

National Cooperative Highway Research Program

NCHRP Synthesis 206

Managing Highway Tort Liability

A Synthesis of Highway Practice

**Transportation Research Board
National Research Council**

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National Cooperative Highway Research Program

Synthesis of Highway Practice 206

Managing Highway Tort Liability

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NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

Systematic, well-designed research provides the most effective approach to the solution of many problems facing highway administrators and engineers. Often, highway problems are of local interest and can best be studied by highway departments individually or in cooperation with their state universities and others. However, the accelerating growth of highway transportation develops increasingly complex problems of wide interest to highway authorities. These problems are best studied through a coordinated program of cooperative research.

In recognition of these needs, the highway administrators of the American Association of State Highway and Transportation Officials (AASHTO) initiated in 1962 an objective national highway research program employing modern scientific techniques. This program is supported on a continuing basis by funds from participating member states of the Association and it receives the full cooperation and support of the Federal Highway Administration, United States Department of Transportation.

The Transportation Research Board of the National Research Council was requested by the Association to administer the research program because of the Board's recognized objectivity and understanding of modern research practices. The Board is uniquely suited for this purpose as it maintains an extensive committee structure from which authorities on any highway transportation subject may be drawn; it possesses avenues of communication and cooperation with federal, state, and local governmental agencies, universities, and industry; its relationship to the National Research Council is an insurance of objectivity; it maintains a full-time research correlation staff of specialists in highway transportation matters to bring the findings of research directly to those who are in a position to use them.

The program is developed on the basis of research needs identified by chief administrators of the highway and transportation departments and by committees of AASHTO. Each year, specific areas of research need to be included in the program are proposed to the National Research Council and the Board by AASHTO. Research projects to fulfill these needs are defined by the Board, and qualified research agencies are selected from those that have submitted proposals. Administration and surveillance of research contracts are the responsibilities of the National Research Council and the Transportation Research Board.

The needs for highway research are many, and the National Cooperative Highway Research Program can make significant contributions to the solution of highway transportation problems of mutual concern to many responsible groups. The program, however, is intended to complement rather than to substitute for or duplicate other highway research programs.

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The members of the technical committee selected to monitor this project and to review this report were chosen for recognized scholarly competence and with due consideration for the balance of disciplines appropriate to the project. The opinions and conclusions expressed or implied are those of the research agency that performed the research, and, while they have been accepted as appropriate by the technical committee, they are not necessarily those of the Transportation Research Board, the National Research Council, the American Association of State Highway and Transportation Officials, or the Federal Highway Administration of the U. S. Department of Transportation.

Each report is reviewed and accepted for publication by the technical committee according to procedures established and monitored by the Transportation Research Board Executive Committee and the Governing Board of the National Research Council.

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The Transportation Research Board evolved in 1974 from the Highway Research Board, which was established in 1920. The TRB incorporates all former HRB activities and also performs additional functions under a broader scope involving all modes of transportation and the interactions of transportation with society.

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PREFACE

A vast storehouse of information exists on nearly every subject of concern to highway administrators and engineers. Much of this information has resulted from both research and the successful application of solutions to the problems faced by practitioners in the daily work. Because previously there has been no systematic means for compiling such useful information and making it available to the entire community, the American Association of State Highway and Transportation Officials has, through the mechanism of the National Cooperative Highway Research Program, authorized the Transportation Research Board to undertake a continuing project to search out and to prepare documented reports on current practices in the subject areas of concern.

This synthesis series reports on various practices, making specific recommendations where appropriate but without the detailed directions usually found in handbooks or design manuals. Nonetheless, these documents can serve similar purposes, for each is a compendium of the best knowledge available on those measures found to be the most successful in resolving specific problems. The extent to which these reports are useful will be tempered by the user's knowledge and experience in the particular problem area.

FOREWORD

*By Staff
Transportation
Research Board*

This synthesis will be of interest to highway agency administrative and executive officers, risk managers, legal officials, as well as to highway design, traffic, and safety engineers, enforcement agency personnel, claims managers, and others concerned with managing tort liability programs in state transportation agencies. It describes the state of the practice with respect to the manner in which these agencies manage highway tort liability programs.

Administrators, engineers, and researchers are continually faced with highway problems on which much information exists, either in the form of reports or in terms of undocumented experience and practice. Unfortunately, this information often is scattered and unevaluated and, as a consequence, in seeking solutions, full information on what has been learned about a problem frequently is not assembled. Costly research findings may go unused, valuable experience may be overlooked, and full consideration may not be given to available practices for solving or alleviating the problem. In an effort to correct this situation, a continuing NCHRP project, carried out by the Transportation Research Board as the research agency, has the objective of reporting on common highway problems and synthesizing available information. The synthesis reports from this endeavor constitute an NCHRP publication series in which various forms of relevant information are assembled into single, concise documents pertaining to specific highway problems or sets of closely related problems.

The focus of this synthesis is on the management of claims associated with highways, streets, and pedestrian facilities. It includes descriptions of the program elements, costs, staffing, risk avoidance, and management requirements. This report of the Transportation Research Board describes the design and implementation of procedures and techniques to manage tort liability programs. Much of the material in this synthesis is also applicable to managing risks associated with modes other than highways within the state transportation agency. There is also applicability to local highway agencies, toll authorities, and public transit agencies.

To develop this synthesis in a comprehensive manner and to ensure inclusion of significant knowledge, the Board analyzed available information assembled from numer-

ous sources, including a large number of state highway and transportation departments. A topic panel of experts in the subject area was established to guide the research in organizing and evaluating the collected data, and to review the final synthesis report.

This synthesis is an immediately useful document that records practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As the processes of advancement continue, new knowledge can be expected to be added to that now at hand.

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Valuable assistance in the preparation of this synthesis was provided by the Topic Panel, consisting of Gordon Baca, Deputy Chief Counsel, California Department of Transportation (retired); James B. McDaniel, Counsel for Legal Research, Transportation Research Board; Robert H. Raymond, Jr., Assistant Chief Counsel, Pennsylvania Department of Transportation; Burton W. Stephens, Chief, Traffic Performance Branch, Federal Highway Administration; and James S. Thiel, Director, Office of General Counsel, Wisconsin Department of Transportation.

The Principal Investigators responsible for the conduct of this synthesis were Sally D. Liff, Manager, Synthesis Studies, and Stephen F. Maher, Senior Program Officer. This synthesis was edited by Linda S. Mason, assisted by Rebecca B. Heaton.

Scott A. Sabol, Senior Program Officer, National Cooperative Highway Research Program, assisted the NCHRP 20-5 staff and the topic panel.

Information on current practice was provided by many highway and transportation agencies. Their cooperation and assistance were most helpful.

MANAGING HIGHWAY TORT LIABILITY

SUMMARY

The goal of highway risk management is to allocate resources to achieve effective and efficient transportation while minimizing risk of human loss. The goal is not merely monetary; the moral aspect comes first. All reasonable actions that can be taken to reduce human loss and suffering associated with crashes should be sought.

Risk management refers to minimizing costs and expenditures related to insurance and claims of all types—workers' compensation, vehicle, property, contract claims, as well as general tort liability claims. Compared to general tort liability, these other categories of claim costs are more manageable, and very large and unexpected awards are less likely. Unless some form of immunity or ceiling on awards protects an agency, however, there is no real upper limit on tort liability claims. Damages may bear no relationship to the cost of remedial action or the cost of the project.

The emphasis of this synthesis is general tort liability because it offers the major threat insofar as unplanned costs are concerned and poses special management challenges. Procedures and techniques are presented for the design and implementation of a comprehensive risk management program to manage tort liability risks in government highway agencies. The major emphasis is on crashes and claims associated with highways and streets and adjunct pedestrian ways. The exposure resulting from these facilities is high, due to their character, extent, and utilization. Although needs for highway agencies are stressed, much of what is offered is also applicable to other transportation modes and public works activities. Findings also may be applicable to private companies, such as contractors, utility companies, and major tourist attractions.

There are several components in a risk management program that effectively address risks arising from tort liability. The foundation for a successful program is a commitment by top management, which entails a recognition of the need to manage tort costs, not merely to react to claims and lawsuits. The next steps include a clear policy directive to the organization, the assignment of meaningful priorities to the requisite tasks, and the allocation of adequate staffing and financial resources. Descriptions for the formation of an effective organizational structure for a typical state highway agency, based on a composite of various agency programs examined, are included in this synthesis.

An aggressive program to ensure laws that reduce liability exposure is an important element of the risk management program. With the changing status of immunity, the legislature should be informed of the problems faced by highway agencies in fulfilling their missions. As a minimum, the legislature should be informed on a regular basis of the monetary value of claims against the governmental entity and the estimated cost of

payments that will be required due to tort liability actions. In addition, it is desirable to monitor bills that may increase liability exposure and to oppose them or seek amendments, as appropriate. Examples of legislative actions in several states are presented in this synthesis.

A successful risk management program involves the implementation of both risk control and risk finance techniques. Risk control techniques are useful in achieving cost-reduction objectives. Risk finance techniques are used to obtain funds to pay awards, judgments, settlements, and program support costs. Large, unplanned monetary damages can be cumbersome or even devastating to the orderly operation of government. The relative merits of commercial and self-insurance are presented along with coverage variations that are available, including high-retention excess insurance. A choice exists between making the transportation administrator responsible for all costs associated with providing and operating the highway system, including the cost of liability judgments, or making such payments from the general fund. Risk transfer to other parties can be accomplished through both indemnity agreements and insurance clauses.

Effective management of claims is discussed encompassing procedures for identifying potential suits, receiving claims, maintaining the confidentiality of claims files, controlling the release of information, and investigating claims. Other elements relate to settlements, appeals, collection programs, and alternate methods of dispute resolution.

A basic tenet of management is that responsible officials need to know the magnitude of a problem to make reasonable decisions about the resources required for its resolution. It is important that the characteristics of a problem be understood to develop a course of action to bring the problem under control. Administrators can best manage on the basis of current data and up-to-date forecasts of the sources and size of their present and future risks. Agencies that attempt to manage risk on information obtained from closed cases are basing decisions on historic data that may bear little relevance to the present and still less to the future. To form the requisite database, procedures are described for quantifying potential claims and judgments and relating these to agency functions (e.g., design, construction, and maintenance) and to highway elements and features (e.g., ditches, guardrails, sign supports).

Once a tort liability problem area is identified, it becomes an additional consideration in program planning, priority determination, resource allocation, upgrading of standards and manuals, and training programs. In some instances, a simple adjustment in how work is scheduled and performed can reduce tort risks without adversely affecting the overall program. In other situations, fundamental policy decisions need to be made. The important point is that with risk exposure information in hand, such decisions can be made on a more informed basis.

CHAPTER ONE

INTRODUCTION

BACKGROUND

Throughout most of American history, states, some local governments, and their employees were protected from civil lawsuits brought by citizens because of the legal doctrine of sovereign immunity. The trend toward increased legal accountability of government officials led many states to abolish the absolute barring of sovereign immunity to tort actions against state and local governments. Expanded tort liability is a potentially serious problem for governments with highway responsibilities.

Tort liability has been a growing concern for governmental units during the past few decades, and a committee of the American Association of State Highway and Transportation Officials (AASHTO) has conducted periodic state surveys of tort liability. An analysis of the 1991 survey and 20 years of previous data (1) disclosed the following statistics.

- Of those states responding to the survey, 15 percent had full sovereign immunity, 73 percent had limited immunity, and 12 percent had none.
- The number of tort claims and suits grew at almost 15 percent per year since 1972.
- During the previous 20 years, more than 330,000 suits and claims have been filed against state highway agencies, with at least 32,000 in 1991.
- The extrapolated cost for settlements and judgments for all state highway agencies was between \$145 and \$345 million in 1991.

The overall national liability position is significantly greater when local governments and the federal government are included. Moreover, the true cost of liability includes support costs consisting of such items as the wages of agency staff involved in investigations, responses to interrogatories, production of documents, admissions, and appearances as witnesses, wages of the litigation staff, expert fees, jury fees, and associated direct expenses and overhead. Taking these factors into account, the authors of this synthesis conservatively estimated that tort actions against highway agencies at all levels of government cost between \$400 and \$850 million in 1991.

Pennsylvania provides an example of the growth in tort litigation (2). In July 1978, its supreme court struck down sovereign immunity as a legal defense in the Commonwealth. In September of that year, the general assembly passed the Tort Claims Sovereign Immunity Act. The act reaffirmed immunity for agencies, officials, and employees acting within the scope of their duties, but provided limited waivers of immunity in eight areas, four of which directly impact the department of transportation. In addition, the act suspended all trial procedures against the Commonwealth until July 1979.

Figure 1 shows general liability payments (excluding auto and civil rights) made by the Pennsylvania Department of Transportation tabulated in two ways (P.J. McLane, personal communication,

1994). Allocating payments to the year each claim was filed is a method widely used by the insurance industry, because it relates costs to the policy in force. However, this method has the disadvantage that, as payments are made, additions continually are made for prior-year data. Therefore, the decline shown by the shaded bars in Figure 1 will be adjusted upward as cases are closed in subsequent years. Allocating payments to the year each payment was made is an alternative that may be more meaningful to agency managers, as it provides cash-flow information and relates costs to budgets. Similar data from other states have shown that it takes anywhere from several years to a decade for the full impact of the loss of immunity to be felt. This period is needed for attorneys and citizens to become familiar with the change in the law and for cases to progress through the legal process. After that, normal growth in claims and settlement costs can be expected.

Many states no longer carry commercial liability insurance for common tort liability arising from the management of their highway systems. States usually self-insure through a fund administered by an agency of the state government. Thus, costs associated with tort liability exposure (payments to claimants and support costs) are borne directly by these states.

SCOPE

Throughout this synthesis entity means the entire governmental unit (e.g., state, city, county, or town), and agency refers to an organization within that government (e.g., a department of transportation or department of public works).

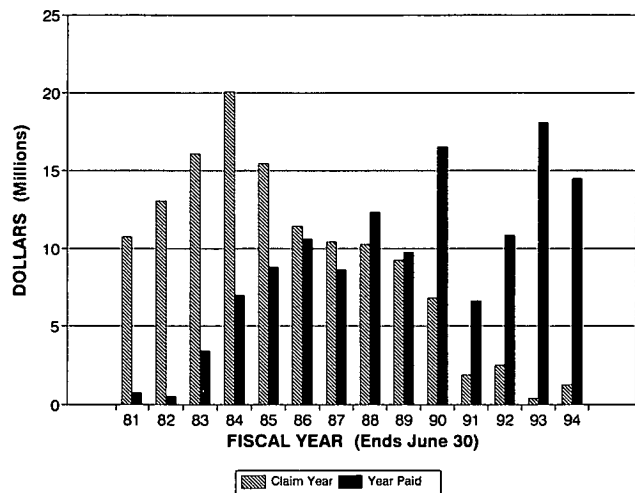


FIGURE 1 Pennsylvania's annual tort liability payments. Data are through May 5, 1994 (85 percent of fiscal 1994). (Source: Pennsylvania Department of Transportation)

Risk Management

Risk management generally refers to minimizing costs and expenditures related to insurance and claims of all types—workers' compensation, including vehicle, property, environmental, contracts, as well as general tort liability claims. Compared to general tort liability, these other categories of costs are more manageable, and very large and unexpected awards are less likely. Unless some form of immunity or ceiling on awards protects an agency, there is no real upper limit on tort liability claims. Damages may bear no relationship to the cost of remedial action of the project cost. The collapse of a major bridge carrying traffic, for example, could generate enormous liability. Because general tort liability offers the major threat insofar as unplanned costs are concerned, and because it poses special management challenges, this synthesis emphasizes this aspect of risk management.

Highway Tort Liability Management

A previous synthesis described a general strategy for individuals and organizations to mitigate tort liability (3). This synthesis addresses the design and implementation of procedures and techniques to manage tort liability in transportation agencies. The focus is on claims associated with highways, streets, and adjunct pedestrian facilities. The exposure that results from the ownership and operation of these facilities is high, due to their character, extent, and utilization.

Applicability to Other Functions and Organizations

Although needs for highway agencies are stressed in this synthesis, much of the material is also applicable to agencies operating other facilities involving extensive public use. A department of transportation (DOT) will have its greatest exposure from highways, but can use the same basic structure in managing risks associated with the other modes and activities within its jurisdiction.

The findings in this synthesis are also applicable to local highway agencies, toll-road authorities, and public transit organizations, although they may need to be scaled down. For a state, certain activities normally are performed at the district level. For a city or county, however, such work may be performed by a single unit for the entire agency. On the other hand, local agencies may have broader responsibilities within the same agency. For example, a department of public works may include divisions of water and sewers, sanitation, parks and playgrounds, and buildings and grounds. A contact or liaison person may be needed in each such division exposed to tort liability. Although oriented to governmental agencies, much of the information provided is applicable to private companies, such as contractors, utility companies, and major tourist attractions.

GOALS AND OBJECTIVES

Highway agencies allocate resources to achieve effective and efficient transportation, while minimizing risk of human loss. To the extent that money paid in claims bears some relation to human loss, efforts to reduce tort liability help achieve this fundamental goal of safety and efficiency.

Highway agencies can enhance highway safety and mitigate their exposure to tort liability by establishing a comprehensive risk management program. Management objectives are to make efficient use of available resources, such as money and people. Thus, by managing tort liability, some control may be gained over the potential for human suffering, the amounts paid to claimants, and the process of administering the liability system. These ends may be accomplished through both crash-reduction measures and reductions in the number and magnitude of claims (serious crashes and severe injuries). Therefore, the objectives of managing tort liability are to:

- Reduce the number and severity of crashes,
- Reduce claims,
- Handle or dispose of minor claims,
- Enhance the defensive posture of the agency,
- Vigorously defend the agency in claims carried through the litigation process, and
- Implement loss-prevention measures.

Highway administrators are responsible for managing and controlling the highway programs and expenditures. They are obligated to make effective and appropriate use of public funds in a manner that meets with public needs and approval. Jury decisions are one means by which the public establishes and makes known its needs and acceptable standards of care.

