage pedestrians to look for alternate forms of transportation when drinking. Your agency can also participate in legislative action to criminalize walking while intoxicated.

The message to be communicated to the public is that intoxicated pedestrians present a hazard to law-abiding motorists, as well as to themselves. You can develop a public service campaign addressing the relationship between alcohol and pedestrian crashes, and expand public education about DWI to include the risks of walking while intoxicated. Enlist the participation of anti-DWI groups in a campaign to highlight the dangers to pedestrians caused by drunk drivers, and of drunken pedestrians to themselves.

Campaigns can be developed to alert restaurants and bars to the problems related to drinking and walking, especially if you involve the Alcohol Beverage Control Board in your jurisdiction in this effort.

Child Pedestrians

Educational countermeasures are most effective with this age group. Enforcement agencies can play a significant role from an educational perspective by developing safety materials for parents; delivering training materials to pre-school programs and day-care centers to train child providers to teach children about traffic safety skills; developing programs for school crossing guards to instruct children to identify and report maintenance problems, such as broken pedestrian lights or signs that need replacing; and developing school-based educational programs on pedestrian traffic safety.
One simple initiative is the installation of a mechanical arm that swings out ten feet in front of a school bus so that children must walk around it to cross the street and will be more visible to the bus driver.

Other High-Risk Populations

Other populations at risk are pedestrians on high-speed roadways and tourists. Convincing the highway engineering departments to construct overpasses and barricades, so that pedestrians are prevented from crossing high-speed roadways, can help reduce collisions in these locations. Distributing information about the dangers of crossing high-speed roadways can also be effective when it addresses vehicle distance and speed, as well as alcohol impairment problems.

Motorists need to be aware of the risks they take when they get out of disabled cars on high-speed roadways. Pedestrians have been killed while standing in the road wondering what to do, while working on their cars, or while attempting to flag down assistance.

It is extremely important to distribute information on the dangers and safety precautions motorists should take when their vehicles become disabled. Transportation departments should be encouraged to install telephones along expressways so that pedestrians can call for vehicle assistance, and to post signs instructing motorists what to do if their cars break down.

Police can work with hotel and motel associations to develop public information and education materials for tourists, including information on the dangers of walking after drinking. Hotels and motels can be encouraged to distribute pedestrian safety materials to guests as they arrive and to develop maps with safe pedestrian routes. Pedestrian educational materials can be placed at rest stops along interstates and can be included on—or attached to—state tourist maps.

Construction Zone Safety
Construction zone safety has emerged as a major emphasis area of the Federal Highway Administration, because of the many serious collisions that have resulted in deaths and injuries to highway workers, flaggers, and motorists throughout the nation. An awareness of these problems has led to the enactment of state motor vehicle laws in many jurisdictions that double the fines for speeding in construction zones during those times that workers are present. It has also caused an increasing number of highway construction firms to contract with law enforcement agencies to hire officers and their cruisers with warning devices to assist with traffic control in construction zones.

An enforcement program is the best approach to deal with safety of construction workers on high-speed roadways.

The Michigan State Police developed a program called Construction Zone Accident Reduction (CZAR). It involved a pre-enforcement study period, an enforcement period, and a post-enforcement study. Prior to any enforcement effort, the study indicated that cars averaged 56 mph in a posted 45 mph construction zone. Undertaking vigorous enforcement efforts, state police issued speeding tickets during the times when construction workers were present. A post-enforcement study indicated motorists had reduced their speed by an average of 8 mph.

It is also important to make sure proper, highly visible warning signs are posted well in advance of construction zones, detours and other road obstructions, to give motorists traveling at speed adequate time and distance to react to the hazards ahead. Police officers directing traffic, flaggers and construction workers who will be standing wholly or partially in the roadway, even during daylight hours, should wear highly reflective material. Strong yellow-green provides the best visibility under all conditions. Road jobs should be closed before dusk, unless the scene is set up for operation during the hours of darkness, with adequate lighting.

On some heavily traveled highways, DOTs allow travel to move unimpeded during the daytime and schedule construction jobs for the late evening hours, when the flow of traffic is lighter. However, it is extremely important that these nighttime job sites be well lighted, with adequate warning devices in place. Officers patrol-
ling these areas should work closely with the engineer in charge of the job. They should drive the route, approaching the construction site as an ordinary motorist would, and think to themselves, “If I were an elderly, infirm, or impaired driver, would I be able to adequately see the hazards in the road ahead, in time to react properly? Would I find the number of flashing lights and detour signs confusing, or well marked and readily understandable?” If there appears to be a problem, adjustments should be made proactively, to avert a possible catastrophe.

Federal Funds

Federal funds available for highway and traffic safety initiatives in states and local areas are known as Section 402 funds. These formula grant program funds are intended to aid the states in conducting approved highway safety programs, under the direction of governors’ highway safety representatives. City and county government agencies are eligible for 402 grants to fund activities in priority program areas, such as occupant protection, police traffic services, alcohol and other drug countermeasures, emergency medical service, traffic records, motorcycle safety, and pedestrian/bicycle safety. For information on these programs, contact your state governor's representative for highway safety.

Federal funds are also available to conduct research, develop new technology, and demonstrate new strategies and technologies in the field of highway traffic safety. Referred to as Section 403 funds, they are awarded through grants, contracts, and cooperative agreements with state governments, universities, and consultants.

Several other sources of federal funding are available for highway safety strategies. These are incentive grants awarded to states meeting certain legislative and program requirements.

Section 153 funds are awarded to states that have safety belt and motorcycle helmet use laws and that reach certain usage levels specified by law. Sections 408 and 410 funds are awarded to states that have passed legislation, such as administrative license revocation, mandatory jail for repeat alcohol offenders, and lower legal BAC content levels, and that have programs that control ac-
cess to alcohol by use, conduct sobriety checkpoints, and have self-sustaining alcohol programs. For more information on any of these programs, contact your governor's representative for highway safety.


The National Association for the Education of Young Children, 1834 Connecticut Avenue, N.W., Washington, D.C., 20009 has a program, entitled “Walking in Traffic Safely (WITS).” This traffic education curriculum package for young children, aged pre-school to six years old, is designed to teach them about streets and cars. Any of these programs is yours for the asking.

The National Highway Traffic Safety Administration also has a *Law Enforcement Pedestrian Safety Manual* that includes law enforcement strategies and best practices of pedestrian safety. Another publication, *Evaluation of a Safety Enforcement Program in Miami Beach-Courtesy Promotes Safety*, aims at improving safety at intersections by getting drivers to yield to pedestrians in cross-walks.
PART FOURTEEN:

Public Information and Education Programs
Public Information and Education Programs

From the smallest police departments where the chief must handle formal public relations efforts to larger municipal police and sheriff’s departments, to state police and highway patrols that have formal public relations units within their organizations—police everywhere need to tell their story. And nowhere is this need more relevant or important than in the field of traffic and highway safety.

In too many instances, the department’s spokesperson may have little, if any, training or experience, either in communicating with the media or in organizing and managing an effective public relations campaign. Often the person in charge of public relations may be at a loss to know what is expected of him or her, or where to obtain assistance.

For many years, the National Highway Traffic Safety Administration (NHTSA) has urged law enforcement agencies to establish comprehensive traffic safety programs. One way to accomplish this is with a public information and education (PI&E) program that creates a “perception of risk” among the public, so they will support proactive traffic enforcement. Public information programs are needed not only to educate but also to keep the topic of traffic safety before the media and, thus, the public.

Public Information

The public perception of the police is directly affected by the image you portray. You can gain public understanding, support, and confidence with the positive impression created through effective, ongoing contacts with the people you serve. Successful media relations can foster a positive climate for these relations between your officers and the public.

In larger departments, a person or a unit may be responsible for implementing a public information program. However, even in a
department where such a unit is not possible, a good public information program can be created. What is needed is a strong commitment by the head of the agency to lead by example.

The task of public information consists of two important areas—external and internal information.

External public information informs the public of departmental activities, develops good relations with the local media, performs traffic safety education and community services, develops an effective liaison with the legislative and judicial branches of government, and enhances overall department image.

Internal public information disseminates to department employees information on internal activities and on employee achievements.

Media Relations

Media relations is the most important tool at your disposal in your quest for a good public affairs program. The majority of the public has no direct contact with you. Their perceptions are greatly influenced by what they see, hear, and read on television, on the radio, and in newspapers. Positive publicity generates positive opinion, and negative publicity can destroy what took years to accomplish.

Too often, we fear close contact with the media, either because of an incident in which we received unfair treatment, or as a result of a “horror story” from a fellow officer. Sometimes, we react to such painful experiences by withdrawing into a shell and refusing to cooperate or even talk with the press. When we do this, we risk digging a hole for ourselves so deep that it will take an unbelievable amount of work and determination to regain public trust. Our programs suffer as a result of being unable to inform the public adequately of what we are doing.

Upon closer examination, we may find that the negative repercussions could have been avoided, if we had handled the media differently. Proactive media efforts can often identify a potential problem and manage its probable outcome. Make media relations a high priority in your department because, without it, effective
public relations programs are impossible.

Community Programs

Community programs are formal services that serve a demonstrated need within a particular community or area. They are sponsored totally or partially by the law enforcement agency and are aimed at mitigating a particular problem, or at advising a segment of the population about a specific program. These activities can include both crime prevention programs and traffic safety projects. Examples are Neighborhood Watch, Operation Identification, DARE, rape and assault prevention, child molestation prevention, bicycle safety programs, Halloween safety, departmental appearances, tours, speaking presentations, and ride-along programs.

Public Perception of Risk

The goal of traffic safety programs is to convince the public that violating traffic laws leads to crashes, serious injury, and/or death. Too many people take the use of vehicles for granted and think, “It can't happen to me!” Effective PI&E programs address this perception of risk, to help the public understand that the risk of dying or being seriously injured in a traffic crash is real. They must be shown statistics that will convince them of this. A comparison of traffic statistics to crime statistics will show that, although people are more fearful of being the victim of a crime than being involved in a crash, traffic crashes are violent events that are more likely to happen, even in high-crime areas.

This same theory can be applied to enforcement strategies. Regardless of how many violators your officers stop, the only people that will be aware of this activity are those who are stopped or ticketed. To give the general population the idea that, “I might get caught, too!” and thus secure additional voluntary compliance with the traffic laws, you must introduce timely public information with your enforcement efforts. For the same reason, highly visible enforcement programs, such as sobriety checkpoints, wolf pack pa-
Working With the Media

Public information officers must recognize and understand the needs and requirements of the media and help the media understand the methods, policies, and constraints governing law enforcement. Then, the best possible image of the department can be conveyed to the public, and the media can perform its primary mission to educate and inform.

Newsworthy events occur almost hourly, many directly or indirectly involving law enforcement. We may secretly believe the media have no business investigating these police matters and should stay clear until they are told differently by us; yet the media believe their responsibility is to inform the public about every detail of a story they consider newsworthy. If an event provokes media interest, the fact is that the story will go out, with or without our help. Law enforcement needs the media as an ally, but the media do not need us to do a story—their existence doesn't depend on us.

The print media (newspapers and magazines) are more interested in the smaller details of a story than television and radio reporters, who must tell the story in a few seconds. However, newspapers, too, revolve around deadlines. Being familiar with the deadlines of the various newspapers will help you time releases to accommodate schedules, ease the workload of reporters, and help your relationship with them. Despite the reporter's insistence, you may be able to take time to prepare your response to certain news events.

Radio media operate 24 hours a day, just as we do, and constantly require information from us. With stories introduced and updated around the clock, deadlines seldom exist. Broadcasts, which are short and concise, do not require a lot of detail. The desired format is a quick, factual release of the main parts of the story. Be prepared to condense a release of information into a nine-to-fif-
teen-second time period to accommodate radio's format. Half the battle of getting your story aired is minimizing editing by the station to fit it into its time frame. A snappy, factual, and appropriately timed release that requires little or no editing helps guarantee that your release will be broadcast as is, with the facts you want included. It also eases the workload of the station staff and helps your relationship with them. Radio has the largest audience during the morning and evening commuter rush hours, and requests for updates and comments will increase during those times.

