National Cooperative Highway Research Program

RESEARCH RESULTS DIGEST

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Legal Implications of Regulations Aimed at Reducing Wet-Weather Skidding Accidents on Highways

A report submitted under ongoing NCHRP Project 20-6, "Right-of-Way and Legal Problems Arising Out of Highway Programs," for which the Transportation Research Board is the agency conducting the research. The report was prepared by Larry W. Thomas, TRB Assistant Counsel for Legal Research, for John C. Vance, TRB Counsel for Legal Research, principal investigator, serving under the Special Technical Activities Division of the Board.

THE PROBLEM AND ITS SOLUTION

State highway departments and transportation agencies have a continuing need to keep abreast of operating practices and legal elements of special problems involving right-of-way acquisition and control, as well as highway law in general. This report and three others published as Research Results Digest 79, "Personal Liability of State Highway Department Officers and Employees," Research Results Digest 80, "Liability of State Highway Departments for Design, Construction, and Maintenance Defects," and Research Results Digest 83, "Liability of State and Local Governments for Snow and Ice Control," deal with legal questions surrounding liability for negligent design, construction, or maintenance of highways. It includes legal authority relative thereto.

RESEARCH FINDINGS

This digest comprises the full text of the agency's report on research findings. Therefore, the statement in the standard heading above concerning loans of uncorrected draft copies of the report does not apply.

TRANSPORTATION RESEARCH BOARD
NATIONAL RESEARCH COUNCIL

Legal Implications of Regulations Aimed at Reducing Wet-Weather Skidding Accidents on Highways

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Overview

This paper analyzes the legal implications of the wet-weather skid-reduction program and the recommended minimum pavement skid resistance. Discussed first are the general principles of liability of State highway departments for failure to design, construct, and maintain highways with safe skid resistance. These features of the wet-weather skid-reduction program are considered: adoption of uniform minimum standards for skid resistance; pavement design, mix, and selection; resurfacing or grooving; erection of warning signs; accident data collection; and establishment of a general inventory to establish priorities for rehabilitation and repairs. Second, admissibility of wet-weather skidding regulations into evidence and their use at trial are considered.

INTRODUCTION

One problem of highway safety that is receiving increased attention by Federal and State authorities is the high frequency of skidding accidents. An alarming three million highway accidents occur each year on wet pavements resulting in 7,500 fatalities and 250,000 injuries.[1] Testimony, records, and films before the Congress have documented both the severity of the highway skidding problem and the success of new measures to improve skid resistance of highways having a high number of wet-weather skidding accidents.[2]

Federal authorities, at the behest of Congress, are encouraging the systematic application of skid-resistance technology to the design, construction, and maintenance of highways. Although interest and research on pavement skid resistance dates from the 1930's,[3] present federal policy on skid resistance emanates from the Highway Safety Act of 1966.[4] Section 402 provides:

> (a) Each state shall have a highway safety program approved by the Secretary, designed to reduce traffic accidents and deaths, injuries, and property damage resulting therefrom. Such programs shall be in accordance with uniform standards promulgated by the Secretary. Such uniform standards shall be expressed in terms of performance criteria. Such uniform standards shall be promulgated by the Secretary so as to improve driver performance (including, but not limited to, driver education, driver testing to determine proficiency to operate motor vehicles, driver examinations (both physical and mental) and driver licensing) and to improve pedestrian performance. In addition, such uniform standards shall include, but not be limited to, provisions for an effective record system of accidents (including injuries and deaths resulting therefrom), accident investigations to determine the probable causes of accidents, injuries, and deaths, vehicle registration, operation, and inspection, highway design and maintenance (including lighting, markings, and *surface treatment*), traffic control, vehicle codes and laws, surveillance of traffic for detection and correction of high or potentially high accident locations. Such standards as are applicable to state highway safety programs shall, to the extent determined appropriate by the Secretary, be applicable to federally administered areas where a federal department or agency controls the highways or supervises traffic operations. (Emphasis supplied.)

Implementing fully the foregoing provision may result in State liability for failure to meet the minimum standards or to exercise due care in following regulations issued pursuant to law. For example, minimum skid numbers may be mandatory in the future, and States may be required to upgrade pavements with skid resistance below the minimum acceptable standards. Other features of the skid-reduction program, such as the collection of accident data, inventorying of hazardous locations, or the systematic measurement of pavements to discover unsafe conditions, may have significant legal implications. In formulating an acceptable federal policy, the Federal Highway Administration (FHWA) has found that the threat of tort suits arising out of unsafe highway conditions has made States reluctant to officially collect data for skid-hazard inventories that could be used in court against them.[5] Moreover, skid number guidelines are opposed often because of the fear of "possible legal liability of a State if highways did not meet the minimum skid numbers." [6]

In light of Congressional interest in the subject, stiffer skid-reduction measures appear inevitable. There is dramatic evidence of a reduction in skidding accidents once pavements are upgraded; for example:

> A 20-mile stretch of Interstate 70S in Maryland showed 1,011 reported accidents, producing 14 deaths and 647 injuries over a three-year period. A little more than one-third of all reported accidents on that section of I-70S occurred in wet weather, a percentage approximately double that for the rest of the nation. Attention must be given to the word "reported," for evidence presented to the subcommittee

suggested that a very large number of skidding and other wet-weather accidents, even where property damage is involved, go unreported to law enforcement authorities.

The testimony demonstrated convincingly how wet-weather trouble spots can be improved. When the I-70S curve filmed by O'Hara was banked properly and given a skid-resistant surface, at a total cost of $30,362, wet-weather skidding accidents at the location dropped from an average of 18 a year to approximately one a year.

Confirmation that this experience was not unusual was provided by an official of the Federal Highway Administration, who declared that efforts to upgrade the frictional characteristics of pavements by surface overlays, grooving, and other means have produced reductions in wet-weather accidents ranging from 50 to 100 percent. Grooving alone reduced the annual total of wet-weather accidents on seven California locations from 253 to 9, truly a spectacular safety achievement.[7]

As noted, States are concerned about the implications of regulations establishing minimum skid number standards and procedures for collecting accident data and inventorying skid resistance of highways:

> In Congressional hearings, the liability question popped to the surface again and again. The testimony showed ignorance and uncertainty among representatives of governmental jurisdictions, highway departments, and their employees as to the extent to which they individually or collectively could be held liable under the law for improper elements of the road environment. Large judgments have been awarded by juries in a few cases where the roadway itself or roadside fixtures have contributed to death or serious injury.
>
> Clarification is needed in this important area since there is disturbing evidence that guidelines and specifications stated in the 1971 Manual on Uniform Traffic Control Devices deliberately have been hedged and qualified so as not to establish possible ground for law suits.[8]

It is because of the anticipated highway program aimed at reducing the number of wet-weather skidding accidents that there is a need for research on the question of State liability for the failure to exercise reasonable care in the (1) design, construction, and maintenance of highway pavements to achieve acceptable skid resistance; (2) selection of the appropriate method to reduce skidding accidents; (3) inventorying of hazardous skidding locations; (4) collection of accident data; and (5) standardization of skid measurement practices and procedures. Of interest are the discretionary nature of several of these requirements and the admissibility into evidence and use of skidding regulations at trial.

Background of Federal Wet-Weather Skid-Reduction Efforts[9]

The federal highway policy is that "pavement surfaces should be constructed and maintained for the best possible skid resistance and that inadequate pavements be identified and corrected."[10] Following the enactment of the Highway Safety Act of 1966, skid resistance received increased attention. An FHWA Circular Memorandum, dated April 1967, stressed the need for designing and constructing federal-aid highways with high skid resistance. In June 1967, an FHWA Highway Safety Program Standard on Highway Design, Construction, and Maintenance provided that every State program must provide as a minimum that:

> D. There are standards for pavement design and construction with specific provisions for high skid resistance qualities.
>
> E. There is a program for resurfacing or other surface treatment with emphasis on correction of locations or sections of streets and highways with low skid resistance and high or potentially high accident rates susceptible to reduction by providing improved surfaces.[11]

A program authorizing federal aid for pavement resurfacing, for highways with skid numbers lower than 35 when tested at speeds of 40 mph, was announced in April 1968 in FHWA Instructional Memorandum 21-3-68. In 1969, Policy and Procedure Memorandum 21-16 announced a program to detect and correct hazardous or potentially hazardous locations, elements, or sections of the federal-aid highway system by using accident data.

Current skid-resistance policy and procedures are set forth in volume 12 of the *Highway Safety Program Manual* on Highway Design, Construction, and Maintenance, dated February 1974. The manual states that State and local highway agencies in designing and constructing new pavements should require that adequate standards of skid resistance be met and that pavements be designed to maintain skid-resistance qualities for as long as possible, "preferably for the service life of the pavement." Although the manual recognized that methods of obtaining adequate resistance differ with types of surfaces and local conditions, it notes several important considerations for pavement design and construction. On the critical issue of minimum skid numbers, the manual is advisory only:

> While there has been considerable research in this field, there still is no nationally accepted minimum coefficient of skid resistance. However, as a general guide, the minimum skid numbers given in Table I offer the most current information on the subject. New pavements should be designed to obtain a high skid-resistant surface that will retain these characteristics as long as possible.[12]

Further recommendations are that the States have a program to correct highways shown by systematic measurements or accident data to have inadequate pavement skid resistance. In addition, a July 19, 1973 Instructional Memorandum suggests by reference the skid numbers contained in a report by Kummer and Meyer, entitled "Tentative Skid-Resistance Requirements for Main Rural Highways," *National Cooperative Highway Research Program Report 37* (1967), determining acceptable levels of skid resistance.[13]

Eventually, States may be required to establish and maintain a regular and continuing program of skid-resistance measurements; provide a sufficiently high level of skid resistance on new construction to allow pavement wear; initiate resurfacing of pavements that, because

of wear, roughness, or disintegration fall below minimum skid number levels; use warning signs, pavement grooving, or other supplementary measures when the need for skid resistance is very high; and report the results of the program.

The most recent regulations,[14] urge the States to adopt a systematic skid-reduction plan having three basic activities: evaluation of pavements to ensure that good skid-resistant qualities are present, detection of wet-weather high-accident locations by using the State accident record system, and analysis of skid resistance for all roads with a speed limit of 40 mph or greater.

Although the present minimum skid numbers and speed gradients are advisory only, their existence has significant legal implications, which are also considered herein.

Development and Application of Pavement Skid-Resistance Technology

It would be impossible to summarize here the skidding research discussed in *National Cooperative Highway Research Program Report 37* which contains recommended skid number values. Analysis of the skidding problem involves an understanding of the mechanism of the pavement and tire function, determination of minimum frictional requirements for maintaining the vehicle under control for a variety of conditions, methods of measuring pavement skid resistance, building of adequate skid resistance into new roads, and restoration of adequate skid resistance on pavements that have become polished.[15] Measurement of skid resistance and use of skid number data are not an exact science, for further research is continuing to refine the guidelines for the design and construction of skid-resistant pavement surfaces.

The skid number is defined as the frictional coefficient of a tire skidding on a wet pavement times 100; however, the upgrading of a given highway requires more than the mere application of a pavement surface with an adequate skid number. That is, frictional requirements have to be determined for each given set of road, vehicle, operator, and weather conditions.[16] Inadequate pavement-tire friction is not, of course, the sole cause of skidding accidents on wet roads. Related problems are driver behavior, vehicle and tire design, pavement design, maintenance procedures, geometric layouts of highways, vehicle inspection, and speed limits.[17]

Skidding accidents do not automatically establish that the pavement is low in skid resistance; however, where wet-weather accidents re-occur at the same location involving vehicles at normal speeds in good condition with well-treaded tires, it may be inferred that the pavement drains improperly, is polished, or is otherwise deteriorated.[18] Measuring the skid resistance of pavements is essential in order to have early warning of unsafe highways, and current methods are described in *National Cooperative Highway Research Program Report 37*. Most techniques involve sliding a tire on a test vehicle behind a jet or spray that leaves a thin skim of water on the pavement. Test vehicles, which differ in accuracy, measure the surface skid resistance—the force developed when a tire prevented from rotating slides on the pavement. Although there are several components of pavement friction, an extended discussion of such components is beyond the scope of this paper. Other highway, driver, or vehicle conditions may be relevant subjects for inquiry.[19] Moreover, certain "parameters" affect the measurement of frictional levels: surface characteristics, types and amount of lubricant, rubber characteristics, and operational components, such as pressure on the tire, sliding speed, and temperature of both surface and rubber.[20] It appears that tests of sample pavements could differ at various locations, from day-to-day, or even between the outside and inside tracks of the highway. Nevertheless, skidding research has resulted in the recommendation of minimum skid-resistance levels for some pavement surfaces.

Research is continuing in an effort to select the aggregates and pavement systems for new highways and the rehabilitation of existing roads where certain levels of skid resistance are desired. For example, a recent report entitled "Guidelines for Skid-Resistant Highway Pavement Surfaces," *National Cooperative Highway Research Program, Research Results Digest 89* (1976), sets forth highway surfaces that were judged most suitable for immediate practical application following field examination and testing, and groups the pavement aggregates according to their potential for practical use and immediate application.

TREND TOWARD HOLDING STATES LIABLE FOR NEGLIGENCE

Erosion of Sovereign Immunity Defense

The primary defense to negligence suits against highway departments for skidding accidents is, or was, the doctrine of sovereign immunity. That is, the department may not be sued in tort unless consent to suit is given by it or the legislature. Where the doctrine is invoked, a complaint filed against a public agency will be dismissed as a matter of law, because the agency cannot properly be made a defendant in court without its consent, a procedure thereby precluding a litigant from asserting an otherwise meritorious cause of action.[21] Of course, the sovereign is deemed to have the power to consent to tort suit.[22] The law of each State must be consulted to determine whether State immunity extends to municipalities[23] or to all State agencies.[24] Because many State constitutions or State statutes have a provision precluding suits against the State, courts usually hold that immunity may be waived only by an explicit constitutional amendment or statutory enactment. On the other hand, where state immunity is founded on the common law of a jurisdiction, numerous courts have abrogated the immunity of governmental agencies.[25]

Suability of Federal, State, and Local Governments

Historically, the doctrine of sovereign immunity emerged in the United States following the American Revolution because of practical

or policy considerations and possibly because of a misunderstanding of the doctrine as it had existed in England. In a series of early decisions,[26] the Supreme Court of the United States held that Federal and State governments were immune from suits without their consent. Holmes' famous dictum in *Kawananakoa v. Polybank*,[27] gave further impetus to the doctrine: the immunity of a sovereign from suit and liability rests upon no "formal conception, or absolute theory, but on the logical and practical ground that there can be no legal right as against the authority that makes the law on which the right depends."

Perhaps mistakenly, the American legal community at first assumed that the English Common Law precluded any suit against the sovereign unless consent thereto was given by the supreme English authority, the Crown.[28] By analogy, because of the supremacy of the legislature in American jurisprudence, courts held that only the involved legislature could consent to suit.[29]

In 1946 tort suits against the Federal Government were permitted by the Federal Tort Claims Act, enacted as Title IV of the Legislative Reorganization Act, 60 Stat. 842, provisions of which are now scattered throughout various sections of the *United States Code*. Previously, the defense of sovereign immunity was an insurmountable obstacle to tort suit against the United States; today, negligence suits are filed at a rate exceeding 1,500 each year and span the entire field of tort law.

At the State level many courts have abrogated the doctrine of sovereign immunity usually on the legal basis that, because the courts created the doctrine in the common law, they similarly have the power to extinguish it.[30] To accomplish the same end, other courts construe a waiver of immunity on the basis of existing statutory language.[31]

This judicial trend has left many State highway departments vulnerable to tort suit, a threat to which numerous States have responded by enacting tort claims legislation setting forth procedures for filing negligence actions against government agencies. Representative States having a tort claims act are: Alaska, California, Colorado, Hawaii, Idaho, Iowa, Nebraska, Nevada, New Jersey, Utah, and Vermont.

Another method of handling negligence suits is by a special quasi-judicial body or claims commission. State claims boards vary greatly in scope, procedure, and jurisdiction, but the States of Arkansas, Georgia, North Carolina, Tennessee, and West Virginia have established them.

States not already listed have different approaches to the issue of tort liability of public authorities. New York, for example, enacted in 1920 a general waiver of sovereign immunity authorizing the courts to determine its liability in accordance with the same rules of law as applied to actions against individuals or corporations.[32] The legislatures of Arizona and Louisiana have thus far failed to respond to their court's abrogation of immunity.[33] Several States authorize public agencies to procure liability insurance; however, the existence of the insurance does not constitute a waiver of sovereign immunity. Usually, the statutes provide that immunity is waived only to the extent of the amount of the insurance purchased; moreover, the statutes may contain limits on the amounts of authorized coverage or other important exemptions and provisions.[34] Several States, including Kansas and Connecticut, permit individuals to sue the State for damages for injuries incurred because of a "defective highway." Despite the current trend towards liability, these representative States retain state immunity: Delaware, Maine, Maryland, Mississippi, Missouri, New Hampshire, Ohio, Oklahoma, New Mexico, Pennsylvania, South Dakota, Virginia, Wisconsin, and Wyoming.

A thorough discussion of the law of State immunity appears in an article entitled "Liability of State Highway Departments for Design, Construction, and Maintenance Defects," Research Results Digest No. 80, published by the NCHRP. In that article, Appendix A provides a brief statement of the law of each of the 50 States and the District of Columbia.

