

Legal Environment for Warranty Contracting

Elizabeth Sees¹; Qingbin Cui²; and Philip Johnson³

Abstract: Due to the public expectation of better road performance accompanied by economic development and population growth over the past decades, state highway agencies have been under intense pressure for continuous improvement in the quality and cost efficiency of transportation projects. To meet these challenges, state highway agencies must seek innovative approaches to deliver highway projects, including outsourcing some of the agency's functions and shifting maintenance responsibilities to contractors. Many states have implemented alternative contracting methods in project programming and execution to provide lasting and functional roadways at the optimum life-cycle cost to the public. The performance warranty is one of the innovative practices that has been declared operational by the Federal Highway Administration since 1996. Use of warranties in some states has required changes to state legislation and agency regulations. This paper discusses the laws and regulations needed to successfully incorporate performance warranties into current contracting practices and avoid litigation. The state of Alabama is used as an example of a state considering the use of performance warranties. Proposals for laws and regulations will be outlined.

DOI: 10.1061/(ASCE)0742-597X(2009)25:3(115)

CE Database subject headings: Warranties; Contracts; Legislation; Highway and road construction; Life cycles; Alabama.

Introduction

In the United States, state highway agencies are under increasing pressure to provide lasting and functional transportation infrastructures rapidly and at an optimum life-cycle cost. To meet the challenge, state highway agencies are expected to pursue innovative practices when programming and executing projects. One area of the innovative practices is the implementation of long-term, performance-based warranties to shift maintenance liabilities to the highway industry. Use of warranties by state highway agencies began in the early-1990s after the Federal Highway Administration's (FHWA) decision to allow warranty provisions to be included in construction contracts for items over which the contractor had complete control (Bayraktar et al. 2004). Special Experiment Project Number 14 (SEP-14) was created to study the effects of this and other new techniques. Over the past decade, some states have incorporated this innovative technique into their existing programs. Projects have ranged from New Mexico's 20-year warranty for the reconstruction of US550 to smaller scale projects, such as bridge painting and preventative maintenance jobs.

These projects have met with varying degrees of success, causing some states to broaden the use of warranties, whereas others

have abandoned them completely. Several states have sacrificed time and money to fine tune the use of warranties. However, on a national level, there is still a need for research and the exchange of ideas and best practices. One area that needs further consideration is the legal environment surrounding the use of warranties. Preliminary use in some states has required changes to state laws and agency regulations, as well as the litigation of new issues. This paper will discuss the laws and regulations needed to successfully incorporate warranties into current contracting practices and avoid litigation. The state of Alabama is used as an example of a state considering the use of long-term, performance-based warranties and proposals for laws and regulations will be outlined. This paper presents a flowchart to help an agency determine if a favorable legal environment exists for the use of warranties.

Warranty Contracting in Highway Construction

A warranty in highway construction, like the warranty for a manufactured product, is a guarantee that holds the contractor accountable for the repair and replacement of deficiencies under his or her control for a given period of time. Warranty provisions were prohibited in federal-aid infrastructure projects until the passage of the Intermodal Surface Transportation Efficiency Act in 1991 because warranty provisions could indirectly result in federal aid participation in maintenance costs, which at that time were a federal aid nonparticipating item (FHWA 2004). Under the warranty interim final rule that was published on April 19, 1996, the FHWA allowed warranty provisions to be applied only to items considered to be within the control of contractors. Ordinary wear and tear, damage caused by others, and routine maintenance remained the responsibility of the state highway agencies (Anderson and Russell 2001). Eleven states participated in the warranty experiment under Special Experiment Project Number 14 referred to as SEP-14, which was created by the FHWA to study the effects of innovative contracting techniques. Warranty contracting was one of the four innovative techniques that FHWA investigated under SEP-14 and the follow-on SEP-15 program.

