



**An Evaluation of Prevailing Wage in Minnesota:  
Implementation, Comparability and Outcomes**

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## ABSTRACT

This study addresses the four questions posed by the Minnesota Office of the Legislative Auditor regarding the Minnesota Prevailing Wage Act.

- 1) The survey method that the Department of Labor and Industry currently uses to gather data for determining prevailing wage rates is both valid and reliable. The state makes reasonable efforts to survey all appropriate parties and to ensure that the data is trustworthy. Potential improvements could include clarification of occupational definitions, proactive review of data collected, and increasing response rates through incentives or simplifying processes.
- 2) Minnesota's modal method of determining prevailing wage rates is appropriate. A survey of state legislation shows that the majority of states with prevailing wage laws and the federal government apply some form of modal method. Given the segmented nature of the construction industry, the mode is the best measure of prevailing rate because it controls for the lack of homogeneous data. In other words, the mode provides the best measure of area standards considering the nature of the data available.
- 3) The enforcement of prevailing wage in Minnesota appears to be constrained as it is in many states by a lack of resources. A more effective approach could include more systematic auditing and creating a private right of action.
- 4) The preponderance of available studies shows that prevailing wage laws do not have a statistically significant impact on the total cost of public construction projects. In other words, prevailing wage does not appear to have any significant impact on the costs of public construction projects. Additionally, an analysis of Minnesota suggests that repealing or weakening the prevailing wage statute would cost the state between \$37.8 and \$178 million in tax revenues depending on which estimate of wage reduction one uses, and would result in weakening of apprenticeship training programs, an increase in injury rates, a weakening of the position of women and people of color in the construction industry, an increase in project cost overruns, and a reduction in construction employee wages.

## SUMMARY RESPONSE TO LEGISLATIVE AUDITOR

It is in the public interest that public buildings and other public works be constructed and maintained by the best means and highest quality of labor reasonably available and that persons working on public works be compensated according to the real value of the services they perform.<sup>1</sup>

Minnesota's prevailing wage statute provides that contractors must pay construction workers based on area standards when a project is funded by the state. In 1998, a Minnesota Department of Labor and Industry report concluded that:

The evidence...finds that not only is the prevailing wage legislation doing what it was intended to do, but absent such a provision, the effects are harmful to the industry and local economy.<sup>2</sup>

Our report concurs with this conclusion of the 1998 report, but is intended to provide support for the work of the Minnesota Office of the Legislative Auditor by addressing the specific questions posed.

Based on our review of the literature, as well as our own research, we find the following:

- I. The Department of Labor and Industry uses reasonable methods to survey contractors about wages and benefits.

Section Five of the report discusses in detail the reliability and validity of the survey instrument used by the Department. Validity addresses whether or not the survey answers the question intended. Reliability is the degree to which the measurements are consistent and do not contain error. We find that the survey process established by the applicable regulations is structured in such a way as to maximize both of these factors. The state takes reasonable steps to survey all appropriate parties and to ensure that the data is trustworthy. As with all data collection, there may be non-sampling errors, or errors created by either a lack of responses or the reporting of false information. The state currently minimizes the latter both within the collection process and by authorizing a hearing on prevailing wage determinations.

We suggest some minor changes in the process including: clarification of occupational definitions and expectations, proactive review of data collected, and increasing response rates through incentives or simplifying response procedures.

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<sup>1</sup> Minn. Stat. § 177.41.

<sup>2</sup> MN Dep't of Labor and Industry, Overview of Recent Studies on Prevailing Wage, 13 (1998).

- II. The Department of Labor and Industry uses appropriate methods to set prevailing wage rates.

The Department of Labor and Industry currently uses the mode as the method of determining the prevailing rate. In order to assess the reasonableness of this method, we considered two factors. First, we analyzed whether the mode is a method that is typically used by other states, and secondly, whether the mode is a good measure of prevailing rate.

Section Four of this report provides summaries of the data we collected on state determinations of prevailing rate. Based on this information, we found the mode to be consistent with the approaches used in a majority of other states.

Section Five offers a detailed analysis of the strengths and weaknesses of a variety of measures for determining prevailing rate, and provides a description of the different measures of central tendency. We find that given the segmented nature of the construction industry, the mode is the best measure of prevailing rate because it controls for the lack of homogeneous data. In other words, given the nature of the data available, the mode provides us with the best measure of area standards.

- III. While every state is unique, the Department's methods are comparable to the way the majority of states determine and administer prevailing rates.

Through our review of state statutes and conversations with state officials, we found that currently the majority of states conduct their own surveys and use some sort of modal rate in order to determine the prevailing rate. Sixteen states have designated the modal rate as the prevailing wage by rule or law, nine states use collectively bargained rates to determine prevailing wage, and five states use federal Davis-Bacon rates either as the primary or secondary prevailing wage determination. Two states let the contracting agency determine the prevailing rate, and one state uses the median. Thus, Minnesota's method of determining prevailing wage is well within the norm.

- IV. The enforcement of prevailing wage in Minnesota is constrained as it is in many states by a lack of resources and proactive auditing.

As in many areas related to the construction industry in general and prevailing wage in particular, there is scant literature that systematically reviews the enforcement of prevailing wage. Moreover, based on our review of the enforcement procedures used, we found that many states had no formal process. Of those that did have procedures few enforced them, and when prevailing wage is enforced it is usually at the request of unions or unionized contractors. Enforcement could be improved in Minnesota by more systematic auditing and creating a private right of action.

- V. While findings are mixed, most econometric analysis suggests that prevailing wage has no significant impact on total construction project costs.

Section Three provides a discussion of the available literature that considers the relationship between prevailing wage and total costs of construction. Some of the literature discussed is overly simplistic and fails to control for the range of variables that impact costs. Specifically, these studies fail to allow for factor substitution and assume that labor is homogeneous.

Other studies use regression analysis in an attempt to control for the factors other than prevailing wage that might impact total cost. The results of such studies are mixed. Based on our analysis of the available data, the preponderance of the data suggests that prevailing wage has little or no impact on total costs of construction. Data does suggest that when such a program is first introduced there may be a period of adjustment in order to maintain efficiency.

Section Three also offers a discussion of the variety of other impacts a change in prevailing wage might have on the state including:

- A weakening of apprenticeship programs,
- A weakening of the position of women and people of color in the construction industry,
- An increase in injury rates,
- An increase in project cost over-runs,
- A reduction in construction employee wages, and
- A reduction in state tax revenues.

- VI. An analysis of Minnesota suggests that repealing or weakening the prevailing wage statute would reduce income in the state between \$382 million and \$1.8 billion annually; thus, costing the state between \$37.8 and \$178 million in tax revenues depending on which estimate of wage reduction one uses to assess the effects of law changes.

## **SECTION ONE:**

### **INTRODUCTION AND OVERVIEW**

Prevailing wage laws have been passed at both the federal and state level<sup>3</sup> and are intended to require construction contractors working on government-funded projects to pay their workers based on area standards. These laws were passed to maintain community standards, to promote economic stability and skill development, and to maintain quality on government projects. While prevailing wage laws share these common goals, the federal law, known as the Davis-Bacon Act<sup>4</sup>, and the state statutes, sometimes called “Little Davis-Bacon” laws, vary widely in the way they are implemented. Much of this variation has to do with state-specific economic issues and limitations on data collection. Other variation relates to political realities in the states.

Much of the prevailing wage debate focuses on the costs and benefits to states of prevailing wage laws. Critics of prevailing wage focus on the increased labor costs associated with the enforcement of prevailing wage. Advocates acknowledge that labor costs may be higher where there are prevailing wage regulations, but point out that project costs are not significantly different due to the higher efficiency of the workforce. Advocates also argue that prevailing wage laws encourage training, promote higher levels of safety on the job site, reduce cost over-runs and the costs of future maintenance, and generate a number of other positive outcomes.

In June of 2006, the Minnesota Office of the Legislative Auditor announced that it would “examine in detail the methods used by the Department of Labor and Industry to

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<sup>3</sup> See Section Four, *infra*, for a list of states with prevailing wage laws.

<sup>4</sup> 29 U.S.C. §§ 3141-3148.

set prevailing wage rates and consider the advantages and disadvantages of alternative methods.”<sup>5</sup> Specifically, the issues the Auditor’s office is evaluating include:

1. Does the Department of Labor and Industry use reasonable methods to survey contractors about wages and benefits?
2. Does the Department of Labor and Industry use appropriate methods to set prevailing wage rates? How do the department’s methods compare with those used by the federal government and other states?
3. How well do state agencies and other governmental units enforce prevailing wage laws?
4. What evidence do existing studies provide about the impact of prevailing wage laws on government costs and revenues and the broader economy?<sup>6</sup>

This report is intended to provide support for the work of the Legislative Auditor.

This report includes:

- A summary of the history and intent behind the development of prevailing wage laws both at the federal and state levels.
- A review of the literature on the costs and benefits of prevailing wage laws to the state.
- An analysis of how a change in the prevailing wage rate may impact the state of Minnesota.
- A summary of the coverage of and methods used to determine prevailing wage in the 31 states that currently have “Little Davis-Bacon” Acts (along with an Appendix with each state’s regulations).
- A detailed analysis of the procedures and method of determining Minnesota’s prevailing wage.
- A brief discussion of enforcement with an eye toward the standards used in other states.
- Finally, a section that considers economic and other impacts of any potential changes in the prevailing rate.

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<sup>5</sup> Minnesota Office of the Legislative Auditor, “Prevailing Wages: Evaluation Description,” June 2006.

<sup>6</sup> Ibid.

## SECTION TWO: HISTORY OF PREVAILING WAGE LEGISLATION

### **Introduction**

The history of prevailing wage is useful to understand the intent of the law. Minnesota passed its Prevailing Wage Act,<sup>7</sup> or “Little Davis-Bacon” law, more than eighty-two years after the initial state prevailing wage law was enacted.<sup>8</sup> The state was the last to embrace the prevailing wage concept. By the late 1970’s forty-two states and the District of Columbia had adopted a prevailing wage law.

Minnesota’s prevailing wage law represents the apex of America’s development of a regulatory system addressing worker wages, health and safety, and working hours. The history of prevailing wage is woven through the record of America’s efforts to establish wage and hour standards. As the Great Depression challenged the capacity of the American economy to provide prosperity for all citizens, Republican and Democratic Party leaders embraced the idea that rather than government “using its massive economic clout to drive down contract prices and wages whenever it can”<sup>9</sup> it would “get out of the business of cutting the wages of its citizens.”<sup>10</sup> It is this still largely held rationale that initially underscored the bi-partisan Congressional intent of the 1931 construction industry-oriented Davis-Bacon Act. While the 1931 law and its numerous state versions have been periodically attacked, the history of paying prevailing wages on eligible publicly financed construction projects remains a cornerstone of American economic policy.

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<sup>7</sup> Minn. Stat. §§ 177.41-177.44.

<sup>8</sup> A.J. Thieblot, Jr., *The Davis Bacon-Act*, (Philadelphia: University of Pennsylvania Press) 1975: 17.

<sup>9</sup> Robert S. Goldfarb and John F. Morrall III, “The Davis-Bacon Act: An Appraisal of Recent Studies,” *Industrial and Labor Relations Review* 34.2 (January, 1981): 193.

<sup>10</sup> Peter Philips, “Kentucky’s Prevailing Wage Law: Its History, Purpose and Effect,” (1999) p. 22.



## **State Prevailing Wage Laws: Kansas Goes First**

In 1891 Kansas adopted the nation's first state prevailing wage measure providing "that not less than the current rate of per diem wages in the locality where the work is performed shall be paid to laborers, workmen, mechanics and other persons so employed by or on behalf of the state of Kansas."<sup>11</sup>

Once Kansas had acted an alliance of unions, Republicans, Democrats and the state's Labor Party passed a wage law in New York (1894). By the third decade of the Twentieth Century, six additional states had laws governing hours of work and wages on state and municipal public construction (Oklahoma, 1909; Idaho, 1911; Arizona, 1912; New Jersey, 1913; Massachusetts, 1914; Nebraska, 1923). Although these state laws were drafted in somewhat vague terms, they set the stage for a federal prevailing wage law.<sup>12</sup> As the battle over increased government regulation of working hours and pay for construction workers shifted back to the nation's capital, proponents and opponents equally understood the implications: adoption of a national prevailing wage law would undoubtedly lead to a trend of similar laws in the states.

## **The Federal Davis-Bacon Act (1931)**

Republican Congressman Robert L. Bacon made the first attempt to pass a federal law in 1927. He claimed that a federal building project in his home state of New York had been awarded to an Alabama contractor who, because of the low wages paid in Alabama, brought hundreds of its workers to the work site and still under-bid the higher-paying local firms. Bacon, a former banker, argued that the enormous potential

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<sup>11</sup> Hamid Azari-Rad, *The Economics of Prevailing Wage Laws*, (eds. Hamid Azari-Rad, Peter Philips and Mark J. Prus) (Ashgate: Burlington VT) 2005, pp. 12-13.

<sup>12</sup> Peter Philips, et. al, "Losing Ground: Lessons from the Repeal of Nine Little Davis Bacon Acts," Working Paper, 1995, pp. 2-3.

purchasing power of the federal government should not be used to fund projects that depress a local economy.<sup>13</sup> He viewed his measure as a modest attempt to create a standard floor for wages and benefits on publicly financed construction work: “The least the federal Government can do is comply with local standards of wages and labor prevailing in the locality where the building construction is to take place.”<sup>14</sup> Despite attaining a fair degree of bi-partisan support for the bill, hearings on the measure dragged on for four years. In 1930, Bacon obtained critical support from Republican Pennsylvania Senator James Davis who had previously served as a U.S. Secretary of Labor under three Republican administrations.<sup>15</sup>

The need for this legislation became apparent as the Depression deepened. President Herbert Hoover had already committed a half billion dollars to public works programs to stimulate local economies. In many communities, however, the Hoover plan was thwarted because local officials awarded the contracts to the lowest bidders who very often chose to “import lower paid workers rather than employing local workers.”<sup>16</sup> The White House was engulfed with citizen complaints following several such incidents, and Hoover decided to find an efficient way to utilize federal contracts to lift the country’s staggering economy. At a news conference two days before Christmas, Hoover assured the reporters that it “is the policy of the government both as to existing contracts and

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<sup>13</sup> Ibid., pp. 4-5.

<sup>14</sup> United States House of Representatives, Hearing before the Committee on Labor on HR 17069, 69<sup>th</sup> Congress, 2<sup>nd</sup> Session, p. 2, February 18, 1927.

<sup>15</sup> Peter Philips, “Kansas and Prevailing Wage Legislation,” prepared for the Kansas Senate Labor and Industries Committee, February 20, 1998, p. 9.

<sup>16</sup> MN Dep’t of Labor and Industry, *supra* note 2, at i.

those to be let that contractors shall keep up wages and pay not less than the prevailing wage in various districts.”<sup>17</sup>

In 1931, Robert Bacon’s original version of the Act, now known as the Davis-Bacon Act, was passed and signed by President Hoover. The law required contractors on federally funded construction projects to pay the wage rate prevailing in the community in which the work was performed.<sup>18</sup> In 1935, Congress gave the Secretary of Labor the power to determine the prevailing wage rate.<sup>19</sup> Nonetheless, the definition of “prevailing” and the method by which it should be calculated have been the subject of debate ever since. The method of calculating the prevailing wage for a locality is not written into the Davis-Bacon law. Consequently, administrative changes have resulted in differing federal approaches to calculating prevailing wage.<sup>20</sup>

### **The Trend of Adopting Little Davis-Bacon Acts**

Following the passage of the Davis-Bacon Act, state governments began to pass similar legislation applicable to state-funded construction projects. In less than ten years after the 1931 enactment of Davis-Bacon, seventeen states adopted their own “Little Davis-Bacon” laws.<sup>21</sup> In the 1950s, both federal and state prevailing wage determinations increasingly reflected local and national trends of including health and welfare and pension benefits in the total compensation package for construction workers. In 1964, President Lyndon Johnson signed a new law, H.R. 6041, which “provide[d] that wage determinations shall, in addition to cash wages, take account of prevailing benefits

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<sup>17</sup> Herbert Hoover, “The President’s News Conference,” December 23, 1930 (quoted in John Woolley and Gerhard Peters, The American Presidency Project [online], Santa Barbara, CA: University of California (hosted), available at (<http://www.presidency.ucsb.edu>)).