Radio stations frequently request a taped phone interview for broadcast. Before you comment, ask if you are being taped. Avoid personal opinions—remember, you are representing the department. Feel free to ask a reporter, before the taping starts, what questions s/he will be asking. If you make a mistake, realize it and correct it, either by making the correction or re-taping the interview.

The radio format is especially valuable for getting out traffic and emergency information, such as detours, evacuations, and temporary parking restrictions. Officers can also serve as guests on talk shows and provide information about departmental activities.

The television media can be summed up by the adage, “A picture is worth a thousand words.” TV, like radio, must fit the story into a short, concise package suitable for viewing. However, unlike radio, TV has fixed deadlines, because time is required for editing and preparing raw video footage of an incident or interviews to meet scheduled air times.

If you are being interviewed on camera, discuss the interview outline with the reporter until you feel comfortable about it. If you know in advance, do some research on the topic. It is possible to stop the cameras if you make a mistake and tape that portion of the interview over.

As TV news crews have become more mobile, live television interviews at the scene of an event are commonplace. Your officers in the field must be trained to respond to these live requests.

Television, because it combines news with the impact of visual
images, can enhance your PI&E efforts. Use TV whenever it can help your efforts.

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**National News Media**

Radio and TV network reporters and national wire services will descend on you whenever you have news of more than local interest—a riot, a public demonstration, or even a severe storm. You must be prepared for this to happen.

Good coordination is the key to dealing with the national media. Designate one spokesperson or public information officer to do all the interviews if possible. This avoids releasing conflicting information or making it look as though you are hiding something. In disaster situations, designate a media staging area where they can work and where you can interface with them. Don't overlook your local media simply because the national people are on the scene. When the national attention goes away, you still must face the local media 365 days a year.

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**Public Service Announcements**

Radio and TV stations broadcast public service announcements (PSAs). In addition, many newspapers will print free public service ads as a community service.

If you wish to use PSAs, remember that they are a form of advertising. Develop them as an advertising agency would develop an advertisement or commercial. They should have a theme, present a concise and easily understood message, and be factual and entertaining. Sometimes, the use of a celebrity, or a radio or TV professional as the voice over—or the “talking head”—will help to get your message across. If you produce your own PSAs, be sure they are of broadcast or print quality, or you can be assured that they will not be used. Frequently, a local advertising agency will assist you, free of charge, as its own contribution to the public well-being.

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**Managing The Media**
Learn, either by attending journalism or police-media courses or from a friendly media representative, how to write a good news release—one which contains the “who, what, why, when, where, and how” in the first paragraph and adds details of diminishing importance in subsequent paragraphs, so it can be easily edited to fit the space available.

Get to know the names, addresses, phone and pager numbers of the movers and shakers in your local media. Be accessible to them. If you send news releases out, do not address them generically to the news desk, but send them to someone you know. Top department officials should also develop friendly relationships with managing editors, publishers, and those who set editorial policy. Have a formal policy on handling the media, and consider issuing press cards to bona fide media representatives, to allow them the closest possible access to a scene without disrupting operations or destroying evidence. Regular meetings every few months between the department management and media representatives provide both parties an opportunity to break bread together and iron out any differences.

How to Obtain Further Information

NHTSA has a booklet entitled, *Law Enforcement Public Information*, as well as examples of video and audio-taped PSAs, that are free for the asking. You can obtain copies by contacting

Enforcement and Justice Services (NTI-122)
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590
PART FIFTEEN:

Uniformity, Reciprocity and Federal Programs
Currently, more than 191 million licensed drivers are driving about 221 million vehicles almost three trillion miles a year on our streets and highways. Our efforts in highway safety have reduced to 1.51 fatalities per 100 million vehicle miles traveled. In the 1930s, the mileage death rate was approximately 15.

The terrible loss of life on our streets and highways called for action, and a group of visionaries in the 1920s and 1930s saw the need for highway safety programs. Among these was the need for uniformity of traffic laws, and reciprocal agreements between and among the states to improve the safety, mobility, and efficiency of our roadway system.

The History of Reciprocity

The conceptual framework of reciprocity and uniformity was formalized in 1924, when Secretary of Commerce and later U.S. President Herbert Hoover convened a group of people to develop a national, rather than a federal, set of proposed laws. The purpose was to achieve uniformity from state to state and to enhance both intrastate and interstate motor vehicle travel. Reasonable uniformity of state motor vehicle laws would then establish a framework for interstate reciprocity and the free flow of goods and people.

The Uniform Vehicle Code

Today, there is the National Committee on Uniform Traffic Laws and Ordinances (NCUTLO) which has maintained the Uniform Vehicle Code (UVC) since 1926, when the first edition was published. The first edition was what we now know as the part of the UVC called the “Rules of the Road.” Over the years, other chapters were added to the UVC. Everything
was combined into a single edition of the UVC shortly after World War II.

The NCUTLO is still active today in producing what is generally accepted as a national guideline for uniform state traffic laws and local ordinances. The code has been revised approximately every four years since 1926.

Interstate Compacts and Institutions

Over the past six or seven decades many individuals, organizations, and institutions have dedicated intellect, time, and funding to providing a safer, more efficient highway transportation system.

Presidents Truman, Eisenhower, Kennedy, and Johnson established national committees which became known as the President’s Committees for Traffic Highway Safety. Advisory groups were formed to establish action programs ranging from collision records, laws and ordinances, driver licensing, police traffic services, engineering, and public support and information, to research and development. These programs, and the many dedicated people who worked on them, soon recognized the need for coordination, balance, and comprehensive concepts, which in later years became known as the “systems approach.”

The U.S. Constitution provides that, before the various states can enter into a compact, they must have the consent of the Congress. Representative Beamer saw ahead of time the need to encourage state compacts in the traffic safety field. In 1958, the so-called “Beamer Resolution” passed the Congress and gave consent to states to pursue such compacts. This legislation resulted in the National Driver License Compact, the Non-Resident Violator Compact, and the Motor Vehicle Safety Equipment Compact.

A number of institutions were established such as the Automotive Safety Foundation, the Traffic Institute at Northwestern University, the American Association of Motor Vehicle Administrators, the Traffic Division of the International Association of Chiefs of Police (later to become the Highway Safety Committee to the
IACP), the Institute for Traffic Engineering, the National Safety Council, the American Association of State Highway and Transportation Officials (formerly known as AASHO, now AASHTO), the Bureau of Public Roads of the Department of Commerce (now the Federal Highway Administration of the U.S. Department of Transportation), the Traffic Court Program of the American Bar Association, the Safety Education Commission of the National Education Association, and the American Automobile Association Motor Clubs.

The Federal Aid Highway Act

In 1956, the Federal Aid Highway Act was passed by the Congress and signed by President Eisenhower. This created the system of interstate and national defense highways, and the Federal Highway Trust Fund. It also called for a study of the federal role in highway safety. A document entitled “The Federal Role in Highway Safety” was published several years later and became one of the studies that influenced the landmark legislation in 1966 (Senate Resolution 3005, to provide for a national safety program for the establishment of safety standards for motor vehicles and interstate commerce, and Senate Resolution 3052, to provide for a coordinated national highway safety program known as the Highway Safety Act of 1966). This act called for the establishment of national standards. Eventually there were 18 program standards which, in the view of some, have been diluted in recent years.

The National Highway Safety Bureau (later changed to the National Highway Traffic Safety Administration) and the Federal Highway Administration were established. Note the distinction of one being “national” and the other being “federal.”

The 1966 legislation was an expansion of the concepts of the 1956 Federal Aid Highway Act. The Highway Safety Act called for statewide planning, focus of responsibilities through the governor of each state, local planning and participation, and funding mechanisms.

Relationship to Highway Safety
Program Standards

Highway Safety Program Standard No. 6 calls for the elimination of all major variations in traffic codes, laws and ordinances among the political subdivisions of a state, in order to increase the compatibility of these ordinances with a unified overall state policy on traffic safety codes and laws, and to further the adoption of appropriate aspects of the Rules of the Road section of the UVC among the states.

The standards section calls for each state to develop and implement a program to achieve uniformity in traffic codes and laws throughout the state. The program was to provide a plan to achieve uniform rules of the road in all jurisdictions, and to make each state's unified rules of the road consistent with similar unified plans of other states. Additionally, it calls for continuing comparisons of all state and local laws, statutes, and ordinances with comparable versions of the Rules of the Road section of the UVC.

For many years, several states did, in fact, make comparative studies with the UVC, but very few, if any, go through this process today. For over 60 years, the National Committee on Uniform Traffic Laws and Ordinances has encouraged states to use the UVC to achieve and maintain reasonable and realistic uniform traffic laws and ordinances. For without such uniformity, how can reciprocity between and among the states be recognized and practiced?

The Future of Reciprocity and Uniformity

Advances in technology as applied to the highway environment and to the motor vehicle include—but are not limited to—safety restraints, anti-lock brakes, passenger containment protection, stability control systems, and steel belted tires. As we review these advances, together with program advances addressing uniform laws, alcohol/drug abuse, driver licensing, police traffic supervision, and some behavioral changes, we better understand our achievements in the area of highway safety.

We must not, however, forget that the foundation of all these advances are the federal, state, and local laws, which enable and au-
torize the creation, enactment and implementation of all of these factors in a comprehensive, uniform, systematic way. As a result, the states can and do enact reciprocal agreements between and among themselves so that each citizen/motorist can drive intrastate and interstate with the confidence of being in compliance with the law.
Federal Agencies and Grants

The following is a summary of the various federal agencies that are active in highway safety and traffic enforcement, along with their roles and responsibilities.

The U.S. Department of Transportation
National Highway Traffic Safety Administration (NHTSA)

The National Highway Traffic Safety Administration (NHTSA) was established by the Highway Safety Act of 1970, as the successor to the National Highway Safety Bureau, to carry out safety programs under the National Traffic and Motor Vehicle Safety Act of 1966 and the Highway Safety Act of 1966. It also administers consumer programs established by the Motor Vehicle Information and Cost Savings Act, enacted in 1972.

NHTSA is responsible for reducing deaths, injuries, and economic losses resulting from motor vehicle crashes. These reductions are accomplished by setting and enforcing safety performance standards for motor vehicles and items of motor vehicle equipment, and by funding grants to state and local governments for conducting effective local highway safety programs.

NHTSA also investigates safety defects in motor vehicles; sets and enforces fuel economy standards; helps states and local communities reduce the threat of drunk drivers; promotes the use of safety belts, child safety seats and air bags; investigates odometer fraud; establishes and enforces vehicle anti-theft regulations; and provides consumer information on motor vehicle safety topics.

402 Funds

The State and Community Highway Safety Grant Program was en-
acted by the Highway Safety Act of 1966 as Section 402 of Title 23, United States Code. Grant funds are provided to the states, the Indian nations, and U.S. territories each year according to a statutory formula based on population and road mileage. The grants support state planning to identify and quantify highway safety problems, provide start-up or “seed” money for new programs, and give new direction to existing safety programs.

These funds are intended to catalyze innovative programs at the state and local levels and leverage commitments of state, local, and private resources. The Section 402 grant process has been successful in directing resources to national and state priority safety programs.

### 403 Funds

The Research and Demonstration Grants Program was enacted by the Highway Safety Act of 1966. Grant funds are provided to conduct research and demonstration projects on developing the most efficient and effective means of bringing about safety improvements.

### Incentive Funds

- **Section 408:** The Alcohol Traffic Safety Program Act (Public Law 97-364), enacted in 1982, created Section 408 of the Highway Safety Act. It authorized $125 million in incentive grant funds to encourage state and local agencies to deal more aggressively with the impaired driving problem. These grants assist and provide recognition to states that establish laws and programs to deter drunk and drugged driving, such as certain and swift arrest, license suspension, and rehabilitation of drunk driving offenders.

  Section 408 is administered by NHTSA. Grants are awarded to the states through their designated Highway Safety Offices.