¹Formerly, Research Assistant, School of Law, Univ. of Alabama, Box 870205, Tuscaloosa, AL 35487. E-mail: eeses3@law.ua.edu

²Assistant Professor, Dept. of Civil and Environmental Engineering, Univ. of Maryland, College Park, MD 20742 (corresponding author). E-mail: cui@umd.edu

³Associate Professor, Dept. of Civil, Construction, and Environmental Engineering, Univ. of Alabama, Box 870205, Tuscaloosa, AL 35487. E-mail: pjohanson@eng.ua.edu

Note. This manuscript was submitted on December 11, 2007; approved on December 9, 2008; published online on June 15, 2009. Discussion period open until December 1, 2009; separate discussions must be submitted for individual papers. This paper is part of the *Journal of Management in Engineering*, Vol. 25, No. 3, July 1, 2009. ©ASCE, ISSN 0742-597X/2009/3-115-121/\$25.00.

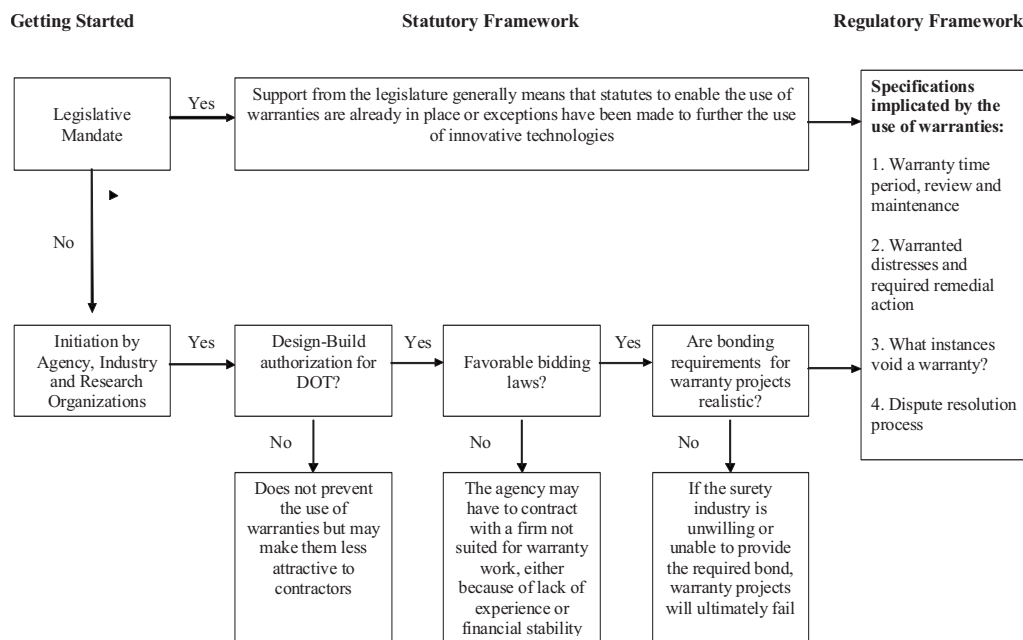


Fig. 1. Assessment framework for performance warranties

In accordance with the National Cooperative Highway Research Program Synthesis 195 (Hancher 1994), a warranty is defined as a guarantee of the integrity of a product and the maker's responsibility for the repair or replacement of the deficiencies. A warranty is used to specify the desired performance characteristics of a particular product over a specified period of time and to define who is responsible for the product (Blichke 1995). Warranties are typically assigned to the prime contractor, but may be passed down to the paving contractors as pass-through warranties.

The warranty approach in highway construction contrasts sharply with traditional highway contracting practices. Under the standard contracting option, the state highway agencies provide a detailed design and decide on the construction processes and materials to be used. Contractors perform the construction and bear no responsibility for future repairs once the project is accepted. Stringent quality control and inspection are necessary to make sure that contractors are complying with the specifications and the design. The warranty approach, usually used with performance-based specifications, changes almost every step in the standard contracting system. The changes go beyond the manner in which projects are bid, awarded, and constructed. Most important, contractors are bound by the warranty and are required to come back to repair and maintain the highway whenever certain threshold values are exceeded. In return for the shift in responsibility, contractors are given the freedom to select construction materials, methods, and even mix designs.

