

sured is the number of arrests per 1,000 licensed drivers. Again there appears to be no identifiable rate at which a desired reaction in drinking drivers will occur.

There is a significant lack of research on enforcement rates versus the reaction of drivers. It may well be that there is indeed no ideal enforcement level and that rates of change in enforcement (or perceptions of change) may be the only factor that influences drivers. There is some basis for this hypothesis, in that early peaks of reaction are commonly seen in increased enforcement efforts with a subsequent rapid tailing off, even when higher enforcement levels are maintained. The well-known English experience is an excellent example.

If research were to find that rates of change rather than actual levels of enforcement were producing the desired reactions in the driving public, this would have a significant impact on future enforcement strategies. Lacking research on this topic, researchers must continue to strive for an ideal enforcement level that attempts to balance reactions with resources.

It is certain that increased enforcement must be accompanied by significant efforts. As stated at the outset of this paper, drivers must have a perception of taking a significant risk if any enforcement level or increased enforcement activity is to be effective. Even if DUI arrests were increased

1,000 percent, if drivers are not made aware of this fact, administrators should not expect much in the way of lasting impact on accidents or the frequency of drunk driving. Grants should be awarded with fanfare. Media cooperation in publicizing not only the grant but its results should be obtained.

Publicity and increased enforcement must work together, as neither can stand alone to produce results. Enforcement officials can say that they are going to arrest more drunk drivers, but if they do not do it, the public will soon know that they do not mean it. DUI extra enforcement grants coupled with effective public information and education at the local level should produce a meaningful reduction in alcohol-related accidents that can be further evaluated in the future.

#### ACKNOWLEDGMENTS

Special thanks to Lorraine M. Novak, John Kylor, and Harry E. Balmer, all of the Bureau of Safety Programming and Analysis at PennDOT, for their assistance in compiling the data for this paper; Sharon Mehlbaum and Deborah Snyder, also from the Bureau of Safety Programming and Analysis, for typing this paper; and to NHTSA for their support in funding the DUI extra enforcement grants.

## Data Needs for the Operation and Evaluation of New York State's Special Traffic Options Program for Driving While Intoxicated (STOP-DWI)

CLARENCE W. MOSHER

#### ABSTRACT

The traffic records system developed by New York State in response to the Federal Highway Safety Act of 1966 met the basic needs of the 1970s. However, it does not provide the detailed data needed in the 1980s for evaluation of major safety programs. By using the original traffic records systems as a base, New York State is developing a complex, multilevel, multiagency records system to collect data for evaluation of its Special Traffic Options Program for Driving While Intoxicated (STOP-DWI). This system makes maximum use of data from existing systems administered by state, county, and local agencies.

Programs in the 1960s, recognized the necessity of a uniform traffic records program that was reliable and verifiable in each of the states. The system would need to be established and fully integrated to assess the relative impact of the various countermeasures undertaken in each of the other program areas in each state. As a result, the system was heavily reliant on crash-generated information and would facilitate before-and-after intervention studies that would measure the success of each program.

The thrust of the program as such was adequate for programs in the 1960s and 1970s. However, the broad-based information network necessary to provide both baseline and intervention measures for the major programs of the 1980s is not adequately covered by the traffic records systems established one or two decades ago. NHTSA has highlighted program evaluation for alcohol countermeasures and for restraint use as priority programs for the current administration. The technology necessary for such

program assessment involves data retrieval systems of a complex nature, with accident records as just one portion of the whole.

The federal government realized the limitations of its own request of the states to uniformly update the traffic records capabilities when it established its Highway Safety Program guidelines. The standards it established were only the basis for what would naturally follow in succeeding years.

Four classes of information, most of which may be obtained routinely at state or local levels, comprise the data base for all aspects of a coordinated federal, state, and local traffic safety program. This information falls into the following sections: (a) data pertaining to drivers--their licensing, violation records, and financial responsibility; (b) vehicle data, such as make, model, and serial number; (c) highway data on a milepost basis on bridges, structures, tangents, curves, intersections, and traffic control devices; and (d) collision data linked to the drivers involved in accidents, vehicles, and highway locations (1,p.1).