RISK MANAGEMENT PROGRAMS

Principles of Risk Management

A successful risk management program involves the implementation of both risk control and risk finance techniques. Risk finance techniques are used to obtain funds to pay awards, judgments, settlements, and program support costs. Large, unplanned monetary damages can be cumbersome or even devastating to the orderly operation of government. Risk control techniques are useful in achieving cost-reduction objectives by doing the following:

- Identifying the risk;
- Measuring and forecasting the risk;
- Developing a plan to avoid, reduce, or control the risk;
- Implementing the management plan; and
- Monitoring and adjusting the plan, as necessary.

Limitations of Many Existing Programs

Many agencies have portions of a risk management program, but not all components necessary to achieve a complete or optimum system. While other sources of risk are being addressed, less attention is given to tort liability in many instances. Reasons for the absence or inadequacy of tort liability management include the following.

- Tort liability is not yet perceived as a major problem.
- Tort liability is viewed as a bothersome distraction that impedes the orderly work of a highway agency.
- Engineers and others find the legal process unfamiliar, illogical, and unfair.

- The inherent difficulties in managing tort costs impede attempts to do so.
- Obstacles to effect change exist in an old, established organization.
- Staffing is inadequate or nonexistent for a formal risk management function.
- Risk management performance measures are not included in the agency's management evaluation systems.
- Risk management activities and concerns are absent in job descriptions of appropriate management and technical personnel.
- An adequate database is lacking on which to analyze tort costs, especially in relating such costs to specific agency functions and highway features.

By necessity, most agencies are managing claims. However, some shortcomings of existing management systems are as follows:

- Tort claims and cases are processed rather than managed.
- Claims are managed in a unit that is well separated from top management and the mainstream of the agency's activities.
- Claims are handled by another agency (e.g., department of general services), with the highway organization doing little more than assisting in responses for information and producing witnesses on request.
- Some agencies, especially local governments, are simply relying on their insurance carriers.

Elements of a Comprehensive Program

There are several components in a risk management program that effectively address risks arising from tort liability. The most basic and essential component is a commitment by top management, which entails recognizing the need to manage tort costs, rather than reacting to claims and lawsuits as they arise. Other components are presenting a clear policy directive to the organiza-

tion, assigning meaningful priorities to the requisite tasks, and allocating adequate resources. An effective program cannot be accomplished merely by assigning responsibilities to a lower-level unit with no authority over the organization's performance. Once the decision and commitment are made, the following actions can be taken to develop and implement a comprehensive tort liability management program.

- Examine and strengthen, as needed, activities related to crash prevention decreasing crash severity, including crash database and traffic records systems.
- Establish or augment a risk management organization by creating positions and assigning duties.
- Undertake programs that are entity-wide in nature due to either the common need of several agencies or the nature of enabling laws and statutes.
- Undertake or modify specific programs within the highway agency.
- Manage claims and the litigation process.
- Forecast the costs of claims and relate tort costs to highway activities.

Because examining and strengthening activities is basic to good highway engineering practices, it is not addressed in detail in this report. The remaining actions listed are covered in Chapters 2 through 6, respectively. Several of these program elements can be undertaken in unison. The chapter sequence implies neither priority nor implementation order.

Risk management information and procedures contained in this synthesis are compiled from information obtained from field visits, interviews, discussions, correspondence, telephone calls, and work experience throughout the United States. Some agencies that furnished information requested anonymity due to liability concerns. Additionally, where poor practices are described, agencies are not identified on a policy basis. Many management techniques presented are composites of typical and preferred findings obtained from several different agencies.

ESTABLISHING A RISK MANAGEMENT ORGANIZATION

BACKGROUND

General Personnel Considerations

Agency staff responsible for risk management need to communicate and coordinate with attorneys, law enforcement personnel, engineers, and others in the agency. Close contact tends to build a common vocabulary and understanding of the organization, process, capabilities, and constraints. A general understanding of engineering and legal procedures and DOT operations is a basis for this communication. Comprehension of the terminology is important, and paralegal training may be valuable for engineers and others working with attorneys.

Recruiting competent personnel is facilitated when risk management is a vital agency function. Otherwise, professional staff may be reluctant to accept positions deemed outside the mainstream of their professions. Persons nearing retirement or seeking greater opportunity for advancement may be willing to take new assignments. Often, personnel with many years of service have a broad understanding of the functions of the highway agency, many contacts in the agency, and the respect and trust of other agency staff. These are desirable attributes for tort liability managers. Also, part-time or temporary assignments may be utilized for some risk management positions.

Different approaches are taken regarding the preferred background of staff in the top positions of highway tort liability management. Some agencies seek civil engineers with highway agency experience. A slight preference appears to exist for traffic engineering backgrounds, because this field encompasses traffic safety, crash data and analysis, and the interaction between the roadway, the vehicle, and the driver. Michigan and Pennsylvania are using this approach. Another approach is to seek persons trained as professional risk managers, as done in Wisconsin. Risk management professionals are often on staff in many large corporations and other government agencies, and therefore, the highway organization can hire an experienced risk manager from outside the agency. Such persons usually adapt, over time, to the special circumstances of highway tort liability management. These professionals may be accredited in risk management. Well known national accreditations are Associate in Risk Management (ARM), issued by the Insurance Institute of America; and Chartered Property Casualty (CPCU), issued by the American Institute for Chartered Property Casualty Underwriters.

The most important characteristics, however, are personal rather than technical. It is consistently found that those persons who are most effective in risk management positions are self-motivated, and interested in as well as challenged and rewarded by the work. While this is probably true for any position, it is especially important in risk management because the work may be perceived as peripheral to the mainstream of the department's mission, the positions are basically staff functions, and a direct measure of productivity is lacking.

Organizational Structure and Terminology

Highway organizations and the names of units and positions vary throughout the country. To present the findings of this synthesis, a typical structure for a state highway agency was selected using the terminology described below. Alternative terms used in several states are shown in parentheses.

The main office is called the central office (headquarters). The state is then divided into several districts (divisions, regions). The districts contain several units called areas (counties or residencies). The attorneys involved in tort liability litigation are housed in the legal office. The top person in the central risk management unit is the agency risk manager. The claims management functions are under the direction of the claims manager. The person in charge of a district is called the district engineer (director or administrator). The person in the district responsible for risk and claims management is the district claims officer (district risk manager). The areas are headed by an area manager (engineer or superintendent).

POSITIONS

In the following sections, various positions are described that are needed to establish effective tort liability management. At the district level, the positions may be either full-time or part-time, depending on the size and structure of the organization, but full-time personnel are generally preferred. When persons charged with running operating units are given collateral duties for tort liability management, they expend most of their time and effort in their primary duty.

The risk management position descriptions combine information drawn from several highway agencies chosen to provide both a geographical and a functional range. The job responsibilities and functions listed are derived from the practices of several different agencies. Each agency should select those functions appropriate to its organizational structure.

Risk Manager

Typically, a risk manager is designated to oversee the risk management function. For a large organization, such as a state DOT, the magnitude of the risk management task is such that the agency usually needs its own in-house manager. In many state agencies, transportation modes and activities other than highways are administered by the DOT. In those circumstances, the risk management function is usually a department-wide function rather than a highway-specific function. For local jurisdictions, the risk manager often has responsibility for all activities in which the entity is engaged such as public works, water and sewer, and parks and recreation. Such risk managers typically operate in a staff capacity and report to the chief administrator (e.g., city manager).

Qualifications for the risk manager position for a state highway agency are as follows. The individual should have significant experience with the agency, a good understanding of the agency's work and organizational structure, and an undergraduate college degree. If the agency uses liability insurance in any significant way as a part of its risk management program, insurance knowledge should be an additional qualification. Personal qualifications for this position include initiative and motivation, good communication skills, ability to work effectively with others and gain their cooperation, and knowledge of the legal process. As with filling any position, candidates having strength in all desirable backgrounds may not be available; some knowledge and training may need to be obtained on the job.

Typically, a risk manager has no direct authority over the primary operating divisions where liability arises, e.g., design, construction, and maintenance. The risk manager directly supervises only those persons within the risk management unit. Therefore, it is advisable that the risk manager be in close contact with a top-level executive who has direct authority over the operating component and has the power to influence and effect positive change.

Typical responsibilities and functions of the risk manager and support staff are as follows.

- Develop tort management policy directives and guidelines for implementation by top management.
- Monitor and revise, as needed, tort liability management procedures based on continuing analysis of tort actions.
- Maintain liaison with the legislature, working for legislation that strengthens the agency's tort liability posture (in coordination with the liaison office, if one exists).
- Provide information and guidance to the districts and divisions regarding the implications of recent tort activities and legal actions.
- Analyze and evaluate office programs, policies, and procedures involving handling of claims and lawsuits.
- Maintain lists of expert witnesses who may assist the agency (if not done by the legal office).
- Coordinate with the legal office the settlement strategy for major tort liability actions.
- Act for the head of the agency with specific signature authority to agree to monetary claim settlements up to some modest figure.
- Initiate special studies associated with tort liability and risk management, when needed.
- Oversee the development of tort liability files and database and the use of these for liability defense and loss-prevention analysis.
- Develop and monitor a procedure ensuring that all complaints or criticisms of highway facilities and procedures are promptly answered by the appropriate functional unit (with most of the actual work being done at the district level).
- Work with the operating units on the development and evaluation of manuals, standards, and guidelines that may affect tort liability. Recommend changes to publications based on tort actions.
- Acquire information useful to tort liability management.
- Originate letters in response to correspondence and inquiries from attorneys, general public, angry citizens, and plaintiffs (in coordination with the public information office).
- Coordinate the development and presentation of training programs and seminars on tort liability and risk management for

central office, district, and field personnel (in coordination with the training office).

- Supervise employees in the risk manager's unit.

Claims Manager

The claims manager within a highway agency commonly works under the chief legal officer or the risk manager. Tort liability claims are coordinated through the claims office, with much of the detailed work being done at the district level. On the other hand, contract disputes and other non-tort claims involving such areas as right-of-way, inverse condemnation, and drainage that have not been resolved by district and central office internal operating procedures are often handled by a unit that is under the chief engineer. Typical functions performed by a claims manager are listed below. In the absence of a risk manager, some of the functions described above also may be performed by the claims manager.

- Receive and process claims and notices of intent to file claims.
- Act as liaison between the highway department and the legal staff charged with litigating cases.
- Initiate investigations of factual information behind lawsuits, claims, and potential claims.
- Provide names of recommended witnesses requested by attorneys handling cases.
- Maintain files on the status and disposition of claims.
- Identify trends.
- Disseminate decisions to the field.
- Participate in seminars and training provided to agency personnel and attendees from local agencies. Ask the legal staff to explain state statutes and court decisions in tort liability litigation as it affects highway operations and policy-making decisions.
- Originate letters in reply to outside inquiries regarding claims procedures.
- Directly handle minor claims that can be processed on an administrative basis.
- Acquire information useful to defending tort liability cases.
- Oversee the collections unit (for damages to agency property).
- Supervise employees in the claims unit.
- Negotiate settlement of routine claims and participate in settlement negotiations for major claims.

The attorney handling a case receives assistance from the claims manager. Personnel in the claims unit (or its district counterpart) investigate claims, locate witnesses, and provide coordination. In a large state, the claims unit may have personnel who can testify in cases. Having a person trained in accident reconstruction can be useful in evaluating cases and understanding the capabilities and limitations of accident reconstruction.

District Claims Officer

For large entities, such as states, it may be advantageous to establish and maintain a claims unit in each district. A designated claims officer, together with such additional personnel as may be necessary, handles the investigation of claims and related administrative matters for the district.

The primary mission of the district claims officer is furnishing the central risk management unit and the legal office with all relevant information available from departmental personnel and records. Therefore, the district claims officer relies on the cooperation of other units in the district. While work associated with claims may be an onerous additional duty for operating units, it is essential that the necessary information be obtained with thoroughness, accuracy, and speed. The agency's attorneys are required by law to respond to interrogatories within specified time limits. Failure to provide information and answers not only can result in legal penalties, but could preclude the introduction of helpful evidence on the agency's behalf. Inaccurate answers can result in impeachment of department personnel, embarrassment of witnesses, and adverse effects to the defense.

Typical functions performed by a district claims officer are as follows.

- Communicate and coordinate activities with the agency risk manager and claims manager.
- Advise the district engineer on matters related to safety and tort liability.
- Oversee the procedure for handling complaints of district facilities and procedures.
- Identify significant potential claims and open confidential files.
- Receive copies of claims and notices of intent to file claims.
- Transmit any papers served to the district office or individual employees directly to the proper central office.
- Obtain copies of police accident reports for potential claims and actual claims.
- Correlate actual claims with files on potential claims.
- Send copies of claims to the pertinent division head, such as the district maintenance engineer.
- Ask for investigations by the appropriate person, such as the area manager for the area in question.
- Work with the attorney assigned to individual cases. Assist in providing answers to interrogatories and furnishing documents. Act as liaison between the attorney and agency personnel in the district.
- Obtain witness statements.
- Attend depositions and trials and provide assistance to the attorney in charge. Serve support functions sometimes performed by a paralegal, such as contacting and scheduling witnesses and keeping them apprised as to progress and when they will be needed. Also serve a technical support role, interpreting information presented at the trial, suggesting questions, and finding appropriate information in department manuals.
- Coordinate preparation of courtroom exhibits, such as maps, charts, photographs, and models.
- Obtain copies of decisions, and send copies to concerned parties in the district.
- Assist the central office with the review and rewrite of manuals, standards, and guidelines that may affect tort liability.

The district claims officer may be assigned to the district traffic engineer for personnel administration purposes and for staff support. The officer often reports directly to the district engineer with respect to safety and tort liability management. It is desirable that the district claims officer be a full-time position. Where the workload is not sufficient, an alternative is to have one full-time person covering two districts or provide additional staff in the department-wide risk management office. Another practice is to

establish a standing safety committee consisting of district traffic, construction, design, maintenance, and real estate professionals who could be called on by the district claims officer to make on-site evaluations of crash sites before claims are filed.

Identifying potential claims of significant risk is best done at the local level. A primary source of immediate information is local newspapers published in the district. Additional sources are other news media, the agency's field forces, local police, and complaints from citizens and officials. Law enforcement accident reports are another primary source, but some agencies have difficulty obtaining these reports on a timely basis. Legislation requiring an advance notice of claims has been found useful in early claims identification.

When a potential claim is identified, the district claims officer opens a confidential file. A review of the photolog files is made to gather photographic information, as needed. The district claims officer then contacts the appropriate area manager or other responsible person and requests an investigation. This person examines and photographs the crash site and sends his or her findings to the district claims officer.

Investigators

In some agencies, claims investigators work under the risk manager. In other agencies, investigators work in the district or in the legal office. In Michigan, the investigators work for attorneys rather than the DOT, with the objective of making their work less visible. Responsibilities of investigators include photographing crash sites, gathering evidence, and performing other technician-level duties associated with the investigation of claims and preparation of cases for trial.

Inspectors

Safety inspectors are used by several agencies to identify problems and check on field forces and contractors. This position is separate from a project inspector, who is assigned to oversee specific construction or maintenance contract operations. The Ohio DOT has a position called safety and health inspector. The Oklahoma DOT has division risk managers who essentially perform field reviews and report to the division (district) engineer, rather than provide management services. Training and experience are determinants to the effectiveness of such personnel.

Risk Management Committee

A risk management committee formed within the transportation agency focuses safety enhancement, risk mitigation methods, and analysis of situations and conditions that may engender tort liability. Its basic charge is the development of a coordinated agency-wide program. The risk manager is the logical chairperson for the committee. Members are appointed from each relevant function, such as legal, enforcement, design, construction, traffic, and maintenance. State agencies may ask the governor's highway safety representative to participate. For smaller jurisdictions, such committees are an effective means to obtain broad support for a small staff; additional people sought as members include representatives from the general counsel, public relations, law enforcement, and elected officials (4).

STAFFING THE LEGAL FUNCTION

The first step in developing an effective defense against tort actions is to obtain good legal counsel. Where a legal staff already exists, the adequacy of the staff may be a concern. Tort liability is a specialty. Lawyers who have not specialized or who have no experience in this area may not be well equipped to meet the agency's needs. Moreover, highway tort liability is a specialized area within the tort field.

Agency Legal Staff

Agency staff often have experience in fields related to administration, contracts, right-of-way acquisition, and environmental law. It may be difficult to accommodate the same staff to the workload and specialization demands of tort litigation. Like highway engineers, who specialize in fields ranging from traffic engineering to foundations engineering, legal staff also require specialized knowledge and skills within legal subject areas.

For a large state highway agency with considerable tort liability workload, consideration may be given to creating a separate torts unit within the agency. The California DOT, however, was the only agency that reported having in-house attorneys to handle tort liability cases. This capability evolved from its large highway construction program initiated some 40 years ago, when condemnation was handled by the agency's internal legal staff. When sovereign immunity was lost a decade later, the agency legal office took on the tort liability workload. This option provides an opportunity for close coordination between legal and engineering staff. Typically, however, the tort liability staff exists outside the DOT, and there is little likelihood of changing this basic governmental structure.

Outside Law Firms

Some of the smaller states and local jurisdictions elect to retain private law firms to handle the defense of tort liability cases. While this may be an expedient way to obtain experienced counsel, it may hinder efforts to build a long-term close working relationship between the agency's technical and legal staffs. When outside counsel is retained through insurance companies, the relationship may be even weaker. This alternative can entail increased cost and the potential for litigation to be handled in a manner inconsistent with public policy objectives of the agency.

Once a case is completed, the outside attorney's work is finished, and there may be no mechanism for debriefing the attorneys before they move on to other work. Moreover, there may be little incentive for the attorneys to recommend ways to reduce the number of future cases handled by the firm. In these instances, a formal method for ensuring feedback from outside counsel may be valuable, such as payment for additional hours billed in performing this work.

For example, attorneys within the Montana Department of Highways handle only administrative matters, such as condemnation. The office of attorney general has staff who handle tort liability. Outside attorneys are used, however, for the overload and for large, complex cases. The need for attorneys to develop highway expertise and provide feedback from outside attorneys has been recognized, and the agency is seeking ways to meet this need.

