

Design Exceptions: Legal Aspects

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The legal implications of the design exception process in the context of tort liability and tort litigation are examined. Only six states currently report that their highway or transportation departments are immune from suit by motorists injured as a result of alleged defects of the highway. In those states susceptible to suit, the alleged defect may well be a design defect. In such cases the application of design standards and adequate justification of any deviation from the applicable standard become paramount in the defense of the lawsuit. A brief introduction to the notion of sovereign immunity of state governments and some of the important concepts of tort law are offered. Within this context the relationship of design standards to legal notice of highway hazards is explored, and the significance of departure from those standards is explained. Recommendations for the designer are provided. The author's experience, since 1987, as a member of the legal staff of the Pennsylvania Department of Transportation involved in the risk management training and education of Pennsylvania Department of Transportation employees is used as the basis. The recommendations are based on those made to Pennsylvania highway designers and design liaison engineers.

It is not too broad a generalization to state that the law of tort liability or negligence in most states imposes a legal duty on state and municipal governments to provide safe highways and streets for the citizens who travel them. (Tort liability or negligence law in the United States is largely a matter of state, not federal, law and is therefore not uniform from state to state.) In many states that duty encompasses the construction, maintenance, and signing of roads. In some states it also includes the *design* of the streets and highways under the jurisdiction of the state government. It is the purpose of this paper to discuss the notion of legal duty as it relates to the design of highways and, more specifically, to discuss the legal implications of the request for and approval of design exceptions.

HISTORICAL BACKGROUND

The law of tort liability or negligence in the United States developed as a matter of common law from legal concepts and principles brought with the English colonists who settled in North America. *Tort* is the legal term used to describe an actionable civil wrong or injury to person or property. *Negligence* is a classification of tort in which the injury is not intentionally caused but results from some breach of a legal duty to exercise care (1). *Common law* refers to that body of law developed by the courts in the cumulative adjudication of individual cases and is to be distinguished from statutory law, which is enacted by legislative bodies. When the United States won its independence from England and created its own form of republican government, many of the judicial traditions and principles of English law were in-

corporated into the newly formed judiciary of the new nation. One of the notions carried into U.S. jurisprudence from its roots in English common law was that, as the source of all law, the government, or "sovereign," as an institution could not be sued, at least not without its consent.

Consequently up until the latter half of the twentieth century individuals who were injured through the negligence of state governments or government highway departments had no recourse under the law to seek redress for their injuries. The law in virtually every state provided that either the state and its agencies could not be sued or, if the state and its agencies were amenable to suit, they could not be held liable in tort. This notion of "sovereign immunity" provided an absolute defense to personal injury lawsuits brought against state governments and state highway departments.

Legal scholars have written a great deal about the development of the doctrine of sovereign immunity in the United States. It serves no purpose here to reiterate or review in great detail the English and U.S. case law dealing with the doctrine or to debate the question of whether the U.S. incarnation of the doctrine accurately mirrors sovereign immunity as it developed in the common law of Great Britain. A brief but excellent exegesis on the topic can be found in a work by Thomas (2).

For many decades the doctrine in the United States protected state governments and highway departments, as well as highway department employees, from the threat that errors in judgment, mistakes, or outright carelessness could result in a lawsuit or, worse, a money judgment tapping state highway revenues. In the decades following World War II, however, U.S. social mores, as reflected in the legislative governance and jurisprudence of the various states, began to demand greater accountability from government and government officials. The notion that a citizen injured through the carelessness or negligence of government action should have no recourse for that injury began to erode. An accountable government was responsible for the injuries that it caused. The image of the immune sovereign state began to fade.

The erosion process was not, of course, immediate. And because the law of negligence is a matter of common law as developed in each state, the process was varied in both pace and character. In some states the turnaround was dramatic.

Arizona was one of the first states to abolish the doctrine of sovereign immunity as applied to a highway department and highway officials. In the case of *Stone v. Arizona Highway Commission*, 93 Ariz. 384, 381 P2d 107 (1963), signs and pavement markings indicating that the roadway curved to the left had been left in place for several months following the completion of a new section of roadway that had eliminated the curve. A mother of two was killed and the father and children were injured when the vehicle driven by the father crossed the centerline of the road at the crest of a hill and struck a vehicle traveling in the opposite direction. The surviving family sued a number of highway offi-

cials and employees as well as the highway contractor who had constructed the improvement. The lower courts had dismissed the case as to the state and the highway officials because of the doctrine of sovereign immunity, in accordance with well-settled Arizona case law. The family then appealed. In its opinion deciding the appeal, the Arizona Supreme Court abruptly overturned the existing line of cases and abolished the doctrine of sovereign immunity in Arizona.