Legal Assessment Framework for Warranty Contracting

As public sector organizations, state highway agencies must follow state laws and proper project procurement procedures. State legislation impacting state highway agencies include statutes on public work, highways and roads, state government, and special statutes. These statutes define general responsibilities and liabilities of the state highway agency and must be investigated before a state highway agency moves to any innovative contracting

method. Additionally, the state highway agency may develop appropriate regulatory standards and procedures tailored to meet special needs. State highway agencies should also investigate and assess warranties contract and construction.

In order to develop a legal and contractual framework against which to evaluate the state of Alabama and other states not active in warranty contracting the writers reviewed the statutes in numerous states that are active in warranty contracting. Ohio, Michigan, Minnesota, Florida, Texas, Illinois, Montana, and others have all been more or less active in warranty contracting. Their statutes were reviewed, as well as the specifications they use for measuring actual road performance against warranted performance. Also, numerous national studies were reviewed. The writers determined that regardless of whether warranties are imposed by legislative mandate or initiated by a state DOT or other body, there are three elements that are consistently found in successful programs, and these elements often require modification of the existing statutes. These three elements are design-build contracting, bidding laws that allow for flexibility and innovation, and realistic bonding requirements. Given those elements as a starting point, the actual contract specifications must address when the warranty period commences, the inspection frequency, clear defect definitions, allocation of responsibility for repair, emergency maintenance, circumstances that void the warranty, and dispute resolution.

The foregoing statutes and regulations are termed the legal assessment framework for performance warranties, shown schematically in Fig. 1. The three broad steps in the framework: initiation of warranty contracting, statute assessment, and regulatory assessment are discussed in detail in the following sections.

Initiation of Warranties

Several states initiated the use of warranties as a result of a legislative mandate. For example, in 1999, the Illinois legislature passed a bill that required 20 of the projects outlined in the Illinois Department of Transportation's Five Year Plan to include 5-year performance warranties (IDOT 2004). Ten of those

projects were to be designed to have 35 life cycles (Illinois Compiled Statutes Ch. 605 §5/4-410). Also in 1999, Ohio began using warranties due to a legislative mandate that required a minimum of one-fifth of road construction projects to be bid with a warranty. According to Ohio Revised Code §5525.25, the requirements were later changed on the suggestion of the highway agency to make the minimums into maximums so it could spend more time evaluating what types of projects are best suited for warranties (ODOT 1999). The warranties were to range from 2 to 7 years, depending on the type of construction. Finally, in a less demanding mandate, the Michigan Compiled Laws §247.661, in a state highway funds appropriation bill, included the instruction that, “the Department [of Transportation] shall, where possible, secure warranties of not less than five-year, full replacement guarantee for contracted construction work.” These types of mandates generally require the agency to first come up with an outline of how it plans to incorporate these directives into existing procedures and specifications, as well as prepare reports regarding the success of these programs and their cost effectiveness.

Alternatively, some agencies begin the use of warranties on their own initiative. In Texas, the State Comptroller’s Office issued a report on the Department of Transportation’s (DOT) operations and strongly recommended the use of more innovative methods, including warranties, to better meet the transportation needs of the state (Strayhorn 2001). As a result, the Texas Transportation Institute commenced its own investigation of warranties and developed an implementation plan for the Texas DOT (Anderson et al. 2006). One of the reasons cited for the study was the potential for a future legislative mandate, and the need to research the area before the agency was forced to make use of warranties. Montana acted without any government influence by initiating a bill (Bill Draft No. LC0443) that called for the formation of a committee to study the feasibility of design-build and warranty contracting. This committee was to include members of the House and Senate, Department of Transportation officials, representatives from contractor’s associations, and a representative from the general public and would submit a report to the office of Budget and Program Planning. This bill was not enacted, but the Department continued their efforts by preparing a report containing specific suggestions as to how Montana could implement warranties on future highway construction projects (Stephens et al. 2002).