<sup>18</sup> 46 Stat. 1494, Ch. 411 (Mar. 3, 1931).

<sup>19</sup> 49 Stat. 1011, Ch. 825 (Aug. 30, 1935) (amending 40 U.S.C. § 3142).

<sup>20</sup> Philips, *supra* note 12, at 5.

<sup>21</sup> Philips, *supra* note 15, at 16.

such as medical and hospital care, pensions and workmen's compensation, unemployment insurance, vacations, holidays, and other such factors."<sup>22</sup> By the late 1960's legislatures in states such as Kentucky were breaking down the prevailing wage as the sum of the basic hourly rate plus a supplemental hourly contribution to a plan for "medical, pension, death or injury benefits."<sup>23</sup> Kentucky's language and the amendments in other state prevailing laws closely paralleled the Davis-Bacon Act.

In February 1971, the trend of enacting prevailing wage legislation at the state level got a boost from an unlikely source. In the midst of increasing inflationary pressures caused by Vietnam War spending and a shortage in skilled trade labor in urban centers like Chicago and New York, President Richard Nixon temporarily suspended the Davis-Bacon Act.<sup>24</sup> President Nixon argued that the "operation of this law at a time when construction wages and prices are skyrocketing only gives federal endorsement and encouragement to severe inflationary pressures."<sup>25</sup>

President Nixon's declaration also cast executive authority over the states' separate public building wage rate provisions. The President's order "call[ed] upon states and other governmental bodies with similar statutes to take similar action."<sup>26</sup> President Nixon's call fell on mostly unenthusiastic ears. Ohio Governor John Gilligan ridiculed the federal suspension as "misdirected, ineffective, and carelessly drafted without any full

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<sup>22</sup> Lyndon B. Johnson, "Remarks Upon Signing Bill Broadening the Prevailing Wage Section of the Davis-Bacon Act," July 2, 1964 (quoted in John Woolley and Gerhard Peters, The American Presidency Project [online], Santa Barbara, CA: University of California (hosted), available at (<http://www.presidency.ucsb.edu>)).

<sup>23</sup> Kentucky State Legislature, Regular Session, 1968, New Laws Page 509, Senate Bill No. 123.

<sup>24</sup> See Marc Linder, Wars of Attrition: Vietnam, the Business Roundtable, and the Decline of Construction Unions (Iowa City: Fanpihua Press, 1999).

<sup>25</sup> Richard Nixon, "Statement on Suspending Davis-Bacon Act Provisions for Federal Construction Projects," February 23, 1971 (John Woolley and Gerhard Peters, The American Presidency Project [online], Santa Barbara, CA: University of California (hosted), available at (<http://www.presidency.ucsb.edu>)).

<sup>26</sup> Ibid.

consideration of what is really meant.” He also added emphatically that “we are not going to suspend the provisions of that law in the state of Ohio.”<sup>27</sup> New York’s labor commissioner Louis Levine joined Gilligan in insisting that state law would not be preempted by the federal suspension. After facing hostile state executives, and informed by legal counsel that the absence of a federal prevailing law did not invalidate the state statutes, President Nixon relented and reinstated Davis-Bacon 28 days after its suspension.<sup>28</sup>

In response to the president’s suspension of federal prevailing wage provisions, a number of jurisdictions that had relied on the national act decided they needed to pass their own laws.<sup>29</sup> By 1979, 41 states, including Minnesota (1973), had adopted some form of a prevailing wage law. As the political tides turned in the 1980s, opponents increasingly raised the traditional arguments against prevailing wage laws: that they reduced worker productivity, raised the cost of public construction, violated the right of employers and workers to freely contract, and prevented minority contractors and workers from finding employment. The debates over the effects of prevailing wage were familiar, but they were now being argued in a different national political context.

In 1979, Florida became the first state to repeal its prevailing wage law. In 1981, Utah Senator Orin Hatch raised a challenge to the federal act by holding hearings on Davis-Bacon’s continuing relevance. While the federal law was not repealed, the Department of Labor did adjust Davis-Bacon regulations to reduce the applicability of collectively bargained rates in determining prevailing wage. From 1979 to 1995, eleven

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<sup>27</sup> Ibid.

<sup>28</sup> William G. Whittaker, Congressional Research Service, “The Davis-Bacon Act: Suspension,” 109th Congress, 1st Sess., at 11 (1993).

<sup>29</sup> Ibid., at 1-19.

states repealed their prevailing wage laws (Florida, Alabama, Arizona, Colorado, Idaho, Utah, New Hampshire, Kansas, Louisiana, and Oklahoma).<sup>30</sup> Eight other states have never adopted prevailing wage laws (Georgia, Iowa, Mississippi, North Carolina, North Dakota, South Carolina, South Dakota and Virginia).<sup>31</sup>

### **History of Minnesota's Prevailing Wage Law**

On March 7, 1973, Minnesota State Representative Charles Samuelson introduced House File 134 at a subcommittee session of the Labor Management Relations Committee. His opening remarks succinctly explained the bill's genealogy: "House File 134 is patterned after the federal prevailing wage – the so-called Davis-Bacon Act of the federal government."<sup>32</sup>

The need for a state prevailing wage law arose out of the contradiction apparent in enforcing the Davis-Bacon Act for federally funded construction work in Minnesota, but permitting the same contractors to work without a wage provision when only state or local funds were allocated. Representative Samuelson stated that the legislation would stop the practice of hiring out-of-state workers for a much lower rate by establishing a "prevailing wage rate for all construction - highway and building construction – in the state of Minnesota that's done by the state of Minnesota... What this bill really attempts to do is to provide a fair bidding, if you would, to projects – state projects within the state of Minnesota."<sup>33</sup>

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<sup>30</sup> Oklahoma's law was invalidated by a court decision in 1995. See *City of Oklahoma City v. The State of Oklahoma ex rel. Oklahoma Department of Labor*, 918 P.2d 26 (Okla. 1995). See also Philips, *supra* note 15, Table 1 p. 12.

<sup>31</sup> Philips, *supra* note 15, Table 1 at 12.

<sup>32</sup> MN Dep't of Labor and Industry, *supra* note 2, at iii.

<sup>33</sup> *Ibid.*

After passage of the Minnesota Prevailing Wage Act,<sup>34</sup> administrative rules were promulgated in 1977 that defined the classes of labor (i.e., laborers, heavy equipment operators, truck drivers, and special crafts) covered under the measure. Procedures for determining the rates for classes were also established. The rules were first amended in 1980 to include, in part, definitions of key terms (i.e. highway/heavy, commercial, project similar, and residential construction) and to set “time frames for determining wage rates... [as well as] the applicable wage rates for apprentices.”<sup>35</sup> Four years later the rules were adjusted again. This time the method for collecting data (use of surveys) on wage rates was defined and “collectively bargained agreements were recognized as a means of upgrading the rate pending the next survey if the prevailing rate last surveyed was a collectively bargained rate.”<sup>36</sup>

Further adjustments to the law’s administrative enforcement machinery continued in 1988 and 1994. In addition to the ongoing reassessment and refinement of the applicable regulations, an Advisory Committee was created in 1995 to assist in administering the Act. The Committee was composed of representatives of union and non-union contractors, as well as union and government representatives. Following two years of contested rule-making hearings, new procedures were approved modifying how the prevailing wage rate would be determined.<sup>37</sup>

The history of Minnesota’s prevailing wage regulations is much like that of other states; it is unique to its historical circumstances. Although similar in intent to the federal Davis-Bacon Act, state laws including Minnesota’s vary widely in means of

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<sup>34</sup> Minn. Stat. § 177.41-177.44.

<sup>35</sup> History of the Prevailing Wage Law, State of Minnesota, Department of Labor and Industry, Labor Standards Division, p. 8.

<sup>36</sup> Ibid.

<sup>37</sup> Ibid.

implementation, including data collection, determination of prevailing wage, coverage, and enforcement. This is often a result of the political realities in which the legislation was passed and the negotiated nature of administrative rule-making.

This report attempts to offer both a broad summary of the impact of prevailing wage and a specific analysis of the Minnesota law, its implementation, and its impact.



### **SECTION THREE:**

#### **THE DEBATE SURROUNDING PREVAILING WAGE: IDEOLOGICAL POSITIONING AND EMPIRICAL REALITIES**

As indicated in the history section, debates around prevailing wage laws have gone on as long as the laws have existed. Discussions tend to fall into four categories:

- The broadest asks the fundamental question of whether or not it is appropriate for the government to become involved in regulating the construction market.
- The second examines the costs and benefits to the state of that involvement.
- The third considers the impact of the laws on the labor market for construction workers.
- The fourth develops the labor market analysis and considers such questions as the impact of prevailing wage requirements on women and people of color, apprenticeship programs, and health care and pensions.

Not all these questions can be covered in the same depth in a report of this length, but we attempt to offer at least a summary of the literature available in each area and a more extensive analysis in those areas that appear to be of primary concern to the Legislative Auditor.

Generally, supporters of prevailing wage laws argue that they encourage the development of the economy along a high-skill path and that high skill levels lead to more productive and cost-effective production. As a result of this, workers can get paid higher wages while not significantly increasing the cost of public construction. Moreover, “Little Davis-Bacon Acts” increase the likelihood that public construction projects will be built by local contractors, thus keeping the money in the state. As a result, the money spent on public construction projects will have a higher multiplier and more significantly

boost local economies and thus the tax base. Proponents also argue that by taking wages out of competition, you force contractors to compete on the basis of efficiency. Those contractors will in turn hire the most skilled workers available, thereby reducing the likelihood of cost over-runs and poor quality and increasing the level of safety and professionalism on the job.

On the other hand, opponents of prevailing wage legislation argue that such statutes unnecessarily increase costs and believe that unregulated markets are both more efficient and fair. Opponents of prevailing wage also argue that the way “prevailing” rate is determined is biased and unfair. They argue that the nature and extent of surveys is inappropriate and that fraud often exists in the process. Generally, underlying their arguments are two assumptions: first, that construction labor is basically homogeneous and, second, that taxpayers would be better off without prevailing wage regulations.

### **Industrial Structure, Governmental Bidding, and Efficient Outcomes**

In this section of the report, we look first at the characteristics of construction that call for government involvement and then look more specifically at public construction. We contend that given the nature of the construction industry in general, and public contracts in particular, regulation of the market is necessary to insure the most efficient outcomes.

The role of government intervention is a philosophical question that predates prevailing wage and ultimately goes to the heart of a fundamental economic debate. Many who follow a *laissez faire* understanding of the teachings of Adam Smith believe that government should be involved in market transactions only in very rare situations. Other economists believe that because the market is imperfect, it is often not only

appropriate but necessary for regulations to be established to support the smooth and efficient operation of the market.

This debate is clear in the discussion around prevailing wage regulations. On its website, the Associated Builders and Contractors (“ABC”), a trade organization comprised largely of non-union contractors, states,

In the 21st Century, especially in the new competitive global economy, it is essential to allow the free market system to determine wages. ABC strongly supports legislation and regulatory efforts designed to limit the negative affects [sic] of the Davis-Bacon Act. ABC will continue to be vigilant, working to prevent any expansion of the Davis-Bacon Act.<sup>38</sup>

The ABC argues that any involvement of the government will serve to artificially inflate wage rates and to increase costs to the governmental agency contracting the project, thus leading to inefficient outcomes in the market.

On the other hand, if one visits the website of the Building and Construction Trades Department of the AFL-CIO, a union organization, or one of its state affiliates, a very different picture of prevailing wage is painted.<sup>39</sup> Prevailing wage not only increases living standards, but also leads to higher quality construction, more efficient outcomes and net benefits for the contracting organizations. Such views are shared by a variety of unionized contractor organizations such as the Sheet Metal and Air Conditioning Contractors National Association (SMACNA). For example, in a letter addressed to United States Senators concerning the reinstatement of prevailing wages in the Gulf Coast region after Hurricane Katrina, SMACNA states,

SMACNA and our thousands of contractor corporations greatly appreciate that S. 1749/H.R. 3763 recognizes the importance and merit in prevailing

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<sup>38</sup> Web site of the Associated Builders and Contractors, <http://www.abc.org/wmspage.cfm?parml=2140>, accessed August, 2006.

<sup>39</sup> See, e.g., Web site of the Minnesota Building and Construction Trades Council, <http://www.minnesotabuildingtrades.org/prevailing.html>, accessed September, 2006.

wages as part of any quality based public procurement policy. Without prevailing wage statutes, the no bid or low bid contractor selection system will erode the wage and fringe benefit standards common in localities across the nation. Hiring firms that do not provide training, health care and wages that prevail in an area only shifts large costs to the already overburdened state and local governments.<sup>40</sup>

In order to more clearly understand the argument offered by those that support prevailing wage regulations as a way to correct market failures, one must consider the structure of the construction industry, the labor market for construction workers, and the way in which government contracts are bid.

The construction market is exceptionally diverse, ranging from small home remodeling projects to large highway and building construction projects.<sup>41</sup> While the work of construction tends to be fairly labor intensive, large projects also require substantial capital investment. As a result, construction firms range in size, level of expertise, and level of attachment between employers and employees.<sup>42</sup> Because of the segmented nature of the construction market the range of experience and skill within occupational categories varies widely.<sup>43</sup>

Moreover, one finds a variety of internal labor markets because of the segmented nature of the construction market and thus its labor market.<sup>44</sup> There is often a weak attachment between employee and employer because construction workers often move between employers.<sup>45</sup> Thus, while much of construction work is highly skilled, single

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<sup>40</sup> Web site of Sheet Metal and Air Conditioning Contractors National Association, [http://www.smacna.org/pdf/legislative/sample\\_letter.doc](http://www.smacna.org/pdf/legislative/sample_letter.doc), accessed August 27, 2006.

<sup>41</sup> Gerald Finkel, "The American Construction Industry," in *The Economics of Prevailing Wage Laws*, eds. Hamid Azari-Rad, Peter Philips, and Mark J. Prus (Ashgate: Burlington VT) 2005, p. 37.

<sup>42</sup> *Ibid.* at 39.

<sup>43</sup> See generally Paul Osterman, "An Empirical Study of Labor Market Segmentation," 28 *Industrial and Labor Relations Rev.* 508-23 (1975).

<sup>44</sup> Finkel, *supra* note 41, at 37.

<sup>45</sup> See generally Richard B. Freeman, "The Effect of Unionism on Worker Attachment to Firms," NBER Working Paper No. W0400 (July 1980).

employers may have little incentive to invest in the training of a worker who is likely to move on to other employers after a short time. In other words, although construction firms need highly skilled workers, no single employer has an incentive to invest in the long-term training of a particular employee because employees often move from employer to employer. This is what we mean by a market failure.

As a result, multi-employer and joint (union-management) apprenticeship programs, typically certified by either the federal Bureau of Apprenticeship Training (BAT) or a State Apprenticeship Commission (SAC) have emerged. In Minnesota, the Division of Labor Standards and Apprenticeship of the Department of Labor and Industry oversees apprenticeship.<sup>46</sup> This oversight insures the quality of apprenticeship programs and is an example of government involvement in the construction labor market that has been deemed necessary by the state in order to insure a consistent supply of skilled labor and thereby correct a market failure.<sup>47</sup> Moreover, as discussed later in this section, the best performing apprenticeship programs exist where prevailing wage laws are the strongest.

Similarly, the government has acted to enhance quality in construction by adopting a lowest responsible bidder requirement. Both Minnesota and the federal government have guidelines for bidding on projects because public contracts must be awarded to the lowest responsible bidder.<sup>48</sup> The state seeks to protect the quality of construction even as it awards the contract to the low bidder by clarifying its specific expectations on public projects; prevailing wage is one such specification. Supporters

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<sup>46</sup> Minn. Stat. § 178.03.