Municipal corporations in almost all States may be held liable for negligence in the conduct of street operations;[35] however, a distinction often is drawn between the liability of municipal corporations and that of counties or towns.[36] The latter are held not liable at common law for injuries resulting from defective highways, even in States holding municipal corporations liable at common law.[37] One rationale for "the rule of nonliability of counties and townships at common law is that they are political subdivisions of the state, exercising a part of the sovereign powers of the state and liable only to the extent the state itself would be in absence of statute imposing liability."[38] Thus, the liability of local units of government may depend on whether the common law or a State statute is applicable.[39]

Suability Versus Liability

Suability may be distinguished from liability. As noted, an action will not lie against the department unless consent to suit has been given (e.g., by waiver or abrogation of sovereign immunity). That the State consents to suit does not mean that it consents to liability for the particular wrong alleged. The courts, as well as legislatures, have formulated doctrines limiting the liability of a governmental agency in the performance, for example, of discretionary activities, or of governmental functions. Thus, in some jurisdictions, although suit is permitted, the department may not be held liable for torts committed in the exercise of its governmental functions. Where the agency retains immunity for governmental functions, it is said to have governmental immunity, which may immunize nearly all agency activity. Paradoxically, in some States highway maintenance functions at the State level are considered governmental in nature and immune from tort liability,[40] whereas at the local level such activity is considered proprietary in nature and not immune.[41] For State highway departments having governmental immunity there is little likelihood of liability for skidding accidents. The trend, however, is towards immunity only for claims

arising out of the exercise of discretionary functions. For that reason much of this paper is devoted to consideration of those features of the skid-reduction program that are discretionary in nature.

State's Duty to Guard Against Slippery Road Conditions

Because of varied statutes and common law rules applicable to both the substantive and procedural aspects of State liability for injuries arising out of negligent highway operations, general rules in this area are difficult to devise. Nevertheless, the States are usually held to have a duty to maintain highways, streets, and sidewalks in a reasonably safe condition for travel. "One traveling on a highway is entitled to assume that his way is reasonably safe, and although a person is required to use reasonable care for his own safety, he is neither required nor expected to search for obstructions or dangers." [42] It is often repeated that the State is not an "insurer of the safety of travelers using its highways," [43] and that a duty transcending that of reasonable care and foresight will not be imposed upon the State.[44] Courts require the States only to exercise reasonable care to make and keep the roads in a reasonably safe condition for the reasonably prudent traveler.[45] Although the State has no duty to make the roads absolutely safe, a motorist using a public highway has the right to presume that the road is safe for usual and ordinary traffic, and he is not required to anticipate extraordinary danger, impediments, or obstructions to which his attention has not been directed.[46]

Of course, States could not be expected to insure that highways are skid-proof during wet-weather conditions. Under certain circumstances, however, the State may be held liable for slippery roads. One authority states:

> A slippery condition of a highway or street may, under some circumstances, constitute an actionable defect therein, although a mere slippery condition due to natural causes, such as snow or ice, is not ordinarily so regarded. When, through original defective construction, a highway is rendered more dangerous by action of the elements, the public authority may become liable to one injured thereby. For example, where a highway is so constructed that when the surface is wet it becomes very slippery and dangerous to the knowledge of the public authority, liability for an accident due to such cause may follow. It has been held that the fact that "slippery when wet" signs are placed on the highway in accordance with existing regulations does not relieve the public authority from liability for an ensuing accident where they are wholly inadequate to warn the traveling public of the danger that exists. However, it has been held that the public authority is not negligent in maintaining a street over which, when wet, it is unsafe to travel at more than 15 miles per hour, provided appropriate warning is given of that fact.[47]

Although the State has no duty to guard against accidents caused by mere natural conditions,[48] it does have a duty to act where some feature of the highway construction, perhaps aggravated by wet-weather conditions, is a proximate cause of the skidding accident, unless proper precautions are taken or appropriate warnings are given.[49]

For example, in *Viet v. State*,[50] the State had applied crushed stone to the roadway because, after resurfacing, the asphalt emulsion at the scene of the accident had come to the surface and acquired "sort of a gummy consistency." The stones did not adhere and were blown away by passing cars. The Court held the State liable for injuries arising out of a skidding accident because of the State's failure both to advise the public of the danger by erecting warning signs and to apply materials that would remedy the situation.

> Ordinarily the defendant would not be liable for conditions due solely to weather, but when through original defective construction, wear, or other causes the highway or sidewalk is rendered more dangerous by action of the elements, the state or municipality may become liable to one injured thereby.[51]

In most jurisdictions the State is held to a standard of ordinary and reasonable care under the circumstances in the performance of its highway functions. An exception to the rule exists in some highway defect jurisdictions, for there the question is not whether a State officer or employee has been negligent. Rather, the issue is whether the claimant's injuries were caused by a "defect" within the meaning of the applicable statute (i.e., is the "defect" in the highway one that the legislature intended to be liability-producing) because the State had assumed the duty, after notice, of not allowing the dangerous condition to persist. In sum, the liability is statutory as the cause of action is for the recovery of damages for breach of statutory duty.

An illustration of this distinction between ordinary negligence jurisdictions and the few highway defect jurisdictions is *Clary v. Polk County*.[52] Plaintiffs were injured when their car failed to negotiate a wet curve. Liability was predicated on the statute permitting suit for defective and dangerous highways. It was alleged that the defective highway included the presence of a sharp, inadequately banked curve, the absence of appropriate guardrails or warnings, and the existence of a hazardous oil surface. The county argued that the highway defect statute did not embrace the foregoing complaints, that it referred only to defects or obstructions in the surface of the road.

The county's construction of the statute rested on *Tyler v. Pierce County*,[53] in which a Washington Court had held on similar facts that the county defendant was not negligent. The distinction between an ordinary negligence and highway defect jurisdiction is brought out clearly in the *Clary* opinion:

> The *Tyler* case has no validity or proper application here. To appreciate and understand that conclusion one must remember there are two distinct types of liability statutes authorizing actions for damages against counties and other municipal corporations. One is exemplified by Oregon's ORS 368.935, the other by Washington's RCW 4.08.120.
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> The Washington statute is not limited to county road defects, but imposes liability generally for negligence and all actions brought

under it are determined according to common law rules. Under a long line of Washington decisions the county is only required to exercise ordinary diligence and reasonable care to keep its public ways in a reasonably safe condition. (Citations omitted.)

> The Oregon statute is in a sense a special statute limited to one kind of action for damages. It is not coextensive with the common-law liability for negligence. It imposes a liability created by statute arising from "the defective and dangerous character of the highway," and does not turn upon the question of whether the county exercised due diligence in the premises, as in Washington, but rests on the existence of a defective and dangerous condition in county roads and bridges and its causal connection with the injury. (Citations omitted.)[54]

The highway defect statute imposes "upon the county the duty to absolutely discover and know the conditions of its roads and bridges, and practically makes its failure to discover these actionable negligences. The statute is drastic and perhaps vicious."[55] The Court went on to hold that the evidence was sufficient to support the jury's finding of the existence of a dangerous and defective condition.

A more rigorous duty to find and correct highway defects is imposed, therefore, in those few States having a highway defect statute, for they do not apply the ordinary negligence standard of reasonable care to the State's action. In those States having a highway defect statute, such as Connecticut and Kansas, additional research may be advisable.

Requirement of Notice

The duty of the State to correct dangerous conditions arises when it has notice, either actual or constructive, of the hazard. Most courts hold that the State must have notice of the defect or hazard for a sufficient or reasonable time "to afford them a reasonable opportunity to repair the condition or take precautions against the danger."[56] Notice, however, apparently is not necessary and the duty to act attaches immediately where the dangerous condition is the result of the State's own negligence. That is, it has been held that it is not necessary for the State to have notice of faulty construction, maintenance, or repair of its highways as the State is deemed to know of its own acts.[57] If the highway condition does not occur by reason of the active negligence of the public entity, it has the duty to repair once it has actual or constructive notice of the defect.[58]

Where an action is brought pursuant to a statute, the statute may require that the State have notice of the condition for the requisite statutory period. If, for example, the notice period is five days, and all of the factors creating the defect that caused the accident took place on the same day of the accident, the statutory notice period would not be satisfied;[59] the notice must be of the particular defect that caused the accident, not merely of conditions that may produce and subsequently do produce the highway defect.[60] The statutory period may be satisfied, however, if the State has actual knowledge of the unsafe condition.[61]

Finally, as stated, the notice may exist where the condition has existed for such a time and is of such a nature that the State should have discovered the condition by reasonable diligence.[62] In that instance, the notice is said to be constructive and the State's knowledge of the condition is said to be implied. The courts may consider, in deciding whether the State had notice, whether the defect was latent and difficult to discover. That is, the court will consider the nature of the defect, its location and duration, the extent and use of the highway, and whether the defect could be readily and instantly perceived.[63]

Provisions of Wet-Weather Skid-Reduction Program Discretionary in Nature

The basic aspects of the wet-weather skid-reduction regulations must be reviewed and analyzed in order to determine those features for which the State might be held liable for negligence. Technical materials on methods of upgrading pavement skid resistance, as well as current federal directives, support the conclusion that governmental agencies charged with the task of pavement improvement would be exercising a high degree of discretion. Wherever the department is able to show that a decision is an exercise of discretion, it has an important defense to a suit claiming negligence in the performance or failure to perform a duty owed to the public.

Not all features, of course, of the wet-weather skid-reduction program involve a high level of discretion. The design of a skid-resistant pavement would presumably be a task involving discretion, whereas the routine, systematic testing of the pavement skid resistance would likely be a ministerial task. The courts tend to hold that juries should not be allowed to second-guess the decisions of policy-makers, administrators, and other personnel exercising discretionary authority, except under unusual circumstances. Moreover, this entrusting of expert decision-making by the legislature to the executive branch is ordinarily not invaded by the courts for the purpose of substituting their judgment for that of the executive body because of the constitutional separation of powers. To routinely invade the province of nonjudicial bodies would violate the spirit and the letter of this constitutional division of power, which the courts are supposed to check and uphold, not usurp.

Immunity for Discretionary Duties

The exemption from liability for negligence committed in the performance or failure to perform a discretionary activity or duty has its roots in the common law of personal liability of public officials and employees. In modern times, the exclusion for discretionary [versus ministerial] functions extends to tort suits against governmental entities. That is, the highway department, for example, is not liable for negligence in the exercise of a task discretionary in nature but may be held liable for negligence in the conduct of its duties nondiscretionary or ministerial in nature.

Any activity, of course, involves the exercise of discretion. But the term "discretion" as employed herein means the power and duty to

make a choice among valid alternatives; it requires a consideration of alternatives and the exercise of independent judgment in arriving at a decision or in choosing a course of action.[64] On the other hand, ministerial duties are more likely to involve clearly defined tasks performed with minimum leeway as to a personal judgment and not requiring any evaluating or weighing of alternatives before undertaking the duty to be performed.[65]

A leading case on immunity for discretionary activity is *Weiss v. Fote.*[66] Here, the issue presented was the reasonableness of the clearance interval in a traffic light system which had been approved by the Board of Safety after ample study and traffic checks. The Court held that New York's general waiver of immunity did not extend to areas of lawfully authorized planning and that it would be improper to submit to a jury the reasonableness of the plan approved by the expert body.

> Lawfully authorized planning by governmental bodies has a unique character deserving of special treatment as regards the extent to which it may give rise to tort liability. It is proper and necessary to hold municipalities and the State liable for injuries arising out of the day-by-day operations of government—for instance, the garden variety injury resulting from the negligent maintenance of a highway—but to submit to a jury the reasonableness of the lawfully authorized deliberations of executive bodies presents a different question. To accept a jury's verdict as to the reasonableness and safety of a plan of governmental services and prefer it over the judgment of the governmental body which originally considered and passed on the matter would be to obstruct normal governmental operations and to place in inexpert hands what the legislature has seen fit to entrust to experts.[67] (Citations omitted.)

The immunity of a State for planning and designing highways and other government improvements also exists in the States having highway defect statutes. The Kansas statute, for example, provides for immunity for the plan or design of the highway when the same was prepared in conformity with the generally recognized and prevailing standards in existence at the time of the approval.[68] When there is an alleged defect in the plan or design of the highway, the planning body is given "in the first instance" the benefit of the doubt. There is no liability unless the design is known to be manifestly dangerous, a rule stated in the leading case of *Hampton v. State Highway Comm'n.*[69]

In *Hampton,* the State appealed from an award of $450,000 for personal injuries and loss of an automobile when plaintiff lost control of his vehicle due to an accumulation of water caused by a clogged drain in the highway and ultimately collided with an oncoming 43,0000-pound tractor-low-boy rig hauling a backhoe. Plaintiff charged that the accumulation was the result, in part, of the faulty design of the drain and the highway. The Court held that liability could not be predicated on design defect alone, because the design was adequate when the highway was built and must be judged by standards prevailing at that time. Liability could be predicated, however, on the fact established by the evidence that the plan or design after actual use was known to the commission to be "manifestly dangerous" to users of the highway.

In many States having tort claims legislation, the exclusion from liability for negligence arising out of the performance of discretionary activities has been provided. Where the defense is sanctioned by statute, it is usually referred to as the discretionary function exemption. The following representative jurisdictions recognize some type of discretionary exemption: Alaska,[70] California,[71] Hawaii,[72] Idaho,[73] Iowa,[74] Nebraska,[75] Nevada,[76] New Jersey,[77] Oregon,[78] Texas,[79] Utah,[80] and Vermont.[81] Although these statutes may vary, the discretionary function exemption in each is similar to Section 2680 of the Federal Tort Claims Act, which provides that the United States Government may not be held liable for:

> (a) any claim based upon an act or omission of an employee of the government, exercising due care, in the execution of a statute or regulations, whether or not such statute or regulation be valid, or based upon the exercise or performance or the failure to exercise or perform a discretionary function or duty on the part of a federal agency or an employee of the government, whether or not the discretion is abused.

Construing the exemption has caused the courts some difficulty, not unlike that experienced by the courts in applying the discretionary–ministerial dichotomy in the common law of personal liability. Several years following the enactment of the federal provision, the Supreme Court of the United States was called upon to interpret the exemption in *Dalehite v. United States.*[82] The *Dalehite* Court had to determine whether several federal decisions to undertake a program of fertilizer production fell within the discretionary function exemption. The specific incident giving rise to *Dalehite* was the explosion of two ships carrying fertilizer shipments that nearly leveled Texas City, Texas, killing or injuring 300 people, and causing $200,000,000 in property damage. The Federal Government was alleged to have been negligent and careless in drafting and adopting the fertilizer export plan, in manufacturing the fertilizer, and in loading the shipments for export. All phases of the program were held by the High Court to fall within the exemption for discretionary functions or duties:

> It is enough to hold, as we do, that the "discretionary function or duty" that cannot form a basis for suit under the Tort Claims Acts includes more than the initiation of programs or activities. It also includes determinations made by executives or administrators in establishing plans, specifications, or schedules of operation. Where there is room for policy judgment and decision there is discretion. It necessarily follows that acts of subordinates in carrying out the operations of government in accordance with official directions cannot be held actionable.[83]

The Court found that every federal action or decision from the initiation of the program to the actual manufacturing of the fertilizer and the shipboard loading were performed under the direction of a

"plan developed at a high level under a direct delegation of plan-making authority from the apex of the Executive Department." Moreover, the decisions were made with knowledge of the factors and risks involved, were based on previous experience with the materials; and were based on judgment requiring consideration of a vast spectrum of factors. Thus, there were no acts of negligence in carrying out the plan insofar as the production and shipment of the material were concerned. Rather, the basis of the suit rested on charges that the plan itself had been defective. The Court's holding 'that these decisions "were all responsibly made at a planning rather than operational level and involved considerations more or less important to the practicality of the government's fertilizer program"' later came to be labeled simply as the "planning-operational level dichotomy" in applying the discretionary function exemption.

In *Dalehite,* the operational-planning level test began to emerge: decisions made at the "planning level" were discretionary and those made at the "operational level" were not. *Dalehite,* however, was narrowed significantly by the Supreme Court's decision in *Indian Towing Co. v. United States,*[84] although in the latter case the government and the Court assumed that the acts involved were committed at the operational level and that the discretionary function exemption was not at issue. In *Indian Towing,* the petitioners sought damages under the Federal Tort Claims Act for claims arising out of the alleged negligence of the Coast Guard in failing either to check a lighthouse light and system that operated the light or to repair or give warning of the inoperative light. Language in the *Indian Towing* decision has narrowed the exemption by confining discretion to the initial policy-level decision to undertake a course of action. The Court stated:

> The Coast Guard need not undertake the lighthouse service. But once it exercised its discretion to operate a light on Chandeleur Island and engendered reliance on the guidance afforded by the light, it was obligated to use due care to make certain that the light was kept in good working order; and, if the light did become extinguished, then the Coast Guard was further obligated to use due care to discover this fact and to repair the light or give warning that it was not functioning.[85]

The courts are still having difficulty drawing the line between discretionary and nondiscretionary activity; however, they tend to follow one of three principal approaches.