The overall purpose of a traffic records program is perhaps best summarized by the House of Representatives Report (N. 1700 89th Congress, 2nd Session, pp. 10-11):

Uniform, complete, and accurate accident reports, stored in one center in every State, subject to rapid retrieval and analysis and compatible with a national record system at the Federal level, can tell us not only how many accidents we have, but what kind of accidents they are, where and when they occur, their physical circumstances and the people, injuries, death and damage they involve, what emergency services and enforcement agencies responded and how, and what judicial actions resulted, to mention only the most obvious possibilities.

The role of the traffic records program itself, as the keystone for the entire highway safety effort, was described in that report as follows: "There is no other part of the State program as basic to the ultimate success, nor as demanding of complete cooperation at every jurisdictional level." The report goes on to state: "The effectiveness of the Traffic Records Program is its ability to produce the information needed to support decisions for effective management of the total traffic safety program."

The system itself was designed primarily to assess the magnitude and volume of the highway traffic accident problem on a state and local scale. As such, the traffic records system would identify short-term changes and long-term trends in the magnitude and nature of traffic accidents. It was believed that the traffic records system would provide salient information on high-accident locations and establish causal relationships in accident data. Further, it would assist in the assessment of behavioral factors contributory to an accident, and as such lay the groundwork for the development of countermeasures and for evaluation of effectiveness.

The federal government's guidelines included cautions that are applicable to these data. That is, that the information gathered must be compatible and, at the same time, not duplicative, regardless of its source both at the state and local level. In addition, the concern was expressed (in Report N. 1700) that "adequate and accurate information for reliable statistical analysis must be available to assist State and local officials in safety program planning, prioritization, implementation and program

evaluation." It was and is important that the traffic records community remain aware that the agency that contributes information to the traffic records system may in fact be the user of other information from that system at a later date.

The cautions that NHTSA first voiced in the late 1960s have become the watchwords for program development in the 1980s. Specifically they stated (1, Section IV, p.2): "In addition to the data inputs from a multiplicity of operating State and local agencies, each with its own functional objective, mode of operation, and jurisdiction, the Statewide traffic records system must provide for bringing all of the diverse inputs into mutual compatibility. It also must provide for the necessary outputs required by the user groups."

The federal government expressed concern that the information be reliable. That is, in an accident situation, regardless of the reporting system used, researchers have to be assured that data were being gathered for the same drivers, in the same vehicles, reported by the same police, at the same location, at the same time.

It was also recognized by the federal government that many subsections of the overall system could be administered by and the responsibility of several different agencies. The entire scope of the system outlined by the federal government is shown in Figure 1.

Currently, because of a series of budgetary constraints and program evolutions, the number of nationally recognized traffic record program initiatives has shrunk. The importance of traffic records as a cornerstone of Highway Safety Programs is clearly recognized. However, the information needed to plan, analyze, and evaluate highway safety countermeasures far surpasses information contained in the traffic records files of most, if not all, states.

The national priorities of alcohol (drinking and driving) and occupant restraints involve issues beyond simple crash-reported information. Analysis

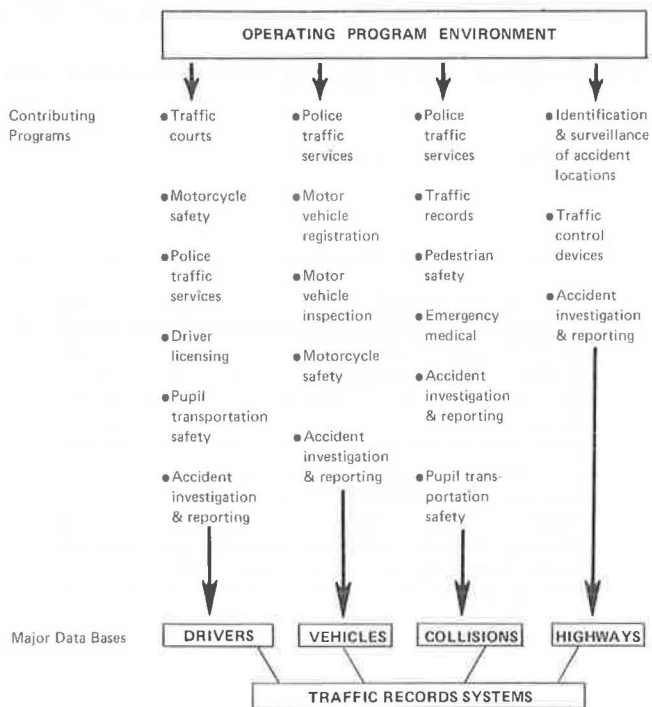


FIGURE 1 Operating program environment.