In discarding the doctrine the Arizona Supreme Court noted that sovereign immunity had long been a solid fixture of Arizona jurisprudence, but stated: "We are of the opinion that when the reason for a rule no longer exists, the rule itself should be abandoned," *Stone v. Arizona Highway Commission*, 93 Ariz. 387, 381 P2d 109 (1963). In a lengthy discourse the Arizona Supreme Court set out the history of the evolution of the doctrine of sovereign immunity "from its medieval English background to [the] present day Arizona law," *Stone v. Arizona Highway Commission*, 93 Ariz. 388, 381 P2d 109 (1963). The court's sociological rationale for abandoning the rule, however, was made clear:

In 75 A.L.R. 1196, a classic observation as to the sociological aspects of sovereign immunity appears which has since been quoted with approval in several jurisdictions; . . . "The whole doctrine of governmental immunity from liability for tort rests upon a rotted foundation. It is almost incredible that in this modern age of comparative sociological enlightenment, and in a republic, the medieval absolutism supposed to be implicit in the maxim, 'the king can do no wrong,' should exempt the various branches of the government from liability for their torts, and that the entire burden of damage resulting from the wrongful acts of the government should be imposed upon the single individual who suffers the injury, rather than distributed among the entire community constituting the government, where it could be borne without hardship upon any individual, and where it justly belongs." *Stone v. Arizona Highway Commission*, 93 Ariz. 338, 381 P2d n.1 (1963).

With greater or lesser intensity than the Arizona Supreme Court, the courts and legislatures of most of the other states have embraced the same or similar reasoning and have abolished or limited the immunity of state government against liability for injury caused by the negligence of state highway departments and their employees. Today only six states report that they retain sovereign immunity against suits in tort: Arkansas, Maine, Mississippi, North Dakota, Wisconsin, and Wyoming (3).

DESIGN IMMUNITY

Even among states that have abolished sovereign immunity and allowed citizens to sue their government for injuries sustained on the state's highways, some have retained immunity against lawsuits claiming defects related to the choice of the highway's design. Highway planning and design are viewed by those states as discretionary functions of government requiring a high-level balancing of many financial, engineering, and public policy considerations. The laws in those states, whether embodied in judicial case law or in an enactment of the state legislature, recognize that in order for public officials to appropriately exercise their judgment or discretion for the public good, they should be free from any threat that the exercise of that judgment or discretion will result in tort liability.

Although many states provide immunity for the discretionary activities of the planning and design of highways, once a design is chosen and constructed, the laws in those states may establish

an operational legal duty to protect the traveling public if the resulting highway is flawed. For example if a highway is designed and constructed with a curve that cannot be negotiated at the posted speed limit, the immunity defense may defeat a lawsuit on the basis of allegations of faulty design of the curve, but immunity may not provide a defense against allegations of a failure to reduce the speed limit through the curve or otherwise adequately warn the traveling public of the hazard of the curve [see *St. Petersburg v. Collum*, 419 So2d 1082 (Fla. 1982)].

It is not the purpose of this writing to survey the law in the 50 states or explicate the nuances of sovereign immunity for highway design as they vary in each state's body of statutory and common law. A comprehensive annotation accomplishing that survey and explication has been published elsewhere (4).

SIGNIFICANCE OF DESIGN STANDARDS

Notwithstanding the various statutory enactments in a number of states dealing with sovereign immunity, the law of negligence or tort has largely developed in the common law, that is, the body of law developed by judicial opinion, as the trial-level and appellate courts of each state adjudicate individual cases brought before them. And because each state's judicial system is independent and unique to that state, the law varies in some degree from the courts of one state to another. Nevertheless the basic elements of a tort or negligence lawsuit are common in jurisprudence throughout the United States. A fundamental understanding of those elements is necessary to discuss the legal importance of design standards and the legal implications of exceptions to those design standards.

The basic elements of a negligence lawsuit are

1. The existence of a legal duty of the defendant toward the plaintiff,
2. A breach of or failure in that duty by the defendant,
3. Injury to the plaintiff's person or property, and
4. A causal connection between the breach or failure of duty and the injury.

In the most general, oversimplified terms, the legal duty of any defendant toward a plaintiff is to exercise a level of care in acting that is reasonable under the circumstances of the particular given case. Consequently the standard by which a breach of duty is measured is commonly referred to as the *reasonable care* standard, that is, whether an ordinary person faced with the circumstances evident in a particular case might reasonably have acted with the same degree of care as the defendant. If the jury decides that a reasonable person would have exercised more care than the defendant, a breach of the duty has been found.

