# FINAL REPORT

## EDUCATION/TRAINING SUBCOMMITTEE
## TRB TASK FORCE ON TORT LIABILITY

Daniel S. Turner, Chairman

### Subcommittee Composition

There were five members of the Education/Training Subcommittee, representing a diverse geographic and professional occupation background. The following individuals participated on this Subcommittee:

Gordon S. Baca
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Joseph D. Blaschke
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Texas Transportation Institute
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The initial chairman of the Subcommittee was Gordon S. Baca. When Mr. Baca assumed the chairmanship of the Task Force, the Subcommittee chairmanship was assumed by Dr. Turner. All members of the Subcommittee worked actively throughout the life of the Task force, helped conduct the national survey, and participated in the analysis of education materials and in the preparation of this report.

## Subcommittee Activities

Training programs in risk management or tort liability exist in some form in most states. Much of this training is provided "in-house", using training techniques such as short courses, lectures, videos, movies and mock trials.

The Subcommittee performed a limited survey of the type and amount of risk management training administered to state highway agency employees. The survey was performed to document existing types of training, to identify desired additional training packages, and to make recommendations for future types and modes of training.

The survey was conducted to estimate the national picture by sampling risk management materials from selected agencies, states and organizations. The results of the survey are included in this report as a series of tables and figures, as a review of programs conducted in several example states, in a discussion of governmental and professional agency programs, in a bibliography of selected tort liability documents, and as a series of recommendations for further study and action.

# TRAINING AMONG STATE HIGHWAY AGENCIES

The American Association of State Highway and Transportation Officials (AASHTO) has periodically sampled the national tort liability situation among highway agencies. The AASHTO Administrative Subcommittee on Legal Affairs distributed questionnaires regarding sovereign immunity and tort liability in 1978, 1979, 1981 and 1983. At the request of the Task Force, AASHTO distributed a new survey questionnaire to state highway agencies in 1987. This questionnaire included six questions on tort liability training.

Twenty-five states responded to the survey. Answers to the questionnaire were tabulated and distributed as an AASHTO Subcommittee report in 1988. (1) Interesting information may be drawn from the report, even though half the states did not respond to the survey.

## General Observations

The AASHTO report indicated a very high level of tort training among state transportation agencies. Of the twenty-five states responding to the survey, twenty-one had performed risk management training in the past three years (see Table 1). This represents 84 percent of the respondents, and indicates a high level of awareness and a strong attempt by states departments of transportation to manage the problem.

The source of the risk management or tort liability training has been summarized in Table 1 and on Figure 1. Of the states responding to the survey, 17 performed risk management training using in-house personnel and about half as many utilized independent contractors to teach this material. Seven states used both in-house and contractor personnel.

Virtually all of the states felt that they needed additional training in tort liability issues. This point is vividly illustrated on Figure 2. Only one state felt that no future tort training would be necessary. This state was in the minority with 20 times as many states feeling that additional future tort training should be administered to their employees.

## Type and Level of Training

One of the major focuses of the AASHTO survey was to determine the type of training that the states were employing, and to whom this training was being administered. The topics included in risk management training by 17 states have been summarized in Table 2. The table clearly shows that the states have tailored their training to fit their individual needs. There was a great disparity in the number of these topics included in the training materials for individual states. Of the 17 training topics selected for use in the survey, all states included at least three of them, and two states included the maximum of all 17 in their individual training programs.

The most popular training topics were (1) generalized introductory materials, (2) sample cases, (3) overview of general legal procedures, (4) proper highway maintenance procedures, (5) proper signing, (6) legal terminology, and (7) documenting information at the site of accidents. Accident reduction programs and identifying the situations of highest risk for suits were also included in many state training programs.

The states were found to be training many different levels of employees. This information is contained on Figure 3. Field Supervisors, middle managers and division managers were the most popular targets for risk management training. This is a rational response, since maintenance supervisors make day-to-day decisions regarding roadway defects and roadway repairs. If these individuals recognize and negate situations in high risk, tort liability exposure is minimized.

Figure 3 indicates that tort training extends throughout highway agencies from the legal staff to technicians to top management. It is interesting to note that the 1987 training program very nearly matched the state's concepts of which individuals needed training. Figure 3 shows that actual training very nearly matched needed training. The largest differential was that top level management needed additional training as did the legal staffs of highway agencies.

# Table 1: Risk Management Training in the Past 3 Years

| State | Employees Trained | | By In-House Personnel | By Independent Contractor | Both | Were Lawyers Trained? | Written Materials Provided? | Materials Available To Others? |
|---|---|---|---|---|---|---|---|---|
| | Yes | No | | | | | | |
| Alabama | x | | | x | | No | Yes | Yes |
| California | x | | | | | | | |
| Colorado | | x | | | | | | |
| Florida | x | | x | | | No | No | |
| Idaho | x | | x | | | No | No | |
| Illinois | x | | x | | | No | Yes | No |
| Indiana | | x | | | | | | |
| Iowa | x | | x | x | x | | No | |
| Louisiana | x | | | x | | | | |
| Maine | x | | | x | x | | | |
| Massachusetts | x | | x | x | x | No | Yes | No |
| Minnesota | x | | x | | | Yes | Yes | Yes |
| Mississippi | | x | | | | | | |
| Missouri | | x | | | | | | |
| New Hampshire | x | | x | | | No | No | |
| New Mexico | x | | x | | | Yes | No | |
| North Dakota | x | | x | | | | | |
| Ohio | x | | x | x | x | Yes | Yes | No |
| Oklahoma | x | | x | x | x | No | Yes | No |
| Pennsylvania | x | | x | x | x | | Yes | No |
| South Dakota | x | | x | | | | | |
| Tennessee | x | | x | | | No | No | |
| Texas | x | | x | | | Yes | Yes | No |
| Virginia | x | | x | x | x | No | Yes | No |
| West Virginia | x | | x | | | No | No | |
| Totals | 21 | 4 | 17 | 8 | 7 | Yes = 4<br>No = 10 | Yes = 9<br>No = 7 | Yes = 2<br>No = 7 |