<sup>47</sup> *Ibid.*, Subd. 3.

<sup>48</sup> Minn. Stat. § 16C.28 (mandating that contracts be awarded to the lowest responsible bidder, “taking into consideration conformity with the specifications, terms of delivery, the purpose for which the contract is intended, the status and capability of the vendor, and other considerations imposed in the call for bids”).

contend that bid specifications such as prevailing wage are necessary in order to assure that the government receives a good quality product for its investment.<sup>49</sup> Thus, paying prevailing wage is considered to be one example of what it means to be a “responsible” bidder that assures quality work on a public project.

Charles Groshens, Labor Investigator Supervisor for the Minnesota Department of Transportation, in discussing this issue said,

At home, I never choose the lowest contract bid. I’m concerned about not only price but quality. At the State, we don’t have that choice so we are careful to specify precisely what we want. The bid request specifies the kind of mud we want on the walls and if they don’t use it, we make them pay.

He went on to say that he believes prevailing rate to be the best way to specify the quality of labor on the job. “We could get cheaper labor, but we would have to be rebuilding the project in a couple of years.”<sup>50</sup>

### **Does Prevailing Wage Increase Quality and Productivity?**

Mr. Groshens’ sentiments reflect the stated policy of Minnesota’s prevailing wage statute that, “it is in the public interest that public buildings and other public works be constructed and maintained by the best means and highest quality of labor reasonably available....”<sup>51</sup> Mr. Groshens’ anecdotal discussion of prevailing wage also mirrors traditional economic analysis concerning marginal productivity and efficiency wages.

Efficiency wage theory focuses on the effect of wages on incentives and worker productivity and suggests that higher than market clearing wages enhance worker

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<sup>49</sup> See, e.g., Jolie M. Siegel, “Comment: Project Labor Agreements and Competitive Bidding Statutes,” 3 *U. Pa. J. Lab. & Emp. L.* 295, 310 (2001) (discussing New York’s procurement law and noting that its purposes include “facilitat[ing] the acquisition or construction of high quality goods at the lowest possible cost.”).

<sup>50</sup> Charles Groshens, telephone interview with Lisa Jordan, August 15, 2006.

<sup>51</sup> Minn. Stat. § 177.41.

productivity and increase profits.<sup>52</sup> Conversely, if employers pay lower wages they are likely to get those who do a lower quality of work and have lower productivity. Thus, establishing a wage rate that is “prevailing” in the market enables the government to attract workers of at least “prevailing” productivity and training to public projects. Moreover, paying a wage premium may reduce labor turnover costs, attract a higher quality work force, reduce shirking and absenteeism by raising the cost to workers of being fired, and increase worker effort from improved morale.<sup>53</sup>

Empirical evidence supports this idea. For example, in a 1984 study Allen found that unionized labor in the construction industry is between 44 and 52 percent more productive than non-union labor when other variables such as firm size, geographical differences, education, and age were controlled for.<sup>54</sup> While he found that the productivity differential may be declining over time, he also found that unionized workforces clearly have economies of scale on large projects such as office buildings leading to at least 30% greater productivity, though those advantages are not as large on schools and hospitals (only 0-20%).<sup>55</sup> In an analysis of value added per employee in construction, Walter found that construction productivity was 25% higher in states with

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<sup>52</sup> For further explanation of efficiency wages and analysis, see George Akerlof, “Gift Exchange and Efficiency-Wage Theory: Four Views,” 74 *American Economic Review* 79-83 (1984); Alan Krueger and Lawrence Summers, “Efficiency Wages and the Inter-Industry Wage Structure,” 56 *Econometrica* 259-294 (1988); Kevin Murphy and Robert Topel, “Efficiency Wages Reconsidered: Theory and Evidence,” in Y. Weiss and G. Fishelson. Eds. *Advances in the Theory and Measurement of Unemployment*, New York: St. Martin’s Press, 1990, pp. 204-240.

<sup>53</sup> See Akerlof, *supra* note 52, at 79.

<sup>54</sup> Steven G. Allen, “Unionized Construction Workers Are More Productive,” *Quarterly Journal of Economics* 99.2 (May, 1984): 251. This study, which assumed that wages for unionized workers were higher than those of their non-union counterparts, provided the clearest analysis of the influence of wages on worker productivity. See also Mark B. Stewart, “Union Wage Differentials, Product Market Influences and the Division of Rents,” *Economic Journal*, 100.403 (Dec., 1990): 1122-1137.

<sup>55</sup> Steven G. Allen, “Can Union Labor Ever Cost Less?” *Quarterly Journal of Economics* 102.2 (1987): 347-73.

prevailing wage than in states without it.<sup>56</sup> Finally, Freeman and Medoff found a productivity advantage for unionized labor when labor-management relationships are good.<sup>57</sup>

It is possible that these productivity differences may be due to substitutions of capital for labor as labor costs rise. However, it is also likely that where prevailing wage laws exist, employers recruit more highly skilled employees to work on those projects in order to assure that each worker's marginal productivity is high enough to meet the increased marginal cost.

Some recent work by Duncan, Philips, and Prus supports this hypothesis. In their study of school construction efficiency in British Columbia they used a stochastic frontier regression to assess the efficiency of the use of inputs in producing outputs. They found that for the first 17 months after the "fair wage" law went into effect, construction project outcomes were indeed less efficient. However, after 17 months, any efficiency problems were resolved. They concluded,

This finding suggests that the wage policy did not alter input utilization of covered projects.... Non-union contractors may have shifted crew mixes toward the use of more productive workers. Or fair wages may have been used as efficiency wages to encourage the productivity needed to offset higher wage rates...regardless of the specific adjustments, we do not find any statistically significant evidence that this legislation was associated with the kind of productivity changes that would decrease output or increase costs.<sup>58</sup>

Moreover, the research of Philips, et al., shows that prevailing wage improves the quality of construction. He found that after Utah repealed its prevailing wage law, the

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<sup>56</sup> Mike Walter, "The Economic Impact of Prevailing Wage Requirements in Minnesota," Industrial Relations Center of the University of Minnesota, January 1992, p. 10.

<sup>57</sup> For a more detailed discussion, see Richard B. Freeman and James L. Medoff, What Do Unions Do? New York: Basic Books Inc., 1984, pp. 162-180.

<sup>58</sup> Kevin Duncan, Peter Philips and Mark Prus, "Prevailing wage legislation and public school construction efficiency: a stochastic frontier approach," 24 *Construction Management and Economics* 631 (2006).



amount of cost over-runs on state road construction tripled in the following decade.<sup>59</sup>

Belman and Voos note that a variety of researchers have found that low-wage workers in construction are typically less skilled and thus may not generate savings on projects.<sup>60</sup>

Of course, not all analysts agree that paying higher wages promotes higher quality and productivity. For example, Ohio utilized user surveys to assess quality changes after suspending prevailing wage for school construction. Ohio reported that users saw no difference in the quality of construction. However, the Ohio study notes that user analysis of quality may not be a good measure.<sup>61</sup> The Kentucky Legislative Research Commission also found no conclusive evidence that higher wages ensure higher quality and productivity.<sup>62</sup>

While higher wages alone may or may not ensure a more productive and skilled workforce, the state provides an incentive for the contractor to hire the most skilled workers available by setting wage standards. Given the bidding process in public construction, it is clearly in the interest of the state and taxpayers to specify the quality of labor by requiring prevailing wage.

### **Prevailing Wage and Project Cost**

Most discussions of prevailing wage laws, whether in Minnesota or across the nation, begin with the question of how the law affects construction costs and thus state budgets. Not surprisingly there are arguments on both sides and outcomes vary

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<sup>59</sup> Philips et al., *supra* note 12, at 31.

<sup>60</sup> Dale Belman and Paula Voos, "Prevailing Wage Laws in Construction: The Costs of Repeal to Wisconsin," the Institute for Wisconsin's Future, October, 1995, p. 12. We know of no empirical research that specifically assesses the relationship between overall quality and prevailing wage.

<sup>61</sup> Ohio Legislative Service Commission, "The Effects of the Exemption of School Construction Projects from Ohio's Prevailing Wage Law," Staff Research Report No. 149, May 20, 2002, p. 27.

<sup>62</sup> Ginny Wilson, Mike Clark, Greg Hager, Cindy Upton, Betty Davis, Barry Boardman and Tom Hewlett, "An Analysis of Kentucky's Prevailing Wage Laws and Procedures," Research Report No. 304, Legislative Research Commission, December 2001, p. 52.

depending on how empirical studies are specified (what data and variables are used). The majority of the academic literature finds that while prevailing wage regulations do increase wages (or the lack of prevailing wage drives wages down), total project costs are not significantly increased when prevailing wage regulations are in place.

Opponents of prevailing wage, including legislators, employers, and scholars, have argued that although prevailing wage laws were designed to stabilize local economies, the laws artificially inflate incomes and place an unnecessary burden upon contractors and state budgets. Simply put, opponents claim that repealing the law or changing the way prevailing wage is calculated will result in a significant savings for the state.

The crux of this argument is that wage rates in states with prevailing wage requirements are inflated above wage rates in states without prevailing wage laws. Similarly, wages will be higher in states with stronger prevailing wage laws than in states with weaker laws.<sup>63</sup> Thus, a change from a strong law to a weak law or to no prevailing wage requirement will result in a drop in wages, thereby reducing the considerable cost of labor associated with large construction projects. This reduction in labor costs means cheaper state-funded construction projects and a cost savings when compared to projects requiring prevailing wages. Within this line of reasoning, if Minnesota changed the method of calculating prevailing wages from the current modal method to the mean or weighted average method, construction projects would supposedly cost less and state budgets would benefit.

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<sup>63</sup> A.J. Thieblot, "State Prevailing Wage Laws: An Assessment at the Start of 1995," Associated Builders and Contractors, Inc., Rosslyn, VA., 1995.

On the other hand, proponents of prevailing wage laws argue that such an analysis is simplistic and ignores a range of other factors that ultimately impact total project costs, state budgets, and the broader economy.<sup>64</sup> In their analysis, they consider factors such as the quality of construction (including the incidence of cost overruns and delays), the impact on state revenues, the impact on the availability of training, and the cost of worker's compensation claims.

A growing body of literature attempts to compare total project costs between prevailing wage and non-prevailing wage projects. Any such comparison is difficult because there is a wide range of variables to consider. Results of these studies vary widely. While some estimate that prevailing wage has no significant impact on total costs; others estimate that prevailing wage increases cost by up to 35%. The challenge is to assess which studies most accurately account for the range of variables that may impact cost and, thus, isolate the impact of prevailing wage.

Studies of the impact of prevailing wage on total costs are generally conducted in one of three ways:

- The most basic analysis estimates the impact of eliminating prevailing wage laws (or changing the way that prevailing rate is calculated) on labor costs. In these studies, lower wages are simply substituted for higher wages holding all other variables constant.
- Other studies attempt to compare public construction project costs/bids during a suspension of prevailing wage with costs when the regulations are in force.

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<sup>64</sup> A non-exhaustive list of these studies includes: Belman and Voos, *supra* note 60; Minnesota Taxpayers Association, "Prevailing Wage Rates in Minnesota," February 2005; Jeff Vincent, "Prevailing Wage Reform: Fact vs. Fiction: A Response to Arguments Against Indiana's Prevailing Wage Law," March 1987; Michael Kelsay, L. Randall Wray and Kelly Pinkham, "The Adverse Economic Impact from Repeal of the Prevailing Wage Law in Missouri," January 2004; Peter Philips, "Kentucky's Prevailing Wage Law: Its History, Purpose and Effect," October 1999; Walter, *supra* note 56; Michael Reich, "Prevailing Wage Laws and the California Economy," February, 1996; Peter Philips, "Delaware's Prevailing Wage Law: Its History, Purpose and Effect," May, 1998.

- The final approach uses regression analysis to try to control for the impact of a variety of variables while isolating the impact of prevailing wage on total construction costs.

While we will not summarize all the studies in detail here, we will provide specific examples of each type of analysis and references to other similar studies.

### **Studies That Assume Lower Wages While Holding All Other Variables Constant**

In the first approach, a lower estimate of labor costs is created assuming that prevailing wage regulations are weakened or repealed. For example, the researcher may determine what s/he believes would be the wage absent the law. These estimates are then used to calculate project costs holding all other variables constant. The results of this very basic type of analysis are generally consistent. Given that these studies assume all other factors remain constant—including quality of labor, capital/labor ratio, and quality of construction—they find that the elimination or weakening of prevailing wage will tend to reduce labor costs per worker hour and thus the total cost of construction. According to a review by Duncan and Prus, these kinds of studies typically find that Davis-Bacon increases project costs by 1.5 to 3 percent, though some studies found no increase in total costs.<sup>65</sup>

Two such studies have been conducted in Minnesota. The first was completed by Mike Walter at the University of Minnesota. At the time of his study, the Minnesota Chapter of the ABC had argued that repealing prevailing wage would save the state between 10% and 30%. Walter set out to test this hypothesis. First, he compared average non-union contractor wages with prevailing rate and found them to be 31.7% to 46.3%

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<sup>65</sup> For a list of studies using this methodology see: Duncan, Kevin and Mark J. Prus, “Prevailing Wage Laws and Construction Costs: Evidence from British Columbia’s Skills Development and Fair Wage Policy,” in The Economics of Prevailing Wage Laws, eds. Hamid Azari-Rad, Peter Philips and Mark J. Prus (Ashgate: Burlington VT) 2005: 126.

less. He assumed that on-site labor costs were 27.3% of total costs, basing this assumption on the 1987 Census of Construction. He also assumed no change in productivity as wages declined. Given those assumptions, he found a potential maximum savings of 10.2%.<sup>66</sup> Walter then conducted what he called “a more accurate assessment of the market rate of wages in construction.”<sup>67</sup> Using data derived from the Minnesota Department of Jobs and Training in the last half of 1990 and the first half of 1991, he found that average hourly wages and benefits for construction workers in Minnesota was \$19.56. He found the weighted average for 17 construction classifications was between \$16.18 and \$25.11. He concluded, “The potential savings of repealing the prevailing wage statute then translate to roughly 6.6% of labor costs...or 1.8% of total costs.”<sup>68</sup>

The second study was conducted by the Minnesota Taxpayers Association in 2005. This study sought to analyze whether any potential savings would be generated by changing the method of calculating prevailing wage from the modal method to the federal Davis-Bacon method<sup>69</sup> or the median method utilized by the Minnesota Department of Employment and Economic Development (“DEED”). The Association collected 2004 data from the Departments of Education and Transportation along with data from the 2002 legislative bonding bill. Based on this data, they found that total project costs subject to the state’s prevailing wage law totaled \$1,707,269,000.<sup>70</sup> They then calculated

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<sup>66</sup> Walter, supra note 56, at 7.

<sup>67</sup> Ibid, p. 8.

<sup>68</sup> Ibid, p. 9.

<sup>69</sup> The federal Davis-Bacon method is outlined in 29 C.F.R. § 1.2(a)(1), which provides that the prevailing wage is the rate paid to a majority of workers in a classification (the mode), or, if no rate is paid to over 50% of the workers, the weighted average of wages paid to employees in the classification.