must be of a scope and nature that is global to the entire traffic safety community and its environment. In any such analysis many questions and issues must be addressed. For example, is the individual who is not properly restrained and becomes involved in an accident representative of the overall driving population? How does the traffic records system account for the drivers who are drinking who do not get involved in accidents? Questions such as these must be examined in any broad-based analysis of highway safety issues.

#### TRAFFIC RECORDS SYSTEMS AND NEW YORK STATE'S STOP-DWI

In New York State the implementation of the Special Traffic Options Program for Driving While Intoxicated (STOP-DWI), which implemented some of the most significant recommendations of the Governor's Task Force on Alcohol and Highway Safety and a Special Senate Task Force on the same subject, caused the traffic records and highway safety community of New York State to address the issue of adequate and accessible highway safety data.

The STOP-DWI law, which became effective in November 1981, gave county governments in New York State the ability to develop programs especially designed to affect the drinking driver at the county level. Under this law the county's programs would be user funded. That is, the convicted drinking drivers' fines pay for the program. The state has the responsibility for monitoring local program operation, providing technical assistance to localities, and evaluating the administrative elements and impact outcomes of the program. Early in the development of the STOP-DWI program it became evident that New York's traffic records system, prepared in compliance with Standard 10 and the NHTSA Design Manual for State's Traffic Records System, was not comprehensive enough to meet the alcohol and highway safety needs of New York State. That system set the stage but could not meet all the requirements for full program evaluation of STOP-DWI. (A copy of Article 43-A of the New York State Vehicle and Traffic Law, which sets forth the broad scope of the program, is available from the author.)

The empowering STOP-DWI legislation mandated that a full evaluation of the program be made before March 31, 1985. This evaluation effort has been developed to address both the administrative elements of the program as well as the impact on accident and injury statistics in New York State.

Administrative elements of the program include such factors as number of arrests, length of time between arrest and disposition, efficiency of processing individuals through the system, or change in volumes in probation or treatment case loads. Generally, administrative factors define measures of activity and efficiency in each of 58 programs comprising 62 counties in New York State (57 counties plus New York City, which represent 5 counties).

The evaluation of administrative and impact elements of the STOP-DWI program requires an analysis of baseline data for calendar year 1981 (a full year before inception of the law) as well as from November 1981 onward. Many county STOP-DWI program coordinators indicated that they would have little difficulty providing the operational data on a quarterly basis, acquired after initiation of the new law in November 1981. However, many of the coordinators indicated they would have great difficulty in gathering data from periods before initiation of their program. Information was required on 1981 arrests, adjudication, treatment, education programs, and public information programs. (The base-

line reporting forms used for 1981 are available from the author.) That kind of information, except for arrest and disposition data in the 10-county Traffic Safety Law Enforcement and Disposition (TSLE&D) system area, was not available in any state-level centralized file.

In addition, although the accident files in the New York State Department of Motor Vehicles (DMV) provided the main data source for impact evaluation, changes in numbers, patterns, and types of accidents and other variables had to be examined to determine their relative relation to the changes in accident statistics. Variables examined included changes in the economy and the unemployment rate.

The New York State Department of Labor provided statistics that, when correlated with the accident picture, indicated a general negative correlation. This tended to support the papers presented at the New York State Association of Traffic Safety Boards' (NYATSB) Conference in September 1981, which first established this correlation. However, relating the full impact of program performance to the DMV accident file and to related data files from other agencies only represented a first step.

The previously mentioned TSLE&D was originally established in a 10-county area in New York State (Figure 2). This system was established to meet the requirements in the Traffic Law Enforcement and Adjudication (TLE&A) component of the state design manual. These 10 counties have the unique capability to examine complete arrest and disposition information. A uniform ticket is issued that can be traced from that point until final disposition. All relevant statistical information on the time frames from arrest to disposition, and final charge at disposition, can be categorized by county, police agency, and court, so that patterns of adjudicative practice can be studied. This information may be integrated with the accident records program for those counties to establish what correlations, if any, may exist between patrol or arrest and accidents and adjudication in terms of sentencing as it relates to arrest.