Entity Legal Staff

Larger transportation departments could more easily justify maintaining their own legal staff, but it may be necessary to recruit or develop through training expertise in tort practice, if it does not presently exist within the legal staff. Once the decision is made to use in-house legal staff for tort litigation, the location of the legal group within the government's organizational structure becomes an important consideration. Usually, the trial attorneys are already a separate unit, such as an office of attorney general, and this central legal group serves the highway agency as well as all other governmental agencies.

Unless the highway caseload is very small, it is useful to consistently use certain lawyers for highway cases because the designated attorneys become more proficient in defending the agency and a working relationship is established between the highway agency and the entity legal office. Also, highway personnel benefit by having access to lawyers who have developed an understanding of highway procedures, operations, and terminology.

Coordination with the Highway Agency

It is important that attorneys discuss and achieve consensus for proposed settlements with the highway agency prior to taking any action to dispose of cases, although there may well be some modest dollar threshold below which no such discussion is necessary. Where the award is derived from highway agency funds, agency approval may be required. After litigating a case, it is desirable that the attorney provide feedback on the strengths and weaknesses of the case and what actions would have strengthened the defense.

EXPERTS

Under the normal rules of evidence, witnesses can state only what they have seen or know firsthand. They may testify as to facts, but may not give opinions or conclusions. Lay witnesses are used to establish facts in the case and are called to testify as to their personal knowledge of such facts. Highway agency personnel may serve as fact witnesses to answer questions concerning matters such as work they performed or conditions they observed at the site.

Expert witnesses, on the other hand, are used to assist the jury in understanding and interpreting areas of specialty in which lay persons are not skilled. An expert is one who, by reason of education, experience, or both, possesses special skills or knowledge in some science, business, or profession that is not common to the average person. These witnesses can offer their opinions and conclusions based on facts. Agency personnel, depending on their knowledge of the case circumstances or their position, may be called as expert witnesses.

Selection of Experts

Experts normally are selected by or in consultation with the assigned attorney. The initial decision in selecting an expert is whether to use an in-house staff member or to obtain the services of an outside expert, or both. The decision usually depends on the situation. While it may appear less costly to use experts already on the entity's payroll, this can create significant costs. The best

experts are often senior people in the organization who are important to the ongoing activities of the agency. When such key persons are diverted from their primary activities, the department's programs may suffer. Moreover, the cases for which experts are most often used are those involving high potential liability. Any savings in conducting the defense may be lost if the department's effectiveness is diminished. Furthermore, an outside expert's testimony may be perceived as more credible and impartial in the minds of the jury.

The type of testimony desired and the attorney's trial strategy are determining factors in the selection process. When the purpose is to show that a decision involved discretion, the person actually involved in the process may be the best witness. For example, a senior designer may be used to explain alternatives that were considered and reasons why a particular course of action was chosen. A senior staff member in the research laboratory could also best describe tests performed by the agency that relate to the issue involved in the litigation. An agency engineer can also be used to explain standard engineering procedures. For example, if an expert is needed to explain the workings of a traffic signal controller and the method of selecting and setting the timing intervals, an agency traffic engineer who routinely works with this equipment would be fully qualified and adequate. In the end, the trial attorney must decide on which expert(s) would likely support the selected trial strategy.

Full-Time In-House Experts

A few highway departments have created positions for full-time, in-house people who serve as expert witnesses in tort liability cases involving their agencies. The California DOT has two such positions with support staff, one each for two large districts having large numbers of claims. Another approach is to use selected central office personnel (e.g., New York), but this often interferes with their designated duties, and they are not available for litigation work to the extent desired.

Agency personnel who provide legal consultation and serve as the department's experts typically have many years of service and a broad background in the agency's operations. A degree in engineering (ordinarily civil engineering) and a professional engineering license are normally considered essential. An advanced degree may further enhance the expert's credentials. Designated experts typically are senior engineers who understand the agency's functions, the legislation under which it operates, and the legal process. Persons with the best technical ability are not necessarily the best candidates because some of them lack effective communications skills, which are critical.

Important personal qualifications include being self-motivated, a quick thinker, calm under pressure, a good communicator (both oral and written), confident, and able to project a manner that fosters respect. Typical job descriptions include the following functions.

- Review and interpret contract plans, specifications, accident reports, statements, and depositions, and analyze traffic crash information to determine causes of the crash and to evaluate the agency's potential liability.
- Study field conditions at crash sites.

- Provide engineering assistance in connection with tort lawsuits against the agency.
- Prepare and analyze statistical tabulations of crash rates as related to the effectiveness of safety efforts and programs.
- Prepare reports with independent conclusions and recommendations, as appropriate.
- Advise and consult on factors that can affect the agency's liability.
- Coordinate the preparation of court exhibits.
- Assist and consult in the preparation and drafting of interrogatories and other discovery material.
- Conduct library research on all available standards and technical publications prepared by knowledgeable authorities.
- Attend court sessions when the opposing expert witness is testifying to assist the attorney during cross-examination.
- Testify as an expert witness in pretrial depositions and at trial.
- Recommend means of correcting identified problems.

New Mexico has established the position of legal services engineer within the general counsel's office (5). This person works exclusively in the legal office as a non-testifying, consulting expert to attorneys and adjusters, and any work done by the engineer is maintained as confidential within the office. So far this strategy has been successful. New Mexico recruited for the position among individuals who had extensive engineering experience within its DOT, and because a high percentage of cases involve traffic control issues, they chose an individual with a traffic engineering background. The legal services engineer analyzes claims and lawsuits related to crashes, contract claims, right-of-way problems, and environmental issues, and provides engineering opinions, guidance, and observations to assigned counsel. The legal services engineer also evaluates proposed responses to interrogatories prepared by DOT personnel and contributes to the taking of depositions of opposing experts. The state has found that the legal services engineer makes independent assessments with an understanding of the situation from the DOT's perspective. The DOT believes that the general counsel's office receives reliable engineering expertise without having to divert the valuable time of its staff engineers.

Outside Experts

When the function of the expert is to assess the appropriateness of the agency's action, then an independent expert may have more credibility. Opinions of a department employee, regardless of qualifications, may be seen as self-serving by a jury. When asked whether an action was in accord with accepted engineering practice or if a situation was safe, the opinions of outside experts may carry more weight. Such engineers are better able to assume an unbiased posture and examine issues in a broader context. Many agency engineers have spent their entire careers with the agency. Outside experts generally have broader experience, enabling them to speak with more authority on the state-of-the-art and the practices of other agencies. Also, when highly technical issues are involved, an outside expert may have more in-depth experience, credentials, and professional recognition than the department's senior engineers, whose work experience may be more general and administrative in nature.

CHAPTER THREE

GOVERNMENTAL ENTITY PROGRAM ELEMENTS

BACKGROUND

Those aspects of tort liability management that are common to many agencies within a government entity (e.g., state, city, county) are addressed in this chapter. While legislative activity takes place primarily at the state level, local jurisdictions have an interest in advocating their special needs. The payment of tort judgments is a responsibility of the governmental entity, although the cost may be charged against the budget of the responsible agency.

LEGISLATIVE PROGRAMS

An aggressive program to create or maintain favorable laws that reduce liability exposure is an important element of the risk management program. To the extent that any public organization engages in promoting or influencing legislation, the subject of tort liability should be addressed. In addition, it is desirable to monitor bills that may increase liability exposure and to oppose them or seek amendments, as appropriate.

With the changing status of immunity, there are several issues where legislation can have a major impact on highway agencies. It is only proper that the agency makes the legislature aware of the problems the agency faces in fulfilling its mission. As a minimum, the agency should inform the legislature on a regular basis of the monetary value of claims against the governmental entity and the estimated amount of payments that will be required due to tort liability actions.

For those states where the loss of immunity is imminent, the opportunity is available through carefully crafted legislation to provide an orderly transition. Experience has shown that where sovereign immunity has been repealed, the exposure of government agencies may be enormous. Although these agencies may obtain some protection by subsequent legislation, they may be sued in the common court system in the meantime and be subject to the same rules as persons and corporations. When immunity is waived by statute, it generally has been done in selected areas and on terms that are favorable to the special needs of government agencies. Some states have set up separate claims courts that provide slight protection (e.g., New York and Ohio). Some have maintained a rather high level of immunity (e.g., Maryland). Oklahoma waived immunity with a tort claims act that became effective two years later, thus providing a period to implement and refine appropriate risk management programs (6).

Examples of Legislative Actions Affecting Tort Liability

When sovereign immunity has been lost, the affected agencies can, to the extent permitted by law, propose legislative provisions signed to ameliorate potential damaging aspects of tort liability

exposure. For example, several years ago the New Mexico state court declared the state's immunity in tort to be unconstitutional. While this declaration could not be overturned, the legislature subsequently enacted a statute that gave the state highway department limited immunity in some discretionary functions.

Legislation was enacted in Iowa that amended the state Tort Claims Act to specifically exempt the state from substantial tort liability and effectively bar suits against the state for actions alleging negligence in the design and operation of highways. This statute was enacted in response to an appellate court's decision that held the state responsible for upgrading obsolete roadway elements. When the legislature was given the estimated cost of upgrading, which was several billion dollars, the pressure was sufficient to successfully enact remedial legislation. The legislature went so far as to describe its intent in the bill by explaining that while it specifies certain activities as excepted from the court's jurisdiction, it should not be construed that related activities not mentioned are excluded from the scope of the statute.

A later Iowa law offered additional relief from tort liability at the county level. It allows the county board of supervisors to classify secondary roads to provide for a reduced level of maintenance on selected portions of the county road system. After consultation with the county engineer, the board may divide the area service system into two classifications—A and B. Area A shall be maintained in conformance with applicable statutes, but roads in area B may have a lesser level of maintenance as specified by the board. Of particular significance is the inclusion in the law that the county and officers, agents, and employees of the county are not liable for injury to any person or for any damages that occur proximately as a result of the maintenance of a road classified in area B, if the road has been maintained to the level required for area B.

In South Carolina immunity was lost in 1985, but within a year, subsequent legislation set forth exceptions to the waiver of immunity (7). Total immunity is established for design, but the state is still liable for its failure to properly perform maintenance activities. Among the exceptions to the waiver of immunity, a governmental entity is not liable for loss resulting from a nuisance; snow or ice conditions or temporary or natural conditions on any public way or other public place due to weather conditions unless the snow or ice thereon is affirmatively caused by a negligent act of the employee; the failure of any governmental entity to initially place any signs, signals, warning devices, guardrails, or median barriers when the failure is the result of a discretionary act of the governmental entity; and the design of highway and other public ways.

With respect to notice, Pennsylvania has a statutory provision that requires the government to have actual written notice of defects that are created by naturally occurring conditions (e.g., potholes or sinkholes) before it can be held liable for incidents resulting from these conditions (8).

There are other areas of legislative reform that, while not directly related to immunity, can assist in reducing potential claims.

For example, one problem that all highway agencies face is the vandalism and theft of traffic control devices. Such acts are especially commonplace for portable devices used in work areas. If an important device, such as a stop sign, is missing for any length of time, the agency may well be held responsible under the concept of constructive notice. The resulting need for inspection and surveillance and the replacement of damaged or missing devices is a significant cost.

In many states traffic control device vandalism is a misdemeanor, based on the concept that the crime is related to the cost of the device. It is suggested that a more appropriate offense would be one related to the condition created by loss or ineffectiveness of the device. Model statutes on traffic control device vandalism have been proposed (9). Obtaining more appropriate penalties for device vandalism may help in decreasing the frequency of device damage and loss, with a corresponding reduction in liability for the transportation agency. For example, a Wisconsin statute contains the following provisions with regard to traffic control devices, such as signs, signals, and markers erected by the state or by its municipalities (10).

- A sticker shall be affixed to each such device stating: "WARNING \$25 to \$100 fine or imprisonment for removing or tampering with this sign."
- No person may injure, deface, or remove any such device.
- No such person shall possess such a device, and possession creates a rebuttable presumption of illegal possession. Persons who voluntarily inform a law enforcement agency of the presence of such a device on their property shall be exempt from prosecution under this subsection.
- Any person who violates this section shall be fined \$25 for the first violation, \$100 for a subsequent violation, or imprisoned not exceeding 30 days for the first violation, or 60 days for a subsequent violation, or both fined and imprisoned. In addition, the person may be required to restore or replace the device, or pay the cost thereof.
- On the conviction of any person of a violation of this section, persons who informed against or aided in the prosecution shall be paid one-half of the amount of the fine.
- Any person who violates this section shall be fined up to \$10,000 or imprisoned not more than two years, or both, if the injury, defacement, or removal of any such device causes the death of a person.

Notice of Intent to File Claim

The requirements for submitting a letter of intent to file a claim are useful for the identification of potential claims. Early notice affords the defense an opportunity to make a timely investigation of the crash, as the actual claims are typically filed near the end of the statutory period. Many such notices do not result in eventual claims. The notice may serve to dissuade some potential plaintiffs. After a crash, accident victims generally are angry, and the notice may fulfill the desire to complain. The notice of intent typically requires information on when, where, and what was the alleged negligence; however, many notices not include the cause of the action.

Pennsylvania requires that a notice of intent to file be given within six months of the occurrence. Although the language of the statute (11) states that without such notice "a claim is forever

barred," the courts have greatly diminished its effectiveness. For example, there must be no reasonable excuse on the part of the plaintiff, and the Commonwealth must show that it had been prejudiced. Nevertheless, the Commonwealth has found the requirement useful, as such notices are received in many cases. An example of the effective use of this statute follows. The plaintiff's excuse for not giving notice was that he did not know the crash occurred on a state highway. The Commonwealth argued that this was not a reasonable excuse because it was clearly shown on the police accident report that the highway was a state route. For showing prejudice, it was argued that the plaintiff's disposal of important evidence (his motorcycle and helmet) after the six-month period impeded the defense efforts to fully investigate the case and preserve evidence (12). The case was dismissed, and this action was sustained upon appeal.

Ohio had a requirement for 180-day advance notice for claims against the state, with a 2-year limitation for the actual filing for all claims. Because advance notice was given only to the state and not to other defendants, it was considered inequitable and was subsequently abandoned. The District of Columbia, on the other hand, has a 180-day limitation that is strictly enforced (13).

California requires that the claim itself be filed within 6 months after the injury occurs for claims involving damage to personal property, injury, or death. All other claims must be filed within one year (14). It is extremely difficult for a claimant to circumvent these requirements, which the California courts have generally characterized as mandatory. Court decisions upholding claim filing requirements have justified them as providing opportunities to investigate, gather evidence, and prepare for a defense; quickly settle and avoid litigation; provide for the orderly budgeting and resource allocation to tort liability; and correct, remedy, or warn of highway conditions identified in the claim and thus prevent accidents.

Limitations on Judgments

Many states have established various limitations on the amounts for which parties are liable as the result of court actions. Examples of caps on judgments and special provisions of selected states follow. Maryland has a \$50,000 cap, and for private parties, there is a ceiling of \$350,000 on awards for pain and suffering. In South Carolina, the maximum recovery is \$250,000 per person and a maximum of \$500,000 per occurrence. Furthermore, no award for damages shall include punitive or exemplary damages or interest prior to judgment (15).

With the enactment of the Pennsylvania Tort Claims Act in 1978, a cap was established that limited the state's liability. The maximum amount for which the Commonwealth is liable is \$250,000 per person and \$1 million per incident for all parties (16). However, the cap differs for cities. For example, when a gasline exploded in the City of Philadelphia, resulting in many injured parties and considerable property damage, the city's applicable cap limited its liability to \$500,000 (17).

Another example of limited liability is the collision that occurred in Colorado in 1987 between a boulder and a bus. A state employee operating a state-owned bulldozer moved a 6.7-ton boulder, pursuant to highway department ditch-clearing policies, on an upper switchback of US 40. The boulder rolled 800 feet down the mountainside onto the highway below and hit a tour bus. Of the 34 passengers on the bus, nine were killed and 25

sustained injuries. The state's limitations on liability at that time were \$150,000 per person and \$400,000 for two or more persons. The state thus filed an interpleader action in district court to deposit the sum of \$400,000, and the claimants filed a motion against this action. The case eventually went to the supreme court of Colorado, which sustained (with some dissent) the district court ruling that the Colorado Governmental Immunity Act does not violate claimants' rights to equal protection of laws, access to courts, or due process.

In the decision, it was noted that the legislative committee that studied sovereign immunity concluded that a limitation on judgments provides a sound basis for rational fiscal planning and the computation of insurance premiums and was the best alternative to either no liability or unlimited liability (18). Subsequently, the legislature raised the ceiling for two or more persons to \$600,000. In addition, a procedure was enacted that allows persons who receive court judgments in excess of that amount to petition the legislature directly for an appropriation to pay the judgment that exceeds the maximum amount. Any amount so approved shall be paid from the general fund (19). The claimants, however, also brought third-party actions related to civil rights violations against various individuals in the DOT, and all claims were eventually settled for \$2.5 million.

Procedures other than caps may be employed to restrict judgments. The state of Ohio has a collateral source rule that may reduce judgment amounts (20). When a judgment is paid for a court of claims case, collateral sources of payments are deducted. Included in this category are insurance, social security survivorship benefits (widow and dependent children), life insurance, pensions, and IRAs.

A low cap in tort actions is useful in controlling a government agency's exposure. A low cap also enables an entity to operate from a position of strength in settlement negotiations. It encourages the refusal to settle cases with the objective of reducing the number of claims filed. Although there may be little incentive to settle with a low cap on judgments, consideration should be given to costs associated with going to trial (e.g., lawyers' and engineers' time and jury fees) when assessing the amount at risk.

Where cap limits are used, they periodically may be adjusted upward so that they remain defensible or reasonable in the light of inflationary trends in the general economy. For example, when Virginia first waived some of its immunity in 1982, it established a cap of \$25,000 for state agencies (21). It was later raised to \$75,000 in 1988 and to \$100,000 in 1993.