<sup>70</sup> It is unclear from the report whether this is in 2002 or 2004 dollars. For the sake of this analysis, I will assume 2002 dollars. If this is not correct, I will have simply over-estimated the savings.

the cost of these projects using the Davis-Bacon rates<sup>71</sup> and the median DEED survey rate. They assumed that up to 45% of total construction costs were labor costs subject to prevailing wage.<sup>72</sup>

The authors seemed surprised to find that if the Davis-Bacon rates are used, total project costs would actually increase somewhere between \$3,091,000 and \$8,427,000.<sup>73</sup> In discussing the potential substitution of Davis-Bacon rates, they concluded that not only would switching likely cost the state additional money in terms of survey costs, but “that, while the state would save 1.2% to 1.5% on transportation projects by making the switch, Minnesota would assume 1.3% to 2.0% higher costs for building projects.”<sup>74</sup>

Not surprisingly, the Taxpayers Association study found that a switch to the DEED median would save the state a significant amount of money. As discussed more fully below, the DEED rate surveys are flawed because they include data on apprentices and helpers, and include data on anyone that can be called, for example, a carpenter. Thus, while the current method of prevailing wage calculation excludes apprentices and helpers, and is likely to capture only journeymen carpenters in the construction industry, the DEED rate includes both those skilled and unskilled, experienced and not, and those working in traditional construction jobs, and those who may not be.<sup>75</sup> In their analysis, they did adjust DEED rates to include fringe benefits (22%).

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<sup>71</sup> This methodology for calculating savings does not allow for input substitution and declining productivity as less skilled workers take the jobs. Based on other empirical analysis, such a methodology significantly overstates any potential savings.

<sup>72</sup> Minnesota Taxpayer’s Association, “Prevailing Wage Rates in Minnesota,” February, 2005 [www.mnabc.com/pdfs/prevwage.pdf](http://www.mnabc.com/pdfs/prevwage.pdf), accessed August 20, 2006, p.6.

<sup>73</sup> Ibid., p.11.

<sup>74</sup> Ibid.

<sup>75</sup> Such problems in the DEED rate make the methodology used in this analysis even weaker because at the lower median rate, based on previous research, skill levels on the job site are likely to fall significantly. Thus, estimated cost savings are likely significantly overstated.

Based on the assumptions they made, the Taxpayers Association found that projects could have been constructed for from 7.4% to 10% less or the state could have saved between \$126,495,000 and \$171,120,000.<sup>76</sup> However, given that they grossly overestimated labor costs as a percentage of total construction costs, their estimates should likely be cut in half. In order to achieve the 10% savings they suggest, labor costs would have to drop by 50% and the quality and quantity of labor used would have to remain constant.

Both the Walter and Taxpayers studies failed to account for the wide range of variables that impact total cost and assumed labor to be homogeneous, which is clearly not the case in an industry as segmented as construction.

### **Studies Evaluating the Impact of Changes in the Law**

In the second set of studies the authors take advantage of changes in the law to estimate the impact of prevailing wage on total construction costs.

In 1975, Thieblot used a one-month suspension of the federal prevailing wage law to study the potential cost savings of elimination of Davis-Bacon. Thieblot compared bids on projects that were bid both before and during the suspension and found that Davis-Bacon increased costs by less than one percent.<sup>77</sup> In 1980, two researchers from the conservative American Enterprise Institute reworked Thieblot's study attempting to adjust for inflation and "information changes." They found that, given the data provided by the suspension of prevailing rate, we might expect a repeal of Davis-Bacon to save four to seven percent in total project costs.<sup>78</sup>

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<sup>76</sup> See Minnesota Taxpayers Association, *supra* note 64, at 15.

<sup>77</sup> Thieblot, *supra* note 8.

<sup>78</sup> For a discussion of that analysis, see Ohio Legislative Service Commission, *supra* note 61, at 13.

## Studies Using Regression Analysis

In the third set of studies, researchers use regression analysis to control for the range of variables that impact total costs by allowing them to isolate the impact of any given variable. Of course, the variables used in the analysis will impact the outcomes. If the regression equation is not specified appropriately, then a single variable may serve as a proxy for others that have been excluded.

Fraundorf, et. al were the first to use regression analysis to try to determine the impact of prevailing wage on total project costs. Their study examined 215 new non-residential construction projects in rural areas built in 1977 and 1978 and attempted to control for the type of project, region and types of building materials. They found that on federally funded construction projects, total costs were 26.1% percent higher than private construction projects. They concluded that their results, “clearly show that Davis Bacon increased costs ....substantially.”<sup>79</sup>

The results of the study and their conclusions are questionable because the total cost differential found was greater than the differential between prevailing wage and non-prevailing wage. Prus and others have commented that the study failed to control for factors other than prevailing wage that might explain why public sector projects are generally more expensive than those in the private sector. Given the way the estimation was specified, it is possible that the prevailing wage variable is serving as a proxy for a range of other variables that might explain the differences between public and private construction.

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<sup>79</sup> Martha Fraundorf, John Farrell, and Robert Mason, “The Effect of the Davis-Bacon Act on Construction Costs in Rural Areas,” *The Review of Economics and Statistics* 66.1 (Feb. 1984): 143.



In his 1996 study, Prus first sought to reproduce the Fraundorf study using data collected from the F.W. Dodge Corporation. Using a methodology very similar to the earlier study, he found that, “public projects in states having prevailing wage laws are 27.6% more expensive than private structures.”<sup>80</sup> However, as Prus points out, the methodology Fraundorf and Prus used is incapable of distinguishing between increases in costs due to prevailing wage and increases due to other differences between public and private construction.

Prus also reviewed cost differentials on public and private projects in states where no prevailing wage law exists. He found that publicly financed projects were 31% more expensive than private projects. This finding raised the question: why are publicly financed projects more expensive even when no prevailing wage law exists?

Prus offered some ideas but did not test any of them empirically. He did, however, run a final regression to try to assess the impact of prevailing wage on public construction costs. In this model he included an interaction variable to control for prevailing wage. The coefficient on the variable was positive but not statistically significant. In other words, prevailing wage does not appear to have any significant impact on the costs of public construction projects. One must look for other explanations as to why public projects in all states (those with prevailing wage and those without) tend to be 25.9% higher than comparable private projects.

Prus noted that, “This result lends support to the notion that the public may be more exacting than the private sector. It also suggests that it is inappropriate to assume that the higher costs of public projects are attributable to the presence of prevailing wage

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<sup>80</sup> Mark J. Prus, “The Effect of State Prevailing Wage Laws on Total Construction Costs,” 1996, p. 8, available at [www.smacna.org/legislative/effects\\_davisbacon.pdf](http://www.smacna.org/legislative/effects_davisbacon.pdf).

laws.”<sup>81</sup> He concluded that, “reforming or repealing these laws will not lead to the kinds of substantial savings promised by proponents of repeal.”<sup>82</sup>

In reviewing the Prus study, Kentucky researchers pointed to several variables that they believe Prus should have included in his study, including type of project.<sup>83</sup> However, proxies for these variables are included in the Prus study. The inclusion of more of these variables would likely strengthen rather than weaken Prus’ fundamental finding that it is something other than prevailing rate that creates the substantial cost difference between publicly and privately financed projects.

Only one study that uses regression analysis explicitly considered prevailing wage in Minnesota. Researchers at the University of Missouri – Kansas City examined twelve states from the North Central States Region, including Minnesota. Using Dodge Report Data, they offered both descriptive and econometric analysis of cost differentials. Like Prus, they found that there is a significant cost difference between public and private construction whether or not the state has a prevailing wage law. In other words, their research affirmed the finding that public projects are more expensive than private ones. However, they also found that if prevailing wage is isolated as an independent variable, it is not found to be significant in increasing the cost of projects where it exists. Or as they state, “We conclude that a properly specified model shows that a prevailing wage law does not have a significant impact on construction costs.”<sup>84</sup>

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<sup>81</sup> Ibid., p. 8.

<sup>82</sup> Ibid., p. 12.

<sup>83</sup> Wilson, et al., supra note 62, at 121.

<sup>84</sup> Kelsay, et al., supra note 64, at 27.

## Studies of Costs on School Construction Projects

Many of the available studies focus on school construction. Such analysis is interesting because those studies narrow the number of differences in construction projects by focusing on one sector. Research methodologies and outcomes vary, but school construction studies generally follow the same broad categories outlined above.

Several of the studies fail to use reliable methodologies, as do some of the studies described above. The Ohio Legislative Service Commission tried to estimate the savings created by the suspension of prevailing wage on state school construction projects.<sup>85</sup> They sent a survey to contractors asking them a series of questions, including what their bid price would have been had prevailing wage been in effect.<sup>86</sup> While they noted that this type of data must be used with caution because there is an incentive for non-union employers to overestimate any savings, the Commission found that statewide savings ranged from 5 to 9 percent.<sup>87</sup>

A couple of the available studies simply compared prevailing rates and “market” rates (however they calculated that) and then determined a savings rate on total construction costs. For example, Keller and Hartman used Pennsylvania school construction data in order to estimate the impact of prevailing wage on total construction costs and, thus, taxes. Using a prevailing rate/private sector wage differential of on average 16%, they found that prevailing wage increases construction costs 2.25%.<sup>88</sup>

In a similar study conducted by the Quality Surveyors Society of British Columbia, the authors concluded that prevailing wages, or what they call in Canada “fair

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<sup>85</sup> Ohio Legislative Service Commission, *supra* note 61, at 17.

<sup>86</sup> *Ibid.*, p. 18.

<sup>87</sup> *Ibid.*, pp. 18-19.

<sup>88</sup> Edward C. Keller and William T. Hartman, “Prevailing Wage Rates: The Effects on School Construction Costs, Levels of Taxation, and State Reimbursements,” 27 *Journal of Education Finance* 713-728 (2001).

wage policies,” increase costs. That study was based on 109 provincial construction projects used rates from the published fair wage schedule and compared them to non-union rates. Like the Pennsylvania study, their methodology assumed both a homogeneous labor pool and that labor usage would not change as wages increased. Based on this analysis, they found no evidence of an increase in costs to taxpayers.<sup>89</sup>

A number of other studies have compared school construction costs across states or districts to assess the impact of prevailing wage on total costs. The first of these compared construction costs per square foot across nine southwestern and intermountain states, some of which have prevailing wage laws and some of which do not. Using data on initial bid prices from the F.W. Dodge Corporation, Philips found that for elementary schools there is a 5% cost savings in states that have prevailing wage laws.<sup>90</sup>

In a 2001 study that also used Dodge data, but that utilized ordinary least squares multiple regression analysis, Philips found no statistically significant increase in construction costs due to prevailing wage in comparing Kentucky, Ohio, and Michigan. This study is interesting because in the period under consideration the schools in each state were covered for part of the time by a prevailing wage law and not covered for part of the time.<sup>91</sup>

A third study compared school costs across the mid-Atlantic region using Dodge data. This study used a linear regression model to control variables such as regional differences, specific nature of construction, and other variables that might affect total

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<sup>89</sup> Duncan and Prus, *supra* note 65, at 141-42.

<sup>90</sup> Peter Philips, “Square Foot Construction Costs for Newly Constructed State and Local Schools, Offices and Warehouses in Nine Southwestern and Intermountain States 1992-1994,” Prepared for the Legislative Education Study Committee of the New Mexico State Legislature, September 6, 1996.

<sup>91</sup> Peter Philips, “A Comparison of Public School Construction Costs in Three Midwestern States that have Changed Their Prevailing Wage Laws in the 1990’s,” February, 2001.

costs. Prus found no statistically significant increase in construction costs associated with prevailing wage.<sup>92</sup>

In the most substantive study of this type, Azari-Rad, et al., estimated the impact of state prevailing wage laws on school construction costs. They used state dummy variables to control for state differentials in cost, and year and unemployment rate variables to control for economic adjustments. As in the earlier work of Prus (1996), the authors found a significant cost difference between private and public construction. Like Prus, they found that the public/private differential exists whether or not the state has a prevailing wage law. Thus, ultimately they found no statistically significant difference in the cost of public schools in prevailing versus non-prevailing wage states.<sup>93</sup>

In another analysis of the impact of prevailing wage on school construction costs, Azari-Rad, et al., found a 1.8% increase in costs in schools covered by prevailing wage. However, that result is not statistically significant, and they concluded that the elimination of prevailing wage regulation in jurisdiction(s) in which they exist will not yield measurable savings on school construction costs.<sup>94</sup>

A number of studies used a data base that allows for consideration of the impact of the implementation of British Columbia's Fair Wage Policy. This data is valuable because it covers schools in a limited geographic area, thereby reducing the number of variations among projects. This data was first used by Bilginsoy and Philips to estimate the impact of "fair wage" policies on total cost. Final unit costs did rise 16% after

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<sup>92</sup> Mark Prus, "Prevailing Wage Laws and School Construction Costs: An Analysis of Public School Construction in Maryland and the Mid Atlantic States," Prepared for the Prince George's County Council, Maryland, January 1999.

<sup>93</sup> Hamid Azari-Rad, Peter Philips, and Mark J. Prus, "State Prevailing Wage Laws and School Construction Costs," *Industrial Relations* 42.3 (2003): 445-457.

<sup>94</sup> Hamid Azari-Rad, Peter Philips, and Mark Prus, "Making Hay When it Rains: The Effect Prevailing Wage Regulations, Scale Economics, Seasonal, Cyclical, and Local Business Patterns Have on School Construction Costs," *Journal of Education Finance* 27.4 (Spring 2002): 1011.

implementation of the policy. However, when factors such as business cycle, number of competitors, type of school, and time trend were controlled for, “fair wage” policies were found to have no statistically significant impact on total costs.<sup>95</sup>

Duncan, et al., have performed several studies using this same data base. Each examined the question of “fair wage” from a slightly different perspective. In each case, they found no significant impact of prevailing wage on total costs. Duncan and Prus considered the public/private cost differential before and after the implementation of the fair wage policy. By focusing on the differential, many of the exogenous variables that might impact project cost were controlled for. They used econometric modeling and controlled for a variety of variables, including project size, type of construction, whether or not there was a garage and type of heating. They found that the cost differential remained 40 to 43 percent. In other words, the fair wage policy does not significantly impact the cost differential between public and private school projects.<sup>96</sup> This study is particularly interesting because it allows us to consider a change in a single area which controls for regional variation.

In another study, Duncan, Philips and Prus used data from Canada and a stochastic frontier regression in order to estimate any impact on construction efficiency. Stochastic frontier regression was designed as a way to measure the efficiency of producers relative to their production function. In other words, it measures whether the producer is efficiently using inputs in order to create the output.

Interestingly, in one study they found that public schools are smaller per unit of cost than private schools, but that differential did not change after the introduction of the

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<sup>95</sup> Cihan Bilginsoy and Peter Philips, “Prevailing Wage Regulation and School Construction Costs: Evidence From British Columbia,” *Journal of Education Finance* 25.3 (Winter 2000): 415-431.

<sup>96</sup> Duncan and Prus, *supra* note 65, at 134-35.

fair wage policy.<sup>97</sup> In a second study, they found a statistically significant short term negative impact on efficiency after the fair wage policy took effect. However, that impact disappeared when the policy was expanded. In fact, after 17 months technical efficiency on covered school projects was greater than non-covered projects.<sup>98</sup> This seems to support the idea that contractors adjust to changes in wage rates either by substituting capital for labor or by hiring more productive labor.

We could find no study that utilized regression analysis that found that either prevailing wage or fair wage policy increased total costs on school construction projects.

However, a study by Dunn, Quigley, and Rosenthal that considered the impact of prevailing wage on the cost of low-income housing in California found that prevailing wage had a significant impact on total construction costs.<sup>99</sup> They found that the expansion of prevailing wage to cover low-income housing led to a 9 to 37% increase in housing construction costs. These results are curious. Given that they assume that labor share of total construction is in the range of 44%, the prevailing wage/market wage differential would have to be more than 60% to explain the high end of their estimate. The 9 to 11% cost reduction seems more probable. A range of questions regarding this study remain. The law the study analyzes took effect at the end of 2001, but the data used considers projects built between 1997 and 2002. Thus, before the imposition of the law, it is unclear which projects, if any, were covered. It is possible that this study factored in other costs also imposed on this type of project either by federal or state guidelines. It is also

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<sup>97</sup> Duncan, et al., supra note 58, at 631.

<sup>98</sup> Kevin Duncan, Peter Philips and Mark Prus, "Are There Technical Inefficiency Effects of Prevailing Wage Laws? Results from a Stochastic Frontier Estimate of Construction Output," Working paper available from Kevin Duncan, Hasen School of Business, Colorado State University-Pueblo, Co. 81001.