- **Section 410:** This is the section in Title 23 of the United
States Code that establishes a federal alcohol incentive grant program designed to encourage states to enact strong, effective anti-drunk driving legislation and improve the enforcement of these laws. Section 410 also promotes the development and implementation of innovative programs to combat impaired driving. The program is administered by NHTSA. Grants are awarded to the states through their designated Highway Safety Offices.

- **Section 153**: Section 153 is a federal incentive grant program enacted by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) as Section 153 of Title 23, United States Code. It promotes the passage of state safety belt and motorcycle helmet use laws and compliance with those laws. Section 153 grants are administered by NHTSA. The grants are awarded to the states through their designated Highway Safety Offices.

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**The Federal Highway Administration**

The Federal Highway Administration (FHWA) was established as a component of the Department of Transportation in 1967 as a result of the Department of Transportation Act (49 U.S.C. app. 1651 note). The agency administers the highway transportation programs of the DOT in accordance with the provisions of section 6(a) of the act and other pertinent legislation.

The FHWA carries out a broad range of highway transportation activities, including the coordination of the highway mode with other modes of transportation and ensuring that the nation's highway transportation system is safe, economical, and efficient with respect to the highway's impact on the environment and social and economic conditions.

**Federal-Aid Highway Program**

The FHWA administers the federal-aid highway program of financial assistance to the states for highway construction and improvements. This program provides for construction and preservation of
the approximately 42,500-mile national system of interstate and defense highways and the improvement of approximately 800,000 miles of other federal-aid primary, secondary, and urban roads and streets.

The agency also administers the Highway Bridge Replacement and Rehabilitation Program to assist in the inspection, analysis, and rehabilitation or replacement of bridges both on and off the federal-aid highway systems.

The FHWA is responsible for carrying out several highway safety programs. These safety programs provide funding for projects which remove, relocate, or shield roadside obstacles; identify and correct hazardous locations; eliminate or reduce hazards at railroad crossings; and improve signing, pavement markings, and signalization.

The agency promulgates and administers highway-related safety guidelines providing for the identification and surveillance of crash locations; highway design, construction, and maintenance; traffic engineering services; and highway-related aspects of pedestrian safety.

Federal Motor Carrier Safety Administration (FMCSA)

The Federal Motor Carrier Safety Administration (FMCSA) exercises federal regulatory jurisdiction over the safety performance of all commercial motor carriers (trucks and buses) engaged in interstate and foreign commerce. The agency's motor carrier safety investigators conduct safety reviews at the carriers' facilities and at roadside to determine the safety performance of the carriers' operations. Compliance reviews are conducted to follow up on problem areas identified during the safety reviews and at times result in prosecution or other sanctions against violators of the federal motor carrier safety regulations or the hazardous materials transportation regulations.

Grant Funds
The Motor Carrier Safety Assistance Program (MCSAP) provides grant funding from the federal government to the states to enforce uniform federal and state safety and hazardous materials regulations and rules applicable to commercial motor vehicles and their drivers. To qualify for participation, a state must adopt and enforce the Federal Motor Carrier Safety Regulations (FMCSRs) or similar state rules compatible with the FMCSRs and the Hazardous Materials Transportation Regulations.

**Commercial Driver's License (CDL) Program**

All drivers of vehicles with a gross vehicle weight rating of 26,001 pounds or more (what the vehicle and cargo would weigh fully loaded) and those of any size transporting hazardous materials that are required to be placarded must possess a CDL. For buses, the law applies to drivers of vehicles designed to carry 16 or more people.

**Research and Special Programs Administration**

The Research and Special Programs Administration (RSPA) manages a number of diverse and intermodal programs that include hazardous materials transportation safety, pipeline safety, transportation safety training, emergency transportation involving national defense and resources, aviation data collection and gathering statistics, and research and development.

**Programs**

The Office of Hazardous Materials Transportation is responsible for hazardous materials transportation safety regulation and enforcement. It develops and issues safety standards addressing every aspect of hazardous materials transportation for all types of transportation, except for marine bulk packaging. Each of the DOT modal administrations inspects and enforces the hazardous materials regulations applicable to their mode.
Federal Law Enforcement Training Center

The Federal Law Enforcement Training Center (FLETC), a bureau of the U.S. Department of Homeland Security, is an interagency training facility for the personnel from approximately 70 federal law enforcement organizations. Facilities are available for extensive physical training and driver training complexes, indoor and outdoor firearms ranges, and numerous practical exercise areas.

Approximately 20 federal law enforcement agencies maintain on-site training staffs. FLETC's interagency training mission for the federal participating organizations is threefold: to provide basic training; to provide advanced and specialized programs geared to a common need; and to support organizations conducting their own advanced and specialized training.

Programs

The National Center for State and Local Enforcement Training was established at the FLETC in 1982. The National Center is mandated to provide training for personnel from state and local law enforcement agencies. The center's primary goal is to provide state and local law enforcement agencies with training or technical assistance in subject matter areas generally unavailable elsewhere. National Center policies focus not only on creating needed training, but also on encouraging networking and operational interaction after training. Such interaction among federal, state, and local agencies is viewed as critical.
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<td>NHTSA – New England Region</td>
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<tr>
<td>Volpe National Transportation Systems Center, 55 Broadway, Kendall Square—Code 903, Cambridge, MA 02142</td>
<td>819 Taylor Street, Room 8A38, Fort Worth, TX 76102</td>
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<td>(617) 494-3427</td>
<td>(817) 978-3653</td>
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<td>222 Mamaroneck Avenue, Suite 204, White Plains, NY 10605</td>
<td>901 Locust Street, Room 466, Kansas City, MO 64106</td>
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<td>(914) 682-6162</td>
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<td>NHTSA – Mid-Atlantic Region</td>
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<td>10 South Howard Street, Suite 6700, Baltimore, MD 21201</td>
<td>555 Zang Street, Room 430, Lakewood, CO 80228</td>
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<td>Atlanta Federal Center, 61 Forsyth Street, S.W. Atlanta, GA 30303</td>
<td>201 Mission Street, Suite 2230, San Francisco, CA 94105</td>
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<td>NHTSA – Great Lakes Region</td>
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<td>19900 Governors Drive, Suite 201, Olympia Fields, IL 60461</td>
<td>3140 Jackson Federal Building, 915 Second Avenue, Seattle, WA 98174</td>
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<td>(708) 503-8822</td>
<td>(206) 220-7640</td>
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FHWA Field Services/
Resource Centers

Eastern Field Services/Resource Center
10 South Howard Street
Suite 4000
Baltimore, Maryland 21201-2819
(410) 962-0093

Southern Field Services/Resource Center
61 Forsyth Street, S.W.
Suite 17T26
Atlanta, Georgia 30303-3104
(404) 562-3570

Midwestern Resource Center
19900 Governors Drive
Suite 301
Olympia Fields, Illinois 60461-1021
(708) 283-3510

Western Resource Center
201 Mission Street
Suite 2100
San Francisco, California 94105
(415) 744-3102

Western Field Services
2520 West 4700 South
Suite 9C
Salt Lake City, Utah 84114-1847
(801) 967-5979
PART SIXTEEN: Legal Issues
The following is a synopsis of some significant appellate court decisions pertaining to traffic law enforcement.

**DVI**

**Chemical Test:**

- A driver was injured in collision. The investigating officer made an arrest at the hospital and persuaded a doctor to draw a blood sample over the protest and without the consent of the driver. At the time, California had no implied consent or other law that would muddy the waters. The Court held that the officer had probable cause, and that the arrest was legal under California law. Thus, the search and seizure of a blood sample was constitutionally incident to the arrest.

The Court held that there was no violation of the privilege against self-incrimination, as that constitutional right did not apply to physical evidence. The privilege covers testimonial-type evidence.

Because qualified hospital personnel took the blood sample under proper medical procedures, in a hospital environment, due process of law was not violated.

The driver's right to counsel was not violated, even though his counsel had advised the driver that he did not have to submit to a chemical test. *Schmerber v. California*, 384 U.S. 757 (1966).
Presence of an Attorney Before Deciding to Submit to a Chemical Test:

- The taking of a sample of a defendant’s blood, breath or urine, even under the Implied Consent Law, is not a “critical stage of a criminal proceeding” at which the right to counsel is applicable. The techniques involved in testing are sufficiently established—and the variables in techniques few enough—that the defendant has a meaningful opportunity for confrontation of the state’s case at trial. If waiting for an attorney to arrive would unreasonably delay the testing, the motorist can be required to make the decision without benefit of counsel. *State v. Greene*, 128 N.H. 317, 512 A.2d. 429 (1970), *State v. Petkus*, 110 N.H. 394, 269 A.2d. 123 (1970), *cert. denied*, 402 U.S. 932 (1971), relying on *Gilbert v. California*, 388 U.S. 263 (1967).

- Likewise, it is not required to give the *Miranda* warnings to a motorist before asking him if he will submit to a chemical test or to a physical balance and coordination test, because you are not asking him to make incriminating statements. *South Dakota v. Neville*, 459 U.S. 553 (1983).

- Some State supreme courts interpreting state constitutions, as well as some State legislatures by statute, have confined the right to take a blood sample without the defendant’s permission to felony cases, such as negligent homicide involving suspected drunk driving.

Admissibility of Refusal of Chemical Test:

- Where a driver refused a chemical test, this refusal could be admitted into evidence at the trial, and it did not violate his constitutional rights. *South Dakota v. Neville*, 459 U.S. 553 (1983).

Saving Breath Sample for Defendant:

- The U.S. Constitution does not require the prosecution to preserve a breath sample so that a defendant can have it analyzed at a later time. *California v. Trombetta*, 467
NOTE: In some states, such as New Hampshire, the State Supreme Court has ruled that under the State Constitution, a second sample is required. *State v. Cornelius*, 122 N.H. 925, 452 A.2d. 464 (1982).

**Questioning of Traffic Violators**

As part of a traffic stop, an officer may engage in a limited amount general, on-the-scene questioning without giving the *Miranda* warnings, if the subject is not yet in custody. For instance, a DUI suspect could be asked what drugs he had been taking and how much alcohol he had consumed prior to driving and prior to being arrested. *Berkemer v. McCarty*, 468 U.S. 420 (1984).

**Hit and Run**

Requiring a driver involved in a collision to stop, return to the scene, and identify him or herself does not violate the driver’s constitutional rights. *California v. Byers*, 402 U.S. 424 (1971).

**Parking**

The government may create parking districts and prohibit non-residents from parking on public streets in such areas. It does not violate equal protection of the law, since classifying parkers into residents and nonresidents is a reasonable classification. *County Board v. Richards*, 434 U.S. 5 (1977).

**Stopping Drivers**


- A driver is not “seized” simply because the police have chosen to follow his or her vehicle. In order to constitute a seizure under the Fourth Amendment, there must be either the application of physical force, however slight, or
submission to an officer’s show of authority to restrain a subject’s liberty. While a pursuit may be a show of authority—if the defendant runs away—s/he has not submitted to the authority, and no seizure therefore has occurred. *California v. Hodari D.*, 111 S. Ct. 1547 (1991).

- Presence in a high crime area alone is not sufficient to justify a stop, but is one factor in the totality of the circumstances. Nervous, evasive behavior is also a pertinent factor in determining articulable, reasonable suspicion for a stop. Headlong flight on the approach of a police officer is “the consummate act of evasion” and not necessarily indicative of wrongdoing but certainly suggestive of such. *Illinois v. Wardlow*, 528 U.S. 119 (2000).


- The Fourth Amendment does not prohibit a warrantless arrest for a minor motor vehicle offense, such as a safety belt violation, as long as the arresting officer had probable cause for the arrest. *Atwater v. City of Lago Vista*, 532 U.S. 318 (2001).

- Whether or not a police officer normally stops vehicles for minor traffic violations and uses the evidence of such violations as a pretext to stop vehicles for some other purpose is immaterial, as long as articulable, reasonable suspicion of some sort of law violation is present. It is not necessary to probe into the officer’s mind to further justify the stop. *Whren v. U.S.*, 517 U.S. 806 (1996). However, some state courts under their state constitutions have rejected the *Whren* rule, e.g., *State v. Ladson*, 138 Wash. 2d. 343, 979 P2d. 456 (1999).