Like Texas and Montana, most states have made their own investigations into the use of performance-based warranties. Generally, state highway agencies have worked with research teams, contractors and industry associations to extensively evaluate the feasibility of warranted projects. Although sometimes a political push may be needed to encourage the use of innovative methods, states, which begin researching new ideas on their own, may have more time to carefully select the best use for these innovations. As exemplified by Ohio, who found it infeasible to meet existing legislative mandates, states may have to amend the legislation later, indicating the legislature may not be best suited to make the first move.

Statutory Assessment

As pointed-out earlier, statutes regarding public work, public transportation, state government, and other related statutes should be evaluated in terms of the legal environment of the warranty contracting. Three related major legislations are project delivery, public bidding procedures, and bonding requirements (Fig. 1).

Legislation regarding Design-Build Project Delivery

Historically, contractors are told what materials to use and how to use them in the construction project. State personnel oversee the construction and perform continuous quality assurance testing to ensure the contractor is following the specifications. Legislation may restrict a state to this process, which does not allow for the increased contractor control that use of a warranty may dictate. Several transportation agencies have explicit authorization for design-build contracting methods. For instance, Ohio Revised Code §5517.011 allows for a value-based selection process where technical proposals can be weighted and the bid awarded to the contractor with the lowest adjusted price. These projects may be limited to a specific type of construction, such as tollway or bridge projects, or by the dollar amount of design-build contracts that may be awarded annually. Oregon Revised Statute §383.005 allows for tollway contracts to be awarded considering cost, design, quality, structural integrity, and experience. Wisconsin Statute §84.11(5n) allows for certain bridge projects to be bid under design-build after a prequalification process, assessment of a variety of award criteria, and approval by both the federal Department of Transportation and the governor. In Ohio, the Revised Code §5517.011, however, limits design-build contracts to \$250 million biennially.

Other statutes are more general, simply stating that public agencies are permitted to use design-build contracting methods, e.g. Idaho Code §67-2309. In states where design-build contracts are specifically outlawed by statute (e.g. Tenn. Code §4-15-102), the agency has few options. In Texas, where design-build is not allowed, the agency has implemented a rigid, multistep prequalification process in an effort to factor in advantages one contractor may have over another, when still complying with the traditional design-bid-build laws (Strayhorn 2001). Design-build and warranties seem to go hand-in-hand, allowing less agency interaction from the beginning of the project and more confidence in the contractor’s ability to fulfill the warranty requirements. However, the proper statutes need to be in place for an agency to utilize this innovative contracting method.

Legislation of Public Bidding Procedures

The use of warranties and other innovative contracting methods may not fit cleanly within existing bidding procedures for public contracts. If the request for proposals details the project in terms of performance based specifications, bidding laws must account for the different methods and materials proposed by bidders. Traditionally, bidding laws require an agency to solicit bids through a competitive, sealed bidding process and award the contract to the “lowest responsible bidder.” Exceptions to the lowest bidder rule are sometimes built into statutes, but the more common exceptions only allow an agency to reject all bids if they are all unreasonable or when it is in the interest of the awarding authority to reject all bids, e.g., Alabama Code §39-2-6(c). However, the lowest responsible bidder language presents a way through which a state may avoid contracting with simply the lowest pecuniary bidder, which may better serve the goals of the project.

Legislation on Bonding

Bonding is one of the most uncertain issues in the use of warranties. Bonding laws commonly require a contractor to secure a bond in the entire amount of the project, for the duration of the project. However, the added cost of a warranty, as well as the length of time the bond would have to be in place, present problems for agencies, contractors, and surety companies. The agency must work within the confines of the statutes to find the best