<sup>99</sup> Sarah Dunn, John M. Quigley and Larry A Rosenthal. "The Effects of Prevailing Wage Requirements on the Cost of Low-Income Housing," *Industrial and Labor Relations* 59.1 (October, 2005): 141-157.

possible that, if we replicated this study now, we would find the same pattern that Duncan, Philips and Prus find in British Columbia of first decreased and then increased efficiencies.

Furthermore, it could be the case that low income housing construction is materially different from school construction such that efficiencies cannot be realized. In a separate study of low income housing in California (but replicating the analysis of the first), Newman, Blosser and Haycock came to very similar results estimating that prevailing wage would likely increase the cost of low income housing construction by 11%.<sup>100</sup> Their study raises some of the same questions as the first.

**Summary: No Statistically Significant Impact on Total Project Costs**

As mentioned earlier, any examination of total construction costs is difficult do because of the complexity of the analysis, the variety of variables that must be considered, and the lack of good data. However, the preponderance of the evidence seems to suggest that prevailing wage has no significant impact on total project cost. Of course, this is not a unanimous finding.

These studies do leave open the important question of why public projects are more expensive, whether covered by prevailing wage or not. Clearly, more research is needed in this area, but the majority of evidence suggests that prevailing wage does not significantly increase total public construction costs.

If it is true that prevailing wage has no significant impact on total cost, then weakening or repealing prevailing wage laws clearly will not reduce total costs on state projects and may actually increase them. In analyzing the cost impact of prevailing

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<sup>100</sup> Matthew Newman, Shawn Blosser and Hilary Haycock, "Impact of Prevailing Wage Rate Requirements on the Costs of Affordable Housing In California," Prepared for the California Institute for County Government, June 9, 2004, p. 76.



wage, we must also consider other factors in determining whether there are long term savings to be had from changes in prevailing wage laws.

### **Other Impacts of Prevailing Wage**

While the first question considered in discussing prevailing wage is often, “What is the impact on project costs?”, it should not be the last question asked. In order to do a full analysis of the impact of changing or repealing prevailing wage, we must also consider any impact a change in prevailing wage might have on:

- Construction Worker Wages
- Health Insurance Coverage and Pensions
- Training and Apprenticeship Programs
- Workplace Injuries
- Cost overruns
- Employment of Women and People of Color in the Construction Trades
- State Tax Revenues

While it is beyond the scope of this research to do a complete analysis of each of these areas, we will present the basic findings as they currently exist in the recent available research.

### **Construction Worker Compensation**

A number of studies have estimated the impact of prevailing wage on construction wages and benefits. Most agree that prevailing wage regulations lead to higher levels of total compensation. Much of the analysis that has been done has examined the impact of changing or repealing prevailing wage on the level of wages and benefits in a community.

For example, Philips, et al., conducted a study of nine states that repealed their “Little Davis-Bacon” laws. Using multivariate regression analysis techniques and data

from the 1990 U.S. Census of the Population, the study examined the effect of prevailing wage legislation on construction worker income while controlling for differences between individual workers, employment settings, and regions. Prior to repeal, the states showed an average construction worker income of \$24,317. By 1991, when all nine of the states had repealed their laws, that figure had dropped to \$22,482, a difference of \$1,835 or 7.5% (all figures were calculated in 1991 dollars).<sup>101</sup> The study also considered the impact of a shift from a strong to an average or weak law method of determining prevailing rate (as defined by Theiblot<sup>102</sup>) and found a likely 8% drop in construction worker wages.<sup>103</sup> Philips, et al., found that this impact spills over to construction workers on private projects as well.

Kessler and Katz also estimated the impact of state prevailing wage law repeal. Using Current Population Survey data from 1970-1993, they compared the wages of construction workers with the wages of other blue collar workers in both prevailing and non-prevailing wage states. They found that the repeal of prevailing wage has a significantly negative impact on wage rates of 2 to 4% in construction and that unionized workers are likely to suffer a significantly larger decline in wages.<sup>104</sup>

Petersen estimated the impact of prevailing wage on construction worker total compensation. Using state-level data from 1982-1992, he found that prevailing wage laws have a significant positive impact on total compensation; in other words, both wages

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<sup>101</sup> See Michael Reich, "Prevailing Wage Laws in the California Economy," Institute of Industrial Relations, University of California. February, 1996 (citing Peter Philips, "Results of a Multivariate Regression Analysis of Construction Worker Incomes with a Focus on the Implementation of Prevailing Wage Policies," Working Paper, Economics Department, University of Utah, 1996).

<sup>102</sup> Thieblot, *supra* note 63.

<sup>103</sup> See generally, Philips et al., *supra* note 12.

<sup>104</sup> Daniel P. Kessler and Lawrence Katz, "Prevailing Wage Laws and Construction Labor Markets," *Industrial & Labor Relations Review* 54.2 (Jan. 2001): 259-274.

and benefits are increased by prevailing wage. He also found that when prevailing wage laws were repealed there was a significant negative impact on total compensation.<sup>105</sup>

Petersen and Godtland expanded on this earlier work using data from the 1980s and 1990s collected from four national databases: Form 5500, the Census of Construction Industries, the Current Employment Statistics, and the Current Population Survey. In this study, they assessed the impact of prevailing wage both on overall construction wages and the share of benefits in compensation packages. Using both a basic cross-tabulation and a regression analysis that controlled for unionization rate, construction spending, and percentage of construction spending that was public, they found that prevailing wage has a significant positive impact on both the level of construction wages and the share of the compensation package that is benefits. In fact, they found that after repeal, the level of wages and benefits goes back to a point that exists if there was never a prevailing wage law at all. This represents an approximately 20% drop in total compensation, including a 61% drop in the share of compensation that represents benefits.<sup>106</sup>

Perhaps one of the most interesting of the findings from the Petersen and Godtland study is that the compensation of construction workers in states that have repealed their laws does not decline immediately when compared to states that have prevailing wage laws. Rather, the most significant impacts are shown five years after prevailing wage laws are repealed. Total benefits start to decline three years after

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<sup>105</sup> Jeffrey S. Petersen, "Health Care and Pension Benefits for Construction Workers: The Role of Prevailing Wage Laws," *Industrial Relations*, vol. 39 no. 2 (April 2000): 246-264.

<sup>106</sup> Jeffrey S. Petersen and Erin M. Godtland, "Benefits vs. Wages; How Prevailing Wage Laws Affect the Mix and Magnitude of Compensation to Construction Workers," in the *Economics of Prevailing Wage* edited by Hamid Azai-Rad, Peter Philips and Mark Prus (Burlington, VT: Ashgate, 2005), p.194.

repeal.<sup>107</sup> Thus, it appears that any study of the impact of repealing prevailing wage on aggregate construction worker wages must allow for this lag effect.

This lag effect may explain some of the findings in the Ohio study. Researchers found no general impact on construction worker wages when Ohio excluded school projects from coverage under its prevailing wage law, even though wages on school projects were lower.<sup>108</sup> Other research suggests that this may have been due to either the limited nature of the change in Ohio, the strong economic growth at the time, or an insufficient time lag between the rule change and the study.

In sum, studies consistently show that prevailing wage statutes increase construction worker income, including on private projects. While some argue that this may raise construction costs in the state, it also provides an incentive for workers to develop construction skills and thus may actually reduce costs in the long run.

### **Health Insurance and Other Benefits**

In their study of the impact of prevailing wage repeal on wages and benefits, Petersen and Godtland found that prevailing wage laws increase total compensation by 12% and total benefits, as a percentage of compensation, by 61%. Generally, prevailing wage laws tend to increase the portion of total compensation dedicated to benefits and to increase significantly the amount of money designated for pensions.<sup>109</sup> Moreover, they found that while the provision of health care benefits dropped 18% in states that never had prevailing wage laws, in states that repealed their prevailing wage laws the provision of health care benefits dropped by a stunning 79%.<sup>110</sup>

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<sup>107</sup> Ibid., p. 201.

<sup>108</sup> Ohio Legislative Service Commission, *supra* note 61.

<sup>109</sup> Petersen and Godtland, *supra* note 106, at 201.

<sup>110</sup> Ibid., at 195.

This is most immediately a problem for those employees who have lost their benefits. However, the socialization of costs is likely to also become a problem for the community. As Waddoups points out, construction is an industry with a typically low incidence of employer-based health care due to the nature of the employment relationship in construction and the often weak attachment between employee and employer. In the unionized sector, this problem is resolved through the collective bargaining process and jointly managed health and welfare programs. However, prevailing wage also helps resolve this problem by taking wages and benefits out of competition and providing incentives for non-union employers to invest in health insurance.<sup>111</sup>

Construction workers will continue to need health care even if their employers do not provide insurance coverage. When the uninsured visit a hospital, that cost must in some way be covered. Hospitals may increase the prices they charge the insured or if the hospital is public, it may require increased tax support.<sup>112</sup> Thus, costs that were internalized when prevailing wage was in place become socialized after the repeal of the law.

### **Training and Apprenticeship Programs**

At their best, apprenticeship programs are intended to produce highly skilled workers by combining on-the-job training with related classroom instruction. In the construction industry, the apprenticeship process and its credibility are particularly important because while a high level of skill is needed, there is a relatively weak attachment between employer and employee. A single employer has limited incentive to

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<sup>111</sup> C. Jeffrey Waddoups, "Health Care Subsidies in Construction: Does the Public Sector Subsidize Low Wage Contractors?" in The Economics of Prevailing Wage Laws, eds. Hamid Azari-Rad, Peter Philips and Mark J. Prus (Ashgate: Burlington VT) 2005, p. 198.

<sup>112</sup> *Ibid.*, p. 211.

train short term employees who will only move on to other employers, resulting in a market imperfection. Generally, the skills an apprentice gains are “general skills” or skills that can be moved easily from one project to another. Effective apprenticeship programs lead to a similarly skilled labor force. This reduces information and search costs in an industry characterized by a constant flow of workers among projects and employers.

There are currently about 37,000 registered apprenticeship programs in the United States.<sup>113</sup> These programs are operated by both private and public sponsors, including employers, employer associations and joint labor/management organizations. The majority of apprentices are in joint programs (or those co-sponsored by unions and management), and an overwhelming majority of those who reach journey-level are in these programs. There are more non-joint programs (or employer only programs), but these programs tend to be relatively small and have low completion rates.

In his work on the relationship between prevailing wage and apprenticeship training, Bilginsoy found:

Apprenticeship rates in strong prevailing wage law states are 13 percent higher than in average law states; 61 percent higher than in weak law states; and 82 percent higher than in no-law states. Second, apprenticeship cancellation rates are inversely related to the strength of the prevailing wage law.<sup>114</sup>

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<sup>113</sup> Frank Bennici, “The Status of Registered Apprenticeship: An Analysis Using Data from the Registered Apprenticeship Information System,” Prepared for the U.S. Department of Labor’s Office of Apprenticeship Training, Employer and Labor Services, April, 2004, p. 4.

<sup>114</sup> Cihan Bilginsoy, “Apprenticeship Training and Prevailing Wage Laws,” Working Paper, February 1996.

Moreover, his research finds that completion rates were substantially higher in states with prevailing wage laws (52% vs. 28%)<sup>115</sup> and that it took less time for apprentices to complete the program in states with a strong prevailing wage law.

The reasons for the relationship between prevailing wage and apprenticeship training are less clear. Perhaps Thieblot is correct that prevailing wage benefits unionized workforces,<sup>116</sup> and joint-programs are the most effective and efficient in training apprentices. It may also be the case that more employees are drawn to the industry because prevailing wage increases wage rates. The relationship may also be driven by some combination of these two factors.

Indeed, joint programs are more effective and efficient -- joint union-management programs consistently have much higher rates of enrollment and completion. In his review of national data, Bilginsoy found that while nationally the average non-joint program had a completion rate of only 25 percent, joint programs had completion rates of 41 percent.<sup>117</sup>

A study by the General Accounting Office (“GAO”) came to a very similar conclusion. They found that while only 30 percent of apprentices in non-joint programs complete their apprenticeship, fully 47 percent of those in joint programs do. State-based studies tell a similar story. Those in joint programs are much more likely to finish their programs.<sup>118</sup>

While their data for Minnesota was incomplete, the GAO found that 77% of

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<sup>115</sup> Cihan Bilginsoy, “Wage Regulation and Training: The Impact of State Prevailing Wage Laws on Apprenticeship,” Working Paper No. 2003-08 (May 2003) University of Utah, p. 13.

<sup>116</sup> A. J. Thieblot, “Prevailing Wage Laws and Market Recovery Strategies of Construction Unions,” *Journal of Labor Research* 18.1 (Winter 1997): 31-46.

<sup>117</sup> Cihan Bilginsoy, “Apprenticeship Training In the US Construction Industry,” Working Paper, September 1998, p. 13.

<sup>118</sup> Government Accounting Office, “Registered Apprenticeship Programs,” Report No. GAO-05-886, August, 2005, p. 17.

electrician apprentices in joint programs completed their programs (significantly better than the national average). In contrast, only 25% of those in non-joint programs completed. For carpenters, a fairly typical 20% of those in joint programs completed training while none of those in non-joint programs finished their apprenticeships. For plumbers, 59% completed their apprenticeships compared to 20% in non-joint programs.<sup>119</sup> Those three programs represent over half of those in apprenticeship programs.<sup>120</sup> The empirical data is clear on this point: there is a strong correlation nationally between joint employer-union sponsored programs, higher wages, and higher apprenticeship completion rates. Thus, if Thieblot is correct about the relationship between prevailing wage laws and unionized workforces, then weakening prevailing wage<sup>121</sup> is also likely to weaken Minnesota's apprenticeship system.

Further, as any economics text would remind us, a drop in the wages of construction workers is likely to lead to a shortage of apprentices, depending on the price elasticity of supply of workers or the responsiveness of worker supply to a change in wages. Just as we considered the increase in demand for construction workers as a result of a decrease in wages, supply theory teaches us that labor supply will fall as wages decline. This is a problem given that the industry is already suffering from high attrition rates and difficulty attracting new employees.<sup>122</sup> Unless the supply of apprentices is perfectly inelastic (or the wage does not impact whether or not one wants to be an

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<sup>119</sup> Ibid., p. 30.

<sup>120</sup> These numbers are lower than those actually reported by the joint programs. In Minnesota, the completion rate for plumbers in joint programs is report to be nearly 95 percent and for electricians, completion rates are report to be nearly 95%. Of course, it is typical to have higher completion rates in the licensed trades. But in the non-licensed crafts, our completion rates seem to exceed national averages. For example the joint carpenters apprenticeship program reports a better than 50% completion rate.

<sup>121</sup> An outcome he advocates.

<sup>122</sup> Bilginsoy, supra note 117, at 22.



apprentice), the reduction in wage rates will decrease the number of those who want to be apprentices.<sup>123</sup>

There are no good studies in the United States that tell us what apprentices do if they quit their apprenticeships, and little data is available on point. Doubtless, apprentices consider expected financial returns in making such a decision. An apprentice may leave to take another job. It may be that s/he is dissatisfied with the training s/he is receiving, or it may be that those in joint programs have a stronger incentive to complete training because it is a prerequisite to the economic benefits of union membership. In either case, if apprenticeship programs are weakened, we will likely reduce the quality of our construction workforce over time. If the state's goal is to increase the number of highly skilled workers, the evidence suggests that prevailing wage creates a set of market incentives that do just that. Higher wages lead to a larger and more skilled pool of apprentices, and joint programs lead to higher completion rates.

### **Employment of Women and People of Color**

A frequent allegation by opponents of prevailing wage is that it discriminates against women and people of color.<sup>124</sup> On the other hand, proponents see no discriminatory intent or impact of Davis-Bacon and none for the "Little Davis-Bacon"

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<sup>123</sup> For a more detailed discussion of the relationship between prevailing wage, unions and apprenticeship programs, see Bilginsoy, *supra* note 115; Peter Philips, "Delaware's Prevailing Wage Law: Its History, Purpose and Effect," May, 1998.