> First, some courts have followed the rule suggested by the *Dalehite* dictum that planning-level decisions fall within the exception while operational ones do not. These courts have tended to read the exception much more narrowly than *Dalehite,* however. Second, other courts have focused upon the "Good Samaritan" rule of *Indian Towing* holding that once discretion is exercised to do a particular act, the act must be performed with reasonable care. These two analytic approaches are closely related and will lead to the same result in most cases. Finally, consonant with the majority opinion in *Dalehite,* some courts have simply read "discretionary function" very broadly so as to include more than just planning and policy decisions.[86]

No more precise rules probably could be stated. It seems that the defense for discretionary activity obtains if the "injury results from a deliberate choice to the formulation of policy," or if the planning activity involves an evaluation of certain policy factors such as the financial, political, economic, and social effects of a given plan or policy.[87] Some courts will look at the level of the government where the decision was made, whereas others will grant immunity only to the policy decision, and no further.

Design Immunity Statutes

Several State legislatures have sought to provide further legal protection for the design of public projects or improvements. For instance, in California a public entity is immune from liability for an injury caused by the plan or design of a public project where it was approved in advance by a public body or employee exercising discretionary authority to give approval if there is any substantial evidence upon which a reasonable employee or public body could have approved the plan or design.[88] The New Jersey plan or design immunity statute[89] provides that:

> Neither the public entity nor a public employee is liable under this chapter for an injury caused by the plan or design of public property, either in its original construction or any improvement thereto, where such plan or design has been approved in advance of the construction or improvement by the legislature or the governing body of a public entity or some other body or a public employee exercising discretionary authority to give such approval or where such plan or design is prepared in conformity with standards previously so approved.

Although the California statute invites the court to consider whether approval of the plan or design by the public body was reasonable, the New Jersey counterpart simply requires approval by one exercising discretionary authority to give such approval.

The design immunity statutes are based either on the prevailing, preexisting common law of the jurisdiction or on what is thought to be the rule in other jurisdictions. For example, the New Jersey design immunity statute is founded, first, on the proposition that in New Jersey "approval of plans or designs is peculiarly a function of the executive or legislative branch of government and is an example of the type of highly discretionary governmental activity which the courts have recognized should not be subjected to the threat of tort liability,"[90] and, second, on similar immunity provided by judicial decision in New York[91] or by statute in California.[92] Moreover, the discretionary function exemption in the New Jersey Tort Claims Act recognizes the operational-planning level dichotomy in immunizing high-level decisions calling for the exercise of official judgment or discretion.[93] But the Comment recognizes as well that there are exceptions to immunity

where the determination of priorities is "palpably unreasonable" or where a public entity, in choosing to act, does so "in a manner short of ordinary prudence." [94] However, these exceptions are not exceptions stated in the statute, which requires only that there be advance approval by one exercising discretionary authority.

Because the State statutes are based on judicial decisions regarding the discretionary activities of government, it is possible to suggest future exceptions to immunity from liability for errors in the plan or design of highways. For example, many States have design immunity based on the decision in *Weiss v. Fote.*[95] *Weiss* suggests that the public entity will not be immunized for negligence in the plan or design of the highway (1) where the plan or design has not been considered; (2) where there is no evidence that due care was exercised in the preparation of the design; (3) where no reasonable official could have adopted the plan; or (4) where approval of the plan was arbitrary.[96] Thus, any design immunity statute, unless legislative intent is clearly stated, could be judicially embellished with the foregoing exceptions to liability. Finally, a fifth exception might be annexed to a statute purporting to adopt the rule in *Weiss v. Fote:* the duty to review continually the plan or design once it is in actual operation.[97]

The State is protected by the design immunity statute only where all statutory elements are followed to the court's satisfaction. Thus, as stated in *Johnston v. County of Yolo,*[98] in order for the government to gain the advantage of the design immunity of CAL. GOV'T CODE § 830.6, it must demonstrate:

> First, a causal relationship between the plan or design and the accident; second, the design's approval in advance of construction by a legislative body or office exercising discretionary authority; third, a court finding of substantial evidence of the design's reasonableness.[99]

In *Johnston* the county was unable to claim design immunity because the county road commissioner, who was the public official having discretionary authority to approve a design, never approved the design of the double curve alteration, the scene of the *Johnston* accident.[100]

Immunity may attach to pavement design for the reason that such activity is considered high-level planning activity involving the exercise of discretion or is immunized specifically by the statutes enacted to protect public entities from actions arising out of the plan or design of public improvements.

No cases have been located involving both an exemption from liability for discretionary activity and a specific wet-weather skid-reduction program. It appears, however, that States, which have waived their immunity from liability except for claims arising out of discretionary duties, may have a defense to suits arising out of negligence both in the adoption of the State program and in the selection of adequate pavement surfaces. Moreover, if it can be demonstrated that the States have plan or design immunity for skid-resistant pavements then immunity, once attached, should extend throughout the life of the pavement. Because several features of the wet-weather skid-reduction program appears to fall within the ambit of immunity for certain discretionary activities or functions, the legal implications for other phases of the program are considered.

Initiation of the Wet-Weather Skid-Reduction Program

The courts have uniformly held that the decision at the apex of government to undertake a governmental plan or service is protected by the discretionary authority inherent in the government; that is, government must be permitted to govern. Probably no action could be maintained successfully against Federal or State governments for initiating the wet-weather skid-reduction program, issuing the necessary regulations, or approving any over-all plan to implement the program. Currently, the Federal Government is setting a national policy aimed at reducing wet-weather skidding accidents, and the State highway departments are expected to implement the program by correcting old pavements and designing new ones by giving consideration to pavement skid-resistant qualities.

The decision to upgrade highways is an exercise of the fundamental power and responsibilities of the government. In reviewing high-level decisions to initiate a governmental program, plan, or service, the courts have held that there is no liability in merely undertaking or initiating a program, because "it is not a tort for government to govern." [101] Although the government may be held liable for negligence in the performance of duties at the operational-level, it is held not liable for its exercise of discretion to undertake a government service or program.[102] The discretionary function exemption will protect the government from liability for claims arising out of the "decision to undertake a public works project of a governmental program,"[103] but once immune discretion is exercised to perform an act, negligence thereafter in carrying out the task may result in liability.

Liability for Errors or Defects in the Regulations

Should the wet-weather skid-reduction program contain errors or mistakes of judgment, no action probably could be maintained successfully against the involved government agencies, because the development of the standards involve considerations of traffic requirements, relative costs and benefits, and engineering methods and capabilities, all of which are high-level planning functions requiring the exercise of discretion. Thus, if wet-weather skid regulations are predicated on faulty assumptions, or if the requirements produce unexpected, hazardous results, these errors or mistakes of judgment probably would not be actionable.

For example, in *Sisley v. United States,*[104] the Court held that because the planning of highways involves the exercise of discretion, the government was not liable for an error of judgment in preparing the specifications. Plaintiffs had charged that a highway had caused water damage to plaintiffs' property because the highway had been con-

structed with improper grade and without necessary culverts. The Court held that the grading and surfacing of the roadway in strict conformity with the chief engineer's design were acts within the discretionary function exemption of the Federal Tort Claims Act.

> Clearly the acts here complained of relating to the planning of the construction of the grade and culverts in the improvement of the Glenn Highway are not negligent acts committed by a government employee on the "operational level" but are acts calling for the exercise of judgment and discretion in the planning of the highway. Errors in judgment, if such may be found, are not negligence in construction. These plans were the result of policy judgment and decision and as we have noted, where there is room for such there is discretion. This view conforms to what is believed to be the true intent of this important exception. Otherwise, the government would be liable to a property owner for every error of judgment in the planning and construction of public roads.[105]

Sisley and other cases hold that errors or defects in the plan or design of a highway are not actionable. For example, New Jersey courts held, before the enactment of the New Jersey Tort Claims Act,[106] that errors of judgment in the plan or design of the highway or the omission of some feature in the plan or design itself was not actionable. It was held, for example, that the decision to omit emergency shoulders on a highway fell within the area of nonactionable discretion,[107] as was the decision by the State not to design its overpass with wire fences to prevent unknown persons from throwing objects on traffic passing beneath the overpass.[108] In New York, the Board of Safety's approval of a traffic light system was held to be a discretionary governmental planning or quasi-legislative activity and, therefore, not a basis for a negligence suit based on injuries caused by the traffic light's inadequate clearance time.[109]

Liability for Approval of a Defective Plan or Design

According to both the Highway Safety Act of 1966 and to certain directives issued pursuant thereto, federal "approval" of State programs to upgrade highways with low pavement skid resistance is a prerequisite to federal aid.[110] In furtherance of the federal policy, States are "expected to develop a program to reflect the individual needs and conditions of the state" that meets certain minimum requirements set forth in *Highway Safety Program Standard 12.*[111] Moreover, States are required to provide annual reports and evaluation of the wet-weather skid-reduction program to FHWA, and "the division engineer is expected to monitor the states' pavement skid resistance improvement program on a continuing basis, reviewing it for reasonableness and seeing that it is implemented at the earliest possible date."[112]

Where a State program is approved and the program ultimately proves to be inadequate or ineffective in affording the level of expected pavement skid resistance, or the State is otherwise negligent in executing the program, it is unlikely that the Federal Government would be a joint tortfeasor.[113] The cases thus far have uniformly held that federal approval of a State's plan, design, or program that is negligently conceived; is nonconforming to federal standards: or is otherwise dangerous, does not afford a claimant a basis for a negligence action against the involved federal agency.

In *Mahler v. United States,*[114] it was held that federal participation in formulating the plans and approving, after giving due consideration to federal statutory requirements, the design and specifications of a federally aided State highway fell within the discretionary exemption of the Federal Tort Claims Act. Citing the planning-operational dichotomy, the Court wrote:

> The determination by the Secretary of Commerce to approve the plans and specifications for the Penn-Lincoln project, the decision which invited the federal government's financial participation, was obviously a policy judgment of the type most important to the success of the federal-aid highway program. It is administrative action requiring the conscious weighing of such factors as location and anticipation of future traffic flow. The same must be said of federal guidance during the pre-approval design stage. As such, we think that these decisions fall on the planning side of the planning-operational distinction drawn in the *Dalehite* case. . . .[115]

Similarly, in *Daniel v. United States,*[116] federal approval of highway plans and specifications, which included a concrete traffic separator alleged to be of inadequate design, did not constitute operational-level negligence. No other federal actions upon which the suit could be predicated, aside from design approval, were cited by the plaintiffs–appellants. The *Mahler* case was followed also in *Delgadillo v. Elledge,*[117] where the plaintiffs contended that the United States failed to fulfill its duty to the traveling public by failing to provide for and make inspections in connection with adequate signs at an interchange on Interstate 40 after construction was completed. The Court held, however, that approval of the adequacy of the designs and specifications was discretionary and that any negligence was protected from liability by the discretionary function exemption.

Liability of Federal Agencies for the States' Negligence in Executing Federal Wet-Weather Skid-Reduction Programs

In light of recent decisions, it is improbable that federal agencies would be liable for any negligence of the States in implementing the regulations, unless, of course, the federal agencies are themselves participants in the negligent act. The federal-aid highway acts' provisions requiring approval and inspection of federally aided highway construction have not been construed to create any duty running to members of the traveling public who are injured on said highways. Based on an interpretation of the legislative history of the acts, the courts have concluded that the purpose of the acts was not "to make sure that a member of the traveling public, a user of a federal-aid highway, was

not injured because of negligence in carrying out [its] provisions;" [118] rather, "the concern of Congress was to make sure that federal funds were effectively employed and not wasted." [119]

This limited view of the purpose of the federal-aid highway acts is important in the sense that without a duty being owed to the injured claimant there is no basis for imposition of liability on federal agencies. More than federal funding or the existence of federal regulations is required in order to subject the federal agency to liability in tort. The same limited view of federal legislation was taken in the *Silver Bridge Disaster Litigation*.[120] There it was held that no action was maintainable against the involved federal agency charged with the approval of the design of the bridge, which collapsed many years later killing or injuring scores of persons. The purpose of the Bridge Act of 1906 in that case was held to be one of ensuring the safety of the navigable traffic beneath the bridge and not the safety of travelers passing over the bridge.

It seems that in order for the federal agency to owe a duty to the public it must have had a direct role or responsibility for the actions performed negligently and a direct relationship to the injured party. Duty is that obligation to which the law gives recognition and effect to conform to a particular standard of conduct toward another.[121] Duty is often assumed, such as State maintenance of a highway. However, duty may arise when "persons who are so closely and directly affected by my act that I ought reasonably to have them in contemplation as being so affected when I am directing my mind to the acts or omissions which are called in question." [122] In the preceding cases the federal actions were sufficiently remote and were taken for such special purposes that the courts found no duty owing to the injured plaintiffs.

Does a Duty Arise Under the Highway Safety Act of 1966?

As seen, the intent and purposes of the federal-aid highway acts are considered to determine whether those acts create a duty owing to motorists using the federal-aid highway system. Although a duty on the part of federal agencies may arise in a variety of ways, it does not arise because of federal funding and approval of new State highways.

The next question is whether the federal act creates any duty on the part of *States* to exercise due care in complying with the provisions of the act, or must any duty owed to motorists by the State arise because of the States' obligation to design, construct, and maintain highways with due care to protect those persons for whom the highways are built. That is, if the State courts did not impose already such a duty, would the State's participation pursuant to the Highway Safety Act of 1966 have any significant impact on the court's analysis of the duty, if any, owed to the public?

The Highway Safety Act of 1966 was held in *Daye v. Commonwealth of Pennsylvania*,[123] not to create any duty on the part of the States running to any person who is injured on a State highway failing to meet the requirements of the Act. In *Daye*, an accident occurred when a chartered school bus skidded on a wet pavement in Pennsylvania. Plaintiffs argued that the State was liable because of its failure to design, construct, and maintain the highway in compliance with the Federal-Aid Highway Act, 23 U.S.C. § 101 *et seq.*, and the Highway Safety Act, 23 U.S.C. § 401 *et seq.* Plaintiffs alleged that, in view of the high number of reported accidents at or near the scene of the accident, the State had failed to use reasonable care by preventing surface water from draining across the roadway and installing adequate guardrails. According to a National Transportation Safety Board report, incorporated in one plaintiff's brief, "the probable cause of this accident was either dynamic or viscous hydroplaning of the front wheels of the bus which initiated a skid from which the driver could not recover. Contributing factors included low basic skid resistance of the pavement in wet weather, and the probable presence of water draining across the pavement in an abnormal manner." [124] Plaintiff contended that "the Federal-Aid Highway Act and the Highway Safety Act create an implied cause of action for injuries resulting from any violation of the standards set forth therein or regulations promulgated thereunder." [125]

The Court reviewed the various provisions of the acts' requirements of approval of State plans, specifications, and safety devices, and noted that Section 402(a) of the Highway Safety Act

> authorizes the Secretary to establish uniform standards of performance criteria. Under the applicable standard [Standard 12] regarding highway design, construction and maintenance, each state program shall provide standards for pavement design and construction with specific provisions for high skid resistance qualities; a resurfacing program with emphasis on roads with low skid resistance and high accident rates; and guardrailings which will minimize the severity of impact and retain the vehicle.[126]

The Court held that neither the Federal-Aid Highway Act nor the Highway Safety Act create an implied cause of action to recover damages for personal injuries sustained as a result of a violation of the standards set forth therein or regulations thereunder:

> A reading of the language of the regulation indicates that the establishment of such programs is directory rather than mandatory. In order to receive federal aid under this section the state is directed to implement such a highway safety program. 23 U.S.C. § 402(c). Without such a program the secretary is authorized to discontinue the apportionment of funds under the Act. Thus, the power of the federal government to cut off federal funds provides the only sanction expressly authorized under the Act. We, therefore, conclude that the Highway Safety Act creates no duty on behalf of the states running toward these plaintiffs and creates no private action for breach thereof.[127]

Claimants' cause of action in tort must arise on the basis of State law, and, should State law not afford claimants a cause of action for negligence arising out of highway operations, the fact that the State is not in compliance with the Highway Safety Act or regulations issued pursuant thereto does not improve plaintiffs' position. In *Daye* the

federal court was obliged to recognize Pennsylvania law that the State and the Pennsylvania Department of Transportation (PENNDOT) were immune from liability for damages for negligence in the conduct of highway operations. (One of the precedents, however, upon which the federal court in *Daye* relied has since been reversed by the Pennsylvania Supreme Court.) [128]

Another important holding of the *Daye* decision was that, because the Highway Safety Act was passed in 1966 and the highway was constructed in 1958, the "provisions of the act and regulations pertaining to safety programs in the initial design and construction of a federal-aid highway are inapplicable, leaving only those involving resurfacing and corrections of areas with low skid resistance and high accident rates pertinent here." Thus, in States where plaintiffs do have a cause of action in tort, any effect of the regulations would be prospective only. On the other hand, in those States where design immunity is not perpetual, the regulations could conceivably have retroactive effect because of the State's duty to review a plan or design shown to be hazardous after actual use.[129]

In contrast to the law of Pennsylvania, plaintiffs in an increasing number of States may bring an action for injuries caused by the improper condition of the highway surface. Although federal statutes and regulations on skid reduction would not create a private right of action, they probably would be admissible into evidence for the purpose of establishing the State's negligence in failing to provide highways with safe levels of skid resistance.[130]

Discretion Exercised in the Design and Selection of Pavement Surfaces

Not every action that States must take in order to comply with federal wet-weather skid-reduction regulations would provide a basis for tort liability for negligent compliance. Several features of the program appear to involve discretion and judgment on a high order, other features less so.