Although 13.2 percent of the arrests and 12.3 percent of the convictions in the state occur within the TSLE&D area, these 10 counties account for only 7.4 percent of the state's population, 8.6 percent of the state's licensed drivers, and just more than 14 percent of its roadway miles. This records system is extremely useful, and represents an important resource to answer a broad spectrum of alcohol and highway safety questions. However, even a system as comprehensive as TSLE&D provides only a portion of the information needed for the statewide evaluation of STOP-DWI.

The evaluation of the STOP-DWI program is multi-leveled and multifaceted. It is expected that internal measures of consistency will be developed to assure validity of information through the establishment of mathematical models. The information needed for program evaluation relies on a great deal of data that will be obtained from many state agencies and 58 local sites. The precautionary notes contained in the Highway Safety Program manuals written 15 to 20 years ago still apply today. That is, the data must be consistent, and each contributor must also be viewed as a potential user of the system. However, because of the greater levels of complexity of data, because of greater amounts of data in state and local files, and because of inconsistencies of format between many files, the guidelines established at that time require significantly more resources to provide for consistent and correct analyses of activities and trends.

The New York State traffic records system was adequate to meet the needs of the early 1970s. It does not fully address current needs for data analy-



FIGURE 2 Ten-county TSLE&D area.

sis required by the STOP-DWI law. The current data needs relate to virtually every segment of the local alcohol highway safety system in each county in the state. Because of the legislative mandate under which the DVM is operating, the Department is attempting to establish a broader data system that will indicate, in discrete and measurable terms, STOP-DWI activities related to enforcement, adjudication, prosecution, education, public information, rehabilitation and treatment, and program administration. Carrying out this analysis will require acquisition of data from many local- and state-level sources. Clearly, no single existent traffic records system contains all elements required for such a broad analysis.

#### STOP-DWI EVALUATION FRAMEWORK

Now that the STOP-DWI program has moved into its second full year of operation, there are attempts to identify and address deficiencies in the state and local information network. As a first step, the Office of Alcohol and Highway Safety (OAHS) identified six areas that generally reflect program activity throughout the alcohol and highway safety system: demographics, accident data and blood alcohol content (BAC) data, arrest (enforcement) data, conviction and disposition (adjudication and treatment) data, education data, and public information data.

OAHS staff proposed that these six data categories would provide the basic framework against which (a) specific program activities could be compared and analyzed, and (b) overall program trends could be identified over time. The scope of each area, as well as perceived deficiencies, are noted in the following sections.

#### Demographics

Demographics data include (a) population data from New York State through the federal Bureau of the Census, (b) population data from the New York State Department of Commerce, (c) road miles traveled as measured in miles of centerline roadway by the New York State Department of Transportation, (d) number of licensed drivers by age and sex and by county from the New York State DMV, and (e) number of registered vehicles by county, also from the DMV.

In addition, integrated into this model are the related local highway safety grants, either ongoing or just completed, which will potentially affect program results. This information is submitted to the OAHS by the Governor's Traffic Safety Committee (GTSC). Such information is useful in assessing activity in specific counties. For example, if a county is receiving sizable Section 402 funds for an enforcement program that will at some point overlap the STOP-DWI enforcement effort, the impact of the Section 402 effort must be accounted for.



Finally, at various stages in the program surveys are being taken to assess public opinion, knowledge, and perceptions. Ideally, public surveys should have been administered before initiation of the STOP-DWI program. Because this was not done, surveys conducted in New York State have attempted and will attempt in future scheduled surveys to ascertain perceived changes in knowledge and attitudes about drinking and driving.

The total body of information from these several sources will help to define a general demographic profile of each county.