solution for security during the warranty period. The Illinois Compiled Statute chapter 30 550/1 requires an agency to require contractors to furnish bond for every project over \$5,000. The amount of the bond is set by the agency, based on the amount of materials and labor used in the work for the completion of the project, among other conditions. The statute does not specifically state that the bond must cover 100% of the project cost. This gives the agency some latitude to set a more realistic bond amount. Past projects have required bonds during the warranty period of between 20 and 50% of the project cost (MDOT 2003). Michigan Compiled Laws 129.202 also gives the agency discretion in setting the bond amount, so long as it is not less than 25% of the contract amount. In states that do require a bond to cover the full amount of the project, different methods have been used to calculate the total cost of the warranty. Ohio calculates the cost to replace the project on a case by case basis. For hot mix projects, Colorado requires a bond that would cover the estimated cost to mill and replace 50.8 mm (2 in.) of the surface, whereas Wisconsin requires only the estimated cost for a 38 mm (1-1/2 in.) overlay (Hastak et al. 2003). Florida is the only state that has completely abandoned using bonds for the warranty period. Instead, they use a guarantee system, which is backed by an extensive prequalification process and strict distress thresholds. Under the guarantee, the contractor is required to fix problems according to specifications during the warranty period or else he will not be allowed to bid on state jobs for a specified period of time, usually six months. This system is allowed, despite Florida law that requires a bond in the full amount of the project, because specifications state that the remedial work is not an obligation under the contract performance bond (FDOT 2007). The contract refers to potential warranty work as "value added" in the original contract, which prevents it from having a separate warranty as a pay item. The exclusion of this work from the performance bond allows for release of the bond at the end of the construction, rather than at the end of the 5-year warranty period. The Surety Association of America made a recommendation that the amount of a warranty bond should be around 10% of the total contract price, and should be submitted at final acceptance of the construction project to release the contractor from the performance bond. In addition to working within the confines of statutory language, states must confer with surety company representatives to determine the bond value that best fits their situations.

Once the agency has ensured the proper statutes are in place to implement warranty contracting, special attention should be paid to the specifications and special provisions mentioned previously to reduce the likelihood for legal challenges during construction and the warranty period.

Regulatory Assessment

When an agency opts to use construction warranties on a project, special attention should be paid to several types of specifications. Discussed below are suggestions for more clear specifications and additional special provisions that will help an agency avoid excessive litigation and help the contractor better understand the requirements of the project. Many of these suggestions came about through agency and industry cooperation, such as in Ohio, where the agency formed teams that included agency and FHWA officials, as well as industry associations and various contractors, to develop joint specifications for 13 different types of warranted projects (ODOT 1999).

Specifications must determine when the warranty comes into

effect. The most common benchmarks are at substantial completion, final acceptance by the agency or when the project is open to traffic (Johnson 2004). After the warranty period begins, there must be procedures in place for inspection of the project. Generally, agency officials joined by the contractor will inspect the project every six months, or annually, to determine if performance requirements are being met. As agencies are traditionally responsible for all types of road maintenance after construction is finished, it is important to differentiate between the different types of maintenance and clearly allocate responsibility between contractor and agency in the warranty provisions. States vary in the amount of control the contractor has over routine and preventative maintenance. In New Mexico, Indiana, and Virginia, *all* maintenance is the responsibility of the contractor. In Florida and Louisiana, the warranty does not include routine maintenance and in the language in the latter's contract specifies that routine maintenance done by the agency does not void the warranty. With respect to preventative maintenance, in Michigan and Ohio, none is done or expected. In Minnesota and Illinois, it is a contractor option, which in Illinois must be approved by the agency. Nearly all agencies include a provision that allows them to conduct emergency maintenance and later determine who should bear the cost. None of the warranty projects cover litter, snow removal, or mowing maintenance.

In addition to determining terms and maintenance responsibilities, the agency should include an exhaustive list of what incidents will void the warranty. If an agency fails to include a distress, it may be responsible for some maintenance, but if an agency fails to outline a specific situation as not voiding the warranty, it may lose years of maintenance and repair by the contractor. The most common events that void a warranty are a significant increase in traffic thresholds, agency maintenance, and extreme events, such as unanticipated weather conditions.

Even if extreme care is taken to avoid legal pitfalls in the implementation of an innovative process, disputes are still likely to arise between contractor and agency. It is important that the agency clearly establish a procedure for dispute resolution to minimize costs to both parties and promptly resolve the issue. Most states have opted for a conflict resolution team (CRT), which is assembled for the specific purpose of resolving warranty issues. The teams are usually composed of an agency official, a contractor representative, and a third party that both other parties agree on. In Illinois, Michigan, and Minnesota, the CRT is responsible for providing a final decision on disputes regarding fulfillment of warranty requirements. In Colorado and Ohio the team functions as a warranty evaluation team and is responsible for the administration of the warranty (Anderson et al. 2006).