- Anonymous tips regarding a motor vehicle normally require some corroboration by police observation—more than simply verifying the vehicle’s description. However, on the other hand, a caller who gives his name is generally
considered a reliable source of information. Some courts have held that anonymous tips concerning drunk driving are common, but that they are usually corroborated by observing the vehicle’s operation. Some jurisdictions have held that drunk driving is so dangerous that corroboration is not required. *State v. Ramsey*, 128 Ohio App. 3d 409, 717 N.E. 2d 1158 (1998).

- The detention of a motorist at a traffic stop should not exceed the scope of the stop, i.e., the time that it takes to perform a computer check, to verify documents, to examine vehicle equipment and to issue a citation, unless there is ongoing suspicion that wrongdoing is afoot and an ongoing effort to verify or dispel the suspicion. *United States v. Holt*, 264 F.3d 1215 (2001) and *Ferris v. State*, 355 Md. 356, 735 A2d. 491 (1999).

- Some jurisdictions have ruled that Administrative License Suspension hearings are non-criminal in nature, that the Exclusionary Rule does not apply to them, and that the issue of probable cause to stop the vehicle therefore is not to be considered in such hearings. *Lopez v. Director of Motor Vehicles*, 145 N.H. 222, 761 A2d. 448 (2000).

**Roadblocks/DWI**

- As long as law enforcement officers conduct a non-discretionary roadblock, it does not violate the Fourth Amendment. How many impaired drivers are arrested is not relevant. *Michigan Dept. of State Police v. Sitz*, 496 U.S. 444, 110 S. Ct. 2481 (1990). However, some state supreme courts have ruled otherwise under their state constitutions, see *State v. Koppel and Forrest*, 127 N.H. 286, 499 A2d. 977 (1985).

- The Supreme Court rejected, in *Indianapolis v. Edmond*, 531 U.S. 32 (2000), a checkpoint whose primary purpose was to detect evidence of ordinary criminal wrongdoing, i.e., to interdict illegal drugs, because it lacked individualized suspicion and because its primary purpose was ul-
timately indistinguishable from the general interest in crime control. However, the Court specifically differentiated such roadblocks from sobriety checkpoints; indicated that its holding “does not affect the validity of . . . searches at places like airports and government buildings, where the need for such measures to ensure public safety can be particularly acute[;] . . .” and noted that it would in all likelihood sustain “an appropriately tailored roadblock set up to thwart an imminent terrorist attack or to catch a dangerous criminal who is likely to flee by way of a particular route. . . .”

• The Supreme Court upheld, in *Illinois v. Lidster*, 540 U.S. 419 (2004), the reasonableness of a brief, information-seeking stop [checkpoint] where vehicle occupants, as members of the public, were asked for their assistance in providing information about a fatal hit-and-run crash which had occurred a week earlier at the same location and time of night and which in all likelihood had been committed by others.

**Warrantless Searches of Motor Vehicles**

• Generally, the U.S. Supreme Court has declared that a police officer can search a motor vehicle and any container therein capable of carrying the object of the search without a warrant, if the officer has probable cause to believe that it is carrying contraband. *Carroll v. United States*, 267 U.S. 132 (1925). This is based on the inherent mobility of a vehicle that can allow it to quickly travel outside the jurisdiction of the officers. The Supreme Court reiterated, in *Maryland v. Dyson*, 527 U. S. 465 (1999) (*per curiam*), that the *Carroll* automobile exception does not require a separate finding of exigency in addition to a finding of probable cause and indicated that in cases where there was probable cause to search a vehicle, a search is not unreasonable if based on facts that would justify issuing a warrant, even though a warrant has not been actually obtained.

→ This may hold true even if the owner of the vehicle is in police custody at the time of the search; it is note-
worthy, however, that the search in this case involved only an examination of the exterior of arrestee’s vehicle. Cardwell, Warden v. Lewis, 417 U.S. 583 (1974). It does not matter if a container belongs to the driver or a passenger, as long as it is capable of containing the object of the search. Wyoming v. Houghton, 526 U.S. 295 (1999).

→ However, some states have interpreted their state constitutions to require not only probable cause but also exigent circumstances and thus neither recognize the mobility theory nor the concept that persons traveling in registered motor vehicles on public highways have a lesser expectation of privacy than they do in their homes. State v. Sterndale, 139 N.H. 445 (1995).

• Incident to and contemporaneous with a valid arrest, officers may search the entire passenger compartment of a vehicle, including any closed container(s) therein to discover instruments of a crime, contraband, evidence of a crime, or dangerous weapons. New York v. Belton, 453 U.S. 454 (1981). However, in Knowles v. Iowa, 525 U.S. 113 (1998), the Supreme Court made it clear that the search incident to an arrest exception does not apply to an offense for which a person would normally be only issued a traffic citation, even if the officer may have probable cause to make the arrest.

• When officers tow or otherwise take a vehicle into custody, if the police department has a policy requiring it, they may make a complete inventory of the contents of the vehicle in order to protect the owner’s property and protect the police from accusations of theft. South Dakota v. Opperman, 428 U.S. 364 (1976). The search may include any open or closed containers in the vehicle, if the department’s policy specifically calls for this action. United States v. Ross, 456 U.S. 798 (1982).

Computer Checks of Registration Plate Numbers

16-7
The supreme courts in some states have upheld police officers stopping vehicles after “running” the registration plate number of a passing vehicle and learning that the registered owner, who appears to be the same gender as the driver, is under revocation. Since vehicle owners are required by law to display a registration plate on the outside of the vehicle, it is no invasion of privacy and does not require probable cause to “run” the plate. *State v. Richter*, 145 N.H. 640, 765 A.2d. 687 (2000).

**Consent Searches**

Police officers are permitted to ask the person in custody or control of a motor vehicle for consent to search the vehicle and the individual’s person. *Florida v. Royer*, 460 U.S. 591 (1983). Such consent is valid only if it is freely, voluntarily, and knowingly given. Officers are not required to inform the person that he has the right to refuse consent, *Schneckloth v. Bustamonte*, 412 U.S. 218 (1973), but a growing body of state case law favors written waivers that contain a notice of the right of refusal. Some states have ruled that if a police officer is still holding the person’s license and registration when asking for consent to search, the consent will be invalid unless the person was told of his right to refuse, *State v. Hight*, 146 N.H. 576, 781 A2d. 11 (2001). When deciding whether a consent was voluntary or not, courts will consider three factors—the proximity in time between any illegal police conduct and the consent to search, the presence of any intervening circumstances, and the purpose and flagrancy of any official misconduct. *Brown v. Illinois*, 422 U.S. 590 (1975).

Articulable, reasonable suspicion of wrongdoing is not required in most jurisdictions in order to ask a person for consent to search, but New Jersey follows a more stringent rule under its state constitution, *State v. Carty*, 322 NJ Super 200, 753 A2d. 149 (2000).

**Community Caretaking**

Some states recognize a “community caretaking exception” to
the requirement of articulable, reasonable suspicion to justify a motor vehicle stop. *State v. Psomiades*, 139 N.H. 445 (1995). They say that police officers have a duty to look out for the general welfare of citizens, and if they see a citizen whom they believe to be injured, ill, or confused, they have a right to investigate to see if the person is in need of police assistance. Such stops are made for benign, non-investigatory purposes, but if there is clear evidence of wrongdoing once the stop is made, the officer can carry it further. *Cady v. Dombrowski*, 413 U.S. 433 (1973).

**Driver's License**

The Supreme Court held that a driver's license is an “important interest” and cannot be taken away or denied without affording the person due process of law. The Court avoided calling it a “right” or a “privilege.” *Bell v. Burson*, 402 U.S. 535 (1971).

However, later decisions have made some exceptions to the *Bell* case. In *Dixon v. Love*, 431 U.S. 105 (1977), it was held that no opportunity for a hearing was required under a point system. In *Mackey v. Montrym*, 443 U.S. 1 (1979), under an implied consent law the license could be revoked first and the hearing could come later. In *Illinois v. Batchelder*, 463 U.S. 1112 (1983), an officer's affidavit for refusal under the implied consent law does not have to recite the reasonable grounds the officer had that the driver was DWI.

**Miranda**

Where a DUI driver is transported to the police station and held, he is in custody for purposes of *Miranda*. Questioning in custody requires *Miranda* warnings in misdemeanor cases. *Berkemer v. Mccarty*, 468 U.S. 420 (1984).
PART SEVENTEEN:

Traffic Policing and Homeland Defense
Traffic Policing and Homeland Defense

Patrol officers and detectives enforcing traffic laws, performing regular patrols, utilizing community policing techniques and investigating suspicious persons and circumstances can be effective in preventing acts of foreign and domestic terrorism against persons and critical infrastructure, and in uncovering terrorist cells.

Extremist groups continue to use the United States both as a safe haven and as a staging ground for attacks. Even the smallest or most rural states can easily become a haven for terrorist cells, due to porous borders with Canada and Mexico; efficient air transportation and interstate highway links; the presence of nuclear power plants, chemical plants, military installations, fuel depots and large natural gas shipments; airports and harbors; the locations of major sporting events such as stadiums, arenas and racetracks; the amount of year-round tourism; and the ease with which firearms, ammunition and explosives can be purchased. Terrorist cells may seek to conceal themselves in the anonymity of a bustling city neighborhood or in the quiet countryside.

Intelligence gleaned from government surveillance of terrorist “chatter” and interviews with captured members of Al Qaeda indicate an emphases on “soft” (lightly defended) targets, such as public and government buildings and places where large numbers of people gather at once; on multiple attacks against smaller targets to instill fear in the population; and on efforts to interrupt the electrical power grid, as well as the supply of automotive and heating fuel, foodstuffs and other critical supplies.

Attacks may come in any one of many forms, such as bombs and bomb threats, attacks with assault weapons, nuclear “dirty bombs” or biological weapons, or the use of conventional items such as airplanes or large trucks as weapons.
Terrorist cells try to blend into our communities, but often provide hints as to their presence. These indicators are likely to be subtle and not easily detectable.

White Collar Crime Is Often Used to Support Terrorist Activities

Police executives should stress to their officers the need to be alert to the fact that many persons associated with extremist groups finance their daily living through white collar criminal activities, and officers should consider the possibility of extremist group involvement when investigating the following crimes:

- Credit card fraud
- Producing and using bogus prepaid phone calling cards
- Producing and selling bogus designer clothing and other counterfeit goods
- Passing counterfeit money
- Tampering with public records and vital records
- Bank fraud
- Mail fraud
- Telephone fraud schemes
- Visa and immigration fraud
- Driver’s license and title fraud
- Other fraud schemes

Document fraud is the lifeblood of a terrorist’s undercover existence. Officers should give close scrutiny to:

- Counterfeit or altered driver’s licenses and vehicle registrations
- Altered vehicle license plates
- Suspicious ID cards of all types
- Numerous places of residence that may not actually exist
- Possession of forged documents
Terrorists May Participate in Various Criminal Activities

The following types of criminal activity are frequently engaged in by extremist group members:

- Weapons violations
- Theft or attempted illegal purchase of firearms or explosives
- Possession of stolen property
- Sale of contraband cigarettes
- Money laundering
- Assassinations
- Bombings
- Criminal syndication

Community Policing Can Uncover Terrorist Plots and Deter Attacks

Officers on patrol should conduct “beat profiling” to become aware of critical infrastructure in their beat areas and of any suspicious activity in or near them, such as persons photographing or conducting surveillance of bridges and dams, defense contractors, National Guard or Army Reserve headquarters, government buildings, power plants, fuel depots, large apartment buildings, living quarters frequented by members of the U.S. military, hotels, gun shops, arenas and other possible terrorist targets. Many such attacks are planned well in advance—even years in some cases.

Reports of suspicious activity at a critical location in the community may be nothing, or it may be a test of the facility’s security system or police response. These reports should be taken seriously and investigated thoroughly.