**Figure 1: Source of Tort Training**

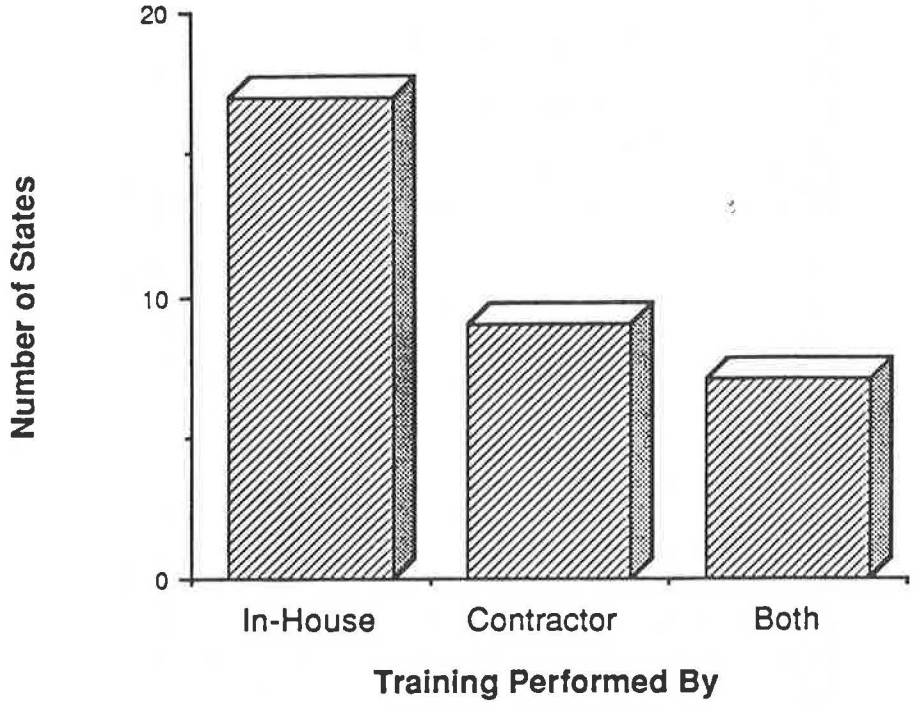
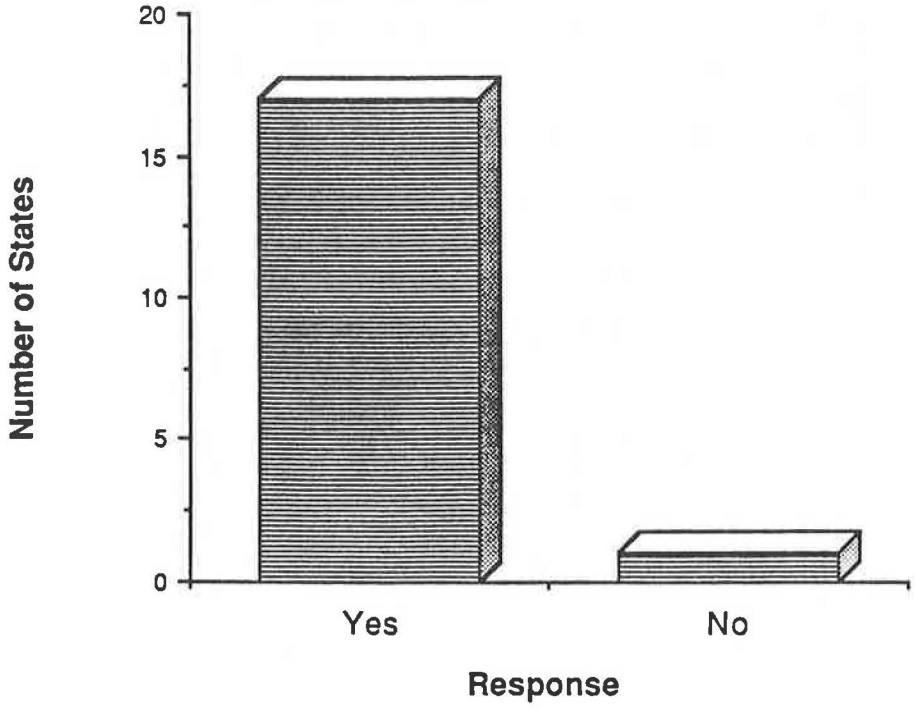