Application of Assessment Framework to Alabama

The proposed assessment framework was used to investigate the laws and regulations necessary in Alabama to successfully incorporate warranties into current contracting practices and at the same time, avoiding litigation. Currently, the state of Alabama has no legislative directive requiring the use of warranties. Therefore, the Alabama DOT, working with the surety industry, contractors and academics, will need to develop a plan if they intend to implement warranties. In doing so, the agency should look at statutes which may impede the use of warranties. Please refer to the Appendix for a list of Alabama Statutes.

Design-Build Legislation

Currently, there are no transportation statutes that allow for design-build in Alabama. When read in context with related statutes, and interpreting the language under the plain meaning rule, design-build contracting by state agencies is prohibited. In the *Anderson v. Fayette Co. Board of Education*, the state court has chosen to allow this contract by squeezing it into an exception found in bidding law, such as the "service contract" exception. Additionally, Alabama Attorney General Opinions 84-00262, although not binding in court, have suggested exempting certain types of contracts from the competitive bid law. The agency could request legislation that specifically allows for design-build contracts. A recent example of legislation that could be copied in Alabama is South Carolina's amendment to its construction contract procedures (Code 1976 §57-5-1625). The statute reads,

"The department may award highway construction contracts using a design-build procedure. A design-build contract means an agreement that provides for the design, right-of-way acquisition, and construction of a project by a single entity. The design-build contract may also provide for the maintenance, operation, or financing of the project. The agreement may be in the form of a design-build contract, a franchise agreement, or any other form of contract approved by the department. Selection criteria shall include the cost of the project and may include contractor qualifications, time of completion, innovation, design and construction quality, design innovation or other technical or quality related criteria."

This type of specificity in defining what constitutes a design-build project and the extensive list of factors that can be considered would ensure for Alabama Department of Transportation (ALDOT) the ability to use this project delivery method.

Bidding Procedures

Several statutes must be looked at together to determine the bidding environment. Alabama Code Section 23-1-56(a) requires bidders for DOT jobs to prequalify, by furnishing information describing the "past record and experience of both the firm and the personnel of the organization, together with such other information as the [agency] may deem necessary." This statute will help narrow down the pool of potential bidders to those that are best suited for the type of project and for warranty contracting in general. Further, when certification to bid is granted to a contractor, Section 23-1-56(d) allows the certification to contain a statement limiting such bidder to the submission of bids upon a certain class or classes of work. Finally, Section 41-16-57 requires the award be made to the lowest responsible bidder, taking into consideration "the qualities of the commodities proposed to be supplied, their conformity with specifications and the purpose for which required." Fortunately for the agency, Alabama law provides several opportunities to consider factors beyond the lowest monetary value when awarding a bid. The consideration of experience in specific types of projects or with warranties, reputation of the contractor, and other factors that may be relevant to the project being awarded will help secure the appropriate contractor for the job, without challenges to the agency for not awarding the contract to the lowest monetary bidder. However, the statutes do not contain any language that allows for best-value bidding or consideration of life cycle-costing. In order to better evaluate the proposed bid amount, it is recommended that the agency propose

a catch-all provision that allows the agency to look at the special circumstances of the project when assessing the proposed price and awarding the contract. An example of this type of statutory language can be found in Montana Code §60-2-112, which states that "the commission may award a contract by means other than competitive bidding if it determines that special circumstances so require, so long as the special circumstances are submitted in writing."

Bonding Requirements

Alabama Code Section 39-1-1(a) requires that any person entering into a public contract must execute a performance bond with "a penalty equal to 100 percent of the amount of the contract price." This poses a potential problem for the agency in that a sufficient number of contractors may not be able to obtain a bond that covers the cost of a project and a warranty of several years. It is recommended that the agency request a statute that allows it to set the bond amount on a case by case basis. This proposal will likely be backed by contractors and surety companies. A united front by the highway industry will be further incentive for the legislature to reevaluate the bonding requirements for the DOT, or for public contracts in general.