As noted at the outset of this writing, the law in most states recognizes some legal duty in highway departments and highway officials to provide safe and convenient highways for the traveling public. In those states not providing for design immunity, the state highway department's legal duty includes a duty to plan and design highways in a manner that provides for the safety of the public that uses them. In simplified terms highway departments and officials in all but a handful of states still retaining sovereign immunity must exercise reasonable care in the construction and maintenance of the state's highways. In the states without design immunity they must exercise a reasonable level of care in the planning and design of highways as well.

In judging the reasonableness of ordinary behavior, the jury in a typical tort case relies on its individual and collective everyday experience to determine the appropriate standard of care to which a defendant is to be held. In more complex cases, however, those involving medical malpractice, for example, the jury has no direct knowledge of what the standard of care might be in a particular circumstance. It must be educated as to what the standard of practice in a particular medical field was at the time of the injury. It must rely on information from outside the experience of the individual jury members.

Such is the case as well in lawsuits involving alleged defective highway design. The jury, unless it is composed entirely of highway engineers, would not know whether a particular stretch of highway was properly designed without reliance on some information outside its own experience. The jury would have to be educated as to the applicable design standards. As in cases involving other professional fields, that information would be provided by expert witnesses, who in turn might rely upon treatises, practice guidelines, or other texts to support their opinion of what the applicable standard of care was.

In highway design cases, the texts relied upon would likely be AASHTO guidelines, federal and state regulations and guidelines, and perhaps papers and publications issued by organizations such as TRB.

Design standards therefore provide the benchmark for the jury to determine whether the agency or individuals designing the highway exercised reasonable care in the development of the highway plan and the configuration of the highway geometry. In general if the applicable standards are followed, reasonable care was exercised and no breach of duty occurred. Conversely if applicable standards were not followed, perhaps reasonable care was not exercised and a breach of the highway agency's duty has occurred.

For all the precision in the field of highway engineering, however, the practical applicability of a particular highway design standard in a given set of circumstances is not always easily determined. In the law, regardless of the standard for practice established by the expert witnesses and their texts, it is the appropriateness of adherence to the standard in the narrow, particular circumstance of the facts of the individual case being tried that the jury must determine. Deviation from a standard does not per se establish that reasonable care was not exercised. And adherence to the standard does not per se establish that reasonable care was exercised. As it is for the engineering practitioner, each design standard is, for the jury in a highway design tort case, but a single criterion that must be considered in the total context of the numerous and variable factors brought to bear in each individual case.

DESIGN EXCEPTIONS

With design standards as the benchmark, then, the implications of a deviation from the standards must be examined.

As noted above the deviation from a design standard does not constitute negligence as a matter of law, and adherence to standards does not, in every case, mean that the appropriate standard of care has been met. Many of the published standards themselves are couched in terms of providing a guideline rather than a hard-and-fast rule, so that whether the deviation from the standard constituted a failure to exercise reasonable care becomes one for the jury to struggle with and ultimately decide. Design standards are

also frequently phrased as a minimum value. The standard may indicate, for example, that the highway geometry under particular conditions should provide "at least" a specified length for the curve radius. The standard is simply a minimum measure below which a particular design should not fall. The experienced plaintiff's counsel may present expert engineering testimony that the minimum standard was not sufficient to adequately provide for the safety of the traveling public. Consequently, even though the design standard was met, the jury might still find that the design did not constitute the exercise of reasonable care.

Adherence to the design standards applicable in the field of highway engineering at a particular time will, however, often give rise to a presumption that no negligence occurred in the design of the highway. The presumption may arise as a matter of law (statutory law or case law may expressly provide that conformance to a standard gives rise to a presumption of no negligence, and the jury will be so instructed by the trial judge prior to its deliberation) or may simply form in the minds of the jurors from their common understanding (or misunderstanding) of the significance of standards. In any case the presumption may be successfully rebutted by evidence that the highway was nevertheless known to be unsafe for the volume or class of vehicles using it [see *Hampton v. State Highway Commission*, 209 Kans. 565, 498 P2d 236 (1972)].

Similarly the deviation from a design standard may, in some state courts, give rise to a presumption of negligence on the part of the highway department or designer as a matter of law (see above). This may be especially true if the standard violated was found in a state regulation. The deviation from an accepted engineering standard will constitute at the very least evidence that the appropriate standard of care in the design of the highway may not have been met and will probably give rise to a presumption in the minds of the jurors that negligence has occurred. To rebut the presumption or counter the evidence, it is necessary for the defendant highway department or designer to present persuasive evidence either that the standard put forth by the plaintiff was not applicable to the circumstances at hand or that the standard could not reasonably be met.