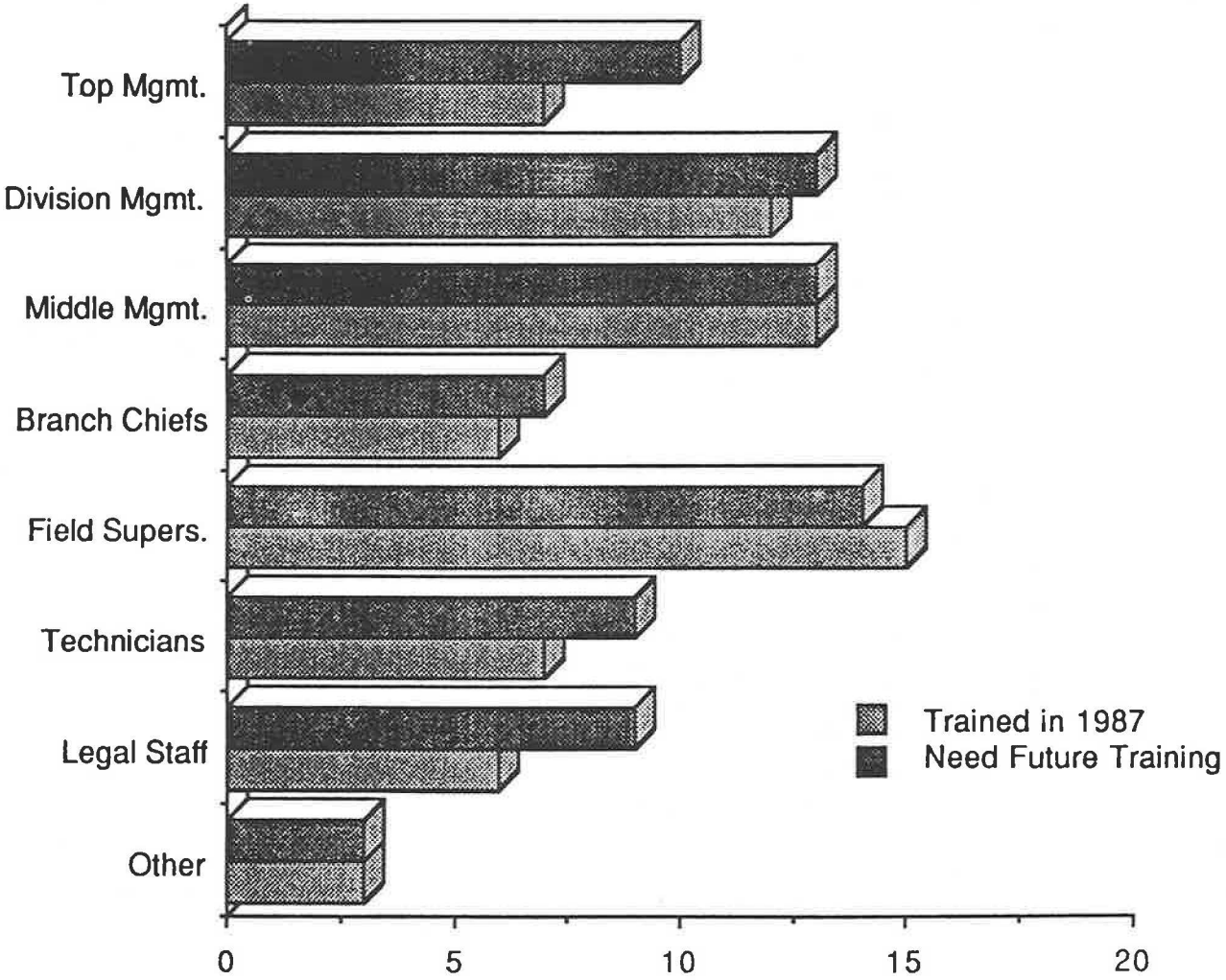

**Figure 2: Is Additional Training Needed in Your Agency?**



## Table 2: Topics Covered in State Training Programs

| Training Topic | AL | FL | ID | IL | IA | MA | MN | NH | NM | OH | OK | PA | SD | TN | TX | VA | WV | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Introduction | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | 17 |
| Legal Terminology | x | x | | | x | | x | | x | x | x | x | x | | x | x | x | 12 |
| Gen. Legal Procedure | x | x | x | | x | | x | x | x | x | x | x | x | | x | x | x | 14 |
| Sample Cases | x | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | 16 |
| Proper,Hwy. Maint. | | | x | | x | x | x | x | x | x | x | x | x | | x | x | x | 13 |
| Accident Reduction | x | | x | | x | | | x | | x | x | x | x | | | x | x | 10 |
| Proper Signing | x | | x | | x | | x | x | x | x | x | x | x | | x | x | x | 13 |
| Documentation at Site | | | x | x | x | | x | x | x | x | x | x | x | | x | x | | 12 |
| High Risk Areas | x | | | | x | | | x | x | x | x | x | x | | x | x | | 10 |
| Programs | | | | x | | | | | | x | | x | x | | x | x | | 6 |
| Discovery | x | | | | x | | x | | x | x | | x | x | | x | x | | 9 |
| Pre-Trial Procedure | x | | | | x | | x | | | x | | x | x | | x | x | | 8 |
| Effective Witness | x | | | | x | | x | | x | x | | x | x | | x | x | | 9 |
| Trial Preparation | x | | | | x | | x | | x | x | | x | x | | x | x | | 8 |
| Trial Tactics | | | | | | | | | x | x | | x | x | | x | x | | 6 |
| Expert Witnesses | | | | | | | | | x | x | | | x | | x | x | | 5 |
| Post-Trial Procedure | x | | | | | | | | | | | | x | | | x | | 2 |
| Total Topics Included | 12 | 3 | 7 | 4 | 13 | 3 | 11 | 8 | 13 | 16 | 9 | 15 | 17 | 2 | 15 | 17 | 7 | |

## Figure 3: Level of Employees Receiving Training



It is interesting to note that only a handful of states provided training for their legal staffs, yet many other states indicated that their legal staffs should be trained. It would seem apparent that the legal staff of every state should be given adequate training on the magnitude of the problem, emerging state and national issues, and highway engineering topics. At a minimum, this would leave them better prepared to defend the states and to ask the important questions concerning highway design, operations, and maintenance when preparing cases for trial.

### Summary of AASHTO Questionnaire

The AASHTO Administrative Committee on Legal Affairs perfomed a nationwide survey of state transportation agencies in 1987. Twenty-five states responded to this survey. The survey found a high level of ongoing training for risk management and tort liability issues. Eighty-four percent of the states conducted such training during the three year period ending 1987. This training was aimed at employees from the top management level through technicians, and was especially concentrated at the field superintendent and middle management level. A great variety of topics were covered in these training courses with the individual materials tailored to fit the needs of specific states. The names, telephone numbers, and addresses of persons knowledgeable of the training activities of the individuals states have been listed in Table 3 for the benefit of the reader.

## EXAMPLES OF TRAINING PROGRAMS IN OTHER STATES

Training programs in three states were investigated for the purpose of providing examples of training methods. The states selected for investigation were California, Pennsylvania and Texas. These states were selected because of their active involvement in tort litigation and not necessarily due to their training activities.

### California

A one-day seminar titled "The Art of Testimony" was developed by the legal counsel of California Department of Transportation and is presented about every two years. The course is intended primarily for engineering professionals although anyone involved in giving testimony would benefit from the course. The content of the course is directed at the subject of effective testimony. When presented, attendees include representatives from the state, counties and cities.

Table 3: Contact Persons for Highway Agency Risk Management or Tort Liability Training

| State | Person Responsible |
|---|---|
| Alabama | Donald W. Vaughn<br>Administrative Engineer<br>205-261-6319 |
| Illinois | A. Thomas Murero<br>Chief, Bureau of Claims<br>217-785-0540 |
| Iowa | Harold S. Schiel<br>Director, Bureau of Transp. Safety<br>515-239-1412 |
| Minnesota | Michael Gillen<br>Claims Engineer<br>612-296-1177 |
| Missouri | Duane Amos<br>Claims Manager<br>314-751-3777 |
| New Mexico | Rey Romero<br>Staff Counsel<br>505-827-5431 |
| Ohio | Mary Abel<br>Deputy Dir., Communications & Training<br>614-466-7172 |
| Oklahoma | Sid Coffman<br>Dept. of Transp. Risk Manager<br>405-521-3306 |
| Pennsylvania | Donald Jacobs<br>Risk Management Engineer<br>717-787-1737 |
| West Virginia | Robert Corey<br>Director, State Board of Risk & Insurance Management<br>304-348-2021 |

California Department of Transportation legal counsel representatives periodically present half-day in-house training sessions on tort liability awareness to engineers and maintenance personnel. No formal notebooks are provided. The subject matter is directed at informing the attendees of the myriad of problems encountered by the DOT attorneys during tort litigation activities.