Court decisions can also impact limits on liability. It had been held in Pennsylvania that the cap applied to the total payment, including any delay damages. In a recent court decision, however, the Pennsylvania supreme court stated that where a verdict exceeds 125 percent of the settlement offer, the plaintiff collects the judgment up to the cap, plus delay damages on the entire verdict (not just the recoverable amount under the statute) (22). The interest rate is computed as 1 percent over prime. In this case the verdict was \$1.5 million. As a result of this decision, the plaintiff received \$250,000 (the cap) plus \$622,000 in delay damages, for a total of \$872,000. If the delay damages were computed on the cap alone, they would have amounted to only \$103,000, as compared with the \$622,000 awarded. This decision may encourage reasonable settlement offers and early trials. Delay damages are assessed on a period beginning one year after the case is filed. Substantial potential delay damages may promote early filing of claims, which can assist defendants in the collection of perishable evidence.

Legislation Affecting Public Agency Employees

Liability of Individuals

The duty to the public for reasonably safe travel extends to all parties responsible for the highway system, including individual employees of public agencies and private contractors. All employees have the obligation to conduct themselves in a manner so as not to cause negligent harm to any other person. An individual who violates this general duty of care generally can be sued for damages.

If a court or jury decides that an individual is liable, then a judgment for damages can be returned against the individual. Recovery of punitive or exemplary damages may be one reason for suing an individual employee, especially where the public entity is immune from paying such damages. From a practical standpoint, however, employees are not often held responsible for payment of awards, particularly governmental employees. Because the individual's assets are so small compared to those of government or even a large corporation, the larger entity is the most likely target for recovery of damages. Moreover, in the absence of malicious negligence, individuals may generate more sympathy than large, impersonal organizations.

Protection Afforded Governmental Employees

The degree of protection afforded governmental employees varies among the states. Many states have enacted a statutory provision whereby employees of governmental entities are protected against financial loss resulting from tort liability claims. A common limitation in such statutes is that employees must be acting within the scope of their employment at the time in question and that gross negligence (that which is willful or malicious) is excluded (23,24). In instances where employee indemnification is afforded, the obligation of the public agency employer typically includes retaining an attorney to defend the employee and paying all expenses incurred in such defense, including any judgment that may result. In return, the employee is required to cooperate in defending the employer.

Another mechanism used to protect governmental employees is a statutory provision that limits an injured party who initiates a suit against a public entity from bringing an action against an employee of that entity. Under most circumstances, this provides employees with adequate protection as plaintiffs will seek awards against the parties who are most capable of paying. Some trial attorneys, however, feel that it is useful to have employees appear as defendants because juries are more sympathetic toward individuals than nameless, faceless governmental entities.

Where the government is protected by a low cap on liability awards, there is a tendency for lawsuits against employees to increase. Suits against employees may provide a means for circumventing the cap in some states, although a statutory cap can be made to apply to both the entity and its employees. Even where the government will provide for the defense of its employees and pay any resulting judgment, the employees may be subjected to what some consider an ordeal. One viewpoint is that public agency employees should not have to bear this burden simply because the agency is protected. To the contrary, some defense attorneys expressed the belief that it is helpful when a jury must decide that a

specific employee's negligent performance of a duty led to the damages.

Some states have provided a high level of protection for their employees. A Florida statute contained the phrase, "No officer, employee or agent of the state or its subdivisions shall be held personally liable in tort for a final judgment which has been rendered against him ..." The Florida law was subsequently amended to bar suits against employees in most instances (25). Where suits against individual employees are felt to be detrimental to employee morale and efficiency, this type of legislation can be helpful while still providing adequate means of redress for the public.

FUNDING TORT CLAIMS

A public agency seeking to establish a risk management program may wish to consider and evaluate various alternatives for establishing a fund from which settlements and judgments are paid. Without such planning, payments generally have to be made from the general fund. This poses risks to the orderly functioning of government, particularly for smaller entities. On occasion, local governments with small budgets have been forced into raising tax rates or special assessments to pay tort liability judgments (26). In addition, budgeting for tort cost should include administrative and support costs. The cost of aggressively defending an agency facing a mounting volume of claims can be considerable.

Insurance

A basic decision concerns whether to obtain insurance with a commercial carrier or to elect and develop a program of self-

insurance. Programs may be developed combining elements of both approaches. Cities, counties, and some lesser populated states may well elect to use commercial liability insurance as a means of financing tort liability claims and lawsuits. The use of insurance, however, has ramifications that will make it difficult to pursue a management program to mitigate liability risks.

The following discussion presents some of the advantages and disadvantages of commercial insurance as contrasted with self-insurance. A simplified comparison of the major attributes is provided in Table 1. Each agency should select its funding procedure based on its resources and perceived risks.

Commercial Insurance

Advantages

The most obvious advantage of commercial insurance is the attainment of a means of protection against potentially large and unpredictable payments at a known cost within the budget. Smaller jurisdictions may simply not have the resources to insure themselves. An insurance carrier, on the other hand, by pooling risks for many policyholders, can assume the high risks associated with tort liability. A second immediate benefit is that the public entity does not have to embark on a substantial program of building staff to handle a tort liability program, which may be an insurmountable task for small agencies. Insurers are able (or may be required by regulation) to maintain reserves for pending claims. For governmental agencies, however, it is often difficult or impossible to maintain reserves. The problem is made more difficult by the substantial time that may elapse between the filing of a claim, a settlement or judgment, and disposition of potential appeals.

TABLE 1
COMPARATIVE ATTRIBUTES OF COMMERCIAL AND SELF-INSURANCE

Attribute	Type of Insurance	
	Commercial Insurance	Self-Insurance
Characteristics:		
Availability	Limited	Available
Pooling of risk	Inherent	Possible option
Insurance coverage	May be limited	None
Protection level	May be limited	None
Cost Factors:		
Predictability	High	Low
Annual amount	High	Variable
Consistency	Variable	Variable
Fund income goes to	Insurance company	Agency
Management Factors:		
Policies dictated by	Insurance company	Agency
Amount of control	Minimal	Full
Planning horizon	Short range	Long range
Feedback	Variable	Readily available
Staff requirements	Minimal	High
Staff development	Minimal	High
Employee concern	Reduced	Improved

Disadvantages

With the rapidly increasing number of tort claims and the very large awards made, maintaining insurance coverage over time may be extremely expensive. With mounting risks, insurance carriers may become reluctant to write such policies, and, when they do, premiums may be substantial. For example, in the 1980s more than 50 municipalities in California either had their liability policies canceled or could not afford to renew them (27). There may also be gaps in coverage, with some companies insisting on a large deductible amount and others imposing limits on the upper end. All such gaps reduce the ability to insure against loss and impact any program to control tort liability risks.

Within the last several years, many public entities have encountered very large and rapid premium increases, making the practicality of insurance doubtful. In those states in which immunity has recently been lost, the escalations may not yet be evident. Nevertheless, the experience of others with a longer history of tort liability clearly indicates the inevitable growth in claims and the resulting growth in the cost of insurance. For private highway contractors, insurance coverage has become a major cost of doing business.

An insurance carrier seeks to make a profit and is subject to certain taxes—costs that the public entity would not incur. Whether a public agency can operate with the same efficiency is debatable, particularly for the small entity that does not have the same ability to develop a competent professional legal staff.

With commercial insurance, there is a tendency for government personnel to think of tort liability as the insurance company's problem. This can lessen incentives for units and persons within the organization to effectively manage tort liability. There is also a tendency by insurance companies to employ means and tactics inconsistent with public agency policy and public interests, such as resistance to post-crash remedial efforts, resistance to disclosure of public records, and filing of countersuits against other units of government.

The objectives of the insurance carrier may not be commensurate with those of the agency. The obvious example of a conflicting goal is that the insurance company is most likely to attempt optimizing its position in the short run, i.e., the life of the contract. As insurance policies are generally written for a period of 1 to 3 years, a different carrier or the agency itself may be handling the coverage within a few years. The company will be interested in attempting to maximize its profit and minimize its losses within the policy period. Toward this end, the company may be motivated to settle cases simply to avoid the high cost of claims investigation and legal defense, even though a case may have doubtful liability. This may make good sense from a business point of view. From the perspective of the agency, however, excessive settlements may encourage prospective plaintiffs and increase the number of claims filed over time. Furthermore, when agency officials believe that a claim is unwarranted, they would likely act vigorously to defend the agency and protect the public funds, if free to make the decision on their own.

When an insurance carrier and its claims adjusters handle all claims, it may be difficult, if not impossible, to obtain feedback that would help the organization avoid similar losses in the future. When insurance companies retain private counsel rather than staff lawyers, which is more apt to be the situation for large claims, these outside attorneys have incentive to provide information related to loss mitigation. Once the litigation is con-

cluded, there is typically no mechanism to bill the client for such additional effort. Thus, little experience is gained by agency personnel on which to base future risk management activities, and potentially valuable staff training and development opportunities are lost.

There is often a long delay between payment of premiums and actual payment of a claim. The insurance company obtains the use of these funds during this delay period, which can run several years. A self-insurance program, on the other hand, enables the entity to benefit from the use of this money or earn interest on the amount set aside for awards. On the other hand, funds set aside for future claims in self-insured states may be subject to expenditure by the legislature and other executive branches.

The single most important disadvantage when using commercial insurance is the inability of the public entity to fully control its own affairs. Important elements in developing an effective long-range loss mitigation program are not under the control of the entity and its highway agency.

Self-Insurance

Many states (e.g., Virginia) and some other large governmental units are self-insured. The extent of exposure is such that tort payments will tend to average out each year. By financing and managing its own claims, an entity can gain a certain economy and, more importantly, expand its cost-control and loss-prevention programs.

Insurance Options

Excess Insurance

Excess or catastrophe insurance is an option that possesses features of both self-insurance and commercial insurance. Under this option, the entity assumes the responsibility of all claims up to a stated amount, thus limiting liability. An excess insurance policy protects the public agency against all losses above the fixed retention amount. This method can substantially reduce the cost of insurance, while keeping the risk for the agency within acceptable bounds. It is similar to having a large deductible amount for which the policy holder is responsible. Commercial excess coverage is considered essential for some risk financing plans. For example, the state of Wisconsin is self-insured for amounts up to \$2 million, but carries commercial excess insurance up to \$50 million with a group of insurance companies.

As large verdicts have become more common, problems have been encountered with this form of coverage. Premiums and retention amounts have increased rapidly. Furthermore, where there was a demand within the retention, carriers have pressured agency attorneys with demands that the agency settle. If the agency does not accept such demands, there may be a threat of denial of coverage, based on alleged bad-faith refusal to settle. If the carrier's position was accepted in such instances, the excess coverage would be of limited value. The result could be that the agency is pressured into settlements that could not otherwise be justified.

Self-Insurance Pools

Another solution for local jurisdictions is for small governmental units to pool together under a joint powers agreement. By this

means, a small entity may obtain a centralized claims service and the pooling of resources. The options available under a pooled arrangement are quite varied. For example, the pool may choose to hire legal staff or to contract for legal services with private attorneys. Pools are best utilized where exposures are uniform and consistent.

Establishing a Special Source to Fund Tort Costs

Some states have established a special fund from which tort liability awards are paid. In Pennsylvania, a portion of the fees derived from licensing motor vehicles is set aside in a fund for such payments. With a readily identifiable source, juries may come to recognize that judgments against public entities are paid by those who reside therein. On the other hand, juries may decide that money already set aside should be freely awarded to the injured parties.

Budgeting for Self-Insurance

The method by which an entity sets aside funds to cover potential tort claims may be prescribed by law, administrative regulations, or accounting procedures. Without the establishment of a special fund, settlements and judgments will be paid from the general fund or agency's segregated fund. In some jurisdictions, all payments, or all payments in excess of a stated maximum, require legislative action. The erratic and unpredictable nature of such payments can be most disruptive to orderly management and budgeting activities. Moreover, adequate funds simply may not be available for a particularly large claim or group of claims.

One means of establishing a tort liability fund is to establish a reserve account specifically for this purpose. For a funded reserve, payments are made to the reserve account on each budgeting cycle. The size of payments is adjusted on the basis of payoff experience and the backlog of pending claims. From a budgeting viewpoint, there is very little difference between this procedure and commercial insurance. From a cost standpoint, however, self-insurance with a funded reserve enables the agency to earn interest on the account, which may be a substantial amount.

Regulations may require an entity to maintain a funded reserve. Some agencies have an unfunded reserve, an important financial planning tool, which merely serves as a statement of anticipated future liabilities. The argument for not funding the account is to make more effective use of present revenues.

In Wisconsin, a statewide risk manager operates the equivalent of an insurance fund for the state. As reported previously, the state is self-insured for amounts up to \$2 million, but carries commercial excess insurance up to \$50 million with a group of insurance companies. Starting in 1991, the insurance companies began charging agencies premiums based on their claims experience, with the objective of funding risk fully with program revenue. It is believed that this policy influenced these agencies to become more cognizant of risk and interested in risk management. The DOT pays an annual assessment, comparable to an insurance premium, which is based on claims history. The centralized entity risk management department finances the risk from this fund. By pooling the amounts obtained from all the agencies, the state gains favorable rates on excess insurance, which is obtained commercially.

OTHER RISK MANAGEMENT AREAS

Several areas that are important or essential to a comprehensive risk management program are described below.

Environmental Liability and Real Property

Highway agencies frequently engage in real estate acquisitions and own and manage substantial amounts of real property. As owners of contaminated property, they are exposed to traditional tort liability for harms to other persons and property due to the contamination. Recent federal statutes (and some state statutes) have greatly expanded the absolute, remedial liability of innocent owners of real estate who acquire environmental liability along with the contaminated property (28-30).

Highway agencies are also exposed to liability in the less innocent role of generators, transporters, and disposal site owners of hazardous waste. Highway agencies are often in need of property on which there are underground fuel storage tanks (gas stations are built next to highways) and are liable for correcting problems associated with the tanks (31,32). These are just a few areas that highway agencies should address, and there are many other substantial risks involved for agencies that should be addressed in any risk management program.

Employee Safety and Health

Workplace safety requirements are established by the Occupational Safety and Health Act (OSHA). Injuries sustained by employees are normally paid under worker compensation acts. These state statutes provide for awards to employees or their dependents for employment-related accidents. Federal employees are covered by the Federal Employees Compensation Act. These compensation acts provide a form of insurance funded by employer contributions. As with most forms of insurance, premiums are determined by the insured's accident history. Some states successfully self-insure against such claims as part of their risk management program. Actions that reduce and mitigate injuries sustained by employees achieve savings. Therefore, worker safety programs are an important component of the overall risk management strategy. Other areas of concern for worker safety include substance abuse programs, employee drug testing, and employee assistance programs for rehabilitation.

Employee tort suits against an employer are uncommon. From a practical standpoint, they would not be productive with respect to job longevity. Most worker compensation acts make the employer strictly liable for injuries sustained by the employee within the scope of employment, without regard to negligence by either the employer or the employee. Where the act applies, it has been uniformly held that this remedy bars employee tort suits against the employer. This precludes double jeopardy, as the employer has already paid for damages through insurance premiums or a self-insurance program.

Construction Contract Claims

About 80 percent of construction contract claims are settled by determinations at the project level. Another 10 percent are settled through departmental administrative review proceedings. The re-

mainder are appealed to arbitration boards and commissions, or litigated in courts (33). Management controls are needed to mitigate awards. The risks, however, are generally small as compared with the contract amounts, and large unexpected awards are rare.

Automotive Fleet Liability

A large transportation agency may wish to undertake the complete management of its own automotive and equipment fleet liability risk. This is one area of the agency's risk that may be susceptible to management by claims investigators, as it consists of a large number of small claims. Automobile insurance companies manage their risks with claims adjusters, retaining legal counsel only when settlement cannot be achieved. A special problem may occur with commercial automotive insurance because a conflict of interest may arise for attorneys hired by the motor vehicle insurance carrier when the claimant alleges both negligent operation of vehicles and dangerous highway conditions. The carrier's attorney may seek to place liability on the entity responsible for the highway as part of the defense of the agency's operation of its vehicle.

Liaison with Law Enforcement Agencies

A few states (e.g., Nebraska, South Carolina, and Wisconsin) have the state police and the highway department housed in the same agency. In most states, however, the law enforcement function and the DOT are separated, and continuing efforts are needed to achieve effective communication and cooperation. The Maryland State Highway Administration created a position on the staff of the deputy chief engineer for traffic for a senior officer from the Maryland State Police, improving the liaison between the two organizations.

Cooperation is important between law enforcement agencies charged with accident investigation and the highway agencies that provide and operate the facilities. Police officers are generally well trained as to the criminal aspects of their work, but may benefit by a better understanding of the tort liability implications of their crash reports. Risk managers may wish to review accident report forms from the standpoint of obtaining data critical to tort liability management efforts. Highway agencies can play a major role in developing statewide, standardized accident reporting documents and systems that collect and distribute information that identifies problem areas for collective action. For example, a recent change is the inclusion of a category covering incidents occurring at roadway worksites.

Some agencies (e.g., California DOT) utilize multidisciplinary accident investigation teams to provide in-depth investigations of major crashes. In Gwinnett County, Georgia, the county police and the county traffic engineering division formed a partnership to handle on-scene investigations, with other disciplines available and used as needed. The county has two highly qualified engineers trained in accident investigation and accident reconstruction, one of whom is always on call to respond to serious accidents (34).

It may be advantageous to have highway department engineers and defense attorneys participate in training at both state and local police academies. Candidate subjects include the following:

- Information needs for building the database created from police accident reports and the importance and usefulness of the database;

- The urgency and means for passing on information regarding areas requiring attention to enhance safety;
- Accident investigation and reconstruction information needs from a liability viewpoint; and
- Problems that may be created by inadvertent criticism of highway features in accident investigation reports.

Examples of cases that suffered due to improper or incomplete investigations follow.

- The post hole for a missing stop sign was not photographed. A photo would have shown that the post had been recently pulled out of the ground.
- The critical issue was the timing of the clearance interval for the traffic signal, but the interval was not observed and reported.
- No record was made of temporary traffic control devices leading up to the point where the crash occurred in a highway work zone.
- The locations of the launch and landing points were not recorded for a vehicle that became airborne while traversing an embankment, thus precluding a computation of the vehicle's speed.