#### Accident Data and BAC Data

Accident data and BAC data provide for a specific measure of alcohol and highway safety activity at a county and statewide level. Accident data and analyses obtained through standardized accident reports are now being integrated with coroner's reports on BAC and Department of Health reports on morbidity and mortality. Other than the Department of Health's contribution, the accident analysis of trends is accomplished as it is recommended in the traffic records program manual and integrates all recommended portions of the system. However, New York State's data, like other states, has consistently indicated an underreporting of alcohol involvement. When the STOP-DWI program began, OAHs observed an increase in enforcement training efforts and public awareness of the issue. It has been suggested that these two factors helped bring about more accurate reporting of alcohol-related accidents and of actual BAC levels.

#### Arrest Data

Arrest data provide a significant indicator of alcohol and highway safety enforcement activity. The computer files at DMV contain a relatively complete conviction picture in the state. However, this file may not accurately depict actual levels of arrest activity because of the possibility of reductions or dismissals. Since implementation of STOP-DWI, many questions relating to arrest activity in New York State have been raised. As a primary measure of the program's activities throughout the state, there was a need to ascertain if alcohol-related arrests were increasing, and if so, at what rate. Such factors as time of arrest or police agency were also of interest. In addition, more sophisticated questions regarding arrest activity and potential for accident involvement have been raised. Arrest data to answer such questions proved to be only fractionally available.

In New York State the State Police account for approximately 15 percent of the arrests. They do not patrol in New York City and they have their own record keeping system. The Division of Criminal Justice Services' (DCJS) Bureau for Municipal Police is responsible for the aggregation and analysis of arrest information from each police agency. However, DCJS must wait for reports to be filed by the local police agencies in the state. DCJS does not at this time have the personnel to fully verify the accuracy of data currently being reported to the Federal Bureau of Investigation (FBI). In addition, their file is primarily based on fingerprintable offenses that would include driving while intoxicated (DWI) (BAC of 0.10 and above), but not driving while ability impaired (DWAI) (BAC between 0.05 to 0.09) cases. To further complicate the issue, the DCJS system is not tied into the DMV accident file. As a result, there is no assurance that multiple reports relate to the same event.

Each of the 58 STOP-DWI coordinators have been able to report on arrests in their counties as they received them from local police jurisdictions, if indeed they received them. It is believed that this direct reporting procedure will provide a somewhat more accurate arrest picture in each county than is currently available until TSLE&D is implemented statewide. Often there is agreement between the arrest files maintained by DCJS and the county-submitted arrest data. But there can be a discrepancy of as much as 25 percent that, in larger counties, may represent approximately 2,000 cases.

Although the importance of arrest data is recognized, the availability of such data in a timely and accurate format is difficult to ascertain on a statewide basis. The 10-county TSLE&D area is the only area in New York State that can provide a complete and accurate arrest picture. For the rest of the state, OAHs must rely on statewide files and individual county reports to approximate arrest activity.

#### Conviction Data

Conviction data provide for a summary of disposition of DWI and DWAI cases. Files maintained at DMV contain all such data reported by all the courts in the state. These files exist for the purpose of imposing legislated and regulated penalties for alcohol-related convictions. Data contained in the files describe fine levels, jail sentences, and recidivist activity. Although it is believed that this file is reasonably accurate, there are some deficiencies in its data as well.

Except for the TSLE&D system in the 10 demonstration counties and the administrative adjudication system operated by the DMV in New York City, Buffalo, Rochester, and Syracuse, the state is totally reliant on the court of conviction filling out a form and submitting it to the DMV. It is admitted that some judges have not reported in years. The DMV does record actions against a driver's license, but any court activity that does not result in a conviction is lost. OAHs is able to secure that information only from TSLE&D files and from the State Police, which follow all tickets from issuance through disposition. All other activity is for the most part lost unless the county STOP-DWI coordinators can provide reports on court activity in each county.

The specific interventions of probation or rehabilitation are important components of the state's conviction data. Convicted drinking drivers represent the largest single population of individuals referred for probation. Likewise, a significant number of clients mandated for alcoholism treatment come from the DWI-convicted population. Information on individuals placed on probation or placed in alcoholism treatment as a result of DWI represents an important data element within New York State's total system. Part of this information exists in the DMV conviction file, but the majority of such records are housed in files maintained by the Division of Alcoholism and Alcohol Abuse (DAAA) and by the Division of Probation. Identifying the history of the individual who is arrested, convicted, referred to probation, goes to a drinking driver program (DDP), and is referred to treatment requires access to files in at least five different agencies. The job of assuring that OAHs is following one individual throughout that system is a difficult, if not nearly impossible, task.