Courses for DOT legal staff are offered by the California Bar and private organizations, usually in one to one-and-one-half day blocks of instruction. These courses are not specifically directed at highway tort liability concerns but deal with such activities as court room tactics, procedures, and trial advocacy, all of which may be helpful to the legal staff.

The state sponsored one accident investigation and reconstruction course given by Accident Reconstruction Engineers of Austin, Texas which was attended by various members of California DOT legal counsel and their investigators. This course has not been scheduled as an ongoing activity.

California DOT legal staff views professional activities such as the Transportation Research Board Annual Meetings and Workshops as other training sources. Attendance is encouraged.

The majority of highway tort training for department of transportation engineers and technicians is associated with frequent presentations and lectures at various functional conferences and meetings scheduled periodically by the Caliifornia DOT. Various tort-related issues are addressed at these sessions.

## Pennsylvania

The Commonwealth of Pennsyvlania's training efforts have been directed toward building up an awareness of the tort liability problem and the procedures involved with defending a lawsuit. Pennsylvania has used videos extensively to inform and educate its employees. Several of these videos have been included in the following paragraphs.

Tort Awareness. A video was prepared by Pennsylvania for all employees to make them aware of tort liability, and to explain how they may be involved.

Extra Eyes for Maintenance. Pennsylvania developed a video for all employees and uses it to illustrate "high risk" areas that employees may encounter and how they should be reported to responsible entities. There is some duplication with the "Tort Awareness" video.

Risk Management. A video was developed especially for maintenance personnel explaining the procedures and importance of record-keeping and handling complaints.

The Engineer as an Expert Witness. A video from the Institute of Transportation Engineers was used to explain the proper procedures to follow when preparing to testify and when testifying as an expert witness.

Depositions. A video was purchased from Knowles Law Book Publishing Company in Texas to explain what to expect in a deposition. The video is general in nature, not specific to highway torts.

Court Room Activities. Pennsylvania is currently developing a video on court room activities that it will show to all employees who will be testifying in a court room. The film will explain court procedures, what typically occurs in the court room during a trial, and how it is different from a deposition.

Pennsylvania has recently contracted the preparation of a 2-1/2 day course on the "Identification and Investigation of High Exposure Accidents". The course is intended for all field personnel, especially for those who will be investigating accidents for the Pennsylvania Department of Transportation legal staff.

Pennsylvania also teaches a record-keeping class at the Maintenance Foreman's Academy, where the importance of record-keeping in tort litigation is stresssed. Informal talks with employees in other training conditions are used to explain tort litigation problems and concerns.

Pennsylvnaia will be sponsoring a two-day course for its legal staff involved with highway tort litigaton. The course is titled "Roadway Engineering Concepts for Tort Claims Attorneys", and it is being offered by the Texas Engineering Extension Service at Texas A & M University.

Texas

The Texas State Department of Highways and Public Transportation (SDHPT) sends its employees (all levels) to a 2-1/2 day short course titled "Risk Management to Reduce Roadway Tort Liability", sponsored by the Texas Engineering Extension Service at Texas A & M University. The course is offered about six times annually. A formal notebook and various handouts are given to each participant.

The Texas Office of the Attorney General sends its Highway Division legal staff to a two-day short course titled "Roadway Engineering Concepts for Tort Claims Attorneys", which is also sponsored by the Texas Engineering Extension Service. A formal notebook is given to each participant.

The Texas State Bar offers occasional courses on subjects like "Lawsuits Against the Government", but these courses are not directly related to highway tort suits.

Additional information relative to roadway tort liability is provided to SDHPT personnel at the annual Highway Short Course, a three-day conference held at Texas A & M University and open to all SDHPT employees (primarily engineers and senior technicians), and at various conferences held frequently in cities within the state.

## ACTIVITIES BY NATIONAL AGENCIES AND ORGANIZATIONS

In addition to the Transportation Research Board, other national organizations have initiated programs to address highway tort liability issues. A cross section of these organizations was sampled by the Subcommitteee. Examples of their programs and activities are reviewed in the following portion of this report.

### American Association of State Highway and Transportation Officials (AASHTO)

This organization does not have any formal training devoted exclusively to tort liability. However, it does have two excellent education/management programs aimed at upper and middle managers: a one-week program that is offered in conjunction with the Highway Users Federation, and three-week course offered by AASHTO and the University of Indiana. Both courses include materials on tort issues.

The Administrative Subcommittee on Legal Affairs is a valuable source of information, having published results of four national surveys on sovereign immunity, and with results of a fifth survey nearing publication.

AASHTO has an extensive publications list, which is available upon request. These documents are often accepted as the "standard of care" in tort trials involving transportation agencies.

### American Bar Association (ABA)

The American Bar Association provides educational materials aimed at attorneys. This organization has extensive materials to

assist attorneys handling cases involving governmental units as defendants. One of the ABA's sections is titled "Urban, State, and Local Government Law". Much of the material generated by this section is aimed at tort law. Issues of particular concern are covered extensively, including sovereign immunity and procedures for prosecuting and defending litigation involving state and local governments.

The Highways and Public Transportation Subcommittee of this section of ABA identifies laws, regulations and decisions relative to public transportation and highways regarding environmental, financial, tort, condemnation and administrative law. The Subcommittee is currently working on a program on balancing various interests in preparing for the 21st Century. The program will focus on the need to improve our infrastructure and protect environmental interests.

The ABA's Division for Professional Education developed and presented a National Institute called "Transportation Facility Negligence" starting in 1985. This two-day training course included both plaintiff and defense perspectives of issues like railroad grade crossing collisions, crash worthiness, accident reconstruction, opening and closing statements, jury selection, choosing experts, and alcohol-drug involvement.

In many locations, the state bar associations mirror the national organization. For example, the Pennsylvania Bar Institute (the Continuing Legal Education arm of the Pennsylvania Bar Association) has developed a training course with an excellent textbook entitled "Automobiles and Highways: Design Defects and Maintenance Liability". The forward to this text puts the entire issue into perspective when it states:

> To win an automobile or highway liabiity case,
> an attorney must understand engineering criteria,
> negligence and strict liability standards,
> sovereign immnity, and accident reconstruction.
> . . . Our able faculty of lawyers and engineers
> discusses case preparation from discovery
> through preparing and using experts to
> convincing a jury.

Transportation agencies could use this same advice. Similar training of employees to recognize and minimize the potential for liability and to understand and agressively defend suits would decrease the number of lost cases and financial payouts.