Effective relations and communications between the highway district office and law enforcement district office are most beneficial. Copies of pertinent police reports may be urgently needed, which is a need not commonly met by routine processing procedures. For example, for a crash that occurs at the beginning of a calendar year, it may take some 15 months for the incident report to be transmitted to the central office, entered in a computer database, and then included as part of the prior-year summaries sent to the district after the close of the calendar year. To correct unsafe conditions in a timely manner, information on defects may be needed immediately.

MISCELLANEOUS ADMINISTRATIVE ACTIONS

Administrative procedures that may affect the functioning of the risk management program can be examined to identify changes to simplify and improve the system. Eliminating special approval for routine risk management activities is frequently desirable. Examples of administrative impediments found in transportation agencies are described below, along with the corrective procedural changes.

Easing Travel Restrictions

Key witnesses are often out of state, and their statements or depositions are the only means of obtaining their testimonies. In many instances, other parties in the action have scheduled a deposition and it is necessary for an attorney to be present to protect the entity's interest. When special approval must be sought for such out-of-state trips, the processing time may prevent participation. A blanket approval for travel in such instances is useful.

Compensation of Witnesses

Witness fees typically allowed by governmental entities may provide inadequate compensation for those who must take time off from their jobs, and witnesses forced to testify for the defense by subpoena may not be inclined to be cooperative. Insurance compa-

nies, on the other hand, are able to reimburse such witnesses for their lost wages. The legal office could be authorized to enter into service agreements to reimburse witnesses for lost pay.

Simplified Procedures for Retaining Expert Witnesses

Standard contractual procedures for retaining consultants often require a competitive process or special justification. Such procedures usually do not meet the special needs for retaining expert witnesses, and it is often necessary to hire experts on short notice before evidence disappears. A simplified purchase order process can help overcome such difficulties. An alternative procedure might be to establish a panel of preapproved experts with prearranged fee schedules for each of the various specialties.

Some agencies have a fee ceiling for outside services or require special approval for fees above a stated amount. However, such limits may be entirely inadequate for retaining expert witnesses. Qualified experts in tort liability litigation command a high level of remuneration, and it is most desirable that the credentials and professional stature of the defense's experts be comparable to those of the plaintiff's experts.

Acquiring and Retaining Evidence

Simplified procedures may be needed for the rapid acquisition of evidence. For example, to obtain the vehicle involved in a crash, the low bid approach, which may be time consuming, is totally unacceptable. Time is critical, as once a wrecked vehicle goes through a crusher, the evidence is lost forever. Sometimes it may be best to purchase the entire vehicle from an owner or junkyard. At other times, only a component, such as a tire or brake cylinder, may be needed.

Proper procedures are necessary to store evidence (often for long periods) to prevent loss and tampering. DOTs typically have sufficient facilities to provide isolated storage. Space may be needed for large items, such as an entire vehicle or guardrail section, although in many instances, only critical components need be retained. Typical procedures instituted are the following: the building or area is secured, and access is restricted; each article is tagged and identified for ease of location and retrieval; a detailed inventory is maintained, with items logged in and out; and the inventory is reviewed periodically for retention or disposal of items.

HIGHWAY AGENCY PROGRAM ELEMENTS

TARGETING PROBLEM AREAS

To understand an agency's vulnerability to liability suits, data regarding claims and lawsuits can be studied, categorized, and summarized to identify areas of high, actual, or potential liability. The objective is to classify functional areas and geographic locations that are most likely to generate lawsuits and large judgments. Once such problems are recognized, resources should be provided to improve the most vulnerable facilities in the agency. There are many factors to be considered in developing transportation improvement programs, and improving the agency's tort liability position is a legitimate and integral part of the process. Data on claims and lawsuits provide useful information for altering policies, procedures, and operations to mitigate tort liability. Data collection and analysis procedures for relating torts costs to highway programs and features are described in Chapter 6.

RISK REDUCTION AND AVOIDANCE

Crash Reduction

The best method of limiting liability is to reduce crashes. As this effort involves almost every facet of a highway agency, programs for crash reduction extend far beyond the scope of this report. Nevertheless, it must be emphasized that crash reduction is an essential aspect of the overall risk management program. However, because crashes will continue to occur, this chapter focuses on laying the groundwork for a good defense.

In terms of mitigating liability costs, it is generally not an effective use of resources to take actions that do nothing more than reduce the risk of minor fender bender types of crashes. Priority should be given to crash-reduction measures directed toward mitigating fatal and serious injury-producing crashes, for example, installing median barriers on multilane highways.

State highway agencies typically prepare annual tabulations of accident data that identify and rank high-accident locations in categories, e.g., curves, hit fixed object, wet weather, nighttime, intersections, bridges, and highway/railroad grade crossings. These analyses, based on historic data, provide useful information for programming highway improvements that are directed toward crash reduction. Other programs are needed to rapidly identify more randomly occurring conditions necessitating immediate attention. Examples of random occurrences include traffic signal malfunctions, missing signs, impacted crash cushions, fallen trees, ponded water, and hazardous spills.

After-Crash Corrective Actions

One question often asked is whether to take corrective action after an accident, as there is concern that such actions may be brought out at trial and used against the agency. Wisconsin's

policy is to encourage its employees to use their best professional judgment and to take subsequent remedial actions without hesitation (J.S. Thiel, personal communication, 1993). If an accident provides notice of a highway defect that can be corrected or mitigated, then it is reasonable to take such action as is consistent with other priorities. If the defect was known or should have been known by the agency beforehand, then subsequent actions may have little effect on the case. It is possible, however, that an accident may give additional weight to the problem, and result in a shifting of priorities.

The admissibility of subsequent actions varies among the states. Generally, such evidence is not admissible to prove negligence or culpable conduct (35). In some states, it is admissible only for the purpose of demonstrating that a course of action was available, but may not be used to infer that the agency knew that such corrective action was needed.

Risk Transfer

A fundamental means of reducing the risk of tort liability is to transfer the risk to another person or entity. This can be accomplished by legislation, indemnity agreements, contract language, and insurance. It should be recognized, however, that additional costs imposed on others most likely will be reflected in bid prices and the cost for services. The effect is essentially to transfer insurance costs from one budget item to another. There are efficiencies that can be realized, however. For example, when a contracting party must also pay judgments against the agency, a common defense can be employed, which avoids the duplication of attorney and other support costs. Moreover, a unified defense may avoid an adversarial relationship between defendants that can often benefit the plaintiff at trial.

Indemnity Agreements and Clauses

Highway agencies can undertake risk transfer through indemnity agreements wherever reasonable. Risk is shifted in such agreements by the inclusion of a clause whereby the other party is required to indemnify the entity for certain types of liability. Activities for which such action is appropriate include consultant design agreements, construction management contracts, construction contracts, encroachment permits, rental agreements, and maintenance agreements with local public entities. Indemnity agreements are appropriate where the party most likely to make an error or omission is responsible for paying for the consequences of all errors or omissions, i.e., is the indemnitor.

Insurance Provided by Others

Risk can be transferred to contractors by requiring them to

carry adequate insurance specifically obtained to protect the agency. Insurance requirements are also advisable in encroachment permits and other instances where the other party may not have adequate resources to make indemnity alone meaningful. Indemnity and insurance agreement clauses typically specify the coverage type and amount of insurance that a contractor must carry and require that the entity be named as a coinsured party. Phraseology may be employed that covers not only the negligence of the contractor, but also the negligence of the agency, its representatives, agents, and employees. When insurance is provided by others, compliance monitoring involves making sure that (1) the contractor has insurance, (2) the agency is named, (3) the coverage is adequate, and (4) the agency receives notice of cancellation or non-renewal.

Risk Transfer to Consulting Firms

Additional considerations are involved in electing to transfer risk to consulting firms. When employing consultants to administer and inspect construction projects, the position of the consulting firm is not much different from the contractors whose work the consultants oversee. The period of performance is well defined and limited. The situation is different for design, however. One problem is that state highway agencies often use design consultants as an extension of their staffs to handle temporary work overloads. The consultant works under close supervision using the agency's standards and procedures. Therefore, once a design project has been accepted by the state, excepting mistakes, the approval provides strong evidence that the design met the standards imposed by the state.

There are two areas of risk for consultants performing design work. First, the responsibility for claims made by contractors for additional costs due to alleged design inadequacy could be transferred to the consultant. As such, it would typically be covered by insurance for errors and admissions. However, because construction may occur a considerable time after the design is completed, especially in times of limited funding, difficulties arise. Such insurance will be needed long after the work is completed and accepted. Insurance policies may be changed or no longer in force.

Second, consultant liability to the traveling public is a different matter posing additional problems. It may take years for an alleged design defect to manifest itself, and the potential liability can be enormous (e.g., a bridge failure under traffic). Insurance covering such large potential losses for indefinite periods of time may be difficult or impossible to obtain. If small firms must indemnify their clients, they may find it impossible to undertake such work. Also, with claims-made policies, which are the only type available in some areas, claims must be made during the life of the policy for a work failure that occurred during the life of the policy. Furthermore, a consultant often does not have the immunity, particularly for discretionary activities that would shield the public agency. It should be recognized that service fees will increase when additional risk is passed on to consultants. Therefore, imposing a risk on outside engineering firms for which the agency itself would not be exposed merely adds to the cost of the work. That is, risk is not simply being transferred, it may also be expanded. Agencies who are transferring risk to consulting firms are mostly doing so selectively. States using or exploring this approach include New York and Wisconsin.

RISK MANAGEMENT ACTIVITIES

Actions to Establish a Program

The following actions are fundamental to establishing a risk management program in a highway agency.

- Launch the program with the demonstrated full and continuing support of top management (a key program element).
- Define tort liability objectives in policy statements.
- Encourage sound, remedial action, regardless of pending litigation.
- Include tort liability guidelines in operational manuals, such as the design manual and the maintenance manual.
- Create a formal risk management program with supporting staff that reports directly to a top-level executive in the organization.
- Assign tort liability management responsibility to district offices.
- Incorporate risk management measures in performance evaluation reviews of districts and areas.
- Institute a progress reporting system in which risk management concerns, actions, and achievements are disseminated to operating personnel.
- Create a mechanism whereby those personnel who were responsible for or involved in a claim are informed as to the outcome of settlements, court cases, and appeals.
- Provide individual and summary data on claims and tort costs to the districts where crashes occur and to the heads of divisions overseeing the functions involved.

The district office is a level at which needed management controls can be effectively applied. District engineers generally are responsible for assuring that their personnel receive proper leadership and direction for the reduction of future harm to the traveling public. Experience has shown that the functional and area offices will not implement guidelines on their own, at least not under traditional review and evaluation criteria (36). Although central office assistance to the districts and review of the districts' performance is necessary, the central office is too removed from the areas to provide effective control. While central office sponsorship of certain risk management policies and forms is necessary for uniformity, efficiency, and effectiveness, the district staff work daily with and are in close geographic proximity to area construction and maintenance managers.

Review of Policies and Manuals

A systematic review of all the agency's relevant policies, guidelines and manuals is an initial element of a risk management program. Such documents essentially define the manner in which various activities are to be performed. A plaintiff's attorney can then readily establish what a reasonable and prudent person should do—simply follow the agency's written instructions. When the agency sets standards that are not readily achievable or routinely followed, exposure to liability is greatly increased.

Procedures should not be established unless they can be consistently followed throughout the organization. While this may seem obvious, this principle is frequently ignored. One example of such a violation is often heard from contractors working for a highway

agency. The complaint is that the private contractor is forced to conform to the state's traffic control manual and provide extensive devices and procedures for traffic control, while the department's maintenance forces working down the road are not.

In the past, agencies wrote manuals with strong language to force an upgrading of procedures, and little or no leeway was given in their application. At this time, however, much of the desired improvement may have been obtained, and tort liability has become a major concern. To reduce the agency's vulnerability to lawsuits, it now may be desirable to soften the strong language that previously served a useful purpose.

Such reviews typically are undertaken jointly by the attorneys from the legal office and the agency's risk management staff and engineers to ensure that content and wording are acceptable from both viewpoints. Once the initial work has been completed, a procedure is established that provides for the review of all new written material that may affect the agency's tort liability. Guidelines for reviewing an agency's documents are provided in Appendix A.

When implementing this program, priority is given to those manuals that create the most liability exposure and to those most in need of updating. When this work was undertaken by the Pennsylvania DOT, documents associated with the following systems were selected for the initial undertaking: notification of potential hazards (complaint handling), maintenance manual and instructions, occupancy processes (utility regulations), and driveway manual (driveway regulations) (37).

Variations from Agency Guidelines

There will be occasions when deviations from the agency's standards and guidelines are needed and justified. From a liability standpoint, two steps are critical when such variants are issued. The first is to show that the guideline was considered, but, on the basis of an engineering analysis, a decision was made to handle the situation differently. Second, the reason for such variation and its approval by competent authority needs to be documented. The point is to be able to show at some future time that a conscious, considered judgment was made, rather than an omission or oversight.

Another important principle is that variations from agency guidelines be approved at the same level in the organization at which they were established. This procedure ensures that all pertinent factors are considered. While some delegation of this authority may be granted for routine matters, it is important that the office that promulgated the guidelines be apprised of variations that ensue.

Review Documentation Procedures

A systematic review of the agency's data collection and documentation procedures is periodically undertaken in a risk management program. Items of concern include accident statistics, accident reports, design computations, project diaries, inspection reports, maintenance records, and complaint/response records. Two basic questions are involved. First, does the agency take notice of information that it has in hand and respond to it in a timely and appropriate manner? Second, does the agency document what it does and why it is done in the manner selected? If

situations are found where these questions cannot be answered in the affirmative, remedial procedures are indicated. To protect themselves in a court case, agency employees need to prove that they are performing their duties in a reasonable and prudent manner. A primary method of proof is good, clear, orderly, and consistent documentation.

From a procedural standpoint, key questions to be addressed during the documentation review are as follows. Is the information:

- Evidence that appropriate remedial action may be needed?
- Needed to defend against potential litigation?
- Prepared in a positive and helpful manner from a defense standpoint?
- Reviewed and acted on?
- Recorded in a form whereby items can readily be retrieved?
- Held for the proper amount of time?

Joint Safety Programs with Unions

There are many highway organizations today with unionized personnel. Some agencies find that unions restrict their ability to fully manage these forces. The maintenance division of the New York State DOT has found otherwise. By actively pursuing the cooperation and support of the union, the agency has gained an active partner in programs oriented toward worker and road user safety.

Joint Safety Programs with the Construction Industry

As discussed previously, several agencies require their contractors to indemnify the agency when performing work under contract. The result is that contractors' costs for workers compensation and tort claims insurance are included in bid prices. Indemnification of the state may merely shift some of the expense from other agency programs to its construction program.

The New York State DOT instituted a construction industry joint initiative that addresses both worker safety under OSHA and road user safety. By working with the construction industry to promote and enhance safety, benefits accrue to contractors, the state, and the traveling public. Considering the size of the construction program, the potential savings through this program are greater than the awards paid through the state court of claims. Because safety related costs were borne by contractors, these costs were not a primary concern to the state's project personnel. This new program aims to change this indifference of state employees toward such costs and to familiarize both agency and contractor personnel with improved safety practices.

The in-house portion of the program includes the allocation of new positions. Construction safety coordinators were appointed in each district, and a statewide coordinator was named in the construction division of the central office. Three major training sessions were conducted to develop the basic technical skills needed by project coordinators, who, in turn, provide guidance and training at the project level. Concurrently, major emphasis was placed on informing the construction industry of the state's safety efforts and enlisting the industry's support. These efforts included a number of meetings and training sessions and continuing dialogue on numerous technical and policy issues related to health and safety.

Training Programs

Training programs are an important part of an organization's risk management program. Through training, employees can be made aware of the loss prevention and safety aspects of their activities and become familiar with agency policies and procedures. During depositions, agency employees are often asked questions regarding training they have received that enables them to effectively perform their responsibilities. It may be damaging when the agency has not addressed such needs.

Need for Training

Formal training programs can improve workers' awareness, attitudes, practices, and skills. The need for training in an organization emanates from changes in work techniques and procedures; new standards or job requirements to be put into effect; turnover in personnel; and reminder, reinforcement, and updating of previous training. Note that by the very nature of these needs, particularly the latter two, training should be a continuing activity.

Types of Training

Each unit within a highway agency may need specialized technical training. Those functions that have a primary relationship to highway safety are design, construction, maintenance, and traffic. In addition to technical training, these groups also can benefit from learning about tort liability. Such education and training are appropriate for all levels within departments of transportation—managers, supervisors, engineers, technicians, and field personnel. Training programs similar to the following have been conducted at various levels for several agencies (38).

A 1-day seminar on implementing a tort liability program for senior management personnel (department heads and higher) is important in launching, altering, or reinforcing a departmental risk management program. The objective is to explain and gain support for policy and resource allocation changes that may be needed. To be successful, top management must support and participate in such seminars. Note that this is not called "training," as the term is not conducive to management participation. Such a seminar was conducted in 1989 for senior department personnel in the Ohio DOT. A 2-day course on highway engineering concepts has been conducted in Pennsylvania and Texas for legal and claims personnel involved with highway litigation.

A 2- to 2½-day course on managing highway tort liability provides an in-depth examination of the problem and potential solutions. The course includes workshops where participants examine actual cases and participate in mock depositions and trials. The course is designed for senior agency personnel who may be involved in working with the attorneys and persons who may be called to be deposed or to testify at trial. Appropriate groups include supervisors, engineers, and managers. Such courses have been given in Michigan, Ohio, and Texas. On completion of the training course, participants should be prepared to:

- Understand the clear legal duties of agency personnel;
- Comprehend the changing climate in which highway agencies are increasingly vulnerable to tort liability litigation and judgments;

- Identify potential liability situations;
- Recognize appropriate actions to mitigate liability;
- Work effectively with the legal staff and others in the defense of their agency;
 - Participate in legal processes, such as being deposed and giving testimony at trial; and
 - Support risk management program objectives.

A 1-day course on mitigating highway tort liability provides an overview of public agency liability, sensitizes participants to the problem, and presents guidelines on actions to take to reduce liability. It is appropriate for field supervisors, technicians, engineers, and mid-level managers. The objectives are the first four items listed above. Courses of this type have been conducted throughout Virginia (39).