The basic data in the conviction file provide a general review of fines and penalties imposed after conviction. Specific information relating to such

interventions as probation or alcoholism treatment requires significant cross analysis and validation between multiagency data systems.

#### Education and Public Information Data

The other two components defined for the evaluation are education and public information. Although it is possible to ascertain how many children are now receiving alcohol and highway safety education, tracking these individuals through a lifetime of driving is again difficult, if not impossible. In addition, assessing the relative merits of one method of education versus another has been debated for years. It is possible to count the number of public service announcements, the number of public speaking assignments, and the number of articles on accidents and arrests, but to assess how this affects driving is problematic.

Although the New York State Department of Education maintains substantial amounts of data on such items as school enrollment, fiscal reimbursement formulas, and general levels of academic achievement, specific measures of alcohol and highway safety education are again difficult to obtain, at least as OAHs begins to look for and plan to incorporate this type of data in its evaluation system(s).

Assessing the overall impact of public information activities presents similar problems. For example, although the number of public speaking activities or the number of newspaper articles devoted to alcohol and highway safety in a locality can be itemized, there are still significant problems in assessing the impact of any or all of these activities.

#### SUMMARY: CURRENT SYSTEM AND LIMITATIONS

Implementation of the New York State STOP-DWI program provided for the implementation of a statewide, multidisciplinary set of program interventions. Such a level of highway safety program activity was virtually unprecedented in such a short amount of time. The mandate to the DMV to carry out a thorough and comprehensive evaluation of the program has highlighted the need for a responsive and accurate highway safety data system.

The traffic records system put into place in New York State in the early 1970s provides a basis for broad analysis and general study. However, many data elements, other than those noted categories, do not exist in any one location. Files that define county demographics come from nonuniform data systems. Files that reflect accident and BAC information exist but rely on accurate coordination with Department of Health files on morbidity and mortality. In addition, accuracy of such files depends directly on accuracy of source documents filed by enforcement offices. Arrest data are only as accurate as source documents submitted by appropriate police agencies. Except for data in the 10-county TSLE&D area in New York State, arrest files are compiled by submissions to the Bureau of Municipal Police in the DCJS. If these data are missing or inaccurate, there are few options at the state level to establish a complete file. Accuracy of record keeping at the local level, apart from the TSLE&D area, is not guaranteed.

Conviction data exist in the centralized DMV's file. However, evidence of dismissals or reductions is unavailable from that file, and only available from TSLE&D, as is information on such specific interventions as referral to probation or rehabilitation.

Consistent information on activities related to education and public information programs is among the most difficult to obtain. Centralized data provide for only the most cursory review of county-level education incentives. The impact of public information efforts is likewise difficult or impossible to ascertain from any current state or local data system, and must be developed.

#### FUTURE DIRECTIONS

Although the preceding summary of data needs and data availability may appear somewhat discouraging, DMV has implemented several initiatives that, it is believed, will address the evaluation needs of the STOP-DWI program.

During the past year analysts in the OAHs have established working relationships with many other agencies to begin to acquire and analyze data from other files. Although such data are often in formats different from DMV's file formats, the Department has begun the process of verifying and enlarging on county-specific data files. County coordinators all across the state have begun to contact their local constituencies to recommend accurate and timely submission of data to appropriate state agencies.

Possibly the most important activity regarding accurate data acquisition has been implemented since passage of the STOP-DWI law. The OAHs in the Department of Motor Vehicles has developed a comprehensive data report that is intended to fill in, to as great a degree as possible, perceived deficits in the alcohol and highway safety information system. The Administrative/Impact Evaluation (AIE) forms have set forth an information reporting system that will provide discrete measures of activity throughout the local system. These forms require a local STOP-DWI coordinator to acquire directly at the local level significant amounts of data on specific elements of the local system. Data have been requested for the baseline year of 1981 and for each quarter of subsequent years. (Copies of the quarterly STOP-DWI reporting forms are available from the author.)