## American Society of Civil Engineers (ASCE)

The American Society of Civil Engineers does not have a risk management training program. The national ASCE office refers its members to two insurance organizations if such training is desired.

ASCE does, however, address tort liability issues through two of its units, the Technical Council on Forensic Engineering and the Highway Division.

The Technical Council on Forensic Engineering consists of one administrative committee and four technical committees. It is concerned only with civil engineering forensic issues. The Council meets twice a year and usually conducts a day-long educational seminar associated with a national ASCE meeting. The 1989 seminar will be titled "Learning from Failure". The Council is preparing to publish the ASCE Guidelines for Failure Investigation manual and has begun publishing nomographs giving case histories for engineering failures. These nomographs initially covered only structural failures but will expand into other issues. The Technical Council on Forensic Science does not have a direct linkage with the Highway Division.

ASCE Highway Division operates with an executive committee, three administrative committees and seven technical committees. The Committees on Geometric Design of Highways and Traffic/Highway Safety have both sponsored seminars and workshops that included paper sessions dealing with highway tort liability. There are no formal training documents or manuals covering highway tort liability.

## Federal Highway Administration (FHWA)

The Federal Highway Administration (FHWA) has recently produced a video educational program, "Caution, Litigation Ahead: The Road to Effective Risk Management". This is a twenty-five minute video aimed at transportation officials seeking information on combating the tort liability problem. This video is available from several FHWA sources, the local Rural Area Transportation Systems Centers, local FHWA Division offices, and the FHWA Office of Highway Safety, Washington, D.C.

The National Highway Institute is preparing general training material to address risk management at the maintenance-worker level. This course is being prepared by Cornell University, and will be available for national distribution upon its completion.

## Institute of Transportation Engineers (ITE)

The Institute of Transportation Engineers has several active tort training programs. Almost ten years ago ITE was one of the first organizations to address the growing problem when it developed "Traffic Improvements -- Legal Aspects and Liability", a two-day training course. This seminar has been offered countless times across the country, and is still available upon demand.

ITE is developing an active Council on Expert Witnesses, and has a Safety Coordinating Committee. There are also several Technical Project Committees, such as the Traffic Engineering Tort Liability Committee and the Traffic Safety Improvements Committee. These groups offer the opportunity for professional interchange, and assist in sponsoring technical sessions at national and regional meetings.

ITE Committees develop and maintain policy statements such as prescriptive and performance equipment standards for traffic control devices and materials, and standards for work zone traffic control. These may be used to establish the "standard of care" during tort trials.

National Academy of Forensic Engineers

The National Academy of Forensic Engineers is a chartered affinity group of the National Society of Professional Engineers (NSPE). The Academy was initiated in 1982 by two former presidents of NSPE. It was founded to professionalize and upgrade the practice of forensic engineering and to fill a void due to the apparent lack of guiding policies by the founder societies (ASCE, ASME, etc.).

Membership in the Academy requires that an individual be a registered professional engineer and a member of NSPE, have acceptable experience in the practice of engineering and acceptable experience in forensic activities. Recommendations are required from practicing attorneys.

The Academy conducts training sessions twice a year during NSPE meetings. Typical training includes technical papers for dissemination of information on recent court activities, ethical and objective procedures to prepare one's self for court, how to limit the liability of forensic engineers, how to obtain insurance, and similar pertinent topics. The Academy also publishes the Journal of the National Academy of Forensic Engineers.

National Association of County Engineers (NACE)

The National Association of County Engineers provides a number of types of guidance for local engineers. Of particular interest is the "Action Guide" series of publications, one of which is devoted to actions which can be taken to minimize tort libility exposure of county engineers. NACE has also devoted training sessions at its annual meeting to this topic.

Transportation Research Board (TRB)

One of the major components of TRB is Group IV, The Legal Resources Group, which hosts the Task Force on Tort Liability. Attorneys from state departments of transportation and other interested parties exchange information about emerging aspects of transportation law at the Annual Meeting of TRB, through TRB Committee activities and at the annual four-day seminar titled "Annual Workshop on Transportation Law."

TRB serves as a clearing house for pertinent publications. For example, an excellent series of National Cooperative Highway Research Program (NCHRP), "Legal Research Digests", has been published, including:

No. 6, "Impact of Discretionary Function Exception on Tort Liability of State Highway Departments", June 1989.

No. 4, "Supplement to Personal Liability of State Highway Department Officers and Employees", December 1988.

No. 135, "Liability of the State for Injury-Producing Defects in Highway Surface", July 1982.

Another good example of publications handled by TRB is Report 106 of the NCHRP, "Practical Guidelines for Minimizing Tort Liability". Many other examples could be offered, and the reader may consult TRB's publications list for pertinent documents.

## SAMPLE BIBLIOGRAPHY

During the course of its survey the Subcommittee reviewed a large amount of materials useful for highway tort liability training. To assist those agencies wishing to initiate training programs or to improve their existing programs, selected samples of these materials were tabulated in a bibliography which has been appended to this report.

## RECOMMENDATIONS

1. A tort liability workshop or paper session should be instituted at the Annual Meeting of the Transportation Research Board. This session should annually include several papers devoted to the most recent training materials on tort liability management.

2. Highway agencies should establish continual programs for tort liability training. The training programs should be tailored to fit the needs of the individual state agencies, but should normally include components for general tort awareness of all employees, awareness training of maintenance managers, site investigation and data gathering, effective witness testimony, and transportation engineering principles for attorneys.

3. A nationwide inventory should be conducted to fully document existing tort liability training programs, to identify deficiencies in these training materials, to find which additional materials are desired, and to design new materials in multi-media format.

4. A single agency or government office should become the focal point for monitoring state highway department tort training efforts. This agency would operate as a clearing house, maintaining a standing list of available training materials, loaning these materials to states or arranging loans between states, and preparing descriptive criteria for new training materials. The FHWA's National Highway Institute might be a candidate for this job.

5. Local governments especially need help. They often do not have ready access to materials distributed by national agencies (FHWA, TRB, etc.), nor do they have sufficient staff size or expertise to digest this material. Training material should be made available to them in a simplified format, on a wide-spread basis such as FHWA's T-Squared program.

## SUMMARY

The Education/Training Subcommittee of the TRB Task Force on Tort Liability has performed a limited survey of risk management and tort liability training materials to assess the national picture. The survey revealed that many states already have active training underway. This training varies widely in scope and in the target audience.