State highway departments in order to comply with federal regulations on wet-weather skidding must design and construct new pavements and resurface old pavements with materials capable of providing skid-resistant properties. Pavement design and selection has been held to involve actions discretionary in nature.

In *Cumberland v. Turney*,[131] the road where the accident occurred was surfaced with blacktop of a fine texture and was "extremely slippery" when wet. Numerous traffic accidents had occurred in the vicinity. An engineer testified that "blacktop was generally known among engineers as practically non-skid material, and that actually there was no such thing as an absolutely non-skid material, although the blacktop was safer than the old concrete surface." [132]

According to the Court, the question was

> . . . just what are the limits of the discretion reposed in the administrative agencies of a municipal corporation who are charged with the construction of a road or other public improvement which is inherently and unavoidably dangerous. Or, to put it another way, if such officials secure the advice of specialists whose skill, experience, ability and standing are generally recognized as qualifying them to give such advice, and it formulates plans based on such advice, and employs skilled and competent agencies to execute the plans, is the municipality liable if it turns out that safer or better plans might have been adopted, or that the adoption and execution of the plans involved an error of judgment.[133]

The evidence was that the surface was as skid-proof as any but that surfaces vary in composition and roughness and become smoother with age. Although a rougher surface could have been applied, the city was held not liable, because the surface "was selected by experienced engineers as the most suitable material available for traffic at reasonable speeds over the road at that point by persons using ordinary care." [134] *Cumberland*, therefore, holds that local authorities are vested with discretion to select the appropriate pavement surface. That holding is consistent with the majority view that the formulation and adoption of plans and specifications of highway improvements are activities calling for the exercise of judgment and discretion. One authority states:

> In the absence of statute, no legal duty to pave with a particular material or according to a particular method is imposed by law; nor is there any legal obligation for uniformity of construction on all streets or ways; neither do new and unexpected uses, requiring great changes, impose upon the public authority the immediate duty of reconstructing the street or other way to suit the use.[135]

Discretion and judgment clearly are needed to implement present federal wet-weather skid-reduction standards. The choice of the most appropriate means to build and upgrade highways to obtain skid resistance properties is left to the States. *Highway Safety Program Manual, Vol. 12* recognizes "that methods of obtaining adequate skid resistance differ with type of surface as well as with local conditions," [136] and only discusses generally the features to be considered in pavement design. The discretionary nature of pavement design and selection is evident in Instructional Memorandum 21-2-73, dated July 19, 1973. For example, it states:

> The skid resistance evaluation for bituminous pavements is to include a determination that the aggregate used in the top layer of future pavements is capable of providing adequate skid resistance properties, when incorporated in the particular mix, and that the mix is capable of providing sufficient stability to insure the durability of the skid resistance. The evaluation for PCC pavements is to include a determination that the finishing procedures, mix design and aggregate provide the initial texture and necessary surface durability to insure adequate skid resistance. Materials and designs resulting in surfaces which have proved to be nondurable with inadequate skid resistance properties are not to be approved for federal-aid projects. A guide for the evaluation of pavement design, construction, and maintenance practices is attached.

Consideration of the same engineering factors are present whether the pavement is being selected for a new highway or for resurfacing an existing one. The regulations require the States to have pavement mix designs and surface finishes that provide a sufficiently high level of initial skid-resistance and that at the inception of highway use insure adequate skid resistance properties for the life of the surface.[137]

In addition to the qualities of material properties, mix design, and construction techniques, States are expected to consider the anticipated operating speeds at specific locations; review pavement surfaces to determine polishing characteristics; and obtain pavement wear data under traffic conditions for each combination of design mix, aggregate type, and finishing procedure employed. Moreover, pavements must have sufficient surface texture and drainage capability to prevent water accumulation and hydroplaning.

Pavement considerations are made independently but must be part of an examination of the over-all geometric conditions in the vicinity of the highway; for example, alignments, signs, grades, drainage, cross-section and superelevation, skid resistance, obstacles, traffic volume, percentage of time the pavement is wet, and the likelihood of sudden vehicular maneuvers.[138] Thus, each State must know its own particular conditions, evaluate test data, and examine various pavement mixes and composition before selecting the pavement type believed most appropriate for a given highway. The State must determine also the acceptability of the pavement once in use and, finally, estimate the service life of the pavement for skid resistance.

The variations in the types of available pavements and in the needs of particular highway locations require the exercise of judgment by highway personnel. Some appropriate pavements for anticipated highway considerations are listed in a recent report, entitled "Guidelines for Skid-Resistant Highway Pavement Surfaces," *National Cooperative Highway Research Program, Research Results Digest 89* (1976). The report contains guidelines for the design and construction of the ten pavement systems considered most suitable for immediate use where greater than normal skid resistance is desired. These ten pavements are classified with regard to polish resistance, hydroplaning potential, effective life, cost, and recommended use.

The *Cumberland* case is the only known case that has considered the question of immunity from tort liability for negligence in the initial selection of pavement types. Where a court finds, as did the *Cumberland* court, that the considerations present in the process of pavement selection are discretionary in nature, it would probably hold that the governmental agency has immunity for claims caused by a defectively designed pavement or errors of judgment in the decision process.

Present federal directives are quite general and directory in that they specify matters to be considered but leave the States a wide range within which to choose the best method under the circumstances. Recent federal regulations merely suggest to the States several "general elements" that each State "should" consider in developing a program "reflecting its individual needs and conditions." The guidelines appended to the regulations are a "general format [that] allows state flexibility in skid-resistance program development."[139]

The considerations involved in skid-resistance techniques are matters that the courts are ill-equipped to evaluate. It seems that, unless there is negligence falling within one of the exceptions to plan or design immunity, the initial selection of pavement type is a protected activity. On the other hand, once the pavement is in operation, the State highway department may be held liable for a breach of its continuing duty to maintain the pavement in a safe condition.

Exceptions to Immunity for Pavement Design

Should the highway department select, after reasonable consideration, the "wrong" pavement mix and design in that it failed to provide the desired skid resistance for the expected service life of the pavement, liability would not necessarily attach for the department's error. Generally, the State is not liable for an error of judgment in the planning and designing of highways, unless the condition causing the injury is so obviously dangerous that there is no room for difference in the minds of men of ordinary judgment and intelligence as to its dangerous character.[140] To hold otherwise would mean that the judgment of an untrained lay jury would be substituted for that of skilled engineers on the question of the adequacy of the highway.[141]

Errors of judgment are consistent with reasonable care,[142] and a governmental decision to pursue one of two perfectly acceptable courses of action is not actionable. For example, in *High v. State Highway Dep't,*[143] the contractor had prepared a plan for a highway detour that was approved by the highway department in accordance with the provisions of the Manual of Uniform Traffic Control Control Devices. When sued for negligence for injuries arising out of the plan, the highway department contended that the plan's approval constituted an exercise of judgment and discretion by its trained personnel. The Court held that this approval was discretionary and that the State could not be subjected to liability:

> We think it is clear that if there are two acceptable courses of action for the achievement of the same purpose, it is not negligence on the part of a defendant to pursue one rather than the other.[144]

But the Court warned that the department must make these decisions in good faith and by the exercise of good judgment. "It may not use its discretionary field of activity to justify the omission of obvious safeguards for the protection of the public." [145] Thus, one may infer from *High* that, to the extent that the State is permitted by the regulations to select the most suitable pavement after considering pavement skid characteristics, an incorrect or imprudent choice would be protected.

The federal regulations on skid-accident reduction grant the States broad discretion, but the States probably could not claim immunity on the basis that the requirements were considered generally in the design

phase of the highway program. More likely, the State would have to be able to demonstrate compliance with the requirements after considering the needs of the individual highway. An example of the duty to consider particular highway requirements is *Fraley v. City of Flint.*[146] In that case it was argued that because the traffic light timing was within the recommended range stated in the Michigan Manual on Uniform Traffic Control Devices, the defendant was immune from liability. Mere compliance with the recommended range, however, was held not to protect the city where it was shown by expert testimony that the light's timing did not take into account the fact that truck traffic, which required more time to stop, was not included in the computation:

> The range of recommended cycles is too broad to allow mere compliance with it to be deemed reasonable without regard to the peculiarities of the intersection involved. The uniform traffic signal statute and manual cannot be used to shield defendant from its statutory liability.[147]

The State may not have design immunity where it has notice of a design feature that has become obviously or manifestly dangerous following its adoption and actual use. If the design defect is one that is so obvious that a reasonable man would not have approved its use, then the State or public agency may be liable for injuries caused by the defect. For example, in *Paul v. Faricy,*[148] the Court held that a traffic island was so negligently designed at its inception that it was obviously and palpably dangerous to the ordinary prudent man of reasonable intelligence. In that case, the defendant's vehicle struck the inclined apron of a safety island intended to be used by pedestrians for boarding other vehicles. The front of the safety island facing the on-coming traffic consisted of a concrete apron about 15 feet long, which at its extreme westerly end was 10 inches high and which gradually increased to a height of two feet above the pavement at its easterly end. Adjoining the easterly end of the apron stood a concrete bumper block or pier which rested upon but was not anchored to the pavement.

This block, in which traffic lights were imbedded, was 4 feet high, about 3½ feet wide, and 2 feet thick and weighed approximately 4,200 pounds. The purpose of the design was to protect pedestrians standing on the safety island, as well as occupants of automobiles colliding with the safety island, in that the concrete apron's sloping design would slow a colliding automobile before it was stopped by the bumper block.

Of course, the inevitable happened—the 11-year old plaintiff was standing on the safety island when the car, driven by Faricy, hit the concrete apron, continued forward and upward onto the apron until it struck the unanchored bumper block, which by force of the impact tipped over onto the platform and struck the plaintiff.

The Court noted that the general rule was governmental immunity for defects in the plan or design of highways; that the plan was considered and approved by the appropriate body; that a competent engineer, after having examined a number of traffic islands, had designed this island; and that there were some differences in opinion on designing and building a traffic island. However, the city was held liable on the basis that there was no reasonable necessity for the obvious danger presented by the unanchored two-ton block:

> What could be a more palpable source of danger to pedestrians than an unanchored block weighing two tons and equipped with a ramp to direct the force of colliding automobiles at a point above its center of gravity? As a safety measure, it violated the most elementary laws of physics and presented a danger that must have been apparent to any reasonably prudent man. Those who are charged with the responsibility of exercising a bona fide judgment in matters of structural design are entitled to place great reliance upon the advice of an expert, but such expert advice may not be used as a shield to justify a failure to perceive a defect that is wholly unnecessary and which is not only apparent but is obviously and palpably as dangerous that no reasonably prudent man would approve its adoption.[149]

Several jurisdictions recognize an exception to design immunity for obviously and palpably dangerous features that no reasonably prudent man would have approved or for those defects embodied in the construction work and permitted to remain after the public body has reasonable notice that the defect is a source of danger.[150] Other courts hold the State liable for "flagrant defects" in the design of its highways,[151] for defective conditions so "manifestly dangerous" that the court as a matter of law must deem them unsafe and declare the construction negligent,[152] or for hazardous conditions considered to be "patently or obviously" dangerous.[153]

Although pavement skid resistance is not a highway feature that is "obvious," "patent," or "manifest," States are expected to have equipment available to measure the skid resistance of the pavement surface. Even in the absence of that equipment, a court could hold the State liable for latent defects; that is, "defects which are obscured from the view of the ordinary traveler and are so inherently dangerous as to constitute traps." [154] Thus, the latency of the defect will not shield the State from liability; rather, the latency "is just one of the circumstances to be considered in determining whether it should have been discovered over a long period of time." [155]

Another exception to design immunity is presented where the highway in actual use has a design feature that was not approved in the over-all plan or design of the highway. In *Cameron v. State,*[156] plaintiff's automobile went out of control on an S-curve, which the Court found to be a dangerous condition because of the uneven superelevation. It was held that the California design immunity statute did not immunize the State even though it claimed that the uneven superelevation was part of a duly approved design of the highway.[157] The design plans contained no specification of the uneven superelevation as the highway was actually constructed. "Therefore such superelevation as was constructed did not result from the design or plan introduced into evidence and there was no basis for concluding that any liability for injuries caused by this uneven superelevation was immunized by Section 830.6." [158]

Finally, the highway design defect, if it has continued for a sufficient time, may constitute a nuisance. Although it was held in *Cumberland v. Turney, supra*, n. 131, that there is no liability under Maryland law for a design defect in a highway, the defect may constitute a nuisance. *Jennings v. United States* [159] stated that in Maryland

> . . . if a defect, whether of design or not, creates a condition which would itself constitute a nuisance, reasonable care to abate it is not exercised and the condition is the effective cause of the injury, no reason presently appears why the agency charged with maintenance of the highway should not be responsible as for any other nuisance it unreasonably permitted to exist.

Duty to Review a Plan or Design

There is a split among the States on the issue of the duration or perpetuity of design immunity, and, conversely, whether the State has any duty to review a design once it is approved and is operational.

The initiation of design studies, recommendations for highway improvements, and the commencement of improvements are themselves discretionary and do not burden the State with any further duty to complete the preliminary work.[160] A question arises, however, as to the duty of the State to improve or change an existing highway where actual use or changed circumstances sometime later indicate that the highway design is no longer satisfactory. That is, is the design immunity discussed previously perpetual? Already some exceptions to design immunity have been shown, such as where the design creates peril from the very beginning, where there is some manifest danger in the design which becomes known to the State, or where the design lacked any reasonable basis or was not prepared with due care.

The rule is not clear whether the State has a continuing duty to review the plan or design in the light of actual operation. The principal case relied upon in many jurisdictions against perpetuity of design immunity is *Weiss v. Fote*.[161] The *Weiss* Court seemed to recognize a rule, although the issue was not squarely presented, that the State, once having adopted and implemented a highway plan or design, is under a continuing duty to review the plan in the light of its actual operation.[162] However, no ruling on that point was required in *Weiss*, because there was no proof either of changed conditions or of accidents at the intersection which required the city to modify the traffic light clearance interval.[163]

The *Weiss* rule was ultimately applied in California in *Baldwin v. State*,[164] which emasculated the design immunity protection afforded by § 830.6 CAL. GOV'T CODE. That statute, as noted, provides for design immunity where a court determines that the approval of the plan or design was reasonable at the time of the approval. Relying on *Weiss*, *Baldwin* held that the omission of a left-turn lane, which the State later knew was dangerous in actual practice, was not immunized by Section 830.6. The State argued that the plan or design was based on traffic conditions at the time of blueprint preparation and that the installation of a special lane was not then required. However, the Court held, although initial immunity could have attached because the plan was reasonable and duly approved, that the immunity continues only so long as conditions have not changed.

> Having approved the plan or design, the governmental entity may not, ostrich-like, hide its head in the blueprints, blithely ignoring the actual operation of the plan. Once the entity has notice that the plan or design, under changed physical conditions, has produced a dangerous condition of public property, it must act reasonably to correct or alleviate the hazard.[165]

The Court concluded that permitting a jury to consider the question of perpetuity did not interfere with governmental discretionary decision-making, because the jury would not be reweighing the same technical data and policy criteria as would be true were the jury allowed to pass upon the reasonableness of the original plan or design.[166] It may be noted that the mere passage of time is insufficient to constitute a change in conditions.[167]

The rule of other jurisdictions is that the plan or design is to be judged by standards existing at the time of the approval of the plan or design, unless there is a manifest danger present in the design at the time of its execution or implementation.[168] Where, for example, a thruway was built in accordance with plans and specifications and good engineering practices at the time and supported a large volume of traffic with a relatively small number of accidents thereon, the Court concluded that the State had complied with its obligation to provide a reasonably safe roadway.[169] The change in circumstances must be such that the failure of the state to act is not reasonable under the circumstances. Thus, in *Kaufman v. State*,[170] the Court stated that where the road complied with standards applicable when the road was built in 1921, the State was not required to rebuild the road at the alleged point of negligent construction unless the curve could not be negotiated at a moderate speed. Moreover, a decision, after recommendations and restudy of an original design by the authorized body in the light of expert opinion then available, not to erect barriers is not actionable negligence. "Error of judgment alone does not carry liability with it, for error of judgment alone is consistent with reasonable care." [171]

Finally, the New Jersey Legislature has stated that plan or design immunity is perpetual. The design immunity statute does not invite the court's determination whether the approval of the plan or design was reasonable, but provides for immunity where the plan or design has been previously approved by some public body or employee "exercising discretionary authority." [172] According to a Comment appended to the section:

> It is intended that the plan or design immunity provided in this section be perpetual. That is, once the immunity attaches, no subsequent event or change of conditions shall render a public entity liable on the theory that the existing plan or design of public property constitutes a dangerous condition. After several years of difficulty with this

immunity in California, the California Supreme Court adopted a contrary approach and concluded that plan or design immunity was not perpetual in California. After consideration, this approach has been specifically rejected as unrealistic with the thesis of discretionary immunity—that a coordinate branch of government should not be second-guessed by the judiciary for high-level policy decisions.[173]

Thus, the New Jersey position appears to be that (1) plan or design immunity does not lapse when changed circumstances surrounding the original plan or design result in a dangerous condition and (2) that any governmental response to said known change in circumstances is itself an exercise of discretion. One can only speculate whether New Jersey courts, in spite of the foregoing comments, will construe the design immunity statute to have the same requirements for immunity as provided in New York by *Weiss v. Fote, supra* n. 95; e.g., the requirement of reasonableness and the duty to review the plan or design once it is in operation.