<sup>124</sup> For more on this issue see: A.J. Thieblot, "Prevailing Wage Laws and Black Employment in the Construction Industry," *Journal of Labor Research* 20.1 (Winter 1999): 155-159; A.J. Thieblot, "Race and Prevailing Wage Laws in the Construction Industry: Reply to Azari-Rad and Philips," *Journal of Labor Research* 24.1 (Winter 2003): 169-177; United States Senate Republican Policy Committee, "A Bad Law in Need of Repeal: The History and Economics of Davis-Bacon," (September 18, 2002).

Acts. In fact, proponents argue prevailing wage laws actually have positive impacts for women and people of color.<sup>125</sup>

It is true that some empirical research shows that in states that have stronger prevailing wage laws there are fewer people of color in the trades. However, if one controls for the share of minorities in a particular state's labor force, there is no evidence that prevailing wage reduces the number of minority workers in construction employment.<sup>126</sup>

We know of no evidence that looks specifically at the impact of prevailing wage on female employment in the construction trades. However, Berik and Bilginsoy found that women fare better in jointly sponsored apprenticeship programs and are more likely to complete programs.<sup>127</sup> In any case, the evidence regarding women in the construction trades is dismal. Only 1.8% of those in non-joint programs are women, while joint programs do slightly better at 4.5%.<sup>128</sup>

We know of no empirical research that specifically considers the impact of wage rate changes on the apprenticeship completion rates of women in the trades, but there is significant anecdotal evidence. Often, when a woman enters the trades, she is older and more likely to have a family that she is supporting. A significant barrier to entry and completion is often reported to be wage rates. If a weakening of prevailing wage laws

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<sup>125</sup> For more on this issue see: Hamid Azari-Rad and Peter Philips, "Thoughtless Think Tanks: Sound Bite Thinking about the History and Intent of Prevailing Wage Laws," in The Economics of Prevailing Wage Laws, eds. Hamid Azari-Rad, Peter Philips and Mark J. Prus (Ashgate: Burlington VT) 2005, p. 64-100; Dale Belman, "Prevailing Wage Laws, Unions, and Minority Employment in Construction" in The Economics of Prevailing Wage Laws, eds. Hamid Azari-Rad, Peter Philips and Mark J. Prus (Ashgate: Burlington VT) 2005, p. 101-119.

<sup>126</sup> Belman, *supra* note 125, at 104, 116, 117.

<sup>127</sup> Günseli Berik and Cihan Bilginsoy, "Still a Wedge in the Door: Women Training for the Construction Trades in the U.S.," Working Paper Presented at the Eastern Economic Association Conference, March 2005: 2005-05.

<sup>128</sup> Cihan Bilginsoy, "The Hazards of Training: Attrition and Retention in Construction Industry Apprenticeship Programs," *Industrial and Labor Relations Review* 57.3 (2003): 54-67.

reduces wages as the literature indicates, weakening prevailing wage is likely to reduce the number of women entering the trades.<sup>129</sup>

### **Workplace Injuries**

In 2005, the private construction industry had more fatalities than any other industry. Of the 5,702 workers that died from workplace injuries, 1,186 were in the construction industry.<sup>130</sup> Given the incidence of both fatal and non-fatal injuries in the industry, it is not surprising that researchers examine the impact of any policy change on work-related injuries. In 1991, OSHA published its list of “100 Most Frequently Cited Construction Standards.” Along with a discussion of physical surrounding and safety equipment, OSHA points to the importance of on-going training as a key to workplace safety.<sup>131</sup>

Proponents argue that prevailing wage helps reduce injury rates for a variety of reasons. First, prevailing wage encourages formal training by supporting apprenticeship programs. Moreover, because prevailing wage increases the provision of benefits, particularly pensions, labor becomes a quasi-fixed input in production. In other words, prevailing wage encourages employee retention by increasing benefits, and better trained and more seasoned employees are less likely to be injured. It may also be that contractors that work on prevailing wage projects and states that have prevailing wage laws focus more on regulation of workplace standards.<sup>132</sup>

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<sup>129</sup> For more information about women in the trades see: Susan Eisenberg, We'll Call You: If We Need You, Ithica: Cornell University Press. 1998; Brigid O'Farrell and Suzanne Moore, “Unions, Hard Hats and Women Workers” in Women and Unions, ed. Dorothy Sue Cobble, New York: ILR Press. 1993, pp. 69-92.

<sup>130</sup> Bureau of Labor Statistics, “Census of Fatal Occupational Injuries Summary, 2005” <http://www.bls.gov/news.release/cfoi.nr0.htm> August 10, 2006.

<sup>131</sup> OSHA. “100 Most Frequently Cited Construction Standards.” <http://www.osha.gov/Publications/100most/100most.html>.

<sup>132</sup> Hamid Azari-Rad, “Prevailing Wage Laws and Injury Rates in Construction,” in The Economics of Prevailing Wage Laws, eds. Hamid Azari-Rad, Peter Philips and Mark J. Prus (Ashgate: Burlington VT)

While we found few studies that directly addressed this issue, those we did find were in consensus that state prevailing wage laws reduce the incidence of workplace injuries. In their study of Utah's repeal of prevailing wage, Philips, et al., found that when the law was repealed injury rates went up 14% overall, serious injury rates went up 15%, and the number of lost days increased 12%. They also compared states that had prevailing wage with those that did not and found that non-prevailing wage states had a statistically significant 5 to 9% higher injury rate.<sup>133</sup>

Philips looked at injury rates when Kentucky suspended the coverage of schools under its prevailing wage law. In that case, he found a statistically significant 11% increase in serious injuries and a 16% increase in lost days per serious injury.<sup>134</sup> In the most recent study to look at the relationship between prevailing wage and injury rates, Azari-Rad found that the presence of prevailing wage has a negative and statistically significant impact on injury rates. He found that the presence of prevailing wage reduces the injury rate by 8.25% while reducing the incidence of the most serious injuries by just over 10%.<sup>135</sup>

### **Cost Overruns**

Philips, et al., found that cost overruns increased as a proportion of the accepted bid after the repeal of prevailing wage laws. For example, after Utah repealed its prevailing wage law in 1981, cost overruns increased by 5.3% (to 7.3% of the original

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2005, p.181-182; Philips, et al., supra note 12; Peter Philips, "Delaware's Prevailing Wage Law: Its History, Purpose and Effect," (May, 1998); Peter Philips, "Kansas and Prevailing Wage Legislation," Prepared for the Sheet Metal and Air Conditioning Contractors' National Association, 1998, *available at* <[http://www.smacna.org/kansas\\_prevailing\\_wage.pdf](http://www.smacna.org/kansas_prevailing_wage.pdf)>. Peter Philips, "Kentucky's Prevailing Wage Law: Its History, Purpose, and Effect," Oct. 1999.

<sup>133</sup> Philips, et al., supra note 12, at 62.

<sup>134</sup> Peter Philips, "Kentucky's Prevailing Wage law: Its History, Purpose, and Effect," Oct. 1999, p. 85.

<sup>135</sup> Hamid Azari-Rad, "Prevailing Wage Laws and Injury Rates in Construction," in The Economics of Prevailing Wage Laws, eds. Hamid Azari-Rad, Peter Philips and Mark J. Prus (Ashgate: Burlington VT) 2005, p. 182-183.

bid).<sup>136</sup> According to Philips, the increase in cost overruns is likely due to two factors: the use of less skilled labor and competitive pressures that drive down bids.

Why is such an outcome likely? Research presented earlier concludes that a weakening or repealing of prevailing wage will bring with it a drop in construction worker wages across the state. In any profession, an across-the-board drop in wages will make work in that industry less attractive. In the case of falling construction worker incomes, two trends will leave the construction labor pool sapped of highly skilled workmanship. First, highly skilled workers will likely leave the locality in search of wages that compensate their skills, or they will leave the industry altogether. Second, potentially skilled workers will be discouraged from entering the construction field because they can become skilled and well paid in another industry.

As the average skill of construction workers declines, project costs will increase. Workers not as familiar with certain jobs as their higher-skilled counterparts will require a longer period of time to become accustomed to the job and particular project. Less-skilled workers will also be more prone to on-the-job accidents and pose a higher safety risk than more skilled workers. The costs associated with these trends are generally not figured into the bid for a project, so they represent cost overruns.<sup>137</sup>

### **State Tax Revenues**

Over the past ten years, a series of studies have been done that consider the impact of altering prevailing wage on state budgets.<sup>138</sup> While none of these studies is

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<sup>136</sup> See generally Philips, et al., supra note 12.

<sup>137</sup> Philips, et al., supra note 12, at 14.

<sup>138</sup> See, e.g., Michael Greenberg, et al., "Evaluating the Economic Effects of a New State-Funded School Building Program: the Prevailing Wage Issue," 28 *Evaluation and Program Planning* 33, 33-45 (2005). The authors found that their econometric and input-output models suggest that compliance with the state prevailing wage law in a \$10 billion school construction program in New Jersey will generate over \$1.3 billion in state tax revenues.

perfect, each gives us at least a first look at the impact that weakening or repealing prevailing wage might have on state budgets.

Philips, et al., conducted research on the repeal of nine “Little Davis-Bacon Acts,” and estimated that given the decline in income created by the repeal in prevailing wage, the state could expect to lose up to \$8.2 million in revenues.<sup>139</sup>

In California, when the state Department of Industrial Relations proposed to change the computation of prevailing wages from a mode to a weighted average, the state argued that the change would reduce labor costs by 20%. The state calculated that this would translate into an annual savings of \$200 million. Reich, in his analysis of the state’s estimates, pointed out simple math errors nearly wipe out all of the state’s estimated savings.

Reich also estimated the impact of the change on the state’s budget. Based on the state’s estimate of a 20% reduction in wages, Reich found that California was likely to lose \$418 million in income tax revenue. If there was a drop in wages of 8% (Philips’ estimate), the state would lose \$169 million in tax receipts. Reich pointed out that due to the price elasticity of demand for construction workers, a drop in wages would likely result in slightly more employment and thus the net loss in income tax revenue might be as low as \$150 million. Reich concluded that the state was likely to lose a similar amount in sales tax revenues. Thus, Reich estimated that the net effect of a change in the state’s prevailing wage law would be a loss to the state treasury of at least \$300 million.<sup>140</sup>

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<sup>139</sup> Philips, et al., *supra* note 12, at 17.

<sup>140</sup> Michael Reich, “Prevailing Wage Laws in the California Economy,” Institute of Industrial Relations, University of California. February, 1996.

Belman and Voos conducted a similar study in Wisconsin in which they estimated that the state would lose \$23 million in tax revenue if the state law was repealed.<sup>141</sup>

Most recently, in response to claims that repealing the state prevailing wage law would bolster state and local budgets, the University of Missouri – Kansas City Department of Economics conducted an extensive study of the impact of such a change. Using data available from the U.S. Census Bureau and Bureau of Economic Analysis, the authors of the study concluded:

- The repeal of the prevailing wage law would cost the residents of Missouri between \$294.4 million and \$356.0 million annually in lost income.
- The repeal of the prevailing wage law would cost the State of Missouri between \$5.7 million and \$6.9 million in lost sales tax collections annually.
- The repeal of the prevailing wage law would cost the State of Missouri between \$17.7 and \$21.4 million annually in lost income tax revenue.
- The total economic loss due to repeal of the prevailing wage law in Missouri in 2004 would be a loss of income and revenue between \$317.8 million and \$384.2 million annually.<sup>142</sup>

## **Conclusion**

It has been our intention here to summarize the literature related to prevailing wage in support of the work of the Legislative Auditor. This review is not exhaustive and does not capture the level of detail of each of the studies. Many of the articles and books cited herein provide a more detailed analysis of each topic. Our hope was to make clear that the issue of prevailing wage is a complicated one and to point to some of the likely impacts if the law is weakened or repealed. Moreover, the nature of the construction industry in general and bidding on state projects in particular make a regulation such as prevailing wage particularly important.

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<sup>141</sup> Belman and Voos, *supra* note 60, at 13.

<sup>142</sup> Kelsay, et al., *supra* note 64, at 3.

We believe that the preponderance of the evidence supports the idea that prevailing wage is not only good for employees working on prevailing wage projects, but also for the industry and community as a whole. Based on our review of the literature we find that the likely outcome of a weakening or repeal of prevailing wage would be to:

- Lower wages for all construction workers.
- Shift the burden of health care and other benefits from the contractor to the state.
- Weaken the state's thriving apprenticeship program and adversely affect female and minority employees in the process.
- Increase occupational injuries and thus worker's compensation claims.
- Decrease the state's tax base.

Prevailing wage encourages contractors to invest in training employees and to operate in the most efficient manner possible. Contractors thus compete on efficiencies rather than low wages.



## **SECTION FOUR:**

### **STATE COMPARISONS OF IMPLEMENTATION AND ENFORCEMENT**

In this section, we provide a comparison of the prevailing wage laws of different states. We provide data on prevailing wage coverage, method of determination, and enforcement. We gathered this data through a dual process. For each state we collected the applicable regulations and contacted at least one official in each to confirm the process. In the summary table below we list the official contacted and provide cites to regulatory material used in our analysis.<sup>143</sup>

Currently, thirty-one<sup>144</sup> states have prevailing wage laws that guarantee that workers on state-funded construction projects will be paid wages that are “prevailing” for their classification of work. The term “prevailing” is open to interpretation and there are significant variations in how states have chosen to set rates. The states may be roughly divided into four categories:

- States adopting Federal Davis-Bacon rates;
- States using collectively bargained rates;
- States calculating rates (through various methods) based on information obtained in their own investigations;
- States authorizing the public body awarding the contract to set rates.

While these categories will be used to present a large amount of material in an accessible way, the state laws do not all fit within these tidy categories. Prevailing wage regulations can be, and have been, adapted to meet different circumstances in different

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<sup>143</sup> The summary table at the end of this section contains information for each state arranged in alphabetical order.

<sup>144</sup> We do not include Vermont in our count; Vermont does require prevailing wages on projects funded by the capital construction act, but does not have a prevailing wage statute per se, and is typically not counted.

states. As a result, each law and the rules that accompany it are unique, and broad classifications threaten to obscure important differences.

For example, Connecticut and Rhode Island adopt federal Davis-Bacon rates, but these are often found to be the collectively bargained rates. Thus, it might be equally fitting to classify these as states that adopt collectively bargained rates. California, on the other hand, generally adopts collectively bargained rates, but, ultimately, the state regulations call for a mode. Furthermore, some states, like Hawaii, empower their departments of labor to set rates by considering a variety of sources of information, without stipulating which rate ought to be selected. The following summary will attempt to note these gray areas as well as the variations within each category.

### **Federal Prevailing Wage Determinations**

The United States Department of Labor sets federal Davis-Bacon wage rates using information gathered through surveys completed by surveying contractors, labor organizations, and other interested parties.<sup>145</sup> The Department of Labor may also set rates using data provided by agencies on wage rates paid on construction projects in a given locality.<sup>146</sup> If wage data shows that a majority of workers in a particular classification are paid the same rate, then that rate is considered prevailing.<sup>147</sup> If a single rate does not represent a majority, then an average is calculated, weighted by the number of workers in that category at each rate.<sup>148</sup> While the federal offices can issue wage determinations on a project-by-project basis, they also establish general wage

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<sup>145</sup> 29 CFR § 1.3(a).

<sup>146</sup> Ibid.

<sup>147</sup> 29 CFR § 1.2(a)(1).

<sup>148</sup> Ibid.

determinations that can cover all projects in a particular geographic region.<sup>149</sup> The federal wage determinations are updated periodically, but not necessarily annually.<sup>150</sup> These aspects of the federal system—i.e. that some localities are not covered by a general federal determination and the determinations are not updated with strict regularity—may explain why some states calculate their own rates using the federal formula.