This report outlined the national picture, reviewed the training programs of several example states, summarized activities by national agencies, and provided a bibliography of materials useful for initiating an agency library on tort liability.

## REFERENCE

(1) Survey on Status of Sovereign Immunity in States, 1987, by Administrative Subcommittee on Legal Affairs of the American Association of State Highway and Transportation Officials, Washington, D.C., 1988.

# APPENDIX

## SAMPLE BIBLIOGRAPHY

## TORT LIABILITY ISSUES AFFECTING HIGHWAY AGENCIES

To assist transportation agencies in preparing their own risk management training programs, the Subcommittee has assembled a sample bibliography of tort liability materials. This listing is certainly not all inclusive, but it does represent a good cross section of materials on many of the major issues typically encountered by state departments of transportation.

# SAMPLE BIBLIOGRAPHY ON TORT LIABILITY

## TORT LIABILITY


1. "Traffic Improvements--Legal Aspects and Liability, A One-Day Seminar," Institute of Transportation Engineers Education Foundation, Washington, D.C., Second Edition, 1980.

2. "Legal Liability in Traffic Engineering," Chapter 27, Transportation and Traffic Engineering Handbook, Second Edition, Institute of Transportation Engineers, Sheldon I. Pivnik, edited by Wolfgang S. Homburger, Louis E. Keefer and William R. McGrath, 1982.

3. Enhancing Maintenance Documents Associated with Tort Liability, Martin C. Rissel, Robert J. Vollmer, Russell M. Lewis, and Herbert L. Olivieri, Pennsylvania Department of Transportation, 1985.

4. "The Minimization of the Risk of Liability in the Management of Traffic Operations," Sheldon I. Pivnik, paper presented at the Street Scene Management System Workshop, Wonewoil Lodge, Minnesota, Nov. 10-13, 1977.

5. Risk Management Glossary, Risk and Insurance Management Society, Inc., Risk Management Society Publishing Inc., New York, 1985.

6. Highway Tort Liability, Daniel S. Turner, Prepared for Risk Management Workshops sponsored by the Transportation Systems Management Association, The University of Alabama, Tuscaloosa, Alabama, 1986.

8. "Practical Guidelines for Minimizing Tort Liability," NCHRP Synthesis of Highway Practice 106, Transportation Research Board, Washington, D. C., December 1983.

9. "Methods for Identifying Hazardous Highway Elements," NCHRP Synthesis of Highway Practice 128, Charles V. Zegeer, Transportation Research Board, November, 1986.

10. "Legal Implications of Highway Department's Failure to Comply with Design, Safety, or Maintenance Guidelines," Research Results Digest, 129, October, 1981, Transportation Research Board.

11. "Legal Problems Arising out of Highway Programs," Research Results Digest 156, May, 1986, Transportation Research Board.

12. "Liability of State Highway Departments for Defects in Design, Construction, and Maintenance of Bridges," Research Results Digest 141, June, 1983, Transportation Research Board.

13. "Tort Claims Involving Roadside Safety", Transportation Research Circular, Transportation Research Board, Committee on Safety Appurtenances, 1984.

14. Traffic Engineering Theory and Practice, by Louis J. Pignataro, 1973, Prentice Hall Publishing, Inc.

GENERAL HIGHWAY TORT ARTICLES

1. "Selected Meeting Papers," Seventy-Second Annual Meeting Proceedings, American Association of State Highway and Transportation Officials, Washington, D. C., 1986.

2. "Pagan's Perspective--Legal Liability and the Highway Professional" Pagan, AR, Better Roads, Vol. 57, No. 5, May 1987, pp. 56-57.

3. "Engineering Study - Training Aids to Reduce Potential County," Final Report, M. Callahan, Iowa Department of Transportation, June 1988.

4. Tort Liability - Guidelines to Reduce Risk, Federal Highway Administration, Report DOT-FH-86-Z-00098, December 1987.

5. "Lawsuits Arising out of Reconstruction," D. C. Oliver, ASCE Journal of Transportation Engineering, Vol. 108, No. TE4, July 1982, pp. 392-407.

6. "The Premiums of City Life," Minard Lawrence, Forbes, March 15, 1977, pp. 96-98.

7. "Suing the DOT: Iowa's Defective Highways," Verne Lawyer, et al., Highway Risk Management: Traffic Control Devices.

8. "Sovereign Immunity," Better Roads, August, September, 1976.

9. "Preserving Evidence in Highway Cases," Transafety Reporter, October 1983.

ATTORNEY'S REFERENCES AND HANDBOOKS

1. The Law and Roadside Hazards, J. F. Fitzpatrick, M. N. Sohn, T. E. Silfon, and R. H. Wood, Insurance Institute for Highway Safety, Washington, D. C., 1974, and the Mitchie Company, Charlottesville, Virginia, 1975.

2. Killer Roads: From Crash to Verdict, Richard S. Kuhlman, Contemporary Litigation Series, The Mitchie Company, Charlottesville, Virginia, 1986.

3. On the Laws and Customs of England, Henry De Bracton, Harvard University Press, Vol. 31, Cambridge, Mass., 1968.

4. "Design Immunity as a Defense," Transafety Reporter, April 1983.

5. "Governmental Immunity," Greenhill, Joe R., and Thomas V. Murto III, Texas Law Review, Vol. 49, No. 3, The University of Texas School of Law, 1971.

6. Risk Management Glossary, Risk and Insurance Management Society, Inc., Risk Management Society Publishing Inc., New York, 1985.

7. "Rules and Regulations," Federal Register, Vol., 48. No. 233, December 2, 1983.

8. Jury Instructions in Automobile Negligence Actions, Graham Douthwaite, The Mitchie Company, Charlottesville, Virginia, 1986.

9. Automobiles & Highways: Design Defects and Maintenance Liability, Pennsylvania Bar Association, Civil Litigation Section, Harrisburg, Pennsylvania, 1988.

10. Transportation Facility Negligence, Participant's Workbook, March 20-21, 1986, San Diego, California, Sponsored by the Tort and Insurance Practice Section Committee of the American Bar Association.

11. "A Positive Approach to Defending Municipalities", Jay S. Judge, Judge & Knights, Ltd., Park Ridge, Illinois, 1984.

12. "Legal Liability and the Highway Professional," training course by the American Bar Association, Washington, D. C.

GIVING TESTIMONY

1. "Ten Commandments (More or Less) for The Expert Witness," by Alfred R. Pagan, P.E., L.S., reprinted from Better Roads, Aug., Sept., Nov., Feb., March, April, May and June 1980, Park Ridge, Illinois.