Community and neighborhood policing activities that utilize the public as additional “eyes and ears” are our first line of defense, and citizens should be encouraged to report suspicious activity. Citizens providing information about a routine criminal or motor
vehicle matter may also possess information that could trigger or add to a terrorism investigation. The World Trade Center Twin Towers’ bombers lived and traveled throughout the Eastern seaboard for up to a year before the attack, and were stopped on several occasions for traffic violations. Good relations between individual beat officers and persons in the community who are members of unfamiliar cultures and different religious beliefs are extremely important. Being sensitive to these differences and taking the time to learn and understand cultural issues enable officers to distinguish law-abiding from suspicious behavior.

Terrorists are focused and committed to their cause, are team-oriented rather than self-centered, and exercise remarkable self-discipline. They have usually undergone training, are well prepared to spend years waiting to strike, and have little regard for human life. Neighbors, real estate agents, bankers, firearms dealers, commercial vehicle driving schools, flight schools, fertilizer and farm supply dealers, delivery people and others may provide valuable information about behavioral indicators, such as:

- Groups of individuals who are strangers to the area living together in hotels, rooming houses, apartments or homes with no visible means of support.
- Unexplained spending with no indication of employment.
- Purchase of land or buildings in remote areas or certain types of vehicles with cash.
- Unexplained interest in learning to fly airplanes or drive heavy commercial vehicles.
- Acting secretly when communicating with associates.
- Target surveillance—testing security system or responder behavior.
- The presence of target ranges or paramilitary training camps.

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**Documenting and Retrieving Information**

All leads and miscellaneous information should be appropriately documented so that they can be easily retrieved for future refer-
ence, and passed along to the appropriate parties. This may include sharing information with other local police departments or Sheriff’s Offices, State Police or Highway Patrol agencies, or state or federal Anti-Terrorism Task Forces.

Information gathered by officers that they deem of possible interest in terrorism prevention or investigation should be recorded on the appropriate departmental forms, which—depending on the circumstances—may be a field interrogation form, an incident report, log entry, etc. Law enforcement agencies should also develop Extremist Threat Group Intelligence Forms that officers can turn in with their paperwork at the end of their shifts, unless the intelligence is deemed to require some immediate action. Intelligence that is deemed to require immediate action due to imminent danger to persons or property should be evaluated by the shift supervisor for threat level assessment; and, if immediate threat is imminent, should be reported through the chain of command to the highest levels of the department and to the appropriate state and/or federal agencies or task forces.

All other such forms should be evaluated by a designated and trained supervisor and forwarded both to detectives and to the highest levels in the agency, who should immediately evaluate them for threat level assessment, take any appropriate action indicated, and make a copy and forward it—with copies of any relevant supporting documentation, such as field interrogation forms, incident reports, crash reports, etc.—to the appropriate state agencies, and to nearest field office of the Federal Bureau of Investigation.
PART EIGHTEEN:

Fatigue, Age, Aggression, Road Rage and Distracted Driving—Contemporary Problems
Fatigued Driving

Police traffic services are increasingly facing emerging behavioral problems related to the demographics of the U.S. and Canada and the times in which we live, with the fast pace of society.

Driver fatigue is noted as a cause of crashes at an increasing rate. As the population ages, the presence of an increasing number of elderly drivers and pedestrians brings with it, its own set of problems. Aggressive drivers and incidents of road rage make our streets and highways increasingly dangerous places.

Society moves at an increasingly frenetic pace. Many people today hold down more than one job in order to cope with the increasing costs of living, rearing and educating families. The social lives of young people often involve activities late into the night. People are running on less and less sleep. Shift workers—and this includes most police officers—are thought to be more susceptible to driver fatigue than persons who work fixed, daytime shifts.

Long-distance truck drivers are under pressure to deliver more and more goods in shorter time periods. Despite federal motor carrier safety regulations and logbook requirements, they are found too frequently to have been taking over-the-counter medications to keep them awake as they exceed the maximum allowable hours of driving.

Fatigue can occur on long drives, but it can also cause momentary inattention during short trips in broad daylight. One cause of fatigue is the consumption of alcohol, which is a depressant. Even one drink can induce fatigue. Other causes include the comfortable interiors of today’s cars and trucks, cruise-control, long straight stretches of highway, and dull landscapes that lead to a trance-like state known as highway hypnosis.

In the U.S., the National Highway Traffic Safety Administration (NHTSA) reports that during a recent five-year period there were 56,000 crashes—about one percent of all crashes—in which
driver fatigue was cited as one of the causal factors on the crash reports. These crashes resulted in an annual average of 40,000 non-fatal injuries and 1,544 fatalities. Drowsy drivers were cited almost twice as often in crashes involving tractor-trailer trucks as in those involving passenger cars. In Australia, the government estimates that fatigue was a factor in one of every five fatal crashes. However, there is also evidence that fatigue is under-reported as a cause of crashes. Unlike alcohol impairment, police have no way of testing a driver for fatigue or sleepiness, and there are no standardized criteria for determining a driver’s alertness. Many drivers are reluctant to admit that fatigue was a factor in their crashes. Crash-involved drivers themselves may not be aware of the extent to which drowsiness played a part in their crashes. Moreover, more than half of all crashes go unreported to the police, and little is known about the causes of unreported crashes. Since most of them involve single vehicles, it is likely that data is not captured on many fatigue-related crashes. A significant number of crashes are attributed to “drifting out of lane” and are not cited as drowsiness-related.

In the Canadian province of Manitoba, Transport Canada reports that young drivers aged 16-24 are six times more likely to be involved in fatigue-related crashes than are drivers in other age groups, and that these crashes are most likely to occur between 12:00 Midnight and 7:00 A.M., and between 1:00 P.M. and 5:00 P.M. Recent driver opinion surveys have reported that 63 percent of drivers admitted to driving fatigued at least once during the previous year, according to Manitoba Public Insurance.

Agencies enforcing the traffic laws have several tools in their toolboxes that they can use to attack the problem of drowsy drivers. These include:

- More frequent stopping and checking of drivers of commercial vehicles, placing out of service those who have exceeded the hours of driving and prosecuting those who have falsified their logs.
- Being alert to the behavioral signs of drivers who may be under the influence of “stay-awake” drugs and calling DREs [Drug Recognition Experts] to the scene when such drivers have been stopped.
• While observing traffic, officers should be taught to look for signs of drowsy drivers, including a slumped or excessively rigid position behind the steering wheel; drifting out of the lane; and the classic, “glassy-eyed stare.”
• Conducting public education campaigns with materials available from the National Safety Council and other organizations to alert the public not to drive when drowsy.
• Frequent patrols of roadside rest areas to ensure that drivers feel safe in stopping at such locations for naps if they become drowsy while driving.
Senior Citizen Driving
Issues

More than ten percent of licensed drivers in the United States are now 70 years of age or older; and the number of licensed drivers 65 and older by 2033 will have increased twofold, to about 55 million. Their numbers have been growing at twice the rate of the general population.

Senior citizen drivers are involved in 13 percent of all traffic fatalities and 18 percent of pedestrian fatalities. According to NHTSA, older drivers due to their frailty are more likely to die in crashes than younger drivers. Older drivers and teens are statistically more likely than any other age group to have a greater number of crashes per mile traveled.

Older drivers tend to drive shorter distances, during daylight hours, and primarily on weekdays. These are also the times when most elderly drivers are involved in crashes. When they are involved in collisions, they are likely to be making left turns at intersections, backing, or attempting lane changes.

Many things may impair the driving ability of older persons. Decreased mobility of the neck and spine may make it more difficult to spot hazards during backing maneuvers. Decreased visual acuity and slower thought processes may make it more difficult to detect and quickly react to warning signs, road markings and traffic control devices. Decreased night vision and glare recovery may make it more difficult to drive after dark, especially when it is dark, rainy or outside well-lighted areas. Narrowed fields of vision may affect the ability to drive at highway speeds. Arthritis and other joint diseases may impede the ability to operate some of the vehicle’s controls. Many older drivers take multiple prescribed medications that may combine to reduce alertness behind the wheel in a manner similar to the use of alcohol or illicit drugs. Medical conditions, such as dementia and Alzheimer’s disease, are a concern.
Elderly drivers, especially in rural areas and locations not well served by public transportation, depend on driver’s licenses as their last bastion of independence and may be prone to continue driving even when they know their driving ability has diminished to an unsafe level.

The problem of the older driver crosses all four phases of crash prevention: education, engineering, enforcement, and evaluation.

Vehicle engineers need to become more aware of the ergonomic requirements of older drivers when designing vehicle interiors, controls, and lighting systems. Highway engineers need to be more conscious of the needs of older drivers when installing traffic control signals, warning signs and lane markings, and when designing critical intersections and freeway on- and off-ramps.

Police officers play an important role in keeping elderly drivers safe, as well as in protecting other road users from elderly drivers. Some proactive steps that police departments and officers can take include the following:

- Analyzing crashes that involve elderly drivers and working closely with highway engineers to evaluate the need for changes in traffic control devices, warning signs and traffic patterns.
- Referring to the motor vehicle licensing authority, for re-examination, any elderly driver who is involved in a crash that appears to be age-related.
- Ensuring that older drivers who are stopped for motor vehicle violations are not allowed to proceed with only verbal warnings when younger drivers would receive citations. This negates the lifesaving benefits of the point system to detect persons who commit particularly serious violations or who violate the traffic laws on multiple occasions.
- Being alert to drivers who appear to be lost or confused, stopping them and inquiring as to their welfare. If a driver appears to be suffering from some form of dementia, s/he should not be allowed to proceed farther, should be referred to the motor vehicle licensing authority for
reexamination, and should have relatives or next-of-kin contacted to advise them of the situation.

- Making sure that officers receive periodic training in elderly issues, including the ability to recognize dementia and interact properly and sensitively with persons who may be suffering from debilitating diseases, such as Alzheimer’s. Local chapters of the Alzheimer’s Foundation are always willing to participate in such training.

Police can also play an important educational role in preventing crashes involving elderly drivers. The American Association of Retired Persons (AARP) has a driver-training program developed especially for older drivers. This program can be presented by police officers—in partnership with senior citizen volunteer instructors—at senior citizen centers and senior social events. It teaches senior drivers how to recognize and overcome their infirmities and to self-assess their own driving skills. Such programs make friends for the police and build bridges to this growing segment of the population.
The Problem of Aggressive Driving and Road Rage

The United States has always been a relatively violent society, ever since the early heritage of our western expansion. The right to keep and bear arms is cherished in many states and localities; on any given day a large number of armed citizens are on the highway.

We are also an increasingly impatient society. The pace of transportation and communications has increased exponentially with each decade of our history, and many of us today expect instant gratification and wish to travel from point A to point B in the least possible amount of time. We seldom account for the untoward event when planning either a short or a long trip—flat tires and traffic jams are seldom factored into our time allotment when rushing to work or to an important appointment.

Many Americans have embraced the trend toward tall, heavy and roomy sport utility vehicles (SUVs). Sitting high in these vehicles with a commanding view of the traffic ahead and with protection both by great bulk and by the anonymity of tinted glass, some people’s behavior in traffic is far more rude and disrespectful than it is in social settings, and our response to what we perceive as rude behavior from others is often provocative, if not violent, in nature.

The term “road rage” seems to have originated in the U.S., but it is a phenomenon that has been observed in a number of other countries. Road rage can be defined as an incident in which an angry or aggressive driver or passenger in a motor vehicle intentionally injures or kills—or attempts to injure or kill—another motorist, passenger or pedestrian in response to a traffic dispute or grievance. Aggressive driving often precipitates an incident of road rage, and is often defined as driving in an extremely impatient and careless or reckless manner that includes committing in rapid succession two or more moving traffic violations that are likely to endanger passengers or other motorists, or a single
intentional violation that requires a defensive reaction by another driver.

The AAA Foundation for Traffic Safety has conducted studies of road rage incidents and the public’s attitudes toward them. It found that residents of the Washington, D.C., area were more concerned about aggressive drivers than about drunk drivers, with 40 percent of respondents saying that aggressive driving is the action that most seriously endangers highway safety and 33 percent describing drunk drivers in that fashion. It also found that 90 percent of D.C. area motorists had experienced or witnessed incidents of road rage in the recent past, and that 60 percent admitted to losing their own tempers behind the wheel.