### **States Adopting Federal Prevailing Wage Determinations**

Connecticut and Rhode Island use federal prevailing wage rates.<sup>151</sup> Kentucky also adopts federal rates, but only in 39 of its 120 counties.<sup>152</sup> Montana adopts federal rates for highway and heavy construction, but calculates its own rates for building construction.<sup>153</sup> The state sets the remainder of the rates through surveys.<sup>154</sup> Under published regulations, Hawaii’s Director of Labor can either adopt federal rates or conduct surveys to calculate rates.<sup>155</sup>

### **States Using Collectively Bargained Rates**

Alaska, Hawaii, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, and West Virginia all base their prevailing wage determinations on collective bargaining agreements.<sup>156</sup> As noted above, the fact that these states can be categorized together should not be taken to mean that their policies are uniform.

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<sup>149</sup> 29 CFR § 1.5(a) (authorizing the publication of general wage determinations); 29 CFR § 1.6(a)(1) (setting forth parameters for the use of project wage determinations).

<sup>150</sup> 29 CFR 1.6(c)(1) (noting that “[p]roject and general wage determinations may be modified from time to time to keep them current”). See also 48 CFR § 22.404-1.

<sup>151</sup> Conn. Gen. Stat. § 31-53(d) (providing that the Commissioner of Labor may also conduct a hearing to determine prevailing wage rates); R.I. Gen. Laws § 37-13-8.

<sup>152</sup> October 5, 2005 telephone interview with Ms. Jan Haynes of the Kentucky Department of Labor.

<sup>153</sup> Mont. Code Anno. § 18-2-401.

<sup>154</sup> Admin. R. M. 24.17.121.

<sup>155</sup> HRS § 104-2(b)(2) (providing that a prevailing wage determination may not be less than the federal prevailing wage determination for that job classification).

<sup>156</sup> ALM GL ch. 149, § 26; MCL § 408.554; N.J. Stat. § 34:11-56.26; NY CLS Labor § 220(5); ORC Ann. 4115.05; 34 Pa. Code § 9.105; W. Va. Code § 21-5A-5 (permitting the state department of labor to consider collective bargaining rates when setting prevailing wage rates); October 5, 2006 telephone interview with

For example, according to a legislative audit report, Alaska formerly had a dual system in which rates in regions with high union density were tied to collective bargaining agreements and an average rate was used in other localities.<sup>157</sup> In 1992, the state switched to using only collectively bargained rates in the interest of administrative efficiency.<sup>158</sup> As an illustration, if two collective bargaining agreements cover a particular trade in a specific county, then the contract that covers the most workers will be used. If a particular classification of workers is not covered by an agreement, then a survey can be conducted and a mode selected from the results.

Michigan also sets rates using collective bargaining agreements, but when a particular classification is not covered in a given locality, the rate for the “same or most similar employment in the nearest and most similar neighboring locality” may be used.<sup>159</sup>

Nevada bridges the gap between states which calculate rates and those which adopt collectively bargained rates. While the Nevada Administrative Code outlines a procedure for calculating rates based upon data collected by the labor commissioner, it also permits the prevailing wage to be tied to collectively bargained rates, if those are the rates revealed by the survey.<sup>160</sup> Thus, changes in the collectively bargained rate will result in changes to the prevailing rate, if those are the same.

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Sandra Sylva, Hawaii Department of Labor and Industrial Relations: Labor Market Information Section. But see Hardy County Bd. of Educ. v. West Virginia Div. of Labor, 191 W. Va. 251, 445 S.E.2d 192 (1994) (noting that the state’s department of labor does not have to base prevailing wage rates on the wage rates contained in an existing collective bargaining agreement); HRS § 104-2(b)(1)(B) (setting forth modal calculations for prevailing rate determinations).

<sup>157</sup> See Alaska Division of Legislative Audit #07-4546-97, available at <http://www.legaudit.state.ak.us/pages/digests/1997/4546.dig.htm>. The Auditor’s report makes it clear that wage determinations are made based upon existing collective bargaining agreements notwithstanding an administrative regulation specifying that the modal method should be used.

<sup>158</sup> Ibid.

<sup>159</sup> MCL § 408.554.

<sup>160</sup> Nev. Admin. Code § 338.010.

## States Making Independent Prevailing Wage Determinations

Eighteen states (Arkansas, California, Delaware, Indiana, Kentucky, Maryland, Maine, Minnesota, Missouri, Montana, Nebraska, Nevada, New Mexico, Oregon, Tennessee, Washington, Wisconsin, and Wyoming) use some method for calculating prevailing wages independent of collective bargaining agreements and federally set rates.<sup>161</sup> Of these, all but Indiana and Kentucky base their rates on data collected from surveys. In Indiana, for each project subject to its prevailing wage law, a committee of five members (one from labor, one from the executive branch, one from the awarding agency, and two taxpayers) holds a public hearing, evaluates evidence presented at that hearing, and sets the rates to be used on the project in question.<sup>162</sup> Indiana statutes do not specify what rate is to be selected by the committee, but the Indiana Court of Appeals has defined it as the arithmetic mode.<sup>163</sup>

Kentucky has a similar procedure.<sup>164</sup> Eighty-nine of Kentucky's 120 counties are divided into twenty localities (the remaining thirty-nine counties, as noted above, adopt federal Davis-Bacon rates).<sup>165</sup> In each of these twenty localities, hearings are held (typically semi-annually) to set the prevailing rates.<sup>166</sup> As in Indiana, wage data is

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<sup>161</sup> Arkansas Dep't Labor, Prevailing Wage Division: Rules and Regulations, ch. 2, § 2.100; Cal Lab Code § 1773; Delaware Code 29 §§ 6960 (a); Indiana Code § 5-16-7; KRS § 337.520; Md. STATE FINANCE AND PROCUREMENT Code Ann. § 17-208; 26 M.R.S. § 1304; Minn. R. § 5200.1060; Missouri Dep't of Labor, "Missouri Prevailing Wage Law," <http://www.dolir.mo.gov/ls/brochures/13-AI.pdf>; Mont. Code Anno. § 18-2-401; R.R.S. Neb. § 73-104; Nev. Admin. Code § 338.010; New Mexico Admin. Code § 11.1.2.11; ORS § 279C.815; Tenn. Code Ann. § 12-4-405; Rev. Code Wash. (RCW) § 39.12.010; Wis. Stat. § 103.49; Wyoming Dep't of Labor Rules and Regulations, ch. 6, § 7.

<sup>162</sup> Indiana Code § 5-16-7-1.

<sup>163</sup> See *Union Township School Corp. v. State ex rel. Joyce*, 706 N.E.2d 183, 190 (Ind. Ct. App. 1998).

<sup>164</sup> KRS § 337.505.

<sup>165</sup> KRS § 337.010(3)(c) (discussing the designation of localities and noting that Dep't of Transportation contracts may be awarded in "localities" determined by that department).

<sup>166</sup> KRS § 337.522 (describing the hearing procedure the department may follow "for the purpose of making initial determinations or current revisions of a prevailing wage schedule").

gathered at the meeting and a mode is determined.<sup>167</sup> In Kentucky, however, the mode must represent a majority of the reported wages.<sup>168</sup> If the data fails to meet that criterion, then a weighted average is selected.<sup>169</sup>

Of the states which use survey data to determine rates, the majority seek a mode, but with varying requirements. Minnesota and Missouri adopt the most commonly reported wage for a particular classification. In Minnesota, the higher of two wages will be selected in the event that there are two modal wages.<sup>170</sup> For example, if survey results for Hennepin county show that six carpenters are paid \$22.10 per hour and six are paid \$23.67 per hour, then \$23.67 is chosen. California uses modal rates, but these nearly always correspond to collectively bargained rates.<sup>171</sup>

Although many other states seek a mode, their regulations specify a minimum percentage which the mode rate must represent in order to be accepted as prevailing, just as the federal Davis-Bacon Act does. Arkansas, Delaware, Montana, Oregon, and Washington all require that the mode represent a majority of the reported wages for a given classification in a given locality.<sup>172</sup> If it does not, then these states set the prevailing rate equal to an average of the reported rates (typically weighted by either the number of workers receiving each rate or the number of hours reported at each rate).<sup>173</sup> New Mexico and Wyoming officials look first for a mode that represents a majority of the reported rates, but failing that they will accept a mode that represents 30% before

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<sup>167</sup> KRS § 337.520(3) (requiring that the department of labor consider, *inter alia*, wage rates paid on current and past state construction projects).

<sup>168</sup> KRS § 337.505(1).

<sup>169</sup> *Ibid.*

<sup>170</sup> Minn. R. § 5200.1060, Subp. 2.

<sup>171</sup> Cal. Lab. Code § 1773.9.

<sup>172</sup> Arkansas Dep't Labor, Prevailing Wage Division: Rules and Regulations, ch. 2, § 2.100; Delaware Code 29 § 6960 (a); Mont. Code Anno. § 18-2-401(13)(ii); ORS § 279C.800(3); Rev. Code Wash. (RCW) § 39.12.010(1).

<sup>173</sup> *Ibid.*

utilizing an average.<sup>174</sup> Maryland is similar except that its secondary requirement is 40% rather than 30%.<sup>175</sup> Wisconsin also seeks a majority mode, but when that criterion is not met, the prevailing wage is equal to the average of the highest 51% of the wages in the classification.<sup>176</sup>

Of the 31 states with prevailing wage laws only two do not use a modal calculation or collectively bargained rate. Tennessee sets its rates equal to the average of the reported wages,<sup>177</sup> and Maine is unique in selecting the median.<sup>178</sup>

### **States with a Decentralized Process**

Texas has a decentralized process of establishing rates, leaving it up to the public agency awarding the contract to set the prevailing rates.<sup>179</sup> As a result, prevailing wages are set in a variety of ways, depending on the locality. Illinois permits either the awarding agency or the Director of Labor to set rates, though the administrative regulations do not specify how.<sup>180</sup>

### **Survey Process**

Most states that compile survey data do not place any obligation on contractors to respond. Both Minnesota and federal surveys are voluntary. In Maine, however, the director may require a contractor to provide wage data and fine him or her \$50 for failing to do so.<sup>181</sup> Maine's prevailing wage survey response rate was 85% in 2003.<sup>182</sup> In

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<sup>174</sup> New Mexico Admin. Code § 11.1.2.11(b)(2)(B); Wyoming Dep't of Labor Rules and Regulations, ch. 6, § 7(c).

<sup>175</sup> Md. STATE FINANCE AND PROCUREMENT Code Ann. § 17-208(c); Nev. Admin. Code § 338.010(b)(1).

<sup>176</sup> Wis. Stat. § 103.49(d)(2).

<sup>177</sup> Tenn. Code Ann. § 12-4-405.

<sup>178</sup> 26 M.R.S. § 1304(9).

<sup>179</sup> Tex. Gov't Code § 2258.022.

<sup>180</sup> 820 ILCS 130 § 7.

<sup>181</sup> 26 M.R.S. § 1308.

<sup>182</sup> Maine Dep't of Labor: Labor Standards, "Report on Maine Construction Wage Rates 2003/2004," at 4.

Wisconsin, there is no direct penalty for not providing wage data, but contractors who ignore the request lose their right to protest the wages that are set.<sup>183</sup> Punitive measures are not the only way to increase response rates. Tennessee has successfully increased response rates from contractors in highway construction from 10% to 50% in two years by switching to a more convenient online survey form.<sup>184</sup>

While a high level of participation from contractors is ideal, their response rate is not necessarily indicative of the amount of data upon which rates are set. A single contractor might report work from multiple jobs, and labor unions can report wages on behalf of contractors. Minnesota sent out 16,000 surveys last year but obtained 24,000 responses.<sup>185</sup> Missouri surveyed 2,200 contractors, 600 city clerks, and all public school superintendents and received 7,889 wage reports.<sup>186</sup>

### **Types of Construction Covered**

Minnesota sets wages for two types of construction: commercial and highway/heavy.<sup>187</sup> This is a common division, though some states subdivide further and/or include additional types of construction. For example, Wisconsin sets rates for five categories of construction work.<sup>188</sup> In 2002, Maine modified its classification system by dividing building construction into two categories (residential and commercial) and by

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<sup>183</sup> DWD § 290.015.

<sup>184</sup> July, 2006 Telephone interview with Ms. Kelly Jo Dyer, Tennessee Department of Labor and Workforce Development: Labor Standards Division.

<sup>185</sup> September, 2006 telephone interview with Michelle Shafer, Labor Investigator, Minnesota Department of Labor and Industry: Prevailing wage unit.

<sup>186</sup> Missouri Dep't of Labor and Industrial Relations, "Labor News," released June 29, 2006, available at <http://www.dolir.mo.gov/Newsreleases/releases/prevwagerate06.htm>.

<sup>187</sup> Minn. Stat. § 177.44; Minn. R. § 5200.1010, Subp. 2 and 3.

<sup>188</sup> Wis. Admin. Code § DWD 290.035. Wisconsin's categories are: a) airport pavement or state highway construction; b) building or heavy construction; c) local street or miscellaneous paving construction; d) residential or agricultural construction; and e) sewer, water, or tunnel construction. Ibid.



adding “earthwork” projects, like athletic fields, to the highway classification.<sup>189</sup> Simply splitting highway and heavy construction into two separate categories, as in Delaware, is a more common difference.<sup>190</sup> Overall, the four categories (building, heavy, highway, and residential) used for Federal Davis-Bacon rates represent the basic distinctions that the states customize to meet their own needs.

These categories enable the states to match the rates to the work being done. For example, Wisconsin and Maine need to set rates for residential construction while Minnesota does not.<sup>191</sup> Minnesota’s choice to have one rate for an entire highway project no doubt simplifies matters on projects that run through multiple counties.<sup>192</sup>

### **Geographic Divisions**

Typically states issue prevailing wage schedules on a county-by-county basis. Given the nature of the work, highway construction is sometimes covered on a regional basis, or, as in Tennessee, a statewide scope. Minnesota sets commercial construction rates by county and has ten zones for highway/heavy.<sup>193</sup> As noted above, the United States Department of Labor can issue wage determinations on a project-by-project basis, but also issues general wage determinations that can cover all work in a geographic area.<sup>194</sup> Counties are often the basis for these area determinations.<sup>195</sup> However, the same determination frequently will be applied to a group of counties, and sometimes counties are subdivided or larger cities receive separate decisions. The state of Washington sets

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<sup>189</sup> 12-170 C.M.R. 13 § 3. *See also* “Report on Maine Construction Wage Rates 2003/2004,” available from the Maine Bureau of Labor Standards (207-624-6487).

<sup>190</sup> 29 Del. C. § 6960, et seq.

<sup>191</sup> Wis. Admin. Code § DWD 290.035, 12-170 C.M.R. 13 § 3.

<sup>192</sup> Minn. Stat. § 177.44, Subd. 4.

<sup>193</sup> Minn. R. § 5200.1030-1035.

<sup>194</sup> 29 CFR § 4.54 (for the purpose of setting Davis-Bacon wage rates, the term “locality” has an “elastic and variable meaning” but that it is “ordinarily limited geographically to a particular county or cluster of counties”).

<sup>195</sup> *Ibid.*

rates for each county, but bases the rates on data from the largest city in each.<sup>196</sup> Other states, like Montana, are divided into prevailing wage regions, which are larger than counties.<sup>197</sup> In Kentucky, prevailing rate is determined by state senate districts.<sup>198</sup>

Again, note that each state tends to set its own type of measurements in a way that reflects its political and economic realities.

### **Coverage**

State laws differ in many ways with respect to the sizes and types of projects covered. Many state laws specify a threshold contract amount, above which prevailing wage rates apply. Minnesota's threshold is \$2,500 for projects that require only one trade and \$25,000 for projects that require more than one.<sup>199</sup> The federal government's threshold is \$2,000 for all projects.<sup>200</sup> Eight states (Illinois, Massachusetts, Michigan, Missouri, New York, Texas, Washington, and Wyoming) have no threshold amounts. Others, like Connecticut and Maryland, have much higher thresholds (\$400,000 and \$500,000, respectively).<sup>201</sup> Several states have lower thresholds for remodeling work.<sup>202</sup> Finally, Ohio's threshold is adjusted upward every two years to account for inflation.<sup>203</sup>

Also some states exclude various types of construction. Arkansas, for example, excludes maintenance work; work done for, or by, any drainage, improvement, or levee

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<sup>196</sup> Rev. Code Wash. § 39.12.010(2).