2. Handbook for the Accident Reconstructionist, M. J. Lofgren, Institute of Policy Technology and Management, U. of North Florida, 1986.

3. The Expert Witness Handbook, Dan Poynter, Para Publishing, Santa-Barbara, California, 1987.

4. "Preparing for a Deposition in a Business Case," Matthew Bender & Co. Inc., 235 E. 45th St. New York, NY 10017 (Videotape).

5. "The Transportation Engineer as a Court Witness," Jack B. Humphreys, ITE Educational Institute, 1984.

6. "The Traffic Engineering Expert Witness", John E. Baerwald, Traffic Engineering, Vol. 47, No. 5, May 1977.

ACCIDENT REDUCTION/SAFETY PROGRAMS

1. The Traffic-Accident Investigation Manual, At-Scene Investigation and Technical Follow-up, J. Stannard Baker, Lynn B. Fricke, Northwestern University Traffic Institute, 1986.

2. Synthesis of Safety Research Related to Traffic Control and Roadway Elements, Volumes 1 and 2, FHWA-TS-82-233, December, 1982, Federal Highway Administration, Washington, D. C.

3. Motor Vehicle Accidents in Relation to Geometric and Traffic Features of Highway Intersections, Volume III Appendices, Report No. FHWA-RD-76-130, Federal Highway Administration and National Highway Traffic Safety Administration, Washington, D.C.

4. "Manual on Identification, Analysis and Correction of High Accident Locations," Jerry L. Graham and John C. Glennon, Federal Highway Administration, sponsored by Missouri State Highway Commission, April, 1976.

5. "Accident Identification & Surveillance Documentation Manual," Prepared for The State of Alabama Highway Department, by The University of Alabama, TSM Report 112-88, September, 1988.

6. "An Evaluation of Traffic Accident Records Systems in Texas and Other States," Policy Research Project Report No. 65, The University of Texas at Austin, 1984.

7. "Highway Location Reference Methods," NCHRP 21, Transportation Research Board, 1974.

8. Highway Safety Program Manual No. 13, Federal Highway Administration, 1982, pp. 821-843.

9. Highway Safety Program Manual, Traffic Engineering Services, Federal Highway Administration, Washington, D.C., 1974.

10. "Highway Accident Analysis Systems," Charles V. Zegeer, et. al, NCHRP 91, (Goodel-Grivas, Inc., Southfield, Michigan), July 1982.

11. "Trends in Highway Information," Final Report, Z. A. Sabra, E. C. Noel, B. V. Chatfield and R. W. Eck, July 1988, Report No.: FHWA-RD-88-055, National Technical Information Service.

12. "Liability and Highway Safety Practices," David C. Oliver, Traffic Engineering, Vol. 47, No. 5, May 1977.

13. Motor Vehicle Accident Reconstruction and Cause Analysis, Second Edition, Rudolf Limpert, The Mitchie Company, Charlottesville, Virginia, 1984.

TRAFFIC CONTROL DEVICES

1. (State) Manual on Uniform Traffic Control Devices for Streets and Highways, Volume 1, State of _____ Highway Department.

2. Manual on Uniform Traffic Control Devices for Streets and Highways, U. S. Department of Transportation, Federal Highway Administration, Washington, D.C., 1978.

3. Traffic Control Devices Handbook, U. S. Department of Transportation, Federal Highway Administration, Washington, D.C., 1983.

4. "An Evaluation of Traffic Accident Records Systems in Texas and Other States," Policy Research Project Report No. 65, The University of Texas at Austin, 1984.

5. "A Video-Logged, Computerized Traffic Sign Inventory," George E. Klook and James J. McDonough, Transportation Engineering, April 1978.

6. "Photologging - A Data Collection Method for Roadway Information Systems," Tapan K. Data and Bruce B. Madsen, Transportation Engineering, April 1978.

7. "At Risk," video by Vulcan Traffic Management Services, Gulf Shores, Alabama, 1989.

8. "Liability for Improper Traffic Signaling, Signing, and Pavement Markings," Larry W. Thomas, Transportation Research Record 693, Transportation Research Board, 1978.

9. "Tort Liability: The MUTCD and Recent Cases," David C. Oliver, paper at AASHTO Subcommittee Meeting on Traffic Engineering, June 21, 1977, page 6.

TRAFFIC CONTROL IN WORK ZONES

1. Work Zone Traffic Control Handbook, State of Alabama Highway Department, Traffic Engineering Section, Montgomery, Alabama, 1980.

2. "The Obstacle Course: Pedestrians in Highway Work Zones," George H. Brisbon, Jr. and Himmat S. Chadda, Paper sponsored by the Federal Highway Administration.

3. Symposium on Work Zone Traffic Control, Conference Proceedings, Bellomo-McGee, Incorporated, Report DOT-I-86-05, Government Printing Office, 1985.

4. "Booby Trapped: Work Zones," R. W. Anderson, TranSafety Reporter, Vol. 3, No. 1, Jan. 1985, p. 4, TranSafety Incorporated, Washington D. C.

5. Traffic Control at Sites of Temporary Hazard, J. R. Jarvis Australian Road Research Board, Vermont, South Victoria Australia, 1983.

6. "Tort Liability: Special Problems Encountered by Highway Agencies and Contractors in Designing Work Zone Layouts," David C. Oliver, Transportation Research Record 693, Transportation Research Board 1978.

7. "Status of Traffic Safety in Highway Construction Zones," Robert J. Paulsen, et al, Transportation Research Record 693, Transportation Research Board, 1978.

8. "Work Zone Traffic Control Standards and Guidelines," Federal Highway Administration, 1985, Washington, D. C.

9. "Safety in the Work Zone," American Transportation Builder, Fall 1985, Washington, D. C.

10. "Planning and Scheduling Work Zone Traffic Control," Implementation Package FHWA-IP-81-6, Federal Highway Administration, October 1981.

11. "An Overview of Developments in National Work Zone Traffic Control," Donald P. Ryan and Dennis G. Mittelstedt, ITE Journal, Volume 49, No. 4, Washington, D. C., April 1979, page 19.

12. "Traffic Controls in Construction and Maintenance Work Zones," Volume II, Field Function, Technology Sharing Report, FHWA-TS-77-203, Federal Highway Administration, May 1977.