Michigan's risk management program is aimed at providing local road agencies with the necessary tools to implement a risk management program in their own county or community. There are several components to the program (40). First, there is a short educational component conducted by Wayne State University in Detroit aimed at convincing policy decision makers of the value of a risk management program (4). Once a commitment to implement a program has been made, managers and engineers participate in another component on implementation procedures. This course lasts 4 to 5 hours and is conducted by Michigan State University (41). In addition, direct assistance is provided to road agencies to assist them with the implementation.

Some agencies have disseminated information in written form to alert their employees to tort liability concerns and to encourage better safety related performance. The Virginia DOT distributed 12,000 booklets to its employees informing them that both the agency and its employees are at risk (42). The booklet defines those activities for which the state and individuals have been sued in the past. Steps being taken to manage the risk of tort liability are explained and input, and cooperation from employees is requested. The Pennsylvania DOT circulated a similar pamphlet to its maintenance forces (43). The effectiveness of these efforts is difficult to evaluate, but it is suspected to be minimal, compared to classroom training.

Several agencies use videos for training. General purpose videos are available commercially on subjects such as preparation of expert witnesses, testimonies of engineers as expert witnesses, and depositions. The Pennsylvania DOT has developed and uses videos specifically oriented to highway agencies, and the following videos are available for purchase.

Video	Running Time
"The Deposition"	17 minutes
"The Transportation Employee as a Witness"	24 minutes
"Torts are Everybody's Business"	5 minutes
"Tort Awareness"	34 minutes
"Extra Eyes for Maintenance"	32 minutes
"Risk Management/Tort Litigation"	20 minutes

Certification Programs

Risk managers may wish to review certification programs to ensure that the overall objectives of the organization are met and that such programs are competently administered and operated.

Typically, certification programs designate individuals who are qualified to perform a specific activity. To be responsible and meaningful, requisites for certification generally include prior acceptable experience, formal classroom training, passing of an examination, and periodic recertification. Two such programs directed toward improved worker and public safety are (1) certified work site traffic supervisors for highway contractors, and (2) flagger certification programs for both agency and contractor personnel. In states requiring such certification, all persons must have a current certificate before acting in these capacities on state highways.

There are mixed opinions regarding liability associated with such certification programs. One view is that the program helps demonstrate that an agency is doing what can reasonably be expected to assure proper performance of its personnel and those of its agents. Others have been reluctant to combine certification with training on the grounds that it may increase the agency's liability. For work area traffic control, for example, certifying maintenance foremen as certified traffic control supervisors may be setting them up to perform in a manner more appropriate to that of engineers. On the other hand, requiring contractors to use well-trained personnel demonstrates the agency's commitment to safety.

CHAPTER FIVE

CLAIMS MANAGEMENT

CLAIMS MANAGEMENT ACTIVITIES

Management of claims includes processing, investigation, negotiation, and settlement; conducting court cases; and handling appeals. The unit responsible for this function may be located in the legal branch of the governmental entity, in a department of general services, or in an operating agency, such as the DOT (e.g., New York). Regardless of where the unit is housed, the management of claims involves legal, clerical, and technical personnel.

Identifying Potential Claims

Certain types of evidence, such as highway conditions and traffic control procedures in work areas, often disappear. Damaged vehicles may also be repaired or junked. Therefore, it is important to identify potential claims as soon as possible, recognizing that actual filing may occur up to a year or more after a crash, depending on state law. Early identification enables the agency to assess potential liability and to make discrete preliminary investigations, when warranted.

Potential claims are identified in several ways. Police accident reports are a primary source. Procedures are also established whereby field personnel report incidents they suspect might give rise to claims. Requests for information received from investigators, adjusters, and attorneys are screened to identify possible lawsuits. Typical information sought includes accident statistics at specific locations, reports on traffic signal malfunctions, and maintenance records. Media news stories and complaints from private parties are other indicators.

As discussed in Chapter 2, this effort is done at the local or district level by someone such as a district claims officer. Files on potential claims may need to be retained for several years to account for the statute of limitations, plus a period to accommodate legal exceptions to the statute (incapacitated persons unable to file and minors who can file on their own behalf upon becoming adults). Once a claim is filed, material in the potential file is transferred to the claim file.

Receiving Claims

All claims for damage against the public entity must be filed in accordance with applicable laws. Typically, regulations are developed to define and standardize the filing procedure, obtain all information required, and name the proper receiving unit. Moreover, employees are instructed to neither accept claims nor act as forwarding agents. Letters or bills for damages indicating that payment is anticipated or that a claim may be forthcoming are forwarded immediately to the claims office, together with a memorandum explaining the circumstances of their receipt, when appropriate.

Maintaining Claims Files

Claims files usually are maintained in the custody of claims personnel wherein all known information pertaining to potential claims, actual claims, and related legal actions is readily available. The claims officer and investigators of the legal office, as agents of the entity's legal representative, have access to all the agency's files and are authorized to interview and take statements from employees. Files of potential claims are maintained in the district claims office, and files of notices or actual claims in the central office, either with the risk or claims manager or the legal office.

Maintaining Confidentiality of Claims Files

Confidentiality of claims files is at risk in some states, while other states report no problems (e.g., New York). Notwithstanding, the following steps can be taken to protect these files:

- All copies of communications and investigative reports made with reference to any potential claim, actual claim, or lawsuit are forwarded directly to the claims officer for transmittal to the legal office, as appropriate;
- All copies of correspondence and reports relating to investigations of potential or actual claims are retained only in the files of claims officers and the central legal office;
- Documents placed in these special files are clearly marked confidential and with a statement noting that the contents are for the purpose of defending the agency in potential or actual litigation; and
- These confidential files are locked, and access to them closely is controlled.

This procedure is designed to assure that the attorney/client privilege is not waived, thereby exposing the entity to the possibility that information given to the entity's attorneys could be disclosed to an adverse party pursuant to a court order. The argument that materials in these files are privileged is based on the concept that they are maintained specifically for use by attorneys who are or may be involved in litigation. If the information in them is disseminated too far, the privileged nature may be disallowed.

Release of Information

Unless prepared specifically for governmental staff or defense attorneys, most engineering plans, photographs, reports, or other data that will or might be used in connection with a pending or potential claim are available as a public record. To monitor release of such information, responses to such requests typically are coordinated with the claims officer or legal office, and information or data are not created or assembled without prior authorization. In a

state having a public records act that requires the release of information, a mechanism can be established whereby the legal office is notified.

A federal statute provides protection from safety studies being used against an agency (44). The statute covers reports and other data compiled for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites or hazardous roadway conditions, or for the purpose of developing any highway safety improvement project that may be implemented using federal-aid highway funds. The statute declares that these items shall not be subject to discovery or admitted into evidence in federal or state court or considered for other purposes in any action for damages arising at locations mentioned in such reports or data. A recent amendment includes expanding protection to encompass discovery (45).

Pennsylvania has a statute that pertains not only to in-depth accident investigations and safety studies themselves but also to information, records, and reports used in their preparation. This has been interpreted to include accident reports, accident statistics, and correspondence. Such materials shall be neither discovered nor admissible as evidence in any legal action or proceeding, nor shall persons charged with their development, collection, or custody be required to give depositions or evidence pertaining to them (46).

Other states also prohibit introduction of police accident reports in any litigation. In Wisconsin, written accident reports requiring filing with state or local authorities shall not be used as evidence in any judicial trial, criminal or civil, arising out of an accident (47).

In most states, an agency's manuals can be cited by plaintiffs in their efforts to establish a minimum standard of care. In Virginia, however, case law has asserted that an agency's internal guidelines are not admissible. The wording in this decision is, "Private rules issued by an employer applicable to an employee-defendant are inadmissible in evidence either for or against a litigant unless he is a party to the rules" (48).

Feedback from Cases

Experience gained from the legal process can be a valuable management tool. Formal feedback procedures to report the facts of cases may be needed, especially considering that attorneys overseeing cases typically are in separate agencies, and once a case has been litigated, other pressing work awaits. The following mechanism is used by the Commonwealth of Pennsylvania.

For cases involving a settlement or judgment, the attorney for the Commonwealth submits an order for payment to the DOT, as the payment is made from the agency's funds. A short settlement or judgment memorandum is attached that summarizes the facts of the case, an analysis of liability, and the outcome. The department, in turn, distributes the memorandum internally to those parties involved and to others who can learn from the circumstances. In situations where the defense prevails, optional win reports may be circulated in a similar manner. Summaries of litigation results are prepared annually or semiannually by the DOT from information furnished by the office of attorney general. These reports pertain to cases taken to trial and settlements made above a certain amount. In addition, individual attorneys may circulate a short memorandum to describe wins or losses at trial shortly after they occur, rather than waiting for the other routine reports to be formulated.

CRASH AND CLAIMS INVESTIGATIONS

Law enforcement personnel will usually investigate highway crashes to determine causation and violations of law; nevertheless, highway agencies may find it advantageous to conduct their own investigations. Reasons for supplementing standard police reports include the following.

- Police reports fulfill a different purpose and may be deficient with respect to information needed by the highway agency.
- Rapid corrective or remedial action may reduce the harm to the traveling public.
- An engineering evaluation of the situation may be required.
- If it appears that a claim may be forthcoming, additional information may be needed for the preparation of an adequate defense.
- In some instances, such as work area traffic control, corrective action may be needed before the police report is filed.
- The crash may establish notice of a potential problem or defect.
- Investigation enables personnel to testify firsthand as to findings.

The legal office or the office of the central risk manager can institute supplemental investigations when it is necessary to contact the claimant, the claimant's attorney, investigating police officers, third parties, and witnesses. Such work may include the taking of statements and the checking of hospital and medical records. Depending on the circumstances, these investigations are performed by the attorney handling the case, investigators of the legal office, personnel in the central risk management office, or the district claims officer. Whenever an investigation reveals a situation or problem that affects an operating agency, the appropriate department head within that agency is informed.

The Michigan DOT has an early site investigation program staffed by about ten part-time contract investigators. Accidents that are likely to develop into a lawsuit are identified using a statistical analysis of prior cases. The objective is to obtain contemporaneous evidence of items that may be perishable (49). The Pennsylvania DOT has published procedures for the collection of perishable accident data (50).

SETTLEMENT PROGRAM

A well-managed settlement program is a key element of the risk management program. The objective of a settlement program is to dispose of those claims that, for various reasons, should not be carried through the trial process. Although some agency personnel want to take a hard line and not settle any cases, this view rarely prevails. Proponents of this approach believe that it will reduce the number of claims by discouraging potential plaintiffs. It has been expressed, however, in situations where the agency's own investigation reveals that it was negligent, from a public policy perspective, that the only valid reason for using public funds to defend the agency is the inability to arrive at an equitable settlement.

The primary reasons for settling cases are to do the following:

- Dispose of claims where the cost of litigation will exceed the cost of settlement,
- Convert an unknown and potentially large judgment into a known acceptable amount,

- Reduce the case load to the point where the legal staff can concentrate on those cases having the highest potential risk or the greatest chance of a successful defense,
- Quickly dispose of cases where liability is clear and a failure to act promptly will result in adverse publicity, and
- Avoid increased costs due to general inflation for claims that go unresolved for extended periods.

The legal office normally has the basic responsibility for the settlement program. Where the amounts are small, however, settlement authority can be handled by non-lawyers. For example, the risk manager's office may settle all cracked windshield cases. Typically, settlements up to a specified amount may be approved by the personnel in the risk management office, and larger amounts are approved by the agency head or his or her designated deputy. For example, the breakpoint is \$35,000 in Ohio and \$50,000 in Michigan.

The state of Alaska has an innovative procedure designed to encourage reasonable settlements. The state's statute increases the interest rate that a successful plaintiff offeree is entitled to if the plaintiff eventually receives a judgment that is higher than the amount offered. The plaintiff's interest rate is lowered if the eventual judgment is less than the defendant offers (51). Furthermore, for settlement offers made more than 10 days before a trial begins, the following rule applies. If a defendant makes an offer that is not accepted and the total judgment (not just the jury verdict) is less than the offer, the defendant is entitled to reasonable costs and attorney fees from the time the offer is made until the verdict (52).

Claims Evaluation

The first step toward claims resolution is an assessment of the agency's degree of fault. If the internal investigation clearly shows that the agency has a potential risk or was clearly at fault, then a vigorous attempt is made to settle the case. It may not be possible, however, due to statutory or administrative settlement ceilings or the inability for the two sides to agree on a fair settlement. If a settlement is agreed on, both sides avoid the expense of litigation and the plaintiff receives payment sooner.

The second step is an evaluation of the risks involved in going to trial and the relative probabilities of a successful defense or a sizable verdict against the agency. Such assessments are made by highly knowledgeable and experienced attorneys, most likely the attorney assigned to defend the matter. It is recognized that with badly injured parties when a plaintiff establishes an arguable case, a sympathetic jury may consider the evidence in a light most favorable to the injured party.

Responsibility for Decisions

Routinely, final settlement decisions are made by persons without a vested interest in the case. Engineers and supervisors closely associated with the persons or unit alleged to have been negligent may have an emotional involvement and want to try the case regardless of the risks involved. On the other side, the lawyer who will defend the case may have a personal bias, wanting either to try the case or, conversely, to avoid a difficult case that could adversely affect a winning record. In most governmental entities, settlement decisions must be documented and approved. Where

tort liability costs are paid from agency funds or budgets, the head of the agency or a designated subordinate generally must agree to and sign the settlement.

The decision-making group often includes legal, risk management, and engineering expertise. An example of the importance of technical input is as follows. For a case in which a truck fell through a small bridge, it was alleged that the crash was caused by the deteriorated condition of the structure, a conclusion that at first seemed obvious to the defense attorney. However, a subsequent engineering evaluation revealed that the truck was overloaded and exceeded the posted weight limit. Thus, this information formed the basis of a successful defense.

Structured Settlements

Structured settlements are used now in several states as a means of inducing settlements with what appears to be large awards. In essence, as part of the award, the defendant purchases an annuity that provides for regular payments made to the plaintiff during the remainder of his or her life. As payments are stretched out and the fund earns interest, the cost to the agency is greatly reduced. The plaintiff is guaranteed a regular income, which cannot be dissipated through poor financial management by the agency. A plaintiff may also obtain tax benefits from a structured settlement.

When such settlements appear appropriate, outside experts commonly are consulted on methods to obtain an appropriate annuity. Frequently, the agency's premium is a one-time payment and the liability for all future payments is transferred to the party from whom the annuity was purchased.

SELECTING CASES TO APPEAL

The basis for appealing a court decision is usually an alleged error in trial procedure or application of the law. The cost involved in an appeal makes its use impractical for small judgments, unless a substantial question of law is involved. Cases resulting in large judgments are reviewed and, where there appears to be a valid basis, an appeal is initiated. Sometimes, simply filing a meritorious appeal may lead to a settlement below the initial award made by the trial court. For example, a jury in Virginia awarded a \$1.2 million judgment for the plaintiff, which was appealed by the Commonwealth. If the decision had been upheld, the state would also have had to pay interest from the date of the verdict. Prior to a decision by the Court of Appeals, a settlement was reached for \$775,000 (53).

There is a more important criterion for appeal, however. Adverse court decisions can build up a body of case law that may substantially affect governmental liability in the highway area. A well-conceived risk management program carefully selects those cases for appeal that would set adverse precedents. This approach is far more beneficial in the long term than merely focusing on those cases involving large monetary verdicts.

The decisions to appeal involve an assessment by the chief legal officer, based on a recommendation of the attorney who defended the case, on whether the legal principle involved is substantial or whether the alleged error affected the outcome of the litigation. These factors are carefully balanced against the resources available to successfully prosecute an appeal.

OTHER METHODS OF DISPUTE RESOLUTION

Arbitration

Arbitration is an alternative means of resolving some tort disputes; it is used in a few states and is being considered in several others. Enabling legislation and standard procedures may be necessary before this method can be instituted. For example, in Pennsylvania, cases involving claims under \$20,000 to \$50,000 (varying by county) can be brought before an arbitration panel consisting of three attorneys. A judge is involved in pretrial procedures, but not at the proceeding. Procedures may be simplified, and there is a right of appeal to a jury trial conducted before a judge.

Mediation

In Michigan, as part of its case-reduction procedures, all highway tort liability cases are mediated before trial with the objective of reaching a settlement. Parties prepare mediation briefs and receive about 15 minutes to present their side of the case to a tribunal consisting of three attorneys. The mediator proposes an amount for settlement, but neither party is bound by the mediator's figure. However, if a party does not accept and loses at trial, financial sanctions such as costs and attorney fees are imposed (49). Mandatory nonbinding mediation recently has been instituted in Philadelphia as a method of reducing the case backlog. Parties are required to submit settlement memoranda to the judge overseeing the case.

Administrative Tribunals

One means of speeding up the claims process would be to remove much of the process from the judicial system. Tort claims could be handled by an administrative tribunal using a compensation schedule patterned after workers' compensation. This approach would require legislative action, however, and it might be difficult to achieve in those states where immunity has been abandoned.

In Ohio, claims of \$1,000 or less are handled by an administrative procedure. Claims are filed with the clerk of the court of claims, who sends copies of the complaint to the defendant agency and the attorney general. The agency investigates the claim and must file a written answer within 60 days. The claimant may respond to the answer within 21 days. The clerk may then request, by an order of the court, further information from either party. After all information has been received, the clerk will make a determination. Within 30 days, either party may move for a review of the determination.

Small claims under \$5,000 against the New York DOT are handled entirely within the department as an administrative procedure. Other states also use this procedure to facilitate claims resolution.

Small Claims Court

Most states have small claims courts that provide expeditious, informal, and inexpensive adjudication of small claims. Proceedings are very informal, with parties normally representing themselves. In some states, the agency can be represented by claims personnel who are not lawyers. As these courts are usually limited to small debts and collections, few significant tort cases could be handled.

COLLECTION PROGRAMS

Many crashes involve damage to highway department property, such as guardrails. Unless the driver can show that another party caused the crash, he or she may be held responsible for the cost of repairs to the highway system. Given the large number of property damage accidents, the total cost of repairs incurred by the department is significant. Therefore, comprehensive risk management programs generally include collection and subrogation components. Costs for personnel, material, and equipment making repairs are prepared in the district office and transmitted to the central office. Here the costs are screened, recalculated with an additional overhead, and sent out as invoices.