It is one of the fundamental purposes of the design exception process to provide justification for deviation from accepted design standards that might otherwise be applicable in the design of a particular highway project. The focus of those procedures, however, is not specifically the defense in court of tort lawsuits that might potentially arise because of accidents and injury alleged to have resulted from the design of the highway project. FHWA, however, in adopting highway design standards and providing for exceptions to those standards, has articulated as its goal:

[T]o provide the highest practical and feasible level of safety for people and property associated with the Nation's highway transportation systems and to reduce highway hazards and the resulting number and severity of accidents on all the Nation's highways [23 C.F.R. 625.2(c)].

Consistent with this articulated goal, the provisions allowing for departure from the standards state:

The determination to approve a project design that does not conform to the minimum criteria is to be made only after due consideration is given to all project conditions such as maximum service and safety benefits for the dollar invested. [23 C.F.R. 625.3(f)(2)].

Consequently, a departure from the minimum design standards that is shown to be justified in accordance with the procedures for exception established by FHWA may persuade the jury that reasonable care was taken in the choice of highway design.

RECOMMENDATIONS

In the quest to avoid or minimize the exposure to tort liability that may arise in the design exception process, the best course obviously is to meet or exceed the applicable standards in the design of the project. Citizens who may bitterly criticize the performance of their state highway department and its employees show surprisingly great respect for the engineering standards developed in the transportation industry when they sit as a jury. And the presence of the deep pocket of a government does not outweigh the recognition that the transportation engineering industry is a highly sophisticated and professional one whose standards have been developed from considerable study and experience.

It is equally obvious that if a deviation from design standards is necessary, the deviation should be minimized. In its task of determining whether reasonable care was exercised, a jury is more likely to be forgiving of a small rather than a great deviation and of a single rather than a number of design exceptions.

When a deviation from design standards is necessary and application for design exceptions must be made, it is important, from a tort defense perspective, that the justification given be complete. Although a lengthy explanation of the factors requiring the deviation from the design standards may not be required to satisfy FHWA, the more engineering justification available for the jury to consider, the greater the persuasive weight that the departure from the standard was nevertheless an exercise of reasonable care. If the justification provided succinctly but completely describes the physical and perhaps environmental factors that make the exception necessary, a jury is likely to be persuaded that the judgment to depart from the standard was nevertheless sound. Justification in economic rather than engineering terms is not recommended. In some state courts, evidence of economic justification is not permitted to try to convince a jury that reasonable care was exercised in the project design. Such is the case in Pennsylvania. In any state court a jury faced with an injured plaintiff is less likely to be persuaded by an argument that a design exception was needed to save tax dollars than by justification rooted in sound engineering judgment.

In addition to a complete description of all the factors justifying the exception, it may also be helpful, from a tort defense perspective, to include language that leaves open the door to further justification by an engineering expert, if the design exception becomes the subject of a tort lawsuit. As noted earlier the parties in a design-related lawsuit will try to persuade the jury as to whether the appropriate standard of care was met with the use of highway engineering experts. It can be helpful if the expert testifying on behalf of the highway department or highway designer has a file that not only completely describes the reasoning of the engineer who initially justified the exception but that also indicates that there may be some other engineering justification for the exception that was not detailed. Simple language, such as "among the

factors justifying the exception are the following" or "some of the considerations requiring the approval of the design exception are," affords the expert engineering witness the opportunity to expand on the justification initially offered, if the matter is raised in the trial of a tort suit.

Other documentation reflecting not only that the exception was justified after consideration of engineering difficulties and other factors but noting that the resulting project design was nevertheless a safe one can also be helpful in the defense of a tort suit. In this regard review and approval of the exception, with such notation, by several engineers may demonstrate that in the sound engineering opinion of more than one professional the design is a reasonable one. Approval by FHWA officials itself may also offer some persuasive weight.

CONCLUSION

To the extent that the tort liability experience of Pennsylvania is typical of that found in states whose highway departments and highway designers do not enjoy design immunity, it must be noted that the number of lawsuits in which a design defect is alleged to be the cause of an accident and the resulting injury is not great in comparison with the number of cases alleging faulty signing or faulty maintenance. And the number of lawsuits in which the alleged negligence involves a design exception is smaller still. Highway engineering and design is a sophisticated and highly professional field. Its practitioners hold themselves to demanding standards that are continually reevaluated and raised. The high standard of professionalism in the field is reflected in the relatively few lawsuits relating to design and the design exception process.

Consequently it is not the intent of this writing to suggest that the primary focus of the highway designer, in seeking the approval of design exceptions, should be the avoidance of tort liability or the preparation of a file for use at trial. But with awareness of potential liability, in those states where it is a reality, the designer can, remembering the issues discussed here, vindicate the high standards of the profession if the sound design decisions are challenged in court.

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