Many documented incidents of road rage stand in stark witness to the dangers it represents. These include a middle-aged bookkeeper in Massachusetts who was killed with an arrow from a crossbow shot by another middle-aged man when they both pulled into an access road, off an interstate, after antagonizing each other for several miles. A professor at the University of New Hampshire was shot and killed by a teenager in a traffic dispute in the city of Portsmouth. A 57-year-old man from Seattle shot and killed a college student who was unable to disarm the loud anti-theft alarm on a rented vehicle he was parking in a Virginia suburb. During one six-month period, studies show that at least 218 people were killed and 12,610 injured in 10,037 reported road rage incidents. In 37 percent of these cases, a firearm was used; in another 35 percent, the vehicle itself was used as a weapon. In other cases, baseball bats, jack handles, fists and feet, knives, and hurled rocks or other projectiles have been used.

The AAA estimates that an average of 1,500 persons a year are injured or killed as a result of aggressive driving. There is no typical profile by which potential aggressive drivers can be identified. The aggressors in violent incidents have been persons as young as 15 and as old as 75. However, the most frequent perpetrators were young, poorly-educated males aged 18-26, with criminal records and with histories of violence and of drug or alcohol abuse. Many have recently suffered a professional or personal setback, such as a job loss, a divorce, or a serious injury.
People who know the perpetrators often describe them as odd or disenfranchised, although some are described as good neighbors and nice people. Even celebrities have been known to commit such acts, including a 57-year old Oscar winning actor who stepped out of his vehicle at a red light and repeatedly struck the windshield of a Mercedes with a golf club.

Typical precipitating factors for these incidents have been given as being cut-off in traffic, arguing over a parking space, making an obscene gesture, horn blowing, driving too slowly, flashing or failing to turn off high-beam headlights, refusing to let another vehicle overtake and pass, not signaling turns, sitting through a green light, and tailgating. Domestic violence plays a surprisingly large role, with spouses and lovers increasingly venting their spleen on the highways. In one case, an off-duty New Hampshire State Police officer discovered his estranged wife in a car with a physician, chased them for miles, ran them off the road, smashed the car window and assaulted both occupants so badly that the doctor was hospitalized.

In some incidents, drivers have used their vehicles as battering rams and crashed them into buildings or crowds of people. A 22-year-old California man drove his car into a gas pump at a convenience store that had refused to sell him beer, causing the pumps to explode and destroy the establishment. In Alabama, a frustrated truck driver drove his rig into a crowd of pickets at a factory and killed two people before fleeing the scene.

Sometimes aggressive drivers climb aboard heavy trucks, buses, construction or military equipment and go on destructive sprees. In one case in San Diego, CA, a man entered a National Guard armory, stole a military tank and left a six-mile trail of destruction, with 20 police cars trailing helplessly behind.

In a six-year period, AAA researchers discovered 221 reported cases in which drivers intentionally had used their vehicles to attack police officers or police vehicles in all 50 states.

With more and more of our highway infrastructure experiencing congestion and delays related to construction projects, aggressive driving and road rage seem to be on the increase. Here are some
ways in which police departments and officers can address the problem:

- Public education programs aimed at pointing out risky driving behaviors, such as following too closely, speeding, weaving in and out of traffic, speeding up to beat traffic lights, cutting between vehicles to change lanes, excessive horn honking, braking to get others to back off your bumper, passing and then slowing down to “teach the other driver a lesson,” and flashing headlights excessively. These programs can also give the public tips in how to avoid becoming victims, such as avoiding prolonged eye contact with angry drivers and making aggressive hand gestures; allowing plenty of time for trips; signaling and allowing time and space when changing lanes; not hogging the fast lane; and avoiding conflict by ignoring the challenges of others, by driving to the nearest police station or place of business, or by using the cell phone to call the police.

- Working for the passage of careless driving statutes that identify examples of aggressive or distracted driving and give the police additional tools to prosecute these acts.

- Using unmarked or unconventional police vehicles equipped with video cameras to record incidents of aggressive driving and radioing ahead to marked units to stop those offenders, in conjunction with conspicuously-posted warning signs to inform the public of the program.

- Programs such as “Operation Centipede” where the Pennsylvania State Police posts radar units at intervals along stretches of highway and issues subsequent tickets to motorists who fail to slow down after being given summonses or warnings at prior locations.

- Encouraging the public to report instances of aggressive driving and road rage, responding to these reports and documenting them to be used in targeted enforcement campaigns.
Distracted Drivers

Driving today, more than ever before, should be a full-time task. Vehicles are capable of reaching higher speeds than ever before, and roadways are more congested than ever before.

At the same time, there are more distractions from the driving task than ever before. On any given day during commuter rush hours, motorists can be observed talking on cellular telephones, shaving, applying makeup, and even reading books and newspapers while driving. Driver distraction is reported more and more frequently as one of the factors involved in serious crashes.

Distractions are bad enough for motorists who have all of their faculties about them, but are doubly dangerous for motorists who are fatigued, impaired by alcohol or drugs, or suffering from mental or age-related illnesses.

Some states are responding by banning cell phone use while driving or by requiring that cell phones used by drivers be set up for hands-free operation. However, studies by behavioral psychologists indicate that it is not only the act of manipulating or holding the phone itself that distracts from the driving task, but the distraction of trying to keep up with what is sometimes a complex conversation. It is worthy of note that the standardized field sobriety test and other such tests were designed to detect impaired drivers by assessing their ability to perform physical tasks while their attention is divided, such as by counting their number of steps, etc.

Other states have passed careless driving statutes that are one step below reckless driving, but give the police an extra arrow in their quivers to deal with drivers who are not paying attention to the road ahead or who commit two or more moving violations in succession.

Officers should be encouraged to pull over motorists who do not appear to be devoting their full time and attention to the driving task, and to take whatever enforcement action is available to
them within the strictures of state motor vehicle codes and local traffic ordinances. Public education campaigns and distracted driving segments in driver education programs are also helpful ways to address this problem.
PART NINETEEN:

Illegal Street Racing
Illegal Street Racing

Illegal street racing peaked in California in the 1950s when a youthful subculture arose, glamorized in part by the late James Dean’s movie Rebel Without a Cause. The legitimate sport of creating hot rod and custom cars was accompanied by teens and young adults racing on lightly traveled canyon roads for “pink slips”—the titles to other competitors’ vehicles.

The deaths and injuries that occurred from this phenomenon began to slow down in future decades as stringent emission control regulations and the Arab Oil Embargo resulted in smaller engines, less horsepower and less performance in motor vehicles, as well as the near death of the American V-8 “muscle car.”

Within the last decade has come a new emphasis on vehicle acceleration, handling and overall performance. Manufacturers have learned how to make lightweight, high performance passenger vehicles that meet existing emission regulations. Today’s cars accelerate faster, reach higher top speeds, and handle and brake better than ever before. As a result, the street racing subculture has emerged once again. Youthful owners of various Japanese model vehicles in particular began installing a variety of accessories to make them appear faster and more streamlined, making engine modifications to include the installation of computer chips enabling engines to rev higher and develop more peak horsepower, and disconnecting certain emission devices to allow engines to breathe more freely. Many street racers invest more money in modifications than in the cost of the vehicle new.

Illegal drag races on city streets, county roads and state highways are now taking place not only in California, but also in Midwestern and East Coast U.S. cities and in communities as far away as Auckland, New Zealand, with resultant deaths and injuries. Wichita, Kansas attributed at least six of its traffic deaths in 2001 to street racing, while San Diego, California credited at least one-third of its fatalities in 2002 to this “sport.”

Fourteen deaths and 24 serious injuries attributed to illegal street
racing were reported in San Diego County, California in one year alone. According to officials in San Diego County, 49 people are killed or seriously injured for every 1,000 people who choose to race illegally in that county.

Industrial parks that are typically deserted after hours are favorite spots for illegal street racing. Some races take place on stretches of road near city boundaries, so participants and spectators can quickly retreat across jurisdictional lines if they see the police from one jurisdiction approaching. An illegal street racing fraternity has emerged, with its own periodicals and websites. Vehicle parts shops catering to illegal street racing are now flourishing, and sociologists have written academic research papers examining the street racing subculture.

Typically, 200 or more racers will compete in a single night, with as many as 3,000 spectators cheering them on as they put their small, souped up Japanese cars and older American muscle cars through their paces, with each driver competing on an average of six or seven times during an evening. Loaded with nitrous oxide boosters, modified valves, larger engines and other performance enhancers, these vehicles can achieve in excess of 100 mph on an eighth of a mile stretch. Movies, such as the popular The Fast and the Furious and its sequel, have further glamorized this activity. In many cases, insurance fraud and theft are used to acquire the expensive race-modified engines, racing tires and $3,000 custom paint jobs on these vehicles.

Legitimate auto enthusiast groups such as Racers Against Street Racing (RASR), a manufacturer-supported organization backed by the Specialty Equipment Manufacturers’ Association (SEMA), have been formed to promote legal alternatives to illegal street racing and are taking educational programs to driver education classrooms throughout the United States. Around the country, legitimate racetracks are offering “street-legal racing nights” to young drivers who want to race their cars and come away with documented proof of their vehicles’ performance and their driving proficiency. In Irwindale, California, the local police are involved and give “tickets” to go race at the local speedway at no charge. Similar legal alternatives are being offered at Bridge Township Raceway Park in New Jersey, Firebird Interna-
tional Speedway in Phoenix, Arizona, Qualcomm Stadium in San Diego, and Interstate Dragway in Moorhead, Minnesota.

The Los Angeles County District Attorney’s Office and the Peace Officers’ Association of Los Angeles County now sponsor an annual Conference on Illegal Street Racing that discusses issues such as how to apply for federal grants to attack the problem of street racing, the effectiveness of various local laws and ordinances, vehicle emission tampering laws, and community-based policing strategies to curb illegal street racing.

Police Response to Street Racing

Police departments—including Los Angeles, California; Fairfax County, Virginia; and Kent, Washington—have organized task forces to address the problem of street racing. A multi-pronged approach seems to be the most effective way to address the problem. Some useful strategies include:

- Educational programs targeted at parents and teen drivers to portray the dangers of street racing.
- Legitimate, sponsored events at racetracks, stadiums or on public property.
- Police patrols targeting, ticketing and—in some cases—towing vehicles with modified emission systems or exhausts and with illegal aftermarket lighting equipment and other “goodies” that violate motor vehicle equipment laws, the theory being that if you remove the “toys,” the incentive to race is reduced.
- Encouraging owners of shopping centers and industrial complexes to post their properties against trespassing after hours and to authorize the police to lodge trespassing charges against people found there.
- Identifying roads into industrial complexes and shopping centers that are used for illegal after-hours activities, and passing ordinances prohibiting vehicles from entering them between 10:00 P.M. on Friday and 5:00 A.M. on Monday without a legitimate reason for being there.
- Using undercover officers to infiltrate the street racing fraternity and to provide intelligence as to when and
where these races are to be held, and who will be participating, with an emphasis on obtaining warrants and arresting the ringleaders.

- Passage of “spectator ordinances” that make it possible to arrest persons who are spectators at illegal street races.
- Passage of vehicle confiscation ordinances that allow police to tow and impound vehicles used in illegal street racing for periods of 30 days or more and, for multiple offenses, to sell the vehicles—de-modified—at public auction.
- Working with highway engineers to install physical barriers and other modifications to the existing street environment in locations where street racing flourishes, and providing police input into the planning process for new road construction in order to prevent the unintentional creation of street racing circuits.
- Educating parents on how to tell if their child is involved in illegal street racing, including such cues as particular spoiler and graphics designs on the vehicle, engine work, changes to tires and wheels, an in-car computer, a larger than normal tachometer, new accessories and various window decals, as well as excessive wear and repairs to brakes and clutches, damage to engines and transmissions, and rapid wearing of tires.
- Partnering with legislators to enact laws or ordinances that prohibit equipment specifically designed for street racing, such as nitrous oxide on passenger cars, trucks, and motorcycles.
- Working with legislators to enhance the penalties for engaging or participating in street racing, especially when crashes that involve death or personal injury occur.
PART TWENTY:

Bias-Based Enforcement
Bias-Based Enforcement

Police traffic services cannot be successful in their quest to save lives, injuries and property damage without support from the public. In today’s diverse society, “the public” is not some homogeneous group. It is represented by a myriad of different voices with different cultural backgrounds and ways of looking at life. To merit the support of this diverse public, it must be convinced that our enforcement techniques and practices are fair and even-handed.