A problem may arise in States where design immunity is not perpetual and there is a duty to review existing highways because States must test pavements and use accident data to locate segments with a high frequency of wet-weather skidding accidents. With either method States may identify highways that need new pavements, while having the practical problem of resurfacing one highway before another, because all highways below minimums cannot be resurfaced at once. Thus, what are the limits to the States' duty once they have identified large numbers of potentially unsafe highways? Some Courts hold that the State has no duty to rebuild roads merely because of the existence of new design methods [174] or an increase in traffic [175] where the same can be safely negotiated at lower speeds.

Another case rejects any argument that the State risks liability for the remainder of its system where it undertakes to upgrade existing highways to meet changing standards. In *Martin v. State Highway Comm'n*,[176] a car collided with a pillar supporting an overpass, the pillar being approximately 10 feet from the edge of the pavement. Plaintiff claimed that the pillar was a "defect" within the meaning of the Kansas highway defect statute [177] because of the absence of a guardrail at the pillar.

In an effort to establish the "defect" the plaintiff stressed Kansas' participation in a federally inspired program to upgrade highways. In order to receive federal money Kansas reluctantly submitted a statewide inventory of hazardous locations. (The location involved was not listed on the inventory.) Installation of guardrails was one objective of the federal program, and the involved location was scheduled for installation of guardrails, which were in fact installed some months after the accident.

The Court held that the pillar was not a defect, because a program to upgrade highways to make them safer did not *ipso facto* render the system defective:

The real thrust of the evidence was to show that the absence of the guardrails was recognized by the commission as hazardous, and thus defective. But, as pointed out above, changing standards and wholly laudable efforts to improve the safety of our highways does not make "defective" that which has long been considered adequate. The practical problems raised by the development of improved designs were commented on in *Dunlop v. Lawless*. In that case, had the county commissioners embarked on a long-range plan to modernize all bridges so constructed, that decision would not have rendered such bridges *ipso facto* defective. Similarly, in this case the decision to upgrade the Kansas highway system did not render "defective" those portions which the program had not yet reached.[178]

Although the *Martin* decision is sound, it is from a highway defect jurisdiction in which design immunity appears to be perpetual, except perhaps for manifest dangers; thus, it may make little difference whether the program to upgrade the system has reached a particular location. However, in California, where there is a duty to review a highway design in the light of changed circumstances, the burden seems greater to undertake new safety innovations. In a statutory action, of course, the plaintiff need only establish the existence of a defect within the meaning of the statute, whereas, in most jurisdictions, plaintiff has the higher burden of showing that the State acted unreasonably under the circumstances. *Martin*'s viability outside a highway defect jurisdiction is not clear, but its application may be broader than suggested here because it seems unreasonable to expect States to upgrade an entire highway system all at once.

Summarizing briefly, it is suggested that States would have immunity for certain requirements of a wet-weather skid-reduction program. Decisions to undertake the program, to plan or design highways with higher pavement skid resistance, and to select pavement designs and mixes for particular highways appear to fall within the common law or statutory immunity for discretionary activity. Such decisions appear to involve a true exercise of discretion at the planning level in the sense of a deliberate choice of the most reasonable alternative.

Immunity may fail to attach to the discretionary features of the wet-weather skid-reduction program where the plan is unreasonable, arbitrary, or capricious, or is not duly considered and approved by the public body or official having the authority to approve the plan or design. Moreover, should a pavement's skid resistance prove to be inadequate earlier than anticipated, immunity could be lost under the emerging exception to design immunity for "changed conditions" resulting in a hazardous highway feature. Finally, liability for defects in the wet-weather skid-reduction program would not attach for mere errors of judgment, but may attach to obvious, flagrant, manifestly dangerous, or even latent defects of which the State has notice or knowledge or should have discovered by due diligence.

LIABILITY FOR NEGLIGENCE IN THE CONSTRUCTION OR EXECUTION PHASE OF WET-WEATHER SKID REDUCTION

Pavements must be constructed to achieve the desired skid resistance properties or characteristics.[179] Furthermore, States must implement procedures to measure systematically the skid resistance of highways in order to identify hazardous locations [180] and establish inventories of such locations.[181] The general elements of the measurement and inventory program are set forth in recent regulations entitled "Skid Measurement Guidelines for the Skid Accident Reduction Program," promulgated by DOT/FHWA and published in the Federal Register.[182]

> 1. Selected Sections. *Measurements of skid resistance of selected test sections to determine the skid characteristics of typical design mixes.* Sufficient numbers of measurements should be made to determine the level of pavement friction, wear rate, and speed gradient of the pavement under various traffic exposure.
> 2. Accidents. Measurements of skid resistance at locations of high wet-weather accident experience (high wet/dry ratio, high wet-accident rate, high numbers of accidents, etc.).
> 3. General Inventory. *Measurements of skid resistance to develop a general skid inventory for all roads in the state with a speed limit of 40 mph (64 km/h) or greater. The inventory should be capable of producing the general status of skid resistance on all applicable roads in the state. This can be developed on a sample basis, but must contain sufficient accuracy to allow its use for planning purposes.*[183]

Of course, the objectives are to develop priorities for correction of locations and to give pavement skid resistance proper consideration in resurfacing and maintenance programs.[184] States must establish guidelines for correcting existing highways and provide annual reports.[185]

Immunity from liability for pavement design is dependent on discretion inherent in the decision-making process. The guidelines published in the Federal Register for measuring and inventorying are a "general format" that allows States flexibility in wet-weather skid-reduction program development. Moreover "each state should develop a program reflecting its individual needs and conditions." [186] The appendix to the guidelines illustrates the numerous factors affecting the equipment and crew in obtaining reliable test results. As noted therein, considerable "judgmental skill" must be developed to attain consistently reliable measurements.

Liability for negligence in the implementation of the wet-weather skid-reduction guidelines will depend on the same principles discussed previously with reference to pavement design. To the extent that the guidelines specifically direct how measurements and inventories are to be taken, the methods having been determined at the planning level, the discretionary defense would be applicable where the specifications, schedules, or details of the operation, when carefully adhered to, give rise to the claim.[187]

The primary authority for the view that immunity may flow downward to protect subordinates carrying out the plan in strict conformity to a plan negligently conceived at the planning level is *Dalehite v. United States.*[188] For example, in *Dalehite* the government was alleged to have been negligent in the manufacture of fertilizer that contained an ingredient long-used in making explosives. However, because the acts cited were directed by the executive plan, they fell within the discretionary function exemption. The Court stated:

> We turn, therefore, to the specific acts of negligence charged in the manufacture. Each was in accordance with, and done under, specifications and directions as to how the FGAN was produced at the plants. The basic "Plan" was drafted by the office of the Field Director of Ammunition Plants in June, 1946, prior to beginning production. It was drawn up in the light of prior experience by private enterprise and the TVA. In fact, it was as we have pointed out, based on the latter agency's engineering techniques, and specifically adopted the TVA process description and specifications. This plan was distributed to the various plants at the inception of the program.
>
> Besides its general condemnation of the manufacture of FGAN, the District Court cited four specific acts of negligence in manufacture. Each of these acts looked upon as negligence was directed by this plan. Applicable excerpts follow. Bagging temperature was fixed. The type of bagging and the labeling thereof were also established. The PRP coating, too, was included in the specifications. The acts found to have been negligent [by the District Court] were thus performed under the direction of a plan developed at a high level under a direct delegation of plan-making authority from the apex of the Executive Department. The establishment of this plan . . . clearly required the exercise of expert judgment.[189]

Dalehite held squarely that, where the plan or design specifies details of operation and implementation, the government may not be held liable for the acts of subordinates in carrying out the operations in accordance with official direction:

> If it were not so, the protection of § 2680(a) [the discretionary function exemption] would fail at the time it would be needed, that is, when a subordinate performs or fails to perform a causal step, each action or nonaction being directed by the superior exercising, perhaps abusing, discretion.[190]

In sum, pursuant to *Dalehite* and other cases, the determination of whether execution of the project falls within the discretionary function exemption depends greatly on "whether the initial decision also encompasses the plans and designs and specifications and other details of execution. For to the extent that the conduct giving rise to the claim is proximately attributable to those plans, designs, and details of operation, as initially determined, the discretionary function exclusion will usually be applicable." [191]

Where subordinates execute the approved plan in accordance with accepted engineering practice at the time of construction, the general view is that no liability may attach.[192] For example, where an accident occurred on a wet or icy curve one court held that the claimant must

prove that the construction was negligent;[193] the State is not required to redesign the curve constructed some years previously unless it could not be negotiated at a moderate speed.[194] Moreover, the State has been held not liable for an accident on a highway constructed in accordance with good engineering practices, where the accident was caused by an unusual flow of water over the highway caused by a snow-filled ditch, and the driver should have observed the water at least 200 feet before reaching it. "To place a burden upon the state of keeping highways free from water obstruction at all points, at all times and under all weather conditions is to require more than reasonable care in highway maintenance." [195]

From the foregoing discussion, it seems clear that any negligent deviation from the specific guidelines set forth in the skidding regulations (for example, measurement and inventory guidelines) would not be protected by the discretionary exemption or exclusion.[196] Highway personnel would have to adhere to the specifications, schedules, or other details of operation for the government to be protected from liability by the over-all plan. Liability in this situation is predicated usually on one of two theories, and, sometimes, both. One is that once the discretionary decision has been made to undertake a task, there is no discretion remaining for the government to perform that task negligently; that is, the discretion is exhausted and the government must perform the task with ordinary and reasonable care. A second theory, based on *Dalehite,* looks not only at the discretionary nature of the activity involved, but also to the level at which the task is performed; that is, activities conducted at the planning level are protected, but not activities at the operational level.[197]

An example of deviation from the approved plan in the execution or construction phase is *State v. Abbott.*[198] *Abbott* held that the negligent execution of a policy-level decision to plow and sand highways in the winter was not immunized by the discretionary function exemption in the Alaska Tort Claims Act.[199] Plaintiff was severely injured when the car in which she was riding skidded out of control on a sharp curve and struck an oncoming truck. The road at the time was covered with ice, was very slippery, and according to testimony at the trial, had not been sanded properly in accordance with the State's standard operating procedures.

After reviewing the history of the similar discretionary function exemption in the Federal Tort Claims Act and concluding that *Dalehite* had been restricted in meaning by *Indian Towing v. United States, supra* n. 102, the Court decided that the State's negligence was not immunized by the Alaska discretionary function exemption. The Court held that once the State made the decision to provide winter maintenance, the program could not be implemented negligently.

> Once the initial policy determination is made to maintain the highway through the winter by salting, sanding, and plowing it, the individual district engineer's decisions as to *how* that decision should be carried out in terms of men and machinery is made at the operational level; it merely implements the basic policy decision. Once the basic decision to maintain the highway in a safe condition throughout the winter is reached, the state should not be given discretion to do so negligently. The decisions at issue in this case simply do not rise to the level of government policy decisions calling for judicial restraint. Under these circumstances the discretionary function exemption has no proper application.[200]

The rationale of *Abbott* is twofold: first, there was negligence in implementing the initial policy decision to provide winter maintenance, and, second, the failure to follow standard operating procedures constituted negligence at the maintenance or operational level.[201]

The *Abbott* case, in discussing the other precedents, recognized that the day-to-day "housekeeping" functions of government (ministerial duties) such as highway maintenance, are generally held to be not discretionary,[202] that immunity obtains only where there is a deliberate choice in the formulation of policy and the evaluation of its financial, economic, political, and social effects.[203] Most importantly, the Court accepted *Indian Towing's* more liberal view of the Federal Tort Claims Act that once discretion is exercised to perform a function, there is no discretion remaining to perform the task negligently.[204] In sum, the Court held that immunity does not extend to the action of subordinates negligently executing plans or policies formulated by officials exercising discretion at the planning level.

That highways must be built in accordance with the specifications is the rationale of *McCormick v. State.*[205] In that case the State was held liable for negligence, first, in constructing two curves, one of which had a 52-degree curvature while the construction plans were for a single curve with a 22-degree curvature, and, second, in erecting warning signs contrary to accepted procedures.

The Court held:

> The State has an affirmative obligation to construct and maintain its highways in a reasonably safe condition for travel at all times. Here the evidence supports the finding that the highway, as it existed with these two curves to the left, was not constructed and maintained in accordance with the State's own standards of safety in effect at the time of the acceptance of the highway in 1921.
>
> Even where a dangerous condition exists for which the State is not responsible, the State has an obligation to give proper and sufficient warning of the danger. Such warning must be commensurate with the existing hazards and sufficient to warn users of the highway that they are approaching a hazardous situation.[206]

Another form of negligent deviation from an approved plan or design is the construction of a highway with a feature not specified or included in the approved plan, as discussed previously.[207]

A case involving both deviation from a design and wet-weather skidding is *Coakley v. State.*[208] The plaintiff's vehicle skidded as it started down a hill with a wet pavement that had changed from concrete to asphalt macadam. The skidding vehicle struck another

car resulting in death and personal injuries. The State had not warned of the slippery condition even though a witness testified that he had traveled the route for over 10 years and knew that the highway was very slippery when wet. Two highway construction experts testified

> That the highway was constructed improperly and not within the standards of good engineering practices, and the depressed rut in the surface of the highway, which was immediately prior to the scene of the accident, was not within the standards allowed for variations of smoothness. . . . Furthermore, the sudden change from portland cement to asphalt paving increases the hazards to a user in rainy weather as existed at the time of the accident herein.[209]

The Court found that the slippery surface had existed along the constantly patrolled highway for several years prior to the accident and was enough to establish constructive notice of the condition. The State was held liable for failing to provide adequate warning signs and for constructing and maintaining a slippery highway.

These cases are illustrative of the general rules applied by the courts when considering the question of negligence in the execution or construction phase of highway operations. Although the present federal wet-weather skid-reduction regulations permit the State to adopt methods meeting their particular needs, the regulations are more specific in measurement techniques and procedures. Where the regulations are general, States presumably must supply the remaining details. For example, States are to measure the skid resistance of all roads in the State with a speed limit of 40 mph or greater, but the States are left with basic decisions on classifying the roads and considering the factors of climate, terrain, or pavement aggregate.[210]

Where the over-all plan is only general in terms and silent as to detail there is a conflict of view as to whether the discretionary function exemption applies to a negligently conceived mode of execution.[211] Thus, if the plan or design did not specify a certain detail which is, nonetheless, implemented and done so negligently, probably the court will decide the case on the basis of whether or not the decision involved was a planning- or an operational-level decision.[212] For example, in *United States v. Hunsucker,*[213] a high-level decision was made by the United States Air Force to activate and make certain improvements to an air base, but the directive authorizing construction on the base did not specifically authorize the acts and omissions that caused the damage to the plaintiffs' land. The negligence in implementing the over-all, general plan was committed, therefore, at the operational level and not immunized by the discretionary function exemption.

Liability for Failure to Correct Hazardous Wet-Weather Skidding Locations

States have a continuing duty to maintain highways in a reasonably safe condition. This statement is no less true when a claim involves the negligent failure to maintain highways reasonably free of slipperiness. Wet-weather skid-reduction regulations require that consideration be given to skid-resistance properties in pavement maintenance practices.

The State may be held liable for failure to maintain or apply highway surfacing materials properly. In *Hughes v. State,*[214] the State resurfaced the highway on the day of the accident by applying stone and oil; however, loose stones remained either because an excessive amount of stone was used or because the highway maintenance crew failed to sweep the stones as "suggested" by construction specifications. Moreover, rain that same day aggravated the condition. The Court held that the evidence established a dangerous highway condition for which the State was not relieved because of the wet weather.

Similarly, the application of an unreasonable and unnecessary amount of oil or tar [215] and the failure to apply materials to counteract the natural slippery condition [216] may result in State liability. The public authority was held liable in *Ohran v. Yolo County* [217] when a vehicle skidded on a slippery pavement and plunged into a river. The location was the only slippery area of the highway, which had been in active use for nine years. The short section had no rock surfacing because the rock screenings failed to bind when applied to liquid asphalt that was cold. Numerous witnesses testified as to the slippery nature of the highway, and numerous skidding accidents had occurred at the same location.

States may be held liable for failure to correct highway defects that result in low pavement skid resistance. A slick or slippery highway may be caused, particularly in wet weather, by excessive bituminous cement coming to the surface (bleeding)of the pavement. The slipperiness is an indication of improper construction in that more bituminous cement was used than necessary.[218]

In *Spence v. State,* involving an accident resulting when an automobile skidded on a wet highway, it was shown that "the surface of the highway was very smooth and that cars for no apparent reason would skid and slide even when it was not raining. When wet, the condition was even more dangerous." [219] Although in *Spence* the State had treated the surface of the highway with an asphalt emulsion and stone, and later scarified the road, 14 skidding accidents at the involved location were reported between 1954 and 1955. The Court held that SLIPPERY WHEN WET signs were wholly inadequate to warn of the danger and that the State was negligent in failing to maintain the highway in a safe condition.[220]

Where a highway becomes slippery when wet because of wear and the effects of weather the State has a duty to maintain and repair it.[221] As stated in *Bird v. State* [222] and *Rasher v. State,*[223] the obligation of the State with regard to construction and maintenance of highways is to provide a reasonably safe road in accordance with terrain, weather, and traffic conditions to be reasonably anticipated. Thus, if a portion of the road is defective because of use and weather, the State must act to return the road to a reasonably safe condition.[224] Thus, where the weather and traffic cause a slippery pavement condition and the State

fails to remedy the condition for a period of three years, the State highway department may be held liable.[225]

> The mere slipperiness of the highway due to weather conditions is not proof of negligence on the part of the state in the absence of any faulty condition or maintenance, which was aggravated by the weather conditions. However, even if there were no evidence of faulty construction of this highway or resurfacing thereof, the existence of a dangerous condition raises a duty on the part of the state to remedy that condition.[226]

The State has the duty to advise the public of the danger and to apply materials to remedy the situation.[227]

In the few States having highway defect statutes, the question is not whether the public authority is negligent but whether the slippery road condition constitutes a defect within the meaning of the statute. *Clary v. Polk County* [228] held that the evidence supported findings by the jury that a dangerous and defective condition existed where an accident was caused by an inadequately banked curve, absence of a guardrail, and the presence of a slick, hazardous oil surface aggravated by wet weather. Thus, there is precedent that a slippery highway may constitute a defect within the meaning of a highway defect statute.