The State of Oregon has an aggressive program for the collection from negligent parties for damage to agency property. Oregon's staff consists of one full-time person and the half-time services of one attorney. Claims are resolved through small claims court, restitution requests, settlements through insurance companies, and litigation. Legislation supporting the program makes insurance mandatory and enables suspension of an operator's license or vehicle registration, or both, for nonpayment of judgment arising from a motor vehicle crash. Collection program benefits include training of personnel in accident investigation procedures, increased awareness of road conditions, and money returned to the state. Collections during the period 1984-1988 averaged \$887,000 per year (54).

New York's collection program is supervised by the claims manager in the DOT. The personnel positions in the claims unit are self-funding. The income generated not only pays for the collection program, it also returns significant funds to the department. Wisconsin's program, housed in its risk management office, generates in excess of \$1 million in annual revenues. To make more efficient use of its staff, the California DOT has placed its program in the hands of a private collection agency.

In creating a collection program, agencies may also seek reimbursement for losses other than property damage caused by third party negligence. For example, should an agency employee be injured on the job due to third party negligence, some of the benefits paid to the employee under workers' compensation laws (e.g., medical expense and wages loss) may be recovered from the third party depending on applicable state law. Some agencies believe that an aggressive program may encourage reciprocal claims. Fatal accidents are one type of claim that may not be worthwhile to pursue due to collection difficulties and the potential for countersuits.

FORECASTING AND ALLOCATING TORT COSTS

FORECASTING TORT LIABILITY COSTS

Cost Reduction Goal

Effective risk management includes agency anticipation of probable payments due to tort liability. Only when this cost can be predicted can management formulate programs that balance investments for the reduction of tort liability against the many other agency programs.

A goal of risk management is to reduce costs expended in the areas where the agency is exposed to risks. As stated in Chapter 1, money is not the most important item, especially as compared with human suffering resulting from crashes. It is simply that money is the common denominator of property damage, personal injury, lost wages, pain and suffering—all of which are included in claims and awards for damages. Costs incurred by the agency—administration of risk programs, additional positions and duties, lost productive time, personnel time spent in testifying—can also be expressed in money terms.

Management Principles

A basic tenet of management is that responsible officials need to know the magnitude of a problem to make reasonable decisions about the resource allocation for the problem's solution, and the characteristics of a problem need to be understood to develop a course of action that will bring the problem under control. With regard to tort liability, many agencies lack a clear picture of the sources and size of their present and future risks. An analysis of present day costs only shows the situation in years past, when there were significant differences in the litigation climate, laws affecting liability, and agency practices.

Administrators can best manage on the basis of current data and up-to-date forecasts. Often there is a large time lag (5 to 10 years) between crashes and final liability payments. One to 2 years can elapse before a claim is filed, and several more years can pass before it comes to trial. Additional time passes before the court renders its decision in claims courts. More time is involved if the case is carried through the appeals process. Therefore, agencies that attempt to manage risk on information obtained from closed cases are basing decisions on historic data that may bear little relevance to the present and still less to the future.

Data used for accounting purposes must be accurate, which means that it is not available until well after the accounting period has closed. Data used for managing must be available during the period so that decisions can be made that impact the results obtained during that period. For managing ongoing operations, contemporaneity is essential, and accuracy is less important.

Database Requirements

The advantage of using data from closed cases is that the costs are known, readily available, and fixed. It requires more effort and well-trained personnel to forecast costs, and reports must be constantly updated as anticipated costs change and estimates become fixed. In the tradeoff between using current estimated data and old accurate data, the former is generally superior and preferred.

There is also a tradeoff between using a small, accurate database and a larger, less accurate one. When dealing with highway crashes, with an inherent quality of randomness, a large database generally is preferred. This is why accident data are aggregated over time and highway systems in order to analyze problem areas and trends. Crashes are statistically rare events; therefore, claims that result from crashes are even rarer. Given the enormous exposure in terms of vehicle miles of travel, however, the number of claims reaches problem proportions. To obtain a large and timely management database, potential, pending, active, and closed cases should be included.

The database is used to measure existing and projected future risks and also to monitor the effectiveness of the risk management effort in terms of reducing risk. To provide proper feedback with respect to operation of a department's normal ongoing functions, tort liability costs should be associated with each of its functions. With this information, managers can adjust how those functions that make a major contribution to risk are performed.

Risk Assessment Difficulties

One difficulty in assessing risk is that it is neither directly dependent on the agency's own programs nor susceptible to objective measurement. The analysis of tort claims presents difficult questions. In many instances liability is very tenuous. However, when liability is found, tort cases often involve serious injuries and large, potential damages. Moreover, the possible extent of damages, the degree of liability, and the probabilities of a successful claim vary widely. The evaluation of overall risk is a probabilistic exercise. The accuracy with which one can estimate the overall risk is related to the number of cases to be evaluated. Small jurisdictions with a corresponding small number of cases should recognize that their best forecasts could be greatly in error. The long delay between the time of an incident and the ultimate resolution of the resulting claim raises a fundamental problem in quantifying (in dollars) exposure to tort liability. Generally, attempts to estimate dollar exposure have been at best unreliable and at worst worthless in terms of financial planning.

Despite the difficulties inherent in the process, the estimation of risk is done routinely by others for both individual cases and the backlog of actual and pending cases. The regulations under which insurance companies operate generally require that the companies maintain sufficient reserves to pay pending claims. Some entities

are required or at least endeavor to maintain adequate funds to cover projected claims against the state. For example, the Virginia Tort Claims Act states that the risk management division and the attorney general shall cooperatively develop an actuarially sound program for identifying, evaluating, and setting reserves for the payment of claims cognizable under the act (21). While California does not have a reserve fund to cover projected losses as would be required of an insurance company, each annual budget contains an item in the DOT program to pay for settlements and judgments. If the amount (currently about \$37 million) is insufficient to make all payments, then some payments will slip into the next fiscal year when a new appropriation becomes available. On rare occasions, a current budget may be augmented to handle payments. In recent years, however, the budgeted amount has not been adequate to cover all settlements and judgments.

Identifying General Trends

An agency whose immunity was recently lost or diminished likely will experience annual tort costs that increase at a rate that is not a simple extrapolation of the past. One method to predict the effect of such changes is to examine the curve for another agency that lost its immunity earlier. Typically, there is an initial lag, then a significant increase in the slope of the curve (e.g., California and Pennsylvania). It may be several years before the total impact of the loss of immunity is felt. It takes time for plaintiffs and attorneys to become fully aware of changed conditions and for cases to work their way through the judicial system.

Estimating Risk for Individual Cases

To calculate the risk in terms of individual cases requires an ability to judge the likely amount of the verdict, and the various probability factors affecting the likelihood and the amount that the agency may ultimately be required to pay. Elements to be considered and evaluated, where applicable, include facts of the case, likely jury tendencies, outcome of a trial, contributory negligence, comparative negligence, joint and several liability, and equitable indemnity. Added to this amount is the expense incurred in defending the case.

The basic formula to calculate risk is the product of the following amounts and probability factors, all of which must be estimated:

- The likely amount of the payment if the claimant wins;
- The probability of a verdict for the plaintiff;
- The proportion remaining after considering comparative negligence of the plaintiff, where applicable; or the probability that contributory negligence will not bar any recovery, where applicable;
- The proportion for which the agency will be held responsible, where other defendants share the burden;
- The likelihood that other defendants will not be able to pay their share, depending on the insurance coverage and financial resources of the other defendants (joint and several liability); and
- The probability and portion of the burden that may be shifted to others (equitable indemnity or expressed contractual indemnity).

The ability to calculate the probable size of a jury verdict requires experience in trying personal injury cases combined with a thorough examination of medical records and consultation with medical and economic experts. To determine the comparative negligence of the plaintiff or the chances of a verdict for the plaintiff requires a knowledge of all facts relating to the cause of the crash, an understanding of applicable law, and experience in how trial courts do in fact apply that law. Comparative indemnity again requires the ability to apply this relatively recent field of law to the facts of the case. Finally, this may all be affected by whatever indemnity rights the parties may have to shift the risks of loss to others, which involves the application of rapidly changing legal principles.

The application of this procedure is complex and requires much expertise and experience. Nevertheless, the information is basic to the development of a risk management program. As extensive legal knowledge is requisite, the task is best performed by or in harmony with senior personnel in the legal office. The establishment of definitive guidelines for performing this process will assist in reducing variations between individuals making such assessments.

ASSIGNING COST BURDEN TO RESPONSIBLE UNITS

One question that arises is from which budget allocation should a particular tort liability judgment be paid. If a fund has been established for this purpose, the question may have already been answered, or there still may be questions regarding the source of money paid into the fund. An applicable management principle is that managers strive to optimize the system under their control and tend to ignore elements and forces outside their authority. For example, if tort costs are paid by general funds, there is reduced incentive for the manager in charge of the highway department to place a high priority on controlling these costs. If, on the other hand, tort costs are paid directly out of the budgeted funds from which the manager operates, there will be a significantly increased concern.

Following this line of reasoning, highway agencies would budget for and pay tort costs when their department is found responsible. By this means the highway department budget represents a more accurate total cost of doing the business of providing highways. The highway manager is forced to consider tort liability costs and to evaluate tradeoffs between programs and activities that will reduce tort costs and other programs that fulfill the agency's mission. It becomes reasonable to expend some budgeted funds to reduce tort liability costs, for example, allocating personnel to risk management activities. Charging tort costs directly to the responsible agency, however, has the following disadvantages.

- Unusually large tort costs in any one year may be disruptive to the organization and its ability to perform its regular work.
- Some crashes and the resulting settlements are beyond the control of the agency, and the agency should not be the insurer of others.
- Policies and procedures may already have been improved; thus, any additional incentive for change is not needed.
- Some awards are seen as unreasonable and unfair; consequently, penalizing the agency may not provide positive incentives to improve the agency's operations.

ATTRIBUTING COSTS TO AGENCY ACTIVITY

Several research studies have been performed to relate past tort liability exposure (numbers of claims and costs) to highway activities and elements. Correlations were tenuous because the available sources were not designed and intended for the specific relationships sought (55-59). Reasons for claims in the Kentucky Board of Claims against the Kentucky Transportation Cabinet for 1981 through 1989 are shown in Table 2 (60). An analysis of alleged defects in 540 cases in which the payments were made by the Michigan DOT is presented in Table 3 (49).

The following discussions describe the data needs for an ongoing evaluation of tort impacts.

Assigning Tort Liability Costs to Their Sources

Earlier in this chapter, methods of estimating risk for individual cases were described. The next step is to assign this cost to activities and elements of the highway system. Effective management of tort liability risk requires knowledge of the sources as well as the magnitude of the problem. Information is desired on tort liability costs by highway function (e.g., design, construction, and maintenance) and by elements and appurtenances (e.g., ditches, guardrails, and luminaire poles).

Allocating Costs to Highway Functions

The first step in assigning tort costs is to allocate the cost to the various highway functions. It is recognized that the boundaries are not always clear and activities overlap. The following functional classifications may be used, and the relative tort exposure is discussed under each heading.

Administration

Although liability is not often associated with administrative activities, agencies have a responsibility to see that their personnel are adequately trained, and effective training is a productive means

of mitigating liability. Several instances were encountered, however, where this potential was not realized. Some training programs lacked any procedure to evaluate the effectiveness of the program. Sometimes operating agencies merely sent staff to fill the classrooms. In some of these instances, the people who most needed training were not sent because their current work was seen as more essential, while many people repeatedly attended the same course. These situations were caused in part by the lack of a personnel database to show the training received by individual employees. A related situation occurred when a critical issue in a tort case was whether the individual (recently retired) who made a key decision was sufficiently trained. It was found that the individual's meticulously maintained personnel training records were expunged at retirement.

Research

Although little liability would be expected in research, such claims are conceivable. For instance, a design modification is instituted on the basis of faulty in-house research, and it is later found that the redesigned appurtenance exposed motorists to significantly increased injury. An example of this might be the selection and implementation of an earth berm median barrier that was not properly evaluated and crash tested. Liability could be imposed if it were subsequently found not only to be ineffective in stopping a vehicle from crossing the median but also to have lofted the vehicle, thus reducing the effective recovery area.

Planning

There is little liability in planning, as it is fundamentally a discretionary function. Liability could be imposed, however, if a planning decision was found to be capricious and at odds with standard practices within the industry (61).

Design

Immunity varies widely with respect to design. Based on com-

TABLE 2
TORT CLAIMS AGAINST THE KENTUCKY TRANSPORTATION CABINET, 1981-1989 (60)

Category	Number of Claims	Amount Claimed (\$)	Average Claim Amount (\$)	Number at ≥\$50,000	Amount Paid* (\$)	Percent Paid*
Maintenance activity	1,415	1,605,822	1,135	12	319,356	34
Vehicle operation	1,015	2,848,742	2,807	21	752,917	39
Road surface related	1,125	3,925,132	3,489	42	434,804	16
Fixed object	134	1,387,338	10,353	13	50,317	10
Barrier	66	4,311,682	65,329	54	818,902	35
Traffic control device	221	9,074,019	41,059	97	1,183,040	27
Shoulder related	58	3,426,006	59,069	41	395,624	27
Drainage	132	4,906,016	37,167	60	887,595	38
Geometric feature	35	1,416,864	40,482	19	362,311	39
Work zone traffic control	128	3,613,475	28,230	44	401,043	20
Construction activity	83	1,327,082	15,989	16	133,238	15
Miscellaneous	378	839,720	2,221	6	64,869	11

*For claims in which a decision was made.

TABLE 3
SOURCES OF MAJOR RISK EXPOSURE IN MICHIGAN (49)

Rank	Activity or Feature	Total Payout* (Millions of Dollars)
1	Traffic controls	46
2	Shoulder	20
3	Physical obstruction	18
4	Geometrics	17
5	Pavement surface	15
6	Guardrails	14
7	Winter maintenance	8
8	Sight distance	7

*Summary based on alleged defect for 540 cases.

mon law, it may be held to be a discretionary function and thus afforded immunity. Some states have protected design by statute. In others, any such immunity has been waived, eroded, or lost (62,63). To be defensible, design decisions should be well considered and properly documented. If it appears that they were not, or that they were produced after the fact, liability may be imposed. Liability problems have also been created by approving designs that are not consistent with the department's design manuals (64).

Construction

Construction and maintenance sites commonly have safety problems because it is difficult to retain the normal level of safety for road users when working on highways. In addition, workers themselves are exposed to significant hazards. These problems have been recently magnified as new construction on new rights-of-way is no longer common. Often, work is performed on facilities having high traffic volumes, which, in many instances, exceed original design volumes. The nature of construction sites is that conditions are constantly changing and it is difficult to keep traffic control devices in place and in good condition. For these reasons, highway construction activities have a significant exposure to tort claims. While the contractor may be held primarily responsible for public safety, the agency through its contract administration and oversight may share in this responsibility. As stated previously, even in those cases where the contractor indemnifies the agency, the agency still pays tort costs through bid prices (65).

Maintenance

As maintenance activities are generally held to be ministerial acts, in the absence of total immunity, the agency usually is fully exposed when injury results from work performed negligently. Maintenance is the primary source of tort claims for many highway agencies and is at least a major source for other agencies (66-69). Snow and ice control is another area of potential suits. Although the incidence of snow and ice is a natural phenomenon for which an agency bears no responsibility, exposure may result in the failure to remove it in a reasonable or timely manner (70,71).

Traffic

Tort cases frequently involve traffic control devices that are alleged to be improper, missing, malfunctioning, or needed (but not installed) (72,73). Also included in this category may be allegations that permits were negligently granted for overly wide vehicles for routes on narrow roads or during improper time periods.

Allocating Costs to Roadway Features

To complete the picture and provide the level of detail desired by operational managers, tort costs should also be related to the particular features that were designed, constructed, and maintained. The following examples are grouped by category. A comprehensive listing is provided in Appendix B.

- Roadway components—pavements, shoulders
- Safety appurtenances—barriers, crash cushions, bridge rails
- Traffic control devices—signs, signals, markings, channelizing devices
- Drainage structures—ditches, culverts, inlets, retention basins.

Risk Assignment Procedure

Assigning tort costs to functions and features is a difficult task for which adequate information is rarely available. Claims and complaints are useful in presenting certain factual information, such as the date and location of the crash and the parties involved in the action. With respect to liability, however, the approach is often used where all possible parties are named as defendants and all conceivable bases for liability are listed. It is not unusual to have a plaintiff allege that the highway in question was negligently designed, constructed, operated, and maintained. The procedure is complex and involves subjective assessment based on expertise and experience. Engineering knowledge is needed to recognize areas where the highway agency is vulnerable. Again, trained and knowledgeable people are needed, along with guidelines that foster consistent results.

A concern is sometimes expressed by attorneys defending agencies that assigning tort liability costs to functions and features may lead to increased vulnerability to lawsuits. Such an undertaking, however, creates less exposure than the ongoing hazard elimination program mandated by federal law (74). Furthermore, such information can be protected from use in litigation as previously discussed in Chapter 5 (44). States, e.g., Maryland, are making effective use of this protection.

RISK ANALYSES

Building the Database

Data regarding claims and lawsuits can be studied, categorized, and summarized to identify areas of high actual and potential liability. Due to the long lead time between a crash, claim, trial, and appeal, the agency cannot wait for completed actions to start its database; all potential, pending, and active cases should be continually scrutinized. Jury verdicts will, however, provide useful

information on jury tendencies, nature of instructions from judges to juries, and the caliber of claimants' case presentations. Example classification and coding plans based on a composite drawn from various states are shown in Appendix B. It is desirable that the design of such databases incorporate accepted national definitions, classification systems, and coding schemes (75,76).

Aggregated annual data for a large jurisdiction, such as a state, may involve a sufficient number of claims to provide meaningful information. When the data are broken down by district or function, however, an erratic pattern will probably result. One technique to provide more meaningful statistics is to combine the most recent three years in a single report, a method often used to present accident data. This procedure also allows roughly estimated costs for new claims to be refined during the following years.