The OAHs believes that the AIE reports, submitted for each county, will provide a complete description of pre- and post-STOP-DWI activity. A cursory review of the forms indicates that a great amount of data is being requested and secured. In some cases the OAHs knows that local data will not be available. In that event OAHs will attempt to provide as much information as possible from state files, while acknowledging their limitations.

Despite the obvious shortcomings, a complex multi-level, multiagency records keeping system is slowly coming into place. Will it answer all of the questions? No, not immediately, and perhaps it never will to OAHs's satisfaction, but it has come much closer to understanding alcohol's effects on highway safety. The same type of expanded information network may be essential to assess the impact of occupant restraints. An accident-based system as promulgated in the 1960s and 1970s, which provides the basic building block and which must be in place, is just that, a building block. It can give a portion of the picture of what happens on the roadways. But without the remainder of the components in place in a verifiable and reliable manner, the degree that an accident is representative of the entire highway safety community is at best a matter of an educated guess.

To answer the questions arising from an informed and knowledgeable constituency, an expanded system of highway safety records must be developed and integrated in each state. Of course, each state must assess its own data subsystems and their ability to

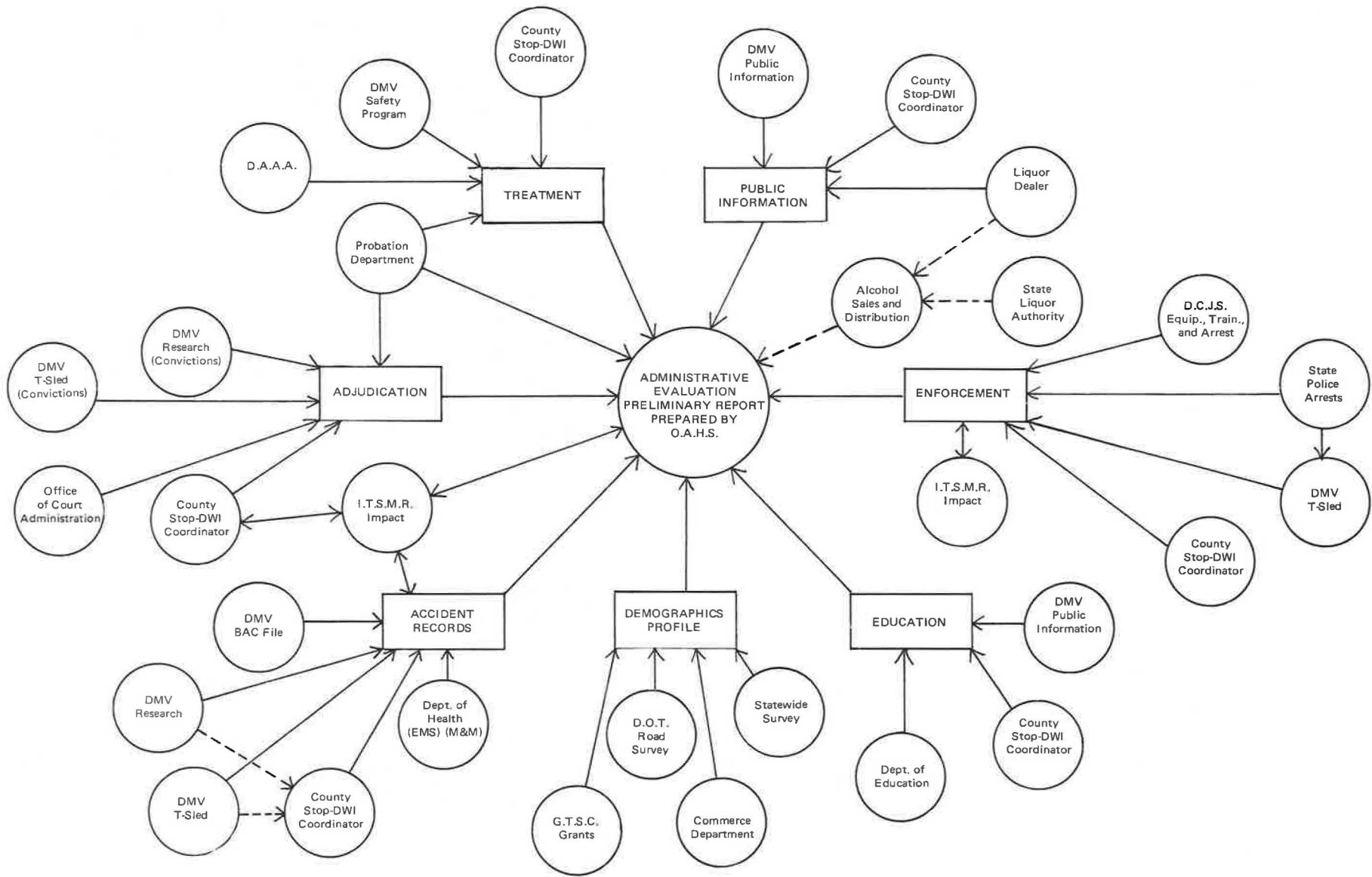


FIGURE 3 Data-acquisition model.

be integrated into a comprehensive system before the implementation of new complex highway safety programs. Without reliable and valid baseline data created by all the agents who are potential users and contributors to the system, accurate measures of success will be, at best, difficult.

In New York State the Office of Alcohol and Highway Safety in the Department of Motor Vehicles is attempting to develop a complete data system in two general ways. First, OAHS is building on the foundation of the original traffic records system put into place years ago by integrating in consistent ways data from other agencies. Second, OAHS is requiring that each county coordinator submit detailed and accurate reports on all appropriate county-level alcohol and highway safety activity. In this way OAHS is using the best data available,

either from the state or local systems, to carry out a comprehensive evaluation of the STOP-DWI program.

OAHS believes that the total data acquisition model (Figure 3) will provide the most complete and accurate picture of alcohol highway safety activity in New York State. Although this is not yet an ideal system, it is believed that the evaluation model and the data-acquisition procedures put into place will provide the best possible basis for the program assessment that must be provided to the Governor and the Legislature on March 31, 1985.

#### REFERENCE

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## Meeting the Challenge of Traffic Information Systems in the 1980s