Skid regulations may be particularly useful to a claimant in a highway defect jurisdiction. It seems clear that plaintiffs injured on highways not in compliance with skid regulations may use the regulations in several ways, for example: to identify high-accident locations, to give notice of a hazardous location, or to show breach or deviation from the highway department's own safety regulations and self-imposed standard of conduct. However, the regulations in and of themselves would not furnish the right of plaintiffs to bring the action. That right must exist independently of the regulations.[229]

In a highway defect jurisdiction, the regulations may provide further leverage to the plaintiffs. This conclusion is based on an analysis of *Martin v. State Highway Comm'n*.[230] As explained in *Martin*, wherever there is an express statutory duty or regulation or specification pursuant to statute that is not complied with, the breach of that requirement per se constitutes a defect within the meaning of the highway defect statute. Although the highway defect statute is the source of the right of action, the *Martin* Court noted that liability may be predicated on "either (1) the failure to comply with a specific legislative mandate, or (2) the existence of a condition creating actual peril to persons using the highways with due care (emphasis suggested)." [231] The Court discussed previous decisions imposing liability on the highway department for failure to comply with a statute, manual, or specifications on roadway safety features.

The exclusion or exemption for discretionary activity discussed previously is generally inapplicable in suits involving maintenance functions. Maintenance is considered by the courts to be nondiscretionary, involving day-to-day operations of government at the operational level.[232] In those cases where the highway agency argued that the maintenance activity was discretionary within the meaning of the Tort Claims Acts, the tactic has been unsuccessful. Thus, courts have held States liable for negligence in failing to remedy a clogged culvert,[233] in using earthen barriers or berms to block an old road having open culverts,[234] and in not sanding an icy curve in accordance with State standard operating procedures.[235]

Only in suits brought against individuals in their personal capacities have the courts agreed that certain maintenance activities are discretionary in nature: for example, decisions with respect to the need or necessity for making repairs, the time and place of making repairs, the materials to be used, and the method of making repairs have been held to involve the exercise of discretion.

Selection of maintenance materials was held to be discretionary planning in *Coldwater v. State Highway Comm'n*.[236] Defendants, members of the Commission, applied oil in order to seal the highway, but the unsuitable oil made the road exceedingly slippery when wet. The Supreme Court of Montana ruled that the defendants were not liable for injuries sustained in a skidding accident, because the defendants' judgment as to the proper materials was a discretionary matter and involved at most a nonactionable error of judgment.[237] Cases against the States, however, have not recognized any discretionary exemption for maintenance planning.

The continuous duty of the State to maintain highway pavements in a safe condition is well established. The State has a duty to correct defective conditions of which it has notice or knowledge or should have discovered by the exercise of reasonable diligence. That the slippery condition is a latent one discoverable only when the highway is wet is immaterial. The latency is merely one of the circumstances to be considered in determining whether the condition should have been discovered over a long period of time.[238] The highway department may be held liable for latent defects in the nature of traps of which it has actual or constructive notice,[239] and the length of time that the condition has existed clearly has a bearing on a finding that the department had, or should have had, notice of it.[240]

It may be noted, however, that a plaintiff suing the State for failure to maintain minimum pavement skid resistance could not merely assert that the highway is slippery; the evidence would have to show the condition of the highway at the time of the accident.[241]

USE OF WET-WEATHER SKID-REDUCTION REGULATIONS AT TRIAL

Admissibility Into Evidence

Wet-weather skid-reduction regulations, perhaps containing minimum skid-resistance characteristics, inevitably will have an adverse impact on States in tort litigation arising out of wet-weather accidents on highways with inadequate skid resistance. Where the regulations have the force of law, they would be admissible into evidence and, in fact, may be judicially noticed in many jurisdictions.[242] Even if the standards were issued instead as an advisory manual or safety code,

they would likely be admitted into evidence, because of the broad interpretation of the "learned treatise" exception to the hearsay rule.[243] The modern trend favors greater admissibility of these codes and standards.[244] The following representative jurisdictions admit safety codes and standards, even though lacking the force of law, whether authorized by governmental bodies or by voluntary associations, but relevant to the issue of negligence in a particular case: Alabama, Illinois, Iowa, Kentucky, Louisiana, Massachusetts, New Hampshire, New Jersey, New Mexico, Pennsylvania, Utah, and Washington, and the federal courts.[245] However, the States of Mississippi, Montana, North Carolina, and Tennessee exclude such evidence.[246]

In the past, such evidence was excluded because it was an offer of proof of statements made out of court by persons not subject to cross-examination. Moreover, the codes and standards are often subject to change after publication and may confuse the jury if provisions are taken out of context.[247] On the other hand, such evidence is admitted in many States because of necessity and the high probability of trustworthiness. Courts believe that such evidence is reliable because the writers have no motive to misrepresent the information, errors may be detected by other members of the profession,[248] and it represents the consensus of a significant segment of the involved industry.[249]

Whether the Federal Highway Administration issues more detailed, mandatory wet-weather skid-reduction regulations arguably does not materially affect the existing liability of State highway departments. That is, there are already a number of federal requirements as well as an abundance of technical data and standards, such as *National Cooperative Highway Research Program Report 37* whose tentative minimum requirements are incorporated by reference in *Highway Safety Program Manual, Vol. 12.* Numerous courts hold that safety policy publications of even nonofficial bodies may be admitted into evidence.[250] Where Federal and State regulations, rules, or standards have the force of law, they are clearly admissible into evidence.[251] For example, *State v. Watson* [252] involved negligence in the construction and maintenance of a narrow bridge on an Interstate highway and failure to post appropriate warning devices. The trial court admitted certain provisions of the Manual of Uniform Traffic Control Devices which were shown to have been violated at the bridge approach. The ruling on appeal was upheld:

> . . . the admission of this manual was proper, under either one of two theories: (1) as evidence of standard custom or usage in this country, to be considered by the jury in connection with its determination of whether the state used ordinary care in this specific instance . . . ; or (2) as evidence that the state failed to meet the safety standards set for itself by the enactment of A.R.S. § 28–641 [statute requiring highway commission to adopt manual conforming to system current and approved by AASHO]. This latter purpose is grounded on the hypothesis that the jury may have determined the state highway commission had not conformed its traffic-control system "so far as possible" with the system "then current" with the American Association of State Highway Officials. *Generally, safety regulations adopted by a defendant for its own guidance are admissible in evidence.* (Citations omitted; emphasis supplied.)

That highway regulations such as the Uniform Manual are admissible appears to be a well-established rule of evidence.[253]

Special Statutes Excluding Admissibility

Of course, one method to minimize suits for accidents caused by low pavement skid resistance is a special statute precluding admission into evidence of accident data, of highway test results, or of wet-weather skid-reduction program standards. Although the advisability or probability of such statutes is not considered herein, an example of an exclusionary statute, applicable to railroad crossing data, is in Ohio. There the Director of Highways is required to survey railroad grade crossings and devise a formula to determine the probability of accidents at each crossing. He then prepares a list ranking the crossings and giving the highest priority to those with the highest probability of accidents. The Ohio statute provides, however, that the rankings "shall not be admissible in evidence in any action to recover damages for negligence arising out of the use of such grade crossings. . . ." [254]

Evidence of Negligence or Negligence Per Se

In the absence of a special exclusionary statute, wet-weather skid-reduction regulations are admissible. It is an important distinction whether a failure to comply with the standards would be *some* evidence of negligence to be considered with other facts or would constitute negligence per se. In tort law the violation of a statute or regulation under certain circumstances [255] may result in civil liability.[256]

Dean Prosser, in his discussion of negligence per se and evidence of negligence states:

> Once the statute is determined to be applicable—which is to say, once it is interpreted as designed to protect the class of persons in which the plaintiff is included, against the risk of the type of harm which has in fact occurred as a result of the violation—the great majority of the courts hold that an unexcused violation is conclusive on the issue of negligence, and that the court must so direct the jury. The standard of conduct is taken over by the court from that fixed by the legislature, and "jurors have no dispensing power by which to relax it," except in so far as the court may recognize the possibility of a valid excuse for disobedience of the law. This usually is expressed by saying that the unexcused violation is negligence "per se," or in itself. The effect of such a rule is to stamp the defendant's conduct as negligence, with all of the effects of common law negligence, but with no greater effect. There will still remain open such questions as the causal relation between the violation and the harm to the plaintiff, and, in the ordinary case, the defenses of contributory negligence, and assumption of the risk.[257]

In *State v. Watson, supra* n. 252, the Court did not decide whether a violation of the involved standards was negligence per se.[258] Where the courts have ruled on the issue, there have been mixed results. Some courts distinguish between negligence per se and mere evidence of negligence on the basis of whether the regulations have the force of law. Thus, in *Jorgensen v. Horton*,[259] the Court held that violation of a standard in a construction industry safety code that did not have the force of law constituted *some* evidence on the issue of negligence but was not negligence per se. However, even in jurisdictions where highway regulations have the force of law, some courts have held that a failure to conform to the standards does not amount to negligence per se: "the department's manual is merely persuasive and the failure to comply with its requirements does not constitute negligence per se." [260]

The legal effect of highway regulations was considered in *Quinn v. United States*,[261] involving the government's failure to warn of the steepness of the grade of a hill and the presence of a barricade across the highway. The Court held that Corps of Engineers' regulations, setting forth design and construction criteria that adopted by reference the Manual on Uniform Traffic Control Devices, would be considered "as neither an absolute standard nor as scientific truth, [but as] illustrative and explanatory material along with other evidence in the case bearing on the question of ordinary care." [262] Similarly, in *Mullins v. County of Wayne* [263] it was not negligence per se when the county failed to erect warning signs authorized by Michigan law. Rather, it was a jury question whether the violation amounted to negligence in failing to keep the road in reasonable repair.

It is reasonably clear that violations of certain provisions of wet-weather skid-reduction regulations would not constitute negligence per se. For example, the regulations provide that the State "should" evaluate pavement design, construction, and maintenance to ensure that pavements with good skid-resistant properties or characteristics are used. Compliance with this provision appears to be purely discretionary and a failure to do so would not be negligence per se. Should the regulations, however, provide mandatory skid-resistance requirements, then a failure to maintain that level might constitute negligence per se. It is the difference in language; i.e., whether it allows room for discretion, that is crucial.

Thus, where the Uniform Manual calls for traffic control devices to be placed and maintained as the public authority "shall deem necessary" and further provides that all such traffic-control devices shall conform to the manual's specifications, the language "deems necessary" precludes a finding that a violation is negligence per se.[264] In contrast, *Jorstad v. City of Lewiston* [265] held that the violation of a highway regulation was negligence per se, but the issue in that case was the adequacy of the warnings given and not the failure to provide warnings. Thus, the Court was dealing with the manual's requirement that signs be erected to conform to the specifications, not with the necessity of the signs (discretionary).

The rule appears to be this: if the highway regulation permits the department to exercise discretion, then the manual is admissible only as some evidence of the standard of care. However, if the regulation directs that something be done in the prescribed manner, failure to conform to that standard of conduct may constitute negligence per se. An analysis of *Vervik, Quinn,* and *Mullins* appears to support this conclusion. In all, the issue was the failure to post signs, not the adequacy thereof once posted, and in all the courts held that the exercise of discretion was not negligence per se.[266]

Admissibility of Data on High Accident Locations

Other elements of the wet-weather skid-reduction program are the use of the State accident record system to detect locations with a high incidence of wet pavement accidents and the measurement of the skid resistance of all roads in the State with a speed limit greater than 40 mph in order to establish a "general inventory." Such data, of course, are to be used in identifying and establishing priorities for those pavements for corrective repairs.

Accident data and the general inventory, as well as any list of priorities, may be admissible for two purposes: first, to show that the public authority had notice of the hazard, and second, to provide some evidence of the hazardous nature of the highway defect. According to one authority:

> Evidence of the occurrence at the same place of accidents other than the one from which Plaintiff's cause of action arose is generally held admissible, if it tends to show a dangerous, unsafe thing or condition, though it is not admissible for the purpose of showing negligence. It is received for the limited purpose of showing that the unsafe thing or condition causing the particular accident was the condition or cause common to such independent accidents, and that the frequency of such accidents, tends to show knowledge of such condition or the existence of danger.
>
> * * *
>
> To render evidence of other accidents competent, the evidence must reasonably tend to show that the circumstances were substantially the same as at the time of the accident complained of, and the condition or thing shown to be the common cause of danger in such accidents must be the condition or thing contributing to the danger of the accident complained of.
>
> The question of the similarity of conditions is within the discretion of the trial court, and its determination is conclusive, if there is evidence to support it.[267]

The ramifications of the existence of accident data and a general inventory are illustrated by *Laitenberger v. State*,[268] involving the alleged negligence of the State in permitting a portion of a highway to remain in a wet, slippery, and dangerous condition. The claimants sought, first, to determine the State's knowledge of the condition from any accident reports preceding the accident by five years and subse-

quent to the time of the accident, and, second, to determine any steps that were taken to avoid accidents or to give notice or warning of the condition of that highway location. The Court held that the request for prior and subsequent accident data was proper:

> Evidence of prior accidents at the same place where conditions are shown to be the same is admissible: first, to show the dangerous condition of the object which caused the accident; and second, to prove that the persons responsible had notice of such condition. . . . Proof of subsequent accidents at the same place and under the same conditions is admissible to prove the existence of a dangerous condition, instrumentality or place. Obviously, however, such proof is of no probative value on the question of notice. (Citations omitted.) [269]

The admissibility of any wet-weather skid accident data, of the results of highway tests, or of any general inventory is very likely for two purposes: the nature of the defect and the presence of notice. Subsequent skidding accident data would be admissible only on the question of the nature of the defective condition.[270]

GENERAL INVENTORY OF PAVEMENT SKID RESISTANCE

The general inventory based on the pavement skid resistance of a certain class of highways poses a further question—what is the effect of statewide recognition of defective highways? In other words, would the identification of numerous highways needing repair immediately render those noncomplying highways defective?

Of course, accident records and measurements of pavement skid resistance are only some of the inputs to an analysis of locations with a high incidence of wet-weather skidding. As was noted in the introduction, there are other features to be considered other than the pavement surface itself. Highway authorities will consider, for example, appropriate highway signs and warnings, sight distances, and geometric features of the roadway and, where possible driver and vehicle characteristics.

Aside from a specific statutory provision,[271] one case holds that the public authority may properly consider recommendations for improving highways without subjecting itself to liability for the decision in its discretion not to undertake the improvements. *Natina v. Westchester County Park Comm'n* [272] involved allegations that the defendants were negligent in the design of the road because of the curvature at the point of the accident, the lack of warning signs, inadequate banking, and the absence of nontraversable median barriers.

Plaintiffs did not assert inadequacy in the original design of the road, but claimed that defendants had notice of uncorrected dangerous conditions from reports submitted by highway and traffic consultants and from prior accident data. In order to get around the defense for discretionary action involved in highway planning, the plaintiffs argued that the recommendations concerned maintenance activity. The Court held, however, that:

> The recommendations made generally for the redesign of the highway, that is to widen and provide more lanes and median barriers are not matters of maintenance as claimed by the plaintiffs but rather are "lawfully authorized planning by governmental bodies" or a "plan or governmental services" as described in the *Weiss* case.[273]

The *Natina* holding implies that the wet-weather skid-reduction program's general inventory and establishing of priorities are matters of governmental planning. In other words, it could be argued that the decision to undertake or not to undertake a wet-weather skid-reduction project on a highway is itself a protected exercise of discretion. On the other hand, *Natina* perhaps cannot be read that broadly. In that case, the studies did not identify "any hazardous condition specifically related to the scene of this accident (as there were to some other specific locations)." [274] Of course, the wet-weather skid-reduction program would have as its main objective the identification of specific hazardous locations. Secondly, in *Natina* the road could be negotiated safely at speeds higher than the posted limit. Whereas, on a low skid-resistant highway the safe speed would have to be lower than the posted speed.[275]

As discussed earlier, *Martin v. State Highway Comm'n* holds that once the State identifies (as required to obtain federal funding) specific hazardous roadway locations and embarks on a long-range program to upgrade the system, the fact that there is a need for improvements to meet the new standards "does not make 'defective' that which has long been considered adequate." [276] Perhaps courts will analyze the situation in much the same way as did the Court in *Martin* and conclude that the decision to upgrade the highway system does not render the entire system *ipso facto* defective. Finally, it seems that a high-level decision as to which highways to improve first is "lawfully authorized planning by governmental bodies" or a "plan of governmental services" within the meaning of discretionary action.