Unfair Targeting of Minorities

In recent years, a growing chorus of voices from minority communities have brought to the fore convincing evidence that, wittingly or unwittingly, some law enforcement agencies have used enforcement strategies that targeted members of these communities in far greater proportion than their representation in the population or their involvement in crimes or crashes.

Because a citizen is proportionally more likely to have an encounter with a police officer at a traffic stop than in nearly any other activity that s/he might pursue, it is not surprising that police conduct at traffic stops became a lightning rod for this type of criticism. And, as in many other cases where public opinion or the courts have stepped in to curb the authority of the police, a number of egregious and indefensible abuses by a small number of officers and law enforcement agencies have received enormous nationwide publicity and aroused public opinion in some communities to a fever pitch.

Lawsuits, including class action suits, filed against police officers and departments by minority plaintiffs have cited a litany of instances that, even if one took the position that some of them may have been exaggerated, would give any thoughtful police officer or administrator cause to re-examine practices. As an example, in one reported incident an elderly African American minister and his wife were stopped on an interstate highway
while on their way to their daughter’s wedding and asked to consent to a search of their vehicle. They consented, and the vehicle was so thoroughly searched that screws were taken out of door panels to examine the insides of the doors. The daughter’s wedding dress that they were transporting to the wedding was placed on the roof of the car and blew off into traffic. At the conclusion of the search, after nothing suspicious was found, officers tossed a screwdriver at the man and told him that he might need it to put his car back together, then left the scene.

Illegal profiling is unequal treatment of any person, including stopping, questioning, detention or arrest, based on his or her racial or ethnic characteristics, religion, gender, or sexual orientation rather than his or her behavior. It undermines officers’ integrity and the public’s trust of the police, and encourages some officers to be less than candid about the circumstances surrounding an arrest, search, or seizure. For these reasons, it is wrong legally, tactically, and morally.

Innocent citizens have a constitutional right to be left alone when they are obeying the law. However, innocent citizens also have a right to be protected from criminals and traffic violators, and to travel our roads in safety. Traffic stops are an important tool in achieving this. Criminals on the highways are easy picking without resorting to illegal profiling—they frequently pay little attention to other laws, such as registering their vehicles, keeping their equipment in shape, driving at reasonable speeds, observing traffic control devices, and abiding by the laws that prohibit drinking alcohol or taking illegal drugs.

**The Role of Drug Forfeiture Programs in Bias Claims**

The genesis of some of these problems may have been programs designed in good faith and supported by federal agencies, to interdict drug couriers along our interstate highways, which had become a pipeline for trafficking in illegal drugs. A careful analysis of traffic stops that led to drug seizures showed that there were some common behavioral signs and cues that were shared
by many individuals who were carrying drugs. Putting these signs together resulted in a “profile” that could be used with some success to predict the probability that a given vehicle would be transporting drugs. Officers were taught in training programs to recognize these signs and to use them to justify investigatory stops.

The passage of civil forfeiture laws that enabled the vehicles, cash and other assets of drug couriers to be seized and sold, with a percentage of the proceeds being returned to the law enforcement agency that made the seizure, resulted in some departments receiving much welcomed cash that was used to purchase equipment and other items that cash-strapped law enforcement agencies operating on austere budgets would not have otherwise been able to obtain. The officers who were successful in making the seizures that resulted in these forfeitures naturally gained a measure of recognition within their departments and among their peers. Other officers who had not been trained in these techniques sometimes learned them by osmosis and applied, or misapplied, them in their own efforts to come up with comparable seizures. A few departments became almost “addicted” to forfeiture proceeds and came to regard them as a regular off-budget item, thus increasing the pressure to keep the proceeds coming.

The following is an example of a rather typical description used by some officers to identify and stop a vehicle on suspicion of transporting illegal drugs: “A Hispanic male riding alone in a full-size rental sedan with Florida plates heading North on I-95 traveling at less than the posted speed and glancing around nervously when observing a police car.”

The problems with such a profile are obvious. It casts such a wide net that any Hispanic male traveling alone on I-95 in a Florida rental car was likely to be stopped, and many were. Such a description—that relied on characteristics over which an individual has no control, such as race, age or gender—could cause an officer to consciously or unconsciously equate “black” or “Hispanic” or “Asian” with “criminal.” And a smart drug trafficker realizing this would employ an older Caucasian person, for example, to carry his or her drugs, betting that that person
was not as likely to be stopped because the police were focusing on minority group members. Innocent persons who were stopped and questioned in a suspicious manner or asked to consent to a search of their vehicles often resented being stopped, and police-community relations and minority trust of the police were harmed.

The tactics that some officers used when making these stops often created more of a negative stereotype of the police in the minds of these citizens than the way in which they were selected for the stop. Persons in the drug trade are known to usually be armed, and because many of the interstate highways where the stops were made were known to be high-crime corridors where assaults on police officers occurred with some frequency, officers making these stops often employed high-risk stop tactics. They seldom informed the persons of the reasons for the stops, and public relations took a backseat to maintaining a high level of control over the situation. Individuals who were already annoyed as a result of their belief of being singled out for the stops by virtue of their race or ethnicity now were doubly annoyed because of their perception of how they were treated by the officers.

It was only a matter of time until these tactics would backfire, and when they did, the backlash was far-reaching. It led to citizen complaints about officers, class action suits, public demonstrations and lobbying in State legislatures and in the halls of Congress to place new restrictions on the ability of police officers to stop vehicles, and to require police departments to keep statistics on the race, gender and ethnicity of the drivers they stopped and the results of consent searches. In some cases, the results of this backlash were as dangerous to the public safety as the practices that led up to them. Police departments in some localities actually discouraged their officers from making traffic stops. In other cases, the officers themselves began to scale back their traffic activity for fear of being accused of profiling. A form of reverse discrimination arose with some officers who would defer stopping a truly suspicious vehicle because it was driven by a minority group member and their “stats” did not look good that month, since they already had stopped a higher number of minorities; or who would ignore minorities and seek out Cau-
casian drivers to stop. In localities where traffic enforcement efforts were being scaled back, crash and crime statistics tended to increase because of the lack of visible law enforcement.

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**Perceptual Shorthand vs. Profiling**

Police officers since the beginning of policing have used various forms of perceptual shorthand to single out persons for additional police attention. Selective traffic enforcement is an example of this. If crashes in a particular area are caused by persons running red traffic lights or stop signs, officers will pay particular attention to the intersections where these crashes are occurring at the time of day when they are most likely to occur. Thus, persons passing by these locations are more likely to be stopped than motorists at other locations where there is not such a concentrated police presence. If crash investigations demonstrate that persons leaving bars after closing time are often intoxicated and causing the crashes, police will observe more closely vehicles leaving those places of business at closing time, and a DUI is more likely to be stopped when leaving a bar than when leaving a private home. Officers are taught to observe which vehicles belong to the owners of businesses and are most likely to be parked at the rear of those businesses, or to spot persons who look out of place in other ways—that a set of clean plates on a dirty car or dirty plates on a clean car, for example, is often the sign of a stolen car or at the least someone who is illegally switching plates. There is nothing wrong with this—they are simply examples of good police work, and it makes no difference whether the person thus stopped is black, Hispanic or white, young or old, rich or poor, male or female.

However, this perceptual shorthand becomes a problem when it is carried to such an extreme that an officer stops a person wearing casual clothing and driving a luxury car in the mistaken belief that casually dressed people could not afford to purchase such a car and, therefore, the car must be stolen; or stops a Hispanic because s/he is traveling through an all-Caucasian neighborhood and, therefore, must be “up to no good.” The message that these tactics send is that in the minds of that officer, poor equals criminal, black equals criminal, Hispanic equals criminal,
or Asian equals criminal. This is an affront to every honest member of that group, and it is also unsound police work, because the erroneous basis on which it is premised results in many true lawbreakers escaping police attention.

Perceptual shorthand is okay, as it has been throughout the history of police work. Police officers should continue to learn by training and by experience how to identify persons and situations that seem out of place or vary from the norm and to investigate them. However, such shorthand should rely on BEHAVIOR, not on immutable characteristics over which the object of their attention has no control, such as their race, gender or ethnic origin.

The events of September 11, 2001, further complicated the issue of profiling. The perpetrators of these attacks and previous ones in other parts of the world, happened to be Middle Eastern persons with radical religious beliefs—members of Al Queda, an organization that had sworn hatred and vengeance for America and for all it stands. Airport screeners, police officers and even private citizens now tended to pay more attention to persons of Middle Eastern origin because of the likelihood of further attacks of this type. On the other hand, it must be recalled that after the Oklahoma City bombing, many people concluded that this horrible crime was committed by terrorists from the Middle East; however, when the actual perpetrator, Timothy McVeigh, was caught, he was a young, white military veteran from middle America and a member of a right wing extremist group in our own country. He was caught as the result of a traffic stop, because he had an expired registration plate.
The Complexities of Maintaining Ethnic Data on Traffic Stops

Some departments voluntarily—and others because of legislation or civil rights consent decrees—have begun keeping statistics on the race, gender and ethnicity of the drivers of those vehicles that their officers stop, and similar data on consent searches. Some agencies, such as the Ohio State Highway Patrol, post this data on their Web sites and make it readily available to the public.

Collecting and using data such as these presents its own set of problems. In many police departments, officers are constantly running from call to call and are concerned about the additional time taken up by the officers’ filling out the necessary forms to collect the data. The availability of resources to enter the data into a suitable database and the design of such a database are additional concerns. Still another concern is determining the race or ethnicity of the persons stopped. It would be considered an insult by some persons to be asked to self-identify their race to an officer, and could trigger unnecessary confrontations at traffic stops. Most departments have decided that if a stop truly involved racial profiling, it would be based on the officer’s perception of the person’s race, so reporting the apparent race should be sufficient for statistical purposes.

Once the data has been collected, how will it be used and interpreted? The mere release of raw data can be misleading. For example, one might choose to compare the racial mix of the persons stopped by the police with the racial mix of the population of the jurisdiction. This might or might not be a valid measurement, for several reasons:

1. If the jurisdiction is a tourist area, the race, gender and ethnicity of persons traveling the highways in and out of that jurisdiction may be totally different from those of the persons who live there. Likewise, if it is a magnet
city with a large daily commuter influx from the suburbs or from other cities, the racial makeup of the traveling population may differ substantially from that of the resident population.

2. Compliance with specific traffic laws varies across age groups, ethnic groups and economic class. For example, profiles of DUI offenders indicate a high incidence of driving while intoxicated by young and relatively uneducated white males who work as laborers in the construction industry. Safety belt use by Blacks and Hispanics has been shown to be lower than that by other groups. Therefore, enforcement of the DUI laws might be expected to yield more lower to middle class young white males, and enforcement of safety belt laws might be expected to yield more Blacks and Hispanics. Law enforcement needs to analyze these trends and combine enforcement efforts with public education efforts in order to maximize the lifesaving benefits of these laws.

3. For certain types of violations, such as radar speeding stops, the decision to stop is supported by a device rather than by a human being, and the racial makeup of persons stopped by radar may be irrelevant.

4. In many cases it may be irrelevant or misleading to collect racial data on traffic stops made after dark, if it is not possible for the officer to determine the race of the person who is being stopped.

5. Even within a given jurisdiction, the racial makeup of various neighborhoods will differ, and officers patrolling a predominately white neighborhood, for instance, will naturally stop an overabundance of whites in comparison to citywide data.

Prior to deciding on data collection, a police department should give considerable thought to how the data will be analyzed and interpreted, and by whom. It is often a good idea to seek assistance from a college or university statistics or sociology department in designing the analysis tools that will be used. If this is done, the project should be closely monitored by sworn police officers who can assist the researchers in explaining and interpreting anomalies in the data.
Once the data has been collected and analyzed, it should be used as a management tool to detect and correct any possible abuses, as well as to dispel notions that racial profiling exists, if it does not.