Contractor Liability

One potential effect of warranty contracting is increased contractor liability. Under traditional contracting, the doctrine of sovereign immunity prevents a third party from suing the state highway agency in tort for negligence when the cause of the injury was within the scope of the agency's general functions. As a result, injured parties often choose to sue the contractor responsible for the construction of the roadway itself. In some states, a contractor is protected under the same immunity as the agency if the construction has been completed and accepted by the state and all specifications were followed and satisfied, e.g. Kansas Statute §68-419a. Additionally, some states may abrogate this immunity to expose an agency to liability under certain conditions.

The risk of a lawsuit to contractors is great, given this state immunity, and has led to difficulties in obtaining not only the required level of liability insurance, but any extra it needs to obtain. The framework of warranty contracting only increases this risk. In a warranty contract, the contractor is at risk in more areas than just construction. Under a design-build model, the contractor has full or partial control over the design process and will be exposed to risk where it may not have been under traditional delivery methods. Also, performance-based specifications may be more difficult for the contractor to follow, and may cause confusion as to whether these specifications were fully satisfied and accepted by the agency. Finally, under traditional contracting methods, the contractor's liability may be abrogated by agency maintenance that follows completion of construction. With a warranty, not only will the contractor be responsible for injuries caused by defective maintenance, but will also be required to carry liability insurance for a longer period of time on a specific project.

In Alabama, all state agencies are protected by sovereign immunity under Article I, Section 14 of the state constitution. Currently, there are no statutory provisions directed toward the Department of Transportation that limit this immunity. Therefore, the agency is protected against any defects in the design, construction and maintenance of highways that may cause injury, so as long as they are done within the normal scope of the agency's

business. The *Morgan Hill Paving Co. v. Fonville case* (1930) seems to imply that a contractor who follows completely the instructions given in the contract would be sheltered under state immunity. The *Evans v. Patterson case* (1959) implies that if a project had been accepted by the agency, the liability would have shifted from the contractor to the state. However, no statutory language confirms these notions.

In accepting a warranty contract, contractors may expect consideration for taking on this additional risk. Hold harmless clauses may have to be more limited in scope, shifting some liability back to the state, or removed altogether. Contractors may also want the increased insurance costs passed through to the state, or for the state to provide the extra insurance needed for the project. The final decision on how to best allocate the liability in warranty contracts should be discussed between contractors, insurance company representatives, and ALDOT, before ALDOT decides.

Conclusion

State highway agencies will continue to face pressure to pursue innovative methods to meet the nation's transportation needs. Among the many considerations for an agency trying new methods are the legal limitations placed on public contracts. The legal assessment framework presented in this paper may be used to evaluate the use of warranties, but also other innovations such as A+B bidding, Best Value, Public-Private Partnerships, etc. Assessing the situation using the framework will ensure that an agency can successfully incorporate new technologies into their existing programs and avoid litigation.

Applying the legal assessment framework to the state of Alabama indicates that a number of actions are required if ALDOT chooses to begin using performance-based warranties. The first step is to develop an implementation plan by partnering with the surety industry, contractors and academics. The second step is for the agency to work with the legislature to develop legislation that would permit the use of design-build project delivery and also permit more lenient bidding laws that include factors in addition to price in awarding contracts. Third, working with representatives from the surety industry, develop bonding legislation that allows for the agency to set a smaller bond amount in warranty projects. And, finally, revise project specifications to add or amend any that may impact a warranty's likelihood of success.

Acknowledgments

The writers gratefully acknowledge the support for this research provided by the University Transportation Center for Alabama (UTCA). The writers would like to thank Mr. Jim Ippolito and Mr. Ronald Baldwin of the Alabama Department of Transportation for their valuable comments on the earlier version of the paper. The opinions and findings expressed here, however, are those of the writers alone.

Appendix. Alabama Statutory Supplement

Design-Build

There are no statutes that address design-build contracts for public contracts.