MARK H. LARRATT-SMITH

#### ABSTRACT

The Transportation Regulation Program of the Ontario Ministry of Transportation and Communications (MTC) uses five distinct, but interdependent, information systems: the Driver Licensing and Control System, the Vehicle Registration System, the Motor Carrier Performance and Enforcement System, the Traffic Accident Information System, and the program's internal Management Information System. The Vehicle Registration System has recently been revised in response to pressure from the public, police, and courts. To avoid future massive catch-up projects dictated by client dissatisfaction and as a response to growing external demands and pressures placed on MTC's information systems, several initiatives have been adopted, including (a) establishment of a Systems Improvement Office that oversees system maintenance and improvement, (b) development of priorities for system activities, and (c) career training to familiarize all managers in MTC with the operation of information systems.

The term traffic information systems is frequently defined in narrow terms to refer simply to data files that contain information concerning traffic volumes or accident information. As in so many other areas of government activity, the growth of information technology and the demands on the management of

information systems that flow from it have inevitably rendered this narrow view of traffic information systems obsolete.

By using the perspective of an organization with a range of responsibilities that includes all highway users in the province of Ontario, it is proposed that, for purposes of this paper, the term traffic information systems be redefined to include all user-related data (excepting only that which is primarily related to the infrastructure of the highway system) as a prelude to discussing the challenge of the management of such systems in the years ahead.

Within the Transportation Regulation Program of the Ontario Ministry of Transportation and Communications (MTC), five distinct information systems have been identified: the Driver Licensing and Control System, the Vehicle Registration System, the Motor Carrier Performance and Enforcement System, the Traffic Accident Information System, and the program's internal Management Information System.

The Driver Licensing and Control System encompasses the entire process of gathering, storing, and retrieving information about Ontario's 5 million licensed drivers, including the control and suspension components related to convictions, demerit points, medical impairments, and nonpayment of fines.

The Vehicle Registration System includes all aspects of the collection, storage, and retrieval of information concerning the 5.2 million vehicles registered in the province of Ontario, including associated taxation collection and audit components, police interfaces, mechanical fitness requirements, and certification of valid insurance.

Although many of its elements have existed in manual form for many years, the Motor Carrier Performance and Enforcement System has only recently been defined as a coherent and distinct system that