**Officer-Violator Contact Tactics and Supervision**

As previously mentioned, an officer’s perceived attitude and approach to the violator can go a long ways toward allaying any fears that the motorist was being “profiled.” Officers should be taught at the basic academy level—and should have reinforced at periodic in-service training—the proper way to make a traffic stop. They should be taught to approach the person in a courteous and non-confrontational manner, to identify themselves and give the reason(s) for the stop before requesting identification from the motorist. They should be taught not to “lecture” a motorist who is to receive a ticket, and to close the contact on a positive note whenever possible.

If in-car video cameras are in use in the jurisdiction, policies should require that they be turned on in time to show the vehicle’s behavior prior to the stop, and should remain on throughout the stop. Supervisors should periodically pick at random tapes to review; and should use coaching, correction and, where necessary, discipline to correct any improper actions or approaches by the officers under their command. Supervisors should also periodically ride with their officers to observe firsthand their on-the-job behavior, should from time to time back up their officers as a second car on a traffic stop, and should themselves model proper behavior.

It is a good idea to provide officers with public relations brochures to hand out during traffic stops, brochures that explain the reasons for traffic stops and that give motorists information as to how they can make complaints, if they feel they were mistreated. Police departments should provide simple procedures for people to report perceived abuses and not put obstacles in the way of reporting. All such complaints should be acknowledged to the per-
sons who made them and should be looked into by supervisors. The complainants should be re-contacted and apprized of the results. Sometimes a simple explanation of police procedures will serve to dispel the motorist’s suspicions. If the officer was wrong, proper coaching or discipline should be applied.

Officers should be instructed, both in entrance-level and in in-service training, in effective means on the witness stand to avoid being lured by defense attorneys into admitting "bias-based enforcement" when their traffic stops and citations actually were "behavior-based." Some officers, particularly those less experienced in testifying in court, fall prey to this cross-examination technique, resulting in legitimate stops and summonses being turned into racial issues. Consequently, officers must clearly understand what bias-based enforcement is and what it is not, and be able to testify to the behavior upon which they based their actions.

What the Federal Courts Say About Profiling

The United States Supreme Court has upheld certain applications of profiling, such as are employed by airport security personnel. In United States v. Sokolow, 490 U.S. 1 (1989), the Supreme Court said that any form of profiling, to be legal and not violative of the Fourth Amendment, must be rationally related to the specific crime under investigation. In United States v. Travis, 837 F. Supp. (1995), cert. denied, 1165 S.Ct. 738, the court ruled that investigations that disproportionately impact on minorities offend the Constitution, if the targeting was solely based on race.

In United States v. Sanchez-Guillen, 208 F. 3d 1122 (9th Cir. 2000), cert. denied, 531 U.S. 889 (2000), the court declared that Hispanic appearance alone was not a valid factor in stopping motorists near the Mexican border—that many law-abiding Hispanics cross this border daily. The court said that race-based stops send a message to those who are not white that they are judged by their skin color alone, enjoy a lesser degree of constitutional
protection and are assumed to be “criminals first, and individuals second.”

In *Whren v. United States*, 517 U.S. 806 (1996), the Supreme Court upheld the stop of a suspected drug courier by a detective who did not ordinarily enforce the traffic laws, even though the stop was pretextual in nature. The court said the stop was legal, as long as there was articulable, reasonable suspicion that a law had been violated, no matter how minor in nature. However, the Court also cautioned police not to “push the envelope” and abuse this tool they were being given by holding motorists at the scenes of stops once enforcement action had been taken and suspicions dispelled. In *Holland v. City of Portland*, 102 F.3d. 6, (1st Cir. 1996), another federal court warned that an objective showing that blacks are arrested more for a specific, widely committed offense could bring a different result than the *Whren* case.

It should be noted that some state supreme courts have interpreted their state constitutions to place additional restrictions on the police beyond what the federal courts have ruled under the federal Constitution.
PART TWENTY-ONE:

Use of Agency Web Sites in Traffic Policing
Use of Agency Web Sites in Traffic Policing

One of law enforcement’s most underutilized forms of public communications outreach is the individual agency’s Web site. This electronic delivery system can win public support by providing a wide range of useful information and services to the community, as well as by providing details of the agency’s operations to the citizens that agency serves. Agencies can create online an enhanced, positive community presence.

Law enforcement agencies are key emergency service providers that offer varied and wide-ranging non-emergency services as well. With the rapid development of digital delivery systems that use the Internet and electronic mail, agencies have an unprecedented opportunity to further extend the delivery of citizen services and to augment and support the traditional, face-to-face, telephonic and mail delivery service channels.

Many agencies already have enhanced Web sites in full operation. The Chicago Police Department reports 5,000,000 Web site hits annually and receives as many as 50 Web-initiated e-mails daily. Many agencies now consider their Web sites to be essential and image-setting elements in their community relations and outreach programs.

A well-designed agency Web site can personalize officers and staff, raise citizen awareness of public safety and crime prevention issues, allow citizens to communicate with agency personnel off-hours, keep the community abreast of agency management, project an image in harmony with the community, help recruit officers and staff, save the agency administrative time and costs, provide citizens with crime and crash prevention information, and provide police personnel with quick access to agency information.

Useful Aspects of the Website

Starting with the home page where the Chief Executive and staff
are introduced, the Web site can help the public see that the agency is more than just bricks, mortar and cruisers. Officers are given identities and are linked to their divisions, their community programs and the groups they lead. Knowing officers as individuals is a central element in any community policing program. A Web site can contain a welcoming message, e-mail addresses for direct contact with personnel, photos of officers, and online forms on which to file citizen complaints or to submit nominations for exemplary work by officers and civilians.

Consistent with community policing principles, the Web site gives citizens shared ownership of problems in the community and tells them how they can work with the police toward a resolution. Sometimes the Web site will invite members of the public to submit their ideas directly to the Chief for consideration, and then they may be posted on the Web site.

A Web site that provides for user-friendly interaction can overcome bureaucratic boundaries, physical locations, or normal office hours for the delivery of information and services. Citizens are more apt to submit a suggestion, report a pothole, request forms, or register a complaint about speeders in their neighborhoods, if it can be done from their home computer during the evening. There is a higher level of interaction when “the store is open 24/7.” Some agencies have an “Ask the Chief” forum or thread where citizens with questions or concerns about police activities or tactics can ask questions and receive answers.

Web sites can be used to post management studies that reflect positively or negatively on the agency, annual statistical reports, goals and objectives of the department, a roll call of officers killed in the line of duty, the results of public opinion polls conducted by the agency, crime and crash maps showing trends and locations, the agency’s annual budget, and press releases.

Police Web sites should provide links to other governmental services—health department, public works and highways, fire department, city records, building inspection department, tourism agencies and schools. Roanoke, Virginia, for example, has an extensive citywide Web site that encompasses courts, police, sheriff, fire, EMS, public works, social services, utilities, jail management and other applications of its “digital government.”
A user-friendly Web site will make it possible to file crash reports and minor crime reports by e-mail, to apply for licenses and permits, and even to plead “guilty” and pay fines with the courts by credit card via secure e-mail. It will list road construction sites and up-to-date detour information and will inform citizens as to the typical fines and other consequences, such as license suspensions, for various motor vehicle violations.

A well-designed Web site can serve as an electronic recruiting brochure for the agency. It can show potential employees the types of positions that are available to them and facilitate filling out job applications online. Recruiting materials on Web sites can include minimum standards for applicants, sample test questions and an answer key, “streaming video” testimonials from present employees, and/or a view of academy training. A recent poll by the Society for Human Resource Management indicated that 88 percent of its members now rely on Internet postings to advertise openings in their organizations, and the Chicago Police Department had more than 10,000 Web site “hits” and 200 related e-mails per week during a six-month recruiting period. More than 600 people completed the application process and paid the registration fee online, and more than 5,000 applicants took the exam.

Saving Administrative Time and Costs

A good Web site can save an agency administrative time and costs. Agencies can post a listing of the most frequently asked questions and answers. Forms downloaded and submitted online by the public saves mailing costs. The cost of having to mail out paper versions of reports and brochures in response to “freedom of information statute” requests can be avoided by sending them electronically. An e-mail response to a public inquiry takes less time than a phone call, can be answered at any time of day or night, and does not require a return call to reach the intended party. Customized e-mails that display the agency letterhead avoid the cold, “straight text” style of e-mail that was the norm in the past. Today’s e-mails can even contain the sender’s facsimile signature.
Roanoke, Virginia allows selected reports to be viewed online by appropriate business professionals, such as lawyers and insurance companies, for a small fee. Handwritten reports can be scanned into the system until such time as the agency can provide digital versions.

By accessing an agency’s Web site, citizens can view photos of known sex offenders posted in conformity with Megan’s Law legislation, identify the location of dangerous intersections, research the database of the National Center for Missing and Exploited Children, identify the location of stash houses in the community, learn about the agency’s unsolved crimes and “cold cases” and provide leads, and determine crime trends and patterns so they can take precautions. Similar procedures can be used to organize an emergency management alert plan for natural disasters, terrorist incidents and other catastrophic situations.

Since Web sites have many of the agency’s key documents in digital form, officers and staff can also use them internally to respond to questions and to send materials to citizens at any time of day and from any computer terminal. The requested information can often be retrieved and sent on its way before the telephone conversation terminates or the citizen leaves the counter. News releases can be posted for all news media in the area at the same time and thus avoid allegations of favoritism of one media outlet over another. When criminal information is digitized, many agencies attract “hits” from other law enforcement agencies around the area and nation, or even internationally. They help agencies move beyond their hometowns by exchanging data, alerts, fugitive warnings, and missing persons information.

Web Site Development Considerations

Agencies may consider using a decentralized system where officers or units are responsible for the growth and development of their respective Web site pages and the programs that they conduct, or they may use a more centralized system where everything must pass through one Webmaster. In any case, one central source should check all additions to the Web site for spelling, grammar and legal issues. Whatever form the Web site
takes, it is important to have content experts available to support the efforts of the Webmaster.

Security is an important consideration. Since even the most complex computer firewalls are tenuous at best as far as keeping hackers out, it is best if an agency’s Web site is hosted on a separate file server from the main administrative network and allows no access to the main network. If it is desired to give the public access to items within the main database, these items can be loaded onto the public server and updated on a daily or periodic basis to ensure that the information in them is current.

The design of a Web site should follow the cardinal tenets of quality graphic design and fast loading. The layout of pages should be intuitive for first time users, so they can efficiently negotiate through the agency’s list of services and programs. Colors should be appropriate to the agency, perhaps reflecting the colors of its uniforms or of its patrol vehicles. Fonts should be easy to read, with a size and appropriate background contrast, and be consistent throughout the Web site. There should be a “family look” to all pages, such as having telephone numbers or electronic mail windows placed in the same position on every screen. The quality of design can lead citizens to feel that the site is trustworthy, welcoming, and credible.

Web site development and maintenance can take time and some initial resources, and should be budgeted items. To free the agency from the burden of maintaining the Web site, some agencies use an Application Service Provider (ASP) that helps create, host, and maintain the software, computers and Internet connection at a reasonable cost. The ASP makes certain that the site is up and running well and that it meets certain technical specifications, e.g., designing it to be compliant with § 508—Technical Standards of the Americans With Disabilities Act—so that pages can be machine read for the visually impaired.

An enhanced Web site should be continually promoted by including the address on all agency materials, news releases, videotapes, and cruisers. Agency spokespersons should mention the Web site when addressing community groups or appearing in media interviews.
There are many excellent Web site examples around the country that should be reviewed to provide ideas about topics and design issues. A detailed list of exemplary items on more than 200 law enforcement Web sites is available and a copy can be downloaded from http://www.dvinsight.com/lewebsite.htm

1 We are indebted to Jim Onder, of the National Highway Traffic Safety Administration (NHTSA), for the information in this article, which is adapted from a more comprehensive work on the subject and considerable research by Mr. Onder. He can be reached at jonder@nhtsa.dot.gov.