The claimants' requests for damages in their complaints are a poor measure of potential risk. They are often inflated, representing the aspirations of the plaintiff rather than a realistic estimate of the judgment should the plaintiff prevail. In other instances, the amount merely is stated as being in excess of some statutory limit, which places the case in the desired litigation category.

In instances where individual cases have not been analyzed for risk, the following procedure provides a crude but perhaps useful substitute for summary reporting. When working with amounts claimed in complaints, a factor should be computed (to be updated periodically), which is the total amount of settlements, awards, and judgment divided by the total amounts claimed for the same set of cases. By multiplying the value of amounts claimed by this factor, an estimate of total risk based on the assumption that the cases are lost is provided. This technique would have value only when dealing with grand totals, such as total monetary amounts for all outstanding claims; it would not be useful for individual claims.

Placing all claims related information in a computerized database facilitates ease of retrieval, routine report generation, special analyses, and research purposes. A record is created for each claim, and data fields are inserted and updated as claims advance through the process. For example, an estimate of risk and its allocation to functions and features can be refined during discovery and be updated to reflect settlement or the outcome at trial. Records for closed cases are also retained in the database.

The following means may be used to distribute the costs of claims to categories, such as functions or features: (1) assign all of the estimated cost to each applicable category; (2) charge the entire amount to the one category considered primary; and (3) proportion the amount among two or more applicable categories. When reports are prepared with the categories arrayed by columns, the first method provides a breakdown report where the columns provide proper totals, but the rows cannot be added horizontally because a claim and the total amount associated with it are entered separately in each applicable category. The second and third alternatives avoid such double counting. The incremental effort involved to go from the first to the second or third alternative is minor. The second alternative may be used where one category is predominant, and the third alternative may be used when the situation is less clear.

Where it is clear that major claims will be forthcoming (e.g., the collapse of a large structure), they are immediately entered into the system. Large risks are included as soon as they are identified for sound financial planning and for feedback to the department as to its operations. Other smaller potential claims can be entered upon the receipt of the notice of intent to file a claim. This early identification process is an advantage of legislation requiring such notice.

Generating Reports

The following regular reports may be generated for risk management purposes. Reports of anticipated and actual tort payments provide input to managing the tort fund and the highway agency as a whole. Information on the numbers and anticipated cost of claims filed and outstanding are used for claims management and for evaluating the legal staff's workload. District-level reports are used for both agency and district management. Reports broken down by function assist division managers. Detailed reports by function and feature are useful for resource allocation, project planning, reviews of policies and manuals, and supervision of field and office forces. Special reports and research analyses can be generated as needed.

Examples of regular reports produced annually and perhaps quarterly are listed below.

- Number and estimated cost of outstanding claims
- Number and actual cost for cases closed during period
- Number and actual cost for cases closed for each year to date
- Estimated tort costs for outstanding claims by function
- Estimated tort costs for outstanding claims by function and feature
- Number and actual cost for cases closed during a 3-year period by function and feature.

Detailed reports may be tabulated by function area, e.g., administration, research, etc. (horizontal), and by feature, e.g., appurtenances, guardrails, etc. (vertical), with subtotals by function (column) and feature (row). Subreports may be prepared by function for division heads and by district for district engineers. Summary reports showing annual totals by year are useful for trend analysis. To provide a full cost picture, support costs as well as payments to claimants should be included with subtotals for each category.

Launching Programs Aimed at Liability Reduction

Tort risk will vary from state to state and agency to agency depending on variables such as state laws, geographical and weather conditions, size and nature of the highway system, population and rural/urban characteristics, the amount of travel on the system, agency organization and proficiency, and the level of funding available to perform the agency's mission. Once a tort liability problem area is identified, it becomes an additional consideration in program planning, priority determination, resource allocation, upgrading standards and manuals, and training programs. In some instances, a simple adjustment in the work schedule and performance can reduce tort risks without adversely affecting the overall program. In other situations, fundamental policy decisions will need to be made. The important point is that with risk exposure information in hand, such decisions can be made on a more informed basis.

Even though function and feature may be known, this information may not necessarily lead to the development of an appropriate management response. Examples may include low shoulders and obsolete or deteriorated guardrails, and there may be thousands of miles of these awaiting repair. With shoulders, such repairs may be extremely short-lived. Crashes related to these features may be essentially random. Thus, there is no way of knowing how to

prioritize work. Traffic volume may be the sole predictor. The overall cost for upgrading the entire substandard feature may be more than the reduction in risk. Risk data can be analyzed to ascertain whether such hypotheses are valid and what actions are appropriate.

In allocating resources, an additional factor may be entailed. Successful suits tend to generate additional similar suits. When it becomes known in a geographical area that a suit involving a particular highway feature has been won, claimants and attorneys are encouraged to pursue cases involving similar circumstances. Therefore, once such a pattern is observed, consideration can be given to allocating resources to reduce the probability of similar crashes that may result in successful suits.

After a rockslide killed a motorist and closed a section of the New York State Thruway for several weeks in 1988, the thruway authority undertook an engineering assessment and risk analysis. It was found that maintenance costs and the number of deaths and serious injury crashes caused by fallen rocks on the roadway were unacceptably high (77). The resulting decision was to undertake a 2-year, \$35.3 million remedial program to stabilize more than 30

high-priority rock cuts (78). Benefits were achieved by reducing potential losses in revenue and losses due to tort claims.

Many public agencies frequently operate under severe financial constraints. Although allocating monies to risk management and creating positions in this area may be difficult in a time of cutbacks and hiring freezes, there is a large potential financial payoff. If just one high-cost crash resulting in a claim can be avoided or one large claim successfully defended, the monies saved might be sufficient to operate the risk program for an entire year. Highway agencies cannot afford to allow such savings to go unrealized. Only by managing risk can this potential be fully understood, evaluated, and achieved.

To achieve the risk management objectives set forth in Chapter 1, a balance is desired between investments to prevent tort losses through better legislative initiative, manuals, position descriptions, and contracting devices, and expenditures for better engineering, construction, maintenance, and traffic control. An effective risk management program armed with sound data provides a means for achieving optimum performance of the agency's transportation system.

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APPENDIX A

PROCEDURES FOR REVIEWING AGENCY DOCUMENTS

BACKGROUND

In Chapter 4, the importance of a systematic review of the agency's relevant policies, manuals, guidelines, and directives was discussed. Furnished in this appendix are detailed suggestions and guidelines for performing such reviews based on the experience of several states. Each agency should, however, review other sources for guidance, including their own legal counsel and risk managers.

DEFINITIONS OF TERMS

There are several terms used throughout highway engineering literature that may not be understood or may be interpreted differently by lay persons, such as members of a jury. When these words are used in the department's manuals, they should be initially defined, prudently selected, and consistently employed.

Shall, Should, and May

The words "shall," "should," and "may" often used in manuals have attained specific meanings in the highway engineering literature. The definitions stated in the *Federal Manual on Uniform Traffic Control Devices* are as follows: Shall—a mandatory condition; Should—an advisory condition; and May—a permissive condition (79).

"Shall" is intended for situations for which there is no exception. "Should" is used to describe good engineering practice. "May" is used to allow certain actions and to describe alternatives. The significance and intent of these words should be made clear to users of manuals. From a tort liability standpoint, the "should" condition needs clarification. It is intended that those actions denoted by "should" ordinarily be implemented. It is recognized, however, that there are situations where the actions will be inappropriate or not feasible. When such situations are encountered, the reason for the deviation should be documented (64,80). Although "may" ordinarily implies no obligation, the options so categorized sometimes offer useful treatments for difficult and potentially hazardous situations.

Standards and Warrants

Engineering tools such as standards and warrants are intended to serve as neither a basis nor a substitute for engineering judgment. They serve valuable and necessary functions, providing the base for assuring a consistent degree of quality and safety for work performed by the agency. This interpretation, while accepted among engineers, is not well understood by others. It may be difficult to convince a jury that it was prudent to perform in any manner other than that specified. Because these terms serve as

potential traps, the use of words such as "standards" and "warrants" should be carefully scrutinized and, in most instances, avoided.

In engineering parlance, a warrant is a threshold where consideration should be given to utilizing a device or technique. It is not an absolute mandate. Engineering judgment should be used to evaluate specific characteristics of the site and applicable conditions. Warrants are useful in identifying those situations where such determinations should be made.

The California DOT takes this position when it states the following definition of the term warrant (81).

Warrants provide guidance to the engineer in evaluating the potential safety and operational benefits of traffic control devices and are based upon "average" or "normal" conditions. A warrant is not a substitute for engineering judgment. The fact that a "warrant" for a particular traffic control or safety device is met is not conclusive justification for the installation of the device. The unique circumstances of each location and the amount of funds available for highway improvements must be considered in determining whether or not to install a traffic control or safety device.

Design Standards

Design standards are intended to be applicable for new construction or major reconstruction of existing facilities. While this concept is generally understood by practicing engineers, the areas of applicability should be clearly stated in the publications setting forth such standards.

There is a second point, however, which is not well understood and is rarely enunciated. The objective of a design standard is to provide a facility that will perform throughout its design life with only routine maintenance. With respect to safety features, the standards should be sufficiently high to accommodate reasonably anticipated changes in the amount and character of use and should prevent early functional obsolescence. Thus, a significant safety factor is supplied during the early years of the facility's use, as such standards are intended to provide for adequacy in the last year of the facility's design life. Once this concept is understood, it is clear that design standards are not appropriate for evaluating existing facilities in the present day.

IMPLEMENTATION GUIDELINES

This section sets forth implementation guidelines for the review of highway agency manuals and directives. It is most useful that all such documents be converted to and maintained as word processor files. There are numerous advantages for so doing that are outside the subject at hand, such as ease of revision, flexibility in distribution and printing, and long-term cost savings. What facilitates the review process is the ability to search for words and phrases (with "wild cards" in some systems) and to perform search

and replace operations. This encourages reviewers to seek optimum wording, as opposed to settling for something that is marginal but not worth changing.

Questions to be Addressed

Questions to be asked during the document review are as follows. Are the documents:

- Useful and needed?
- Current and consistent with present policy?
- In the hands of those persons who need them?
- Being used by all pertinent units within the agency?
- Designed and written from a defensive standpoint?
- Stated as a required standard or as a general guideline?

Potentially troublesome words and phrases, enumerated later in this appendix, should be used as keys to identify sections that may be sensitive from a tort liability viewpoint. Once such items are located, the following questions should be addressed in situations where they are relevant. If the resolution is unclear, the matter should be flagged for consideration by senior staff, where both engineering and legal implications can be weighed.

- Are stated goals and objectives attainable in everyday practice?
- Is the procedure being advocated or required currently being followed by all units within the organization?
- Is the situation described universally applicable within the organization?
- If not, what are the exceptions and how should they be handled?

Examine all places where numerical statements are made. Examples include: (1) design and maintenance tolerances, and (2) maintenance or inspection frequencies.

Where responsibility is given to individuals, such as the district engineer, evaluate the following questions.

- Is there a need to pinpoint an individual?
- Is the assignment at that level reasonable?
- Is the work actually being done at that level?
- Can and should the responsibility be delegated?
- Is there any blanket clause that allows delegation?

Where standards are given as minimum standards, address the following questions to discover the actual intentions: Is or should it be an absolute minimum? and Are there any exceptions? Note that what is often intended is that the minimum applies to typical conditions; where other conditions exist which are not typical, lesser standards may in some instances be appropriate.

Examine statements that read "when requested/directed/authorized" etc. "by the department." Is the key word used the appropriate one? Note that all such wording makes the condition inoperative unless the department first takes action. Is this desirable? Might it be better to establish the converse situation whereby the condition is operative unless excused by a specific action of the department? Alternate wording includes "unless excused."

Where standards are set forth, are they intended to be "stan-

dards" as such? Consider the use of a less restrictive or more flexible term. Another approach is to limit the area of applicability, for example "standards for new construction." Key points to be addressed are as follows.

- Is more flexibility desirable?
- Is the use of engineering judgment acceptable or desirable?
- Would the word "guideline" be preferred?
- Should the area of applicability be restricted?

Selection of Appropriate Terminology

The key words listed below should be flagged and the sections in which they appear evaluated. The root words are tabulated. The intent is to include all variations of the root words—nouns, plurals, verbs, tenses, adjectives, adverbs, etc. This list should be expanded, as appropriate, by feedback gained during the review process.

Examine the use of modifiers, both adjectives and adverbs. Are they needed, or is the statement equally applicable without them? Do they reduce or expand the scope of the statement being made? Examples of such words are: "reasonable," "particular," and "special."

List of Key Words

<i>All-encompassing words and absolutes</i>		<i>Actions</i>	
any	all	analyze	anticipate
essential	indispensable	approve	assure
sure	imperative	design	direct
none	always	ensure	evaluate
every	immediate	examine	inspect
never	continuous	insure	perform
continual	full-time	protect	regulate
minimum	maximum	respond	review
optimum		submit	analyze
<i>Modifiers</i>		<i>Types of rules</i>	
substantial	typical	regulation	principle
reasonable	unreasonable	rule	standard
responsible	regular	warrant	guideline
<i>Conditions</i>		<i>Words allowing or calling for opinions</i>	
safe	unsafe	judgment	opinion
hazard	danger	discretion	think
<i>Mandates</i>		<i>Options</i>	
necessary	need	may	consider
require	must		
will	shall		
should	not		

Useful Alternative Words and Phases

... should ordinarily ...

... may be required ...

... under certain conditions ...

... consideration should be given to ...

... guideline ...

... potential hazard ...

APPENDIX B

CODING SCHEMES FOR HIGHWAY CLAIMS DATA

BACKGROUND

The following coding classification schemes are a composite of various proposed methods and those in use. The schemes are not intended to be directly applicable to any individual highway agency. They indicate the type of information that is useful in evaluating tort liability claims, cases, and judgments.

CODING CATEGORIES

Claims Data

Basic Claims Information

Record number
Claim number
Claimant's last, first, and middle names
Department of Motor Vehicles or police incidence or accident number
Date claim was filed
Claimant's sex and age
Injury or damage classification claimed
Amount of claim
Date and time of alleged incident
Date case closed

Road Information

DOT district and county codes
Administrative category—state, county, town, city, toll road
Facility type such as road, airport, rail, port, park, property
Route number
Location using accident reference system
Functional classification of road
Area type—rural, urban

Accident Data

Illumination condition
Weather
Alcohol and drug involvement
Contributing factors
Injury or damage classification as observed by police
Road character type
Road alignment type
Road surface condition
Traffic control device type
Road status, such as work zone

Disposition of Claim

Open
Unknown
Deferred
Dismissed before trial
Discontinued
Settled
Decision for agency
Decision against agency
Decision against agency, but settled the award

Reason for Disposition

Merits
Procedure
Failure to prosecute
Still in litigation
Unknown
Settled for monetary reason
Settled due to risk
Not in jurisdiction of agency
Agency countersued and won

Litigation Personnel

Lead attorney for defense
Lead attorney for plaintiff
Presiding judge
Expert witnesses used by plaintiff
Expert witnesses used by defense

Amounts Awarded

Regular damages
Punitive damages
Interest amount
Entity's portion
Highway agency's proportion
Other liable parties

Appeal Information

No appeal
Appeal by claimant failed
Appeal by agency failed
Decision for agency overturned
Decision against agency overturned
Successful appeal on award amount
Appeal withdrawn
Appeal pending

Vehicle, Pedestrian, and Obstacle Categories

These codes are for vehicles, pedestrians, and other in-roadway obstacles that are involved in the crash. The three-character (maximum) alphanumeric code for vehicles provides a more readable record as compared with numerical codes.

Vehicle types

Car	Car or automobile
BC	Bicycle
Bus	Bus
Eqp	Equipment, construction equipment
MC	Motorcycle
RR	Railroad vehicle or equipment
RV	Recreation vehicle
Trk	Truck, single unit
TT	Truck or tractor with full trailer
TST	Tractor-semitrailer
TTT	Tractor-trailer-trailer
UPn	Panel truck (U = utility vehicle)
UPU	Pickup truck, pickup with body cap
U4W	Four-wheel drive (e.g., Jeep and Scout)
Van	Van

Non-vehicle types

Anml	Animal hit in roadway
Obst	Obstacle hit in roadway (e.g., rock on pavement)
Ped	Pedestrian
Wrkr	Worker

Highway Agency Functions

Additional information related to the delineation of agency functions is provided in Chapter 6. A one-character alphabetic code is used for each function.

A	Administration
C	Construction
D	Design
M	Maintenance
O	Operations
P	Planning
R	Research
T	Traffic

Highway Features

The highway features are listed with a four-character (maximum) alphanumeric code that provides a more readable record as compared with numerical codes.

Abut	Abutment
Algn	Alignment
Arrw	Arrow panel
Barr	Barrier
Beac	Beacon
BrRl	Bridge railing or parapet
Chan	Channelizing device or Channelization
ClrZ	Clear zone
CMS	Changeable (variable) message panel
Curb	Curb
Dtch	Ditch
Drng	Drainage structure, inlet, culvert. Other than ditch
Drop	Drop-off
Dway	Driveway
Isec	Intersection
Ichg	Interchange
Lght	Street lighting
Medn	Median
Mrkg	Marking (pavement marking)
MXvr	Median crossover at work zone, temporary
Obst	Obstacle off road, other than those appurtenances listed elsewhere—drainage, luminaire, pole, post, pier, tree
Prkg	Parking, parking lot or area
Pier	Pier or support for structure other than abutment
PLum	Luminaire pole
Post	Post, sign support
PUtl	Utility pole; may also have luminaire attached
Pvmt	Pavement
Rdsd	Roadside, slope, embankment
RRXg	Railroad/highway grade crossing
S&I	Snow and ice conditions and/or control
Shad	Shadow vehicle, with or without truck-mounted attenuator
Shld	Shoulder, berm
Sigl	Signal (traffic signal)
Sign	Sign or signing. If hit, code as "Post"
TCP	Traffic Control Plan
Tree	Tree, shrubbery
Util	Utility operations
Walk	Walkway, sidewalk, pedestrian facility
WOn	Water ponded on roadway
WOff	Body of water off roadway
WWay	Wrong way
Xovr	Crossover, permanent
XSec	Cross-section

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