Bidding Procedures

§23-1-56(a)—Prequalification of Contractors

Department of Transportation shall require all bidders to furnish a statement under oath...of detailed information with respect to their financial resources, equipment, past record, and experience of both the firm and the personnel of the organization, together with such other information as the State Department of Transportation may deem necessary.

§23-1-56(d)—Prerequisites to Award of Certificate

In the discretion of the State Department of Transportation, the certification may contain a statement limiting such bidder to the submission of bids upon a certain class or classes of work.

§39-2-6(a)—Award of Contract

The contract shall be awarded to the lowest responsible and responsive bidder, unless the awarding authority finds that all the bids are unreasonable or that it is not to the interest of the awarding authority to accept any of the bids. A responsible bidder is one who, among other qualities determined necessary for performance, is competent, experienced, and financial able to perform the contract. A responsive bidder is one who submits a bid that complies with the terms and conditions of the invitation for bids.

§41-16-57—Awarding of Contracts Generally

When purchases are required to be made through competitive bidding, awards shall be made to the lowest responsible bidder, taking into consideration the qualities of the commodities proposed to be supplied, their conformity with specifications, the purpose for which required, the terms of delivery, transportation charges, and the dates of delivery.

Bonding Requirements

§39-1-1(a)—Bonds Required of Persons Contracting for Public Work

Any person entering into a contract with an awarding authority in this state for the prosecution of any public works shall, before commencing the work, execute a performance bond, with penalty equal to 100% of the amount of the contract price.

References

- Anderson, S., Blaschke, B., Trejo, D., and Erbatur, C. (2006). "Development of warranty-based specifications for construction." *Rep. No. 0-4498-3*, Texas Transportation Institute, College Station, Tex.
- Anderson, S., and Russell, J. (2001). "Guidelines for warranty, multi-parameter, and best value contracting." *NCHRP Rep. No. 451*, National Academy Press, Washington, D.C.
- Bayraktar, M. E., Cui, Q., Hastak, M., and Minkarah, I. (2004). "State-of-practice of warranty contracting in the U.S." *J. Infrastruct. Syst.*, 10(2), 60–68.
- Blischke, W. (1995). *Warranty product handbook*, CRC, Boca Raton, Fla.
- Evans v. Patterson*, 269 Ala. 250, 112 So.2d 194 (Ala. 1959).
- Federal Highway Administration (FHWA). (2004). *Performance specifications strategic road map*, Washington, D.C.
- Florida Department of Transportation (FDOT). (2007). *Standard specifications for road and bridge construction*, Florida Department of Transportation, Specifications and Estimates Office, Tallahassee, Fla.
- Hancher, D. (1994). *NCHRP Synthesis 195: Use of warranties in road construction*, Transportation Research Board, Washington, D.C.

- Hastak, M., and Minkarah, I., Cui, Q., and Bayraktar, M. E. (2003). "The evaluation of warranty provisions on ODOT construction projects." *Rep. No. FHWA/OH-2003/019*, Ohio Department of Transportation, Columbus, Ohio.
- Illinois Department of Transportation (IDOT). (2004). *Road, bridge and other related laws of Illinois*, Illinois Department of Transportation, Gould Publication Inc., Springfield, Ill.
- Johnson, A. M. (2004). "Use of warranties in highway construction." *Rep. No. 2004-40*, Minnesota Dept. of Transportation, Wayzata, Minn.
- Michigan Department of Transportation (MDOT). (2003). *Pavement Warranty Symp.*
- Morgan Hill Paving Co. v. Fonville*, 222 Ala. 120, 130 So. 807, 814 (Ala. 1930).
- Ohio Department of Transportation (ODOT). (1999). *Implementation of warranted items on construction projects*, Columbus, Ohio.
- Stephens, J., Whelan, M., and Johnson, D. (2002). "Use of performance based warranties on roadway construction projects." *FHWA/MT-02-004/8131*, Montana Department of Transportation, Bozeman, Mont.
- Strayhorn, C. K. (2001). *Paving the way: A review of the Texas Department of Transportation*, Texas Office of the Controller, Austin, Tex.