CONCLUSION

Wet-weather skid-reduction regulations, requiring States to consider pavement skid resistance in the design, construction, and maintenance of highways, appear to be a permanent feature of the law relating to liability in tort of State highway departments. At present the regulations grant the States considerable discretion in choosing the most suitable pavement or the most desirable material to reduce wet-weather skidding accidents. In the areas of measurement techniques, use of accident data, and identification of hazardous wet-weather locations through a general inventory, the regulations are becoming more specific. Although tentative minimum skid-resistance requirements contained in *National Cooperative Highway Research Program Report 37* are referred to in the federal directives, they are presently advisory only.

On the question of liability for wet-weather skidding accidents on highways with low skid resistance, it appears that State highway

departments will not be held liable for those aspects of the wet-weather skid-reduction program that are discretionary in nature, such as the design and selection of pavements. The regulations impose upon the States only the duty to develop a wet-weather skid-reduction program consistent with the State's individual needs and requirements. However, the decision process and the design phase of highway operations are not totally immune from liability for negligence. There are exceptions such as for obvious, manifest dangers, or for unreasonable approval of a design without adequate consideration, which might be loosely classified as exceptions for gross negligence. Finally, some States have the duty to review approved designs, thereby losing design immunity if there are highway hazards resulting from "changed conditions."

Where there is negligence in construction, liability may depend on whether the plans or specifications directed the acts giving rise to the claim, or on whether there is negligent deviation from the specifications. For the latter, the general rule is that liability may attach. Where the plans permit the States to fill in certain details or methods, liability for negligence in the commission thereof may depend on whether the added provisions were approved at the planning level or merely supplied at the operational level.

In maintenance of highways, the States are required to correct wet-weather skidding hazards of which they have notice or knowledge. Maintenance is an operational-level activity, and the discretionary defense is generally inapplicable. The Courts hold the States to a continuing duty to maintain the highways in a safe condition.

Aside from the basic questions of liability for negligence, the wet-weather skid-reduction regulations raise particular problems. The cases suggest strongly that accident data prior to an accident that identifies locations prone to wet-weather skidding accidents would be admissible on the issues both of the State's notice and of the hazardous nature of the highway. Subsequent accident data would be admissible only on the question of the highway's hazardous condition.

Wet-weather skid-reduction regulations themselves would be admissible, particularly if they have the force of the law. Where the regulations were general and discretionary in nature, they would constitute some evidence of negligence where the regulations were either not adhered to or given scant attention. However, where there was a failure to comply with a specific mandatory requirement, violation of the regulation could be held to be negligence per se, thereby stamping the defendant's conduct as negligent.

Finally, a general inventory of hazardous wet-weather skid locations, aside from being admissible on the questions of notice and nature of the hazardous condition, could be a basis for a claim that any highway not in compliance was *ipso facto* hazardous and that the State has an immediate duty to correct the condition. Cases suggest however, that the State's decision on which highways to correct first is discretionary, and that, moreover, to impose such a rigid duty is unreasonable.

There are, of course, other legal implications of regulations to reduce wet-weather skidding accidents, but the issues of liability, admissibility, and use at trial appear to be paramount. The only way to alter the impact of wet-weather skid-reduction programs appears to be by statute limiting liability or excluding the regulations from evidence.

[1] HIGHWAY SAFETY, DESIGN, AND OPERATIONS, REPORT OF THE SUBCOMMITTEE ON INVESTIGATION AND REVIEW TO THE COMMITTEE ON PUBLIC WORKS, HOUSE REPORT 93d Cong., 1st. Sess. (1973), at 21 [hereinafter cited as HOUSE REPORT].

[2] *Id.*, pp. 22–23.

[3] D. W. Loutzenheiser, "Background and Development of the Federal Highway Administration's Skid-Accident Reduction Program." *Transportation Research Record No. 523* (Transportation Research Board, Washington, D. C. 1974), pp. 20–30 [hereinafter cited as LOUTZENHEISER].

[4] Pub. L. No. 89-564, 80 Stat. 731 (Sept. 9, 1966), codified at 23 U.S.C.A. § 401–444, as amended.

[5] LOUTZENHEISER, *supra* note 3, at 23.

[6] *Id.*

[7] HOUSE REPORT, *supra* note 1, at 22.

[8] *Id.* at 13.

[9] This section paraphrases the material in LOUTZENHEISER, *supra* note 3, at 21–25.

[10] 23 C.F.R. § 1204.4.

[11] LOUTZENHEISER, *supra* note 3, at 21.

[12] Federal Highway Administration, "Highway Design, Construction, and Maintenance," *Highway Safety Program Manual, Vol. 12* (Feb. 1974).

[13] *Id.*

[14] 41 Fed. Reg. 4957 (1976).

[15] Kummer and Meyer, "Tentative Skid-Resistance Requirements for Main Rural Highways," *National Cooperative Highway Research Program Report 37* (1967) [hereinafter cited as *NCHRP Report 37*].

[16] *Id.*

[17] *Id.*, p. 2.

[18] *Id.*, p. 3.

[19] *Id.*, p. 2.

[20] *Id.*, p. 10.

[21] Principe Compania Naviera, S. A. v. Board of Comm'rs of Port of New Orleans, 333 F. Supp. 353, 355 (E.D. La. 1971).

[22] Bailey v. City of Knoxville, 113 F. Supp. 3, 6 (E.D. Tenn. 1953).

[23] Metropolitan Gov't of Nashville and Davidson Co. v. Allen, 220 Tenn. 222, 415 S.W.2d 632, 635 (1967).

[24] Grand Hydro v. Grand River Dam Auth., 192 Okl. 693, 139 P.2d 798 (1943).

[25] *See contra*, McNair v. State, 305 Mich. 181, 9 N.W.2d 52 (1943).

[26] *See, e.g.*, Cohens v. Virginia, 6 Wheat 264 (U.S. 1821); Hans v. Louisiana, 134 U.S. 1, 10 S.Ct. 504 (1890); Beers v. Arkansas, 20 Howard 527 (U.S. 1857); Smith v. Reeves, 178 U.S. 436, 20 Sup. Ct. 919 (1900).

[27] 205 U.S. 349, 353, 27 S.Ct. 526 (1907).

[28] Legal historians have concluded, however, that for many wrongful acts the Crown was amenable to suit, one exception being that the Crown could not be held liable for the tortious acts of its servants. See Borchard, *Governmental Responsibility in Tort,* 36 YALE L.J. 1, 2–17 (1925); and Jaffe, *Suits Against Governments and Officers: Sovereign Immunity,* 77 HARV. L. REV. 1, 3, 18–19 (1963).

[29] *See, e.g.* Chisholm v. Georgia, 2 U.S. 418, 1–8 S.Ct. 440 (1792).

[30] *See, e.g.*, Stone v. Arizona Highway Comm'n, 9 Ariz. 384, 381 P.2d 107 (1963).

[31] *See, e.g.*, Herrin v. Perry, 215 So.2d 177, *aff'd* 254 La. 933, 228 So.2d 649 (1969).

[32] MCKINNEY'S CONSOL. L. OF N.Y. ANN.; Ct. of Claims Act, § 8.

[33] Indiana is considering new tort claims legislation.

[34] *See, e.g.*, OKLA. STAT. tit. 47, § 157.1; N. MEX. STAT. § 5–6–18 *et seq;* and 18 DEL. CODE ANN. § 6501 *et seq.*

[35] 19 MCQUILLAN MUN. CORP. (3d ed.), § 54.01, p. 8.

[36] *Id.* at 9.

[37] *Id.* at 9–10.

[38] *Id.*

[39] *See, e.g.*, CAL. GOV'T CODE, §§ 810.996.6 which is a comprehensive tort claims act applicable to all "public entities," i.e., "the State, the Regents of the University of California, a county, city, district, public authority, public agency, and any other political subdivision or public corporation in the State." *Id.*, § 811.2.

[40] *See, e.g.*, Fonseca v. State, 297 S.W.2d 199 (Tex. Civ. App. 1956).

[41] *See, e.g.*, Houston v. Glover, 355 S.W.2d 757, 759 (Tex. Civ. App. 1962).

[42] 39 AM. JUR. 2d *Highways,* § 337, at 721.

[43] Stuart-Bullock v. State, 38 A.D.2d 626, 326 N.Y.S.2d 909, 912 (1971).

[44] *Id.*

[45] *Id.* at 913.

[46] Baker v. Ives 162 Conn. 295, 294 A.2d 290, 293 (1972).

[47] 39 AM. JUR. 2d, *Highways, Streets, and Bridges,* § 463, at 861.

[48] Nelson v. Seattle, 134 P.2d 89 (1943).

[49] BLASHFIELD, AUTOMOBILE LAW AND PRACTICE, § 163.11, p. 380 [hereinafter cited as BLASHFIELD].

[50] 192 Misc. 205, 78 N.Y.S.2d 336 (1948).

[51] *Id.* at 339.

[52] 372 P.2d 524 (1962).

[53] 188 Wash. 229, 62 P.2d 32 (1936).

[54] 372 P.2d at 527.

[55] Bailey v. Benton Co., 61 Or. 390, 395, 111 P. 376, 122 P. 755, 756 (1912).

[56] BLASHFIELD, § 165.2, p. 438.

[57] Coakley v. State, 26 Misc. 2d 431, 435, 211 N.YS.2d 658, 663 (1961), *aff'd* 15 A.D.2d 721, 222 N.Y.S.2d 1023 (1962); Morales v. New York State Thruway Auth., 47 Misc. 2d 153, 262 N.Y.S.2d 173 (1965).

[58] Russell v. City of Grandview, 236 P.2d 1061 (Wash. 1951).

[59] Kelley v. Broce Constr. Co., 205 Kan. 133, 468 P.2d 160 (1970).
[60] *Id.* at 166.
[61] BLASHFIELD, § 165.3, p. 439.
[62] *Id.* at 441.
[63] *Id.* at 442.
[64] Burgdorf v. Funder, 246 Cal. App. 2d 443, 54 Cal. Rptr. 805 (1966).
[65] Pluhowsky v. City of New Haven, 151 Conn. 337, 197 A.2d 645 (1964); Shearer v. Hall, 399 S.W.2d 701 (Ky. 1965).
[66] 7 N.Y.2d 579, 167 N.E.2d 63, 200 N.Y.S.2d 409 (1960).
[67] *Id.* at 413.
[68] KAN. STAT. ANN. 68-419(b).
[69] 209 Kan. 565, 498 P.2d 236 (1972).
[70] ALASKA STAT. § 09.50.250.
[71] CAL. GOV'T CODE § 820.2.
[72] HAWAII REV. STAT. § 662-15.
[73] IDAHO CODE § 6-904.
[74] IOWA CODE ANN. § 25A.14.
[75] NEB. REV. STAT. § 81-8, 219.
[76] NEV. REV. STAT. § 41.032(2).
[77] N.J. STAT. ANN. § 59-2-3.
[78] OREG. REV. STAT. § 30.265.
[79] TEX. CIV. STAT. art. 6252-19, § 14(7).
[80] UTAH CODE ANN. § 83-30-10.
[81] VT. STAT. ANN., § 5602(1).
[82] 346 U.S. 15, 73 S.Ct. 956, 97 L.Ed. 1427 (1953), *reh. den.* 346 U.S. 831, 880, 74 S.Ct. 13, 117, 98 L.Ed. 263, 386, 347 U.S. 924, 74 S.Ct. 511, 98 L.Ed. 1078 (1954).
[83] 346 U.S. at 35-36.
[84] 350 U.S. 61, 76 S.Ct. 122, 100 L.Ed. 1065 (1955).
[85] 350 U.S. at 69.
[86] State v. Abbott, 498 P.2d 712, 719-720 (Alaska 1972).
[87] *Id.*
[88] See CAL. GOV'T CODE, § 830.6.
[89] N.J. STAT. ANN. tit. 59, § 4-6.
[90] See Comment, N.J. STAT. ANN. tit. 49, § 4-6, citing Fitzgerald v. Palmer, 47 N.J. 106, 110, 219 A.2d 512 (1966) and Hughes v. County of Burlington, 99 N.J. Super. 405, 240 A.2d 177 (1968).
[91] *Id.*, citing Weiss v. Fote, 7 N.Y.2d 579, 200 N.Y.S.2d 409, 167 N.E.2d 63 (1960).
[92] *Id.*, citing CAL. GOV'T CODE § 830.6.
[93] See Comment, N.H. STAT. ANN. tit. 39, § 2-3.
[94] *Id.*
[95] 7 N.Y.2d 579, 200 N.Y.S.2d 409, 167 N.E.2d 63 (1960).
[96] *Id.* at 66. See discussion of duty to review a plan or design in text at footnote 160 to 178, *infra.*
[97] *Id.* at 67.
[98] 79 Cal. Rptr. 33 (Cal. App. 1969).
[99] *Id.* at 37.
[100] *Johnston* holds that where the public body actually disapproves of a safety feature, but for other reasons orders the project to be built anyway, the "approval" is ineffective to invoke design immunity protection. See *Id.* at 37-40.
[101] Dalehite v. United States, 346 U.S. 15, 57, 73 S.Ct. 956, 97 L.Ed. 1427 (1953), *reh den.* 346 U.S. 841, 880, 74 S.Ct. 13, 117, 98 L.Ed. 263, 386, 347 U.S. 924, 74 S.Ct. 511, 98 L.Ed. 1078 (1954).
[102] See Indian Towing v. United States, 350 U.S. 61, 76 S.Ct. 122, 100 L.Ed. 48 (1955).
[103] 2 JAYSON, HANDLING FEDERAL TORT CLAIMS, § 249.06(1) at 122-70.6—12-71 [hereinafter cited as JAYSON].
[104] 202 F. Supp. 273 (D. Alaska 1962).
[105] *Id.* at 275.
[106] N.J. STAT. ANN. tit. 59, § 1 *et seq.*
[107] Hughes v. County of Burlington, 99 N.J. Super. 405, 240 A.2d 177 (1968).
[108] Fitzgerald v. Palmer, 47 N.J. 106, 219 A.2d 512 (1966).
[109] Weiss v. Fote, 7 N.Y.2d 579, 167 N.E.2d 63, 200 N.Y.S.2d 409 (1960).
[110] 23 U.S.C.A. § 402.
[111] Dep't of Transp./Federal Highway Administration, Instructional Memorandum 21-2-73 (July 19, 1973).
[112] *Id.*
[113] The point could be significant, for example, in a State jurisdiction still having sovereign immunity because the plaintiff would attempt to join the Federal Government as a defendant under the Federal Tort Claims Act.
[114] 306 F.2d 713 (3d Cir. 1962). The *Mahler* Court disposed of several other issues before reaching the question presented by the discretionary function exemption.
[115] *Id.* at 723; *see also, In re* Silver Bridge Disaster Litigation, 381 F.Supp. 931 (S.D.W.Va. 1974).
[116] 426 F.2d 281 (5th Cir. 1970).
[117] 337 F. Supp. 827 (E.D. Ark. 1972).
[118] Mahler v. United States, 306 F.2d 713, 721 (3d Cir. 1967).
[119] *Id.; See also,* Delgadillo v. Elledge, *supra* n. 117; *Compare,* however, Meyers v. Pennsylvania, 94 S.Ct. 1956 (1974), (Justice Douglas dissenting).
[120] 381 F. Supp. 931 (S.D. W.Va. 1974).
[121] PROSSER ON TORTS, 4th ed., p. 324 (1971).
[122] *Id.* at 326.
[123] 344 F. Supp. 1337 (E.D. Pa. 1972).
[124] *Id.* at 1340, n. 5.
[125] *Id.* at 1341.
[126] *Id.* at 1348.
[127] *Id.* at 1348.
[128] Spector v. Commonwealth of Pennsylvania, Civil No. 559 (Supreme Court of Pa., filed July 7, 1975), *rev'g* Rader v. Pennsylvania Turnpike Comm'n, 407 Pa. 609, 182 A.2d 199 (1962).
[129] See discussion on "Duty to Review a Plan or Design," in text at footnotes 160 to 178, *infra.*
[130] See discussion on "Admissibility into Evidence of Skid Regulations" in text at

footnotes 242 to 253, *infra.*

[131] 9 A.2d 561 (Md. 1939).

[132] *Id.* at 564.

[133] *Id.* at 566–57.

[134] *Id.* at 571.

[135] 39 AM. JUR. *Highways, Streets, and Bridges*, § 86, at 473.

[136] Federal Highway Administration, "Highway Design, Construction, and Maintenance," *Highway Safety Program Manual, No. 12* (Feb. 1974).

[137] Dep't of Transp./Federal Highway Administration, Instructional Memorandum 21-2-73 (July 19, 1973).

[138] *Id.*

[139] 41 Fed. Reg. 4957 (1976).

[140] Cumberland v. Turney, 9 A.2d 561, 568 (Md. 1939).

[141] *Id.* at 569.

[142] Carruthers v. City of St. Louis, 341 Mo. 1073, 111 S.W.2d 32 (1937).

[143] 307 A.2d 709 (1973).

[144] *Id.* at 804.

[145] *Id.* at 804.

[146] 54 Mich. App. 570, 221 N.W.2d 394 (1974).

[147] *Id.* at 397. *Compare* Weiss v. Fote, 7 N.E.2d 579, 167 N.E.2d 63, 200 N.Y.S.2d 409 (1960).