13. "Traffic Controls in Construction and Maintenance Work Zones," Volume I, Office Function, Technology Sharing Report, FHWA-TS-77-204, Federal Highway Administration, May 1977.

14. "Traffic Controls for Construction and Maintenance Worksites: A Research Reference Report," Report No. FHWA-RD-76-169, Federal Highway Administration, Washington, D. C., October 1976.

EDGE RUTS/LOW SHOULDERS/POTHOLES

1. "The Effect of Longitudinal Edge of Paved Surface Drop-Off on Vehicle Stability," Report CA-DOT-TL-6783-1-76-22, March 1976, E. F. Nordlin, D. M. Parks, R. L. Stoughton, and J. R. Stoker, California Department of Transportation, Sacramento, California.

2. "Effect of Longitudinal Edge of Pavement Surface Drop-Off on Vehicle Stability, R. L. Stoughton, et al, Transportation Research Record 703, Transportation Research Board, Washington, D.C., 1979.

3. "Pavement Edges and Vehicle Stability--A Basis for Maintenance Guidelines," Richard Z. Zimmer and Don L. Ivey, Research Report Number 328-1, September, 1982, Texas Transportation Institute, College Station, Texas.

4. "The Influence of Roadway Surface Holes and the Potential for Vehicle Loss of Control," by R. L. Zimmer and D. L. Ivey, Texas Transportation Institute, College Station, Texas, August 1983.

5. "A State-of-the-Art Report, The Influence of Roadway Surface Discontinuities on Safety," Transportation Research Board, National Research Council, Washington, D. C. 1984.

6. "Liability of the State for Injuries Caused by Obstruction or Defects in Highway Shoulder or Berm," Research Results Digest 153, February, 1986, Transportation Research Board.

7. "Liability of the State for Injury-Producing Defects in Highway Surface," Research Results Digest 135, July 1982, Transportation Research Board.

8. "The Influence of Pavement Edge and Shoulder Characteristics on Vehicle Handling and Stability," by Robert L. Ivey and Dean L. Sicking, Transportation Research Record 1084, Transportation Research Board, Washington, D.C., 1988.

9. "Safety in Construction Zones Where Pavement Edges and Drop-Offs Exist", by Don L. Ivey, et al, Presented at the 87th Annual Meeting of the Transportation Research Board, Washington, D.C., January, 1988.

10. "Winter Yields Bumper Crop of Potholes," Cindy Skrzycki, U. S. News and World Report, April 1985.

11. "Booby Trapped: Potholes," R. W. Anderson, TranSafety Incorporated, TranSafety Reporter, Vol. 3, No. 4, April 1985, p. 4, Washington, D. C.

POLES

1. Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals, 1985, the American Association of State Highway and Transportation Officials, Washington, D. C.

2. State of the Practice in Supports for Small Highway Signs, Technology Sharing Report 80-222, April 1980, Federal Highway Administration, Washington, D. C. 20590.

3. Selection of Cost-Effective Countermeasures for Utility Pole Accidents--Users Manual, Report No. FHWA-IP-86-9, December 1986, Federal Highway Administration, Washington, D. C.

4. Utility Pole Accident Countermeasures Evaluation Program and Input Processor Users Manual, Report No. FHWA-IP-86-14, December 1986, Federal Highway Administration, Washington, D.C.

RAILROAD GRADE CROSSINGS

1. Railroad - Highway Grade Crossing Handbook, Technology Sharing Report, U. S. Department of Transportation, Federal Highway Administration, 1987.

2. Compilation of State Laws and Regulations on Matters Affecting Rail-Highway Crossings, Federal Railroad Administration, Federal

Highway Administration, Association of American Railroads, Report FHWA-TS-83-203, April 1983.

3. "Evaluating Grade-Separated Rail and Highway Crossing Alternatives," NCHRP Report 288, Transportation Research Board, Washington, D. C., June 1987.

4. Domestic and Foreign Research and Practices in Railroad-Highway Grade Crossing Safety, Transportation Center, The University of Tennessee, October 1981.

TREES

1. A Guide for Highway Landscape and Environmental Design, The American Association of State Highway and Transportation Officials, Washington, D.C., 1970.

2. Guide to Management of Roadside Trees, Federal Highway Administration, Report No. FHWA-IP-86-17, December, 1986.

3. "Environmental Assessment for Removal of Hazardous Roadside Trees from Highway Rights-of-Way," Michigan Department of Transportation and Federal Highway Administration, 1980.

4. "Assessment of Guidelines for Removing Hazardous Trees from Highway Rights-of-Way," Asplundh Environmental Services, for Michigan Department of Transportation, 1979.

5. Vehicle/Tree Accident Risk and Management of Roadside Trees, by Andrew J. Zeigler, Michigan Department of Transportation, Transportation Planning Services Division.

6. A Manual for Roadside Vegetation Management, State of Alabama Highway Department, 1988.

MAILBOXES

1. A Guide for Erecting Mailboxes on Highways, the American Association of State Highway and Transportation Officials, Washington, D. C. 1984.

2. Full-Scale Uninstrumented Test of Brick Mailboxes Structures, Prepared for U.S. Department of Transportation, Federal Highway Administration, Region 6, F. D. Masch, June 1988, Southwest Research Institute, San Antonio, Houston.

UTILITIES

1. A Guide for Accommodating Utilities Within Highway Right-of-Way, the American Association of State Highway and Transportation Officials, Washington, 1981.

2. A Policy on The Accommodation of Utilities Within Freeway Right-Of-Way, the American Association of State Highway and Transportation Officials, Washington, 1982.

CLEAR ZONE

1. Roadside Design Guide, American Association of State Highway and Transportation Officials, Washington D. C., 1988.

2. Guide for Selecting Locating, and Designing Traffic Barriers, American Association of State Highway and Transportation Officials, Washington, D. C., 1977.

3. A Supplement to A Guide for Selecting, Designing and Locating Traffic Barriers, Prepared by Texas Transportation Institute, March 1980, Updated, June, 1981, Federal Highway Department.

4. A Policy on Geometric Design of Highways and Streets, (The Green Book), American Association of State Highway and Transportation Officials, Washington, D. C. 1984.

5. A Primer on the Clear Zone, by Daniel S. Turner, Transportation Research Record 1122, Transportation Research Board, 1988.

6. "Effectiveness of Clear Recovery Zones," NCHRP Report 247, Transportation Research Board.

7. "Designing Safer Roads, Practices for Resurfacing, Restoration, and Rehabilitation," Special Report 214, Transportation Research Board.