[148] 37 N.W.2d 427 (Minn. 1949).

[149] *Id.* at 436.

[150] Paul v. Faricy, 37 N.W.2d 427 (Minn. 1949).

[151] Fraley v. City of Flint, 54 Mich. App. 570, 221 N.W.2d 394 (1974).

[152] Savage v. Town of Lander, 309 P.2d 156 (Wyo. 1957).

[153] Laborde v. Louisiana Dep't of Highways, 300 So. 2d 579 (La. App. 1974).

[154] Falender v. City of Louisville, 448 S.W.2d 367 (Ky. 1969).

[155] Freeport Transport, Inc. v. Commonwealth Dep't of Highways, 408 S.W.2d 193, 194 (Ky. 1966).

[156] 7 Cal. 3d 318, 102 Cal. Rptr. 305, 497 P.2d 777 (1972).

[157] *Id.* at 782. Even had the State not been liable because of § 830.6, liability could still be imposed for failure to provide warning signs as required by CAL. GOV'T CODE § 830.8.

[158] *Id.* at 783.

[159] 291 F.2d 880, 887 (4th Cir. 1961).

[160] Kaufman v. State, 27 A.D.2d 587, 275 N.Y.S.2d 757 (1966).

[161] N.Y.2d 579, 167 N.E.2d 63, 200 N.Y.S. 2d 409 (1960). In *Weiss* the issue was the reasonableness of the clearance interval in a traffic light that had been approved by the Board of Safety after ample study and traffic checks. The Court held that the State's general waiver of immunity did not extend to areas of lawfully authorized planning and that it would be improper to submit to a jury the reasonableness of the plan approved by an expert body. The only circumstances that would permit the matter to go to the jury would be where due care was not exercised in the preparation of the design or if it appeared that no reasonable official could have adopted it. *Id.* at 66.

[162] *Id.* at 67.

[163] *Id.*

[164] 6 Cal. 3d 424, 491 P.2d 1121, 99 Cal. Rptr. 145 (1972) overruling Cabell v. State, 67 Cal. 2d 150, 430 P.2d 34, 60 Cal. Rptr. 476 (1967) and Becker v. Johnston, 67 Cal. 2d 163, 60 Cal. Rptr. 485, 430 P.2d 43 (1967).

[165] 491 P.2d at 1127.

[166] *Id.* at 1128.

[167] Cameron v. State, 102 Cal. Rptr. 305, 497 P.2d 777, 782, note 1 (1972).

[168] Hampton v. State Highway Comm'n, 209 Kan. 565, 498 P.2d 236 (1972).

[169] Warda v. State, 45 Misc. 2d 385, 256 N.Y.S.2d 1007 (1964).

[170] 27 A.D.2d 587, 275 N.Y.S.2d 757 (1966).

[171] Natina v. Westchester Co. Park Comm'n, 49 Misc. 2d 573, 268 N.Y.S.2d 414 (1966).

[172] N.J. STAT. ANN. tit. 59, § 4-6.

[173] See Comment: 1974, N.J. STAT. ANN. tit. 59, § 4-6.

[174] Kaufman v. State, 27 A.D.2d 587, 275 N.Y.S.2d 757 (1966).

[175] Carruthers v. City of St. Louis, 341 Mo. 1073, 111 S.W.2d 32 (1937).

[176] 518 P.2d 437 (Kan. 1974).

[177] KAN. STAT. ANN. § 68-419.

[178] 518 P.2d at 445.

[179] Federal Highway Administration, "Highway Design, Construction, and Maintenance," *Highway Safety Program Manual No. 12* (Feb. 1974).

[180] *Id.*

[181] Dep't of Transp./Federal Highway Administration, Instructional Memorandum 21-2-73 (July 19, 1973).

[182] 41 Fed. Reg. 4956-62 (1976).

[183] *Id.* at 4957.

[184] *Id.*

[185] Dep't of Transp./Federal Highway Administration, Instructional Memorandum 21-2-73 (July 19, 1973).

[186] 41 Fed. Reg. 4956 (1976).

[187] 2 JAYSON, § 249.06[1] at 12-70.6–12-71. See *Id.* for further discussion and cases at § 249.06[2] at 12-79-78.

[188] 346 U.S. 15, 73 S.Ct. 956, 97 L.Ed. 1427 (1953).

[189] 346 U.S. at 38-40.

[190] *Id.* at 36.

[191] 2 JAYSON, § 249.06[2] at 12-79.

[192] Ritter v. State, 74 Misc. 2d 80, 344 N.Y.S.2d 257, 267 (1972).

[193] *Id.*

[194] Note that in *Ritter*, the Court held that the State had no duty to erect warning

signs for general weather conditions, "because it would be necessary to install such signs universally over large areas of the highways of the state." *Id.* at 268. Judgment for claimant was rendered, however, on the ground that the police, having arrived at the accident scene because of an earlier accident, negligently failed to remain at the accident scene to warn motorists of the conditions until the highway crew arrived with sanders, or until an emergency called them elsewhere. *Id.* at 268–269.

[195] Bono v. State, 1 A.D.2d 745, 147 N.Y.S.2d 206, 208 (1955).

[196] 2 Jayson, § 249.06[1], at 12–70.6–12–71.

[197] See federal cases cited in 2 Jayson, § 249.06[2], at 12–78 and § 249.07, at 12–84—12–89.

[198] 498 P.2d 712 (Alaska 1972).

[199] Alaska Stat. § 09.50.250.

[200] 498 P.2d 722 (Alaska 1972).

[201] *Id.* at 720.

[202] *Id.*

[203] *Id.* at 719.

[204] *Id.* at 719.

[205] 161 N.Y.S.2d 666 (Ct. Cl. 1957).

[206] *Id.* at 670.

[207] See discussion of Cameron v. State, Cal. Rptr. 305, 497 P.2d 777 (1972), at notes 156 to 158, *supra.*

[208] 26 Misc. 2d 431, 211 N.Y.S.2d 658 (Ct. Cl. 1961).

[209] *Id.* at 661.

[210] 41 Fed. Reg. 4957 (1976).

[211] 2 Jayson, § 249.06[1], pp. 12–70.6—12–71.

[212] See the discussion of federal cases in 2 Jayson, § 249.06(5).

[213] 314 F.2d 98 (9th Cir. 1962). *Compare* Dolphin Gardens v. United States, 243 F. Supp. 824 (D. Conn. 1965) in which the Court saw no difference between the decision to dredge, clearly discretionary, and the decision as to where to deposit the silt inasmuch as time was of the essence.

[214] 165 N.Y.S.2d 896, 897 (1957).

[215] McIntosh v. Jefferson County, 6 N.E.2d 406 (N.Y. 1936). *See also,* Karpf v. Adams, 237 N.C. 106, 74 S.E.2d 325 (1953) (exposed asphalt primer coat and rain caused skidding accidents).

[216] Carthay v. County of Ulster, 5 A.D. 2d 714, 168 N.Y.S.2d 715, 717 (1957). There was further proof of an improperly banked curve and inadequate barriers, and no road signs gave notice of the road's slippery condition when wet.

[217] 104 P.2d 700 (Cal. App. 1940).

[218] *Id.*; Coffey v. State, 193 Misc. 1060, 56 N.Y.S.2d 172, *aff'd.* 276 App. Div. 1049, 96 N.Y.S.2d 3.3.

[219] 165 N.Y.S.2d 896, 897 (1957).

[220] *Id.* at 898. *See also,* Pearson v. Boise City, 333 P.2d 998 (Idaho 1959) involving a slippery condition of a sidewalk allegedly caused by a structural defect in which the Court held that liability could be imposed for negligence only for grave structural defects, not trivial ones.

[221] 40 C.J.S., *Highways,* § 254, p. 295.

[222] 152 N.Y.S.2d 65 (Ct. Cl. 1956).

[223] 154 N.Y.S.2d 621 (1956).

[224] Camuglia v. State, 197 Misc. 180, 94 N.Y.S.2d 579, 580 (1950).

[225] Killoran v. State, 155 Misc. 26, 278 N.Y.S. 659 (1935).

[226] Viet v. State, 78 N.Y.S.2d 336 (Ct. Cl. 1948).

[227] *Id.,* at 339.

[228] 372 P.2d 524 (Oreg. 1962).

[229] Daye v. Commonwealth of Pennsylvania, 344 F. Supp. 1337 (E.D. Pa. 1972).

[230] 518 P.2d 437 (1974).

[231] *Id.* at 441.

[232] Weiss v. Fote, 7 N.Y.2d 579, 167 N.E. 2d 63, 200 N.Y.S.2d 409 (1960).

[233] Rodrigues v State, 472 P.2d 509 (Hawaii 1970).

[234] Carroll v. State, 27 Utah 2d 384, 496 P.2d 888 (1972).

[235] State v. Abbott, 498 P.2d 712 (Alaska 1972). *See also,* Jennings v. United States, 178 F. Supp. 516 (D. Md. 1959).

[236] 118 Mont. 65, 162 P.2d 772 (1945).

[237] *See also,* Lusietto v. Kingan, 107 Ill. App. 2d 239, 246 N.E.2d 24 (1969); Ten Eicken v. Johnson, 1 Ill. App. 3d 165, 273 N.E.2d 633 (1971) (repair of holes or rut); Ham v. Los Angeles County, 46 Cal. App. 148, 189 P. 462 (1920) (repair of bridge): Binkley v. Hughes, 168 Tenn. 86, 73 S.W.2d 1111 (1934); Nagle v. Wakey, 161 Ill. 387, 43 N.E. 1079 (1896) (repair of bridges); Derfall v. Town of West Hartford, 25 Conn. Sup. 302, 203 A.2d 152 (1964).

[238] Freeport Transport, Inc. v. Commonwealth Dep't of Highways, 408 S.W. 2d 193 (1966) (held that the Department should have had notice of the dangerous condition that had existed for eight months).

[239] Dabov v. Allstate Ins. Co., 302 So. 2d 697 (La. App. 1974).

[240] LeBoeuf v. State, 169 Misc. 372, 7 N.Y.S.2d 621, 625–26 (1938) (three years); Freeport Transport, Inc. v. Commonwealth Dep't of Highways, 408 S.W.2d 193 (1966) (eight months).

[241] Coffey v. State, 193 Misc. 1060, 86 N.Y.S.2d 172, *aff'd* 276 App. Div. 1049, 96 N.Y.S.2d 303, reargument and appeal denied 277 App. Div. 831, 97 N.Y.S.2d 918 (1950). In *Coffey* plaintiffs lost because the condition of the highway, alleged to have been slippery due to bleeding, could not be established. *See also,* Restifo v. State, 40 A.D.2d 889, 337 N.Y.S.2d 212 (1972) ("No evidence was produced or presented as to the proportion of asphalt or 'bituminous material' and crushed stone or gravel utilized much less what proportion

is proper nor even any evidence as to when or how the pavement was last resurfaced or otherwise treated before the accident and a mere assertion of slipperiness is not enough.")

[242] WIGMORE ON EVIDENCE (3d ed.) § 2572, p. 553; 29 AM. JUR. 2d *Evidence*, § 42, at 76.

[243] WIGMORE ON EVIDENCE (3d ed.), § 1698 (1975 Supp.), p. 9.

[244] See Annot., *Admissibility in Evidence, or Issue of Negligence, of Codes or Standards of Safety Issued or Sponsored by Governmental Body or by Voluntary Association*, 58 A.L.R.3d 148, 154. Compare earlier annotations on this subject in 75 A.L.R.2d 778 and 122 A.L.R. 644.

[245] 58 A.L.R.3d at 157–158.

[246] 58 A.L.R.3d at 160.

[247] See discussion in WIGMORE ON EVIDENCE (3d ed.), § 1698 *et seq.*

[248] *Id.*, § 1691.

[249] 58 A.L.R.3d 154.

[250] BLASHFIELD, AUTOMOBILE LAW AND PRACTICE, § 425.1 (1975 Supp.), p. 103. *See also*, Smith v. Iowa Public Service Co., 233 Iowa 336, 6 N.W.2d 123 (1942) (National Safety Code on power line installation); Calley v. Boston & Maine R. Co., 92 N.H. 455, 33 A.2d 227 (1943) (curb standards set forth by American Asociation of State Highway Officials); Charleston Nat'l Bank v. International Harvester Co., 22 Ill. App. 3d 999, 317 N.E.2d 585 (1974) (data sheets published by National Safety Council admissible in products liability case). *Contra:* Hartman v. Port of Seattle, 389 P.2d 669 (Wash. 1964) (upheld inadmissibility of electrical workers' Safety Rules of the Department of Labor and Industries) and Swaney v. Peden Steel Co., 259 N.C. 531, 131 S.E.2d 601 (1963) (rules of Division of Standards and Inspection of Department of Labor inadmissible).

[251] See Rudd v. Public Service Co., 126 F. Supp. 722 (N.D. Okla. 1954); Daniel v. Oklahoma Gas & Electric Co, 329 P.2d 1060 (Okla. 1958); Lutz Industries v. Dixie Home Stores, 242 N.C. 332, 88 S.E.2d 333 (1955).

[252] 7 Ariz. App. 81, 436 P.2d 175 (1968).

[253] Chart v. Dvorak, 57 Wisc. 2d 92, 203 N.W.2d 673 (1973); Waits v. St. Louis-San Francisco Ry. Co., 216 Kan. 160, 531 P.2d 22 (1975); Dowen v. State, 174 N.Y.S.2d 849 (1958); Fraley v. City of Flint, 221 N.W.2d 394 (Mich. App. 1974); Verik v. State, Dep't of Highways, 278 So. 2d 530 (La. App. 1973); Quinn v. United States, 312 F. Supp. 999 (E.D. Ark. 1970); Mullins v. Wayne Co., 16 Mich. App. 365, 168 N.W.2d 246 (1969); Jorstad v. City of Lewiston, 93 Idaho 122, 456 P.2d 766 (1969) (the preceding cases all involved the Uniform Manual); *see also*, Slade v. New Hanover County Board of Education, 10 N.C. App. 287, 178 S.E.2d 316 (1971), *cert. den.* 278 N.C. 104, 179 S.E. 2d 453 (book published by N.C. Dep't of Motor Vehicles to train school bus drivers); Steffes v. Farmers Mutual Auto Ins. Co., 18 Wis. 2d 321, 96 N.W.2d 501 (1959), and Thedorf v. Lipsey, 237 F.2d 190 (7th Cir. 1956) (all admitting motorists manual pertaining to stopping distances), but *contra* is McDonald v. Mulvihill, 84 N.J. Super. 382, 202 A.2d 213 (1964).

[254] OHIO REV. CODE ANN. § 5523.31.

[255] PROSSER ON TORTS (4th ed.), § 36, 190–200.

[256] *Id.* at 190–192.

[257] PROSSER ON TORTS (4th ed.), § 36, p. 200.

[258] 436 P.2d at 181, n. 6.

[259] 206 N.W.2d 100, 103 (Iowa 1973).

[260] Verik v. State, Dep't of Highways, 278 So.2d 530 (La. App. 1973).

[261] 312 F. Supp. 999 (W. D. Ark. 1970). The Court grounded its ruling that the violations did not constitute negligence per se on its belief that the involved Corps of Engineers regulations and the Manual on Uniform Traffic Control Devices did not have full force and effect as law.

[262] *Id.* at 1005.

[263] 16 Mich. App. 365, 168 N.W.2d 246 (1969).

[264] Chavez v. Pima County, 107 Ariz. 358, 488 P.2d 978 (1971).

[265] 93 Idaho 122, 456 P.2d 766 (1969).

[266] *Accord:* Waits v. St. Louis-San Francisco Ry. Co., 216 Kan. 160, 531 P.2d 22 (1975) holds that the failure to comply with a mandatory provision of the Uniform Manual that certain signs be erected at railroad crossings is negligence per se. *See also*, Chart v. Dvorak, 57 Wis. 2d 92, 203 N.W.2d 673 (1973).

[267] BLASHFIELD, AUTOMOBILE LAW AND PRACTICE, § 425.1, pp. 440–442. "But in some jurisdictions the courts have held inadmissible proof of similar occurrences in the same vicinity and at other times." *Id.* at 445.

[268] 57 N.Y.S.2d 418 (1945).

[269] *Id.* at 421–22.

[270] *See also*, Clary v. Polk County, 372 P.2d 524 (Oreg. 1962); Karpf v. Adams, 237 N.C. 106, 74 S.E.2d 325 (1953); Smith v. State, 124 N.Y.S.2d 264 (1953); Stern v. State, 224 N.Y.S.2d 126 (1962).

[271] N.J. STAT. ANN. tit 59, § 2–3 appears to immunize high-level decisions establishing priorities in highway improvements.

[272] 49 Misc. 2d 573, 268 N.Y.S.2d 414 (1966).

[273] *Id.* at 417

[274] *Id.*

[275] Natina v. Westchester Co. Park Comm'n, 49 Misc. 2d 573, 268 N.Y.S.2d 414 (1966).

[276] 518 P.2d 437 (Kan. 1974).

APPLICATIONS

The foregoing research should prove helpful to highway and transportation administrators, their legal counsel, and engineers responsible for the design, construction, and maintenance of facilities. Officials are urged to review their practices and procedures to determine how this research can effectively be incorporated in a meaningful way. Attorneys should find this paper especially useful in their work as an easy and concise reference document in tort litigation cases.

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