<sup>197</sup> Mont. Code Anno. § 18-2-411.

<sup>198</sup> KRS § 337.010.

<sup>199</sup> Minn. Stat. §177.43 Subd. 7.

<sup>200</sup> 29 U.S.C. § 3142.

<sup>201</sup> Conn. Gen. Stat. § 31-53(g); Md. STATE FINANCE AND PROCUREMENT Code Ann. § 17-202(b).

<sup>202</sup> Md. STATE FINANCE AND PROCUREMENT Code Ann. § 17-202(b) (setting the threshold remodeling work at \$100,000).

<sup>203</sup> ORC Ann. 4115.034.

district; highway, street, bridge or road work; and primary and secondary schools.<sup>204</sup>

Ohio also excludes school construction.<sup>205</sup>

### **Allowable Ranges for Prevailing Wage Adjustments**

Two states, New Mexico and Tennessee, have restrictions on the amount that prevailing wage rates can change from one determination to the next. New Mexico does not allow rates to drop by more than 3%, and the maximum change in Tennessee is 6%.<sup>206</sup> Neither Minnesota nor the federal government has such regulations.

### **Enforcement**

Few studies look at the issue of enforcement. Most state statutory schemes have some kind of provision authorizing government enforcement of prevailing wage. However, some have no public enforcement provisions. In those jurisdictions enforcement through private litigation appears to be the only avenue to redress violations of the law. Even in those states in which the prevailing wage statute does contain public enforcement provisions, it is not clear what resources are available to implement those provisions.

During 1985 and 1986, the Foundation for Fair Contracting, a California based organization set up to monitor prevailing wage compliance, conducted a study of 387 cases. They discovered violations in the majority of the cases reviewed. Cases referred to the state were investigated, but due to the workload of investigators, the process was a long one. This seems to be a common problem in enforcement of the statutes. Many states have little proactive enforcement and primarily respond to complaints.

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<sup>204</sup> A.C.A. § 22-9-303.

<sup>205</sup> ORC Ann. 4115.04.

<sup>206</sup> July, 2006 telephone interview with Annette Reynolds, New Mexico Department of Labor: Public Works Construction Projects; Tenn. Code Ann. § 12-4-405(4).

The summary table below describes the penalties that can be levied against contractors who fail to comply with prevailing wage requirements. However, these penalties are not representative of the level of enforcement in the state, and that data is often difficult to find. In preparing this report, we were only able to get a general idea of how department officials in the various states enforce the respective prevailing wage statutes.

In Minnesota, the Department of Labor and Industry has a Prevailing Wage Unit that is principally responsible for setting rates and investigating prevailing wage violations.<sup>207</sup> Minnesota's prevailing wage law applies misdemeanor criminal sanctions to violating contractors and to an officer or employee of the state who executes a contract for a project without complying with prevailing wage.<sup>208</sup> Prosecution under this criminal provision is left to the discretion of County Attorneys, who are often already burdened with other types of crime. The Minnesota prevailing wage law does not specifically authorize a private right of action in court for enforcement purposes. Contracting agencies can attempt to redress prevailing wage violations by withholding payments, but it is not clear how often this occurs. Given the discretionary and decentralized nature of this enforcement process, it is difficult to discern the extent to which prevailing wage violations occur and are punished in the State of Minnesota.

Other states, like New York, adopt a more proactive stance. According to Mike Gaudio, of the Bureau of Public Work, in addition to investigating complaints New York has a “strike force” team that is responsible for monitoring compliance.<sup>209</sup> The state of

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<sup>207</sup> Minn. Stat. § 177.43, Subd. 4-6.

<sup>208</sup> Minn. Stat. § 177.43, Subd. 5.

<sup>209</sup> July, 2006 telephone interview with Michael Gaudio, Senior Public Work Wage Investigator, New York State Department of Labor.

Tennessee has created a right of action for the department of labor and employees of contractors who violate the prevailing wage law.<sup>210</sup> The state of Rhode Island has created a private right of action so that employees or organizations representing employees may sue companies that violate prevailing wage laws.<sup>211</sup> The state of Maine conducted 28 investigations in 2003, of which only five were complaint-driven.<sup>212</sup> As a result of these investigations, ten companies paid just over \$27,000 in back wages.<sup>213</sup>

In many states, as in Minnesota, contracting agencies can simply withhold funds from the prime contractor until compliance is achieved. This can be a powerful mechanism (if noncompliance can first be discovered) because it encourages the prime contractor to demand accurate reporting and compliance from the various subcontractors doing work on the project.

Ultimately, however, it appears that state agencies do not have the resources to comprehensively investigate each and every project. The burden therefore falls upon the employees themselves to file claims if a private right of action exists.

The following is a tabular summary of the federal and state prevailing wage laws and regulations. This data was gathered through a comprehensive review of the most recent version of the relevant statutes and regulations, and focuses upon three aspects of each law: 1) The method of determining the prevailing wage for a work classification; 2) Limitations, if any, on the types of public works projects covered by the legislation; and 3) Methods of enforcement authorized by the statute.

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<sup>210</sup> Tenn. Code Ann. § 12-4-412.

<sup>211</sup> R.I. Gen. Laws § 37-13-17 (a) (providing a private right of action for “any employee or former employee, or any organization representing such an employee or former employee”).

<sup>212</sup> Maine Dep’t of Labor: Labor Standards, “Report on Maine Construction Wage Rates 2003/2004,” at 13-14.

<sup>213</sup> Ibid.

## SUMMARY OF STATE AND FEDERAL PREVAILING WAGE REGULATIONS

state	method	threshold	Penalty
Minnesota	Mode	\$2,500 one trade; \$25,000 more than one	<p>Enforced by the Department of Transportation and the Department of Labor and Industry.</p> <p>The statute provides that violations of Minn. Stat. § 177.43 can result in fines of up to \$1,000 and/or up to 90 days imprisonment. Each day of violation is a separate offense.</p> <p>Violations of Minn. Stat. § 177.44 are a misdemeanor resulting in a fine of up to \$300, imprisonment for up to 90 days, or both. Each day of violation is a separate offense. Repeat violators may be fined up to \$700, and anyone who forces an employee by threat to accept less than the prevailing rate maybe be fined up to \$1,000 and imprisoned for up to one year.</p> <p>Employees who knowingly permit employers to pay less than the required rate can be fined up to \$40, imprisoned for up to 30 days, or both. §177.44 subd. 6.</p>

Sources: Minnesota Stat. §§177.42 to 177.44; MN Department of Labor and Industry, Labor Standards, Michelle Shafer (651-284-5091), telephone interviews, September and October 2006; “A Guide to Minnesota’s Prevailing Wage Law,” brochure available at <http://www.doli.state.mn.us/pdf/pvwage.pdf#search=%22a%20guide%20to%20mn%20prevailing%20wage%20law%202>.

	method	threshold	Penalty
Federal Davis-Bacon	Mode, if it represents a majority of the data, else average	\$2,000	<p>The Federal agency letting the contract may suspend payment or withhold funds.</p> <p>Violating contractors are prosecuted by the Attorney General and may be debarred for three years.</p>

Sources: Federal Davis-Bacon Act, Title 29, Part 5; *Davis Bacon Wage Determination Reference Manual* available at <http://www.gpo.gov/davisbacon/referencemat.html>.

state	method	threshold	Penalty
Alaska	Based on collective bargaining agreements <sup>214</sup>	\$2,000	<p>Misdemeanor; a fine not less than \$100 and not more than \$1,000, and/or imprisonment for not less than 10 days and not more than 90 days. Each day of violation constitutes a separate offense. §36.05.060.</p>

Sources: Alaska Stat. §§ 36.05.010 to 36.05.110, Division of Labor Standards and Safety, Wage and Hour Section, Juneau, Nancy Dutton, Wage and Hour Technician (907-269-4930) telephone interview July, 2006; Alaska Division of Legislative Audit #07-4546-97, available at <http://www.legaudit.state.ak.us/pages/digests/1997/4546.dig.htm>.

<sup>214</sup> But see 8 Alaska Admin. Code § 30.050, stating that the modal wage should be used if it represents a majority of the data, and that the average should be used if it does not.

<b>state</b>	<b>method</b>	<b>Threshold</b>	<b>Penalty</b>
Arkansas	Mode, if it represents a majority of the data, else average, and the Department is authorized to consider collective bargaining rates and federal Davis-Bacon determinations	\$75,000	Fines not less than \$50 and not more than \$1,000. Separate violations for each employee per day. Fines may not exceed 10% of contract amount or 10% of unpaid wages due (whichever is greater).  Workers may be fined \$50 - \$1,000 for submitting false wage claims.

Sources: Ark. Code Ann. §§22-9-301 to 22-9-315; phone conversation Don Cash; AR Department of Labor (501-682-4500), telephone interviews in July and September, 2006; Prevailing Wage Division Administrative Regulations available at [http://www.ark.org/labor/pdf/prevailing\\_wage\\_regs.pdf#search=%22arkansas%20Prevailing%20Wage%20Division%20Administrative%20Regulations%22](http://www.ark.org/labor/pdf/prevailing_wage_regs.pdf#search=%22arkansas%20Prevailing%20Wage%20Division%20Administrative%20Regulations%22).

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>Penalty</b>
California	Mode, usually set by collective bargaining agreements.	\$1,000	Awarding bodies may withhold contract payments to recover wages due and contractors may withhold payments from subcontractors responsible for violations (Cal. Lab. Code § 1729).  Up to \$100 fine for first offense, up to \$300 for repeat offenders. Each day is a separate offense.  Violating contractors may be debarred from public contracts.

California Labor Code §§ 1770 to 1781; Office of Labor Statistics; Earl Lazo, Prevailing Wage Unit (415-703-4774), telephone interviews in July and September, 2006.

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>Penalty</b>
Connecticut	Adopts Federal Davis-Bacon rates or conducts hearings to determine area wages.	\$400,000 for new construction; \$100,000 for remodeling.	Fines ranging from \$2,500 to \$5,000 and imprisonment if the offense involved filing a false certified payroll statement.  Debarment (includes those contractors on the Federal Davis-Bacon debarment list).

*A Guide to Prevailing Wage Laws in Connecticut* (2004) Connecticut Department of Labor; Connecticut General Statutes §31-53.

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>penalty/enforcement</b>
Delaware	Mode, if it represents a majority of the data, else average.	\$100,000 for new construction; \$15,000 for remodeling.	Enforced by the Department of Labor.  Fines not less than \$1,000 and no more than \$5,000. Debarment up to 3 years.  Employees may recover treble what is owed.

Sources: Delaware Code 29 §§ 6960 et seq. *Delaware Prevailing Wage Regulations* available from the Delaware Department of Labor; Fran Chudzik, Department of Labor: Division of Industrial Affairs (302-761-8200; telephone interview July, 2006.

<b>state</b>	<b>Method</b>	<b>threshold</b>	<b>penalty/enforcement</b>
Hawaii	Collective bargaining agreements, unless there is not a rate, then published rate setting formula is used.	\$2,000	The Department of Labor and the contracting agency share enforcement responsibilities.  Violating contractors are fined 10% of back wages due or \$25 (whichever is greater) for first offense; amount equal to back wages due or \$100 for second offense; and double back wages due or \$200 for third offense. Contractors can be debarred.

Sources: *Frequently Asked Questions about Chapter 104* available at <http://hawaii.gov/labor/wsd/pdf/forms/104FAQ.pdf>; Sandra Sylva, Department of Labor and Industrial Relations: Labor Market Information Section (808-586-9017), Telephone Interview October 5, 2006.

<b>state</b>	<b>Method</b>	<b>threshold</b>	<b>Penalty</b>
Illinois	Set by either the public body awarding the contract or the department of labor.	None	Contractors may be debarred.  Violating contractors are fined 20% of underpayments for first offense; 50% for second and subsequent violations. (Plus 2% - 5% of underpayments for each month in which they go unpaid.

Illinois Prevailing Wage Act (820 ILCS 130); 56 Ill. Admin Code 100.

<b>state</b>	<b>Method</b>	<b>threshold</b>	<b>Penalty</b>
Indiana	For each project, a 5 member committee is formed to hold a public hearing and set the rate, interpreted as the mode	\$150,000	Violating contractors are guilty of a Class B misdemeanor.  Contract is forfeited upon second violation.

Sources: Indiana Code 5-16-7; *Indiana's Common Construction Wage .pdf* available at [http://www.in.gov/labor/pdfs/Common\\_Construction\\_Wage\\_072205.pdf](http://www.in.gov/labor/pdfs/Common_Construction_Wage_072205.pdf); Ashton Eller, Indiana Department of Labor: Division of Wage & Hour and Child Labor (317-232-2655), telephone interview July, 2006.

<b>state</b>	<b>Method</b>	<b>threshold</b>	<b>Penalty</b>
Kentucky	Public hearings in some regions, but Davis-Bacon rates are adopted in others	\$250,000	Violating contractors are fined not less than \$100 and not more than \$1,000. Debarment for flagrant or repeated violations. Public officials may also be fined not less than \$100 and not more than \$1,000 for violations.

Sources: Kentucky Revised Statutes 337.505 to 337.990; *An Analysis of Kentucky's Prevailing Wage Laws and Procedures* (2001) Legislative Research Commission: Research Report #304; Jan Peters-Haynes, Department of Labor: Office of Workplace Standards (502-564-3070), telephone interview, October 5, 2006.



state	Method	threshold	Penalty
Maine	Median reported wage	\$50,000	Enforced by the Bureau of Labor Standards Fine of not less than \$250.

Sources: Maine Revised Statutes, Title 26 §1304 – 1315; Maine Dep't of Labor: Labor Standards, *Report on Maine Construction Wage Rates 2003/2004*, available at [http://mainegov-images.informe.org/labor/labor\\_stats/publications/constructionwagerept/constructionwage03-04.pdf](http://mainegov-images.informe.org/labor/labor_stats/publications/constructionwagerept/constructionwage03-04.pdf); Jorge Acero, Employment and Training Specialist, Maine Department of Labor: Bureau of Labor Standards (207-624-6487), telephone interview July, 2006.

state	Method	Threshold	Penalty
Maryland	Mode, if it represents at least 40% , else average	\$500,000	Violating contractors may be fined up to \$20 per violation, and must make restitution. Persistently violating contractors may be debarred.

Sources: Maryland Code §§17-201 to 17-226; Tamela Ricci, Labor Investigator, Maryland Department of Labor, Licensing, and Regulation: Prevailing Wage Unit (410-767-2342), telephone interview July, 2006.

state	method	Threshold	Penalty
Massachusetts	Based on collective bargaining agreements	None	Enforced by the Attorney General. Contractors may be fined up to \$10,000 or face imprisonment for up to 6 months for first offense, up to \$25,000 or prison for up to one year for subsequent violations. These are double for willful violations.  Up to 5-year debarment.

Sources: Massachusetts General Laws Chap. 149 §§26 to 27H; Mass. Division of Occupational Safety, Department of Labor, <http://www.mass.gov/dos/pw/index.htm>; Lisa Price, Deputy General Counsel, Department of Labor: Division of Occupational Safety (617-727-3492), telephone interview July, 2006.

state	method	Threshold	Penalty
Michigan	Based on collective bargaining agreements	None	Violating contractors are guilty of a misdemeanor. Repeat violators may be debarred.

Sources: Michigan Compiled Laws §§408.551 to 408.558; Georgia Harris (517-322-1825), *An Overview of the Michigan Prevailing Wage Act* available at [http://www.michigan.gov/documents/Brochure\\_89314\\_7.166.pdf#search=%22overview%20of%20the%20michigan%20prevailing%20wage%20act%22](http://www.michigan.gov/documents/Brochure_89314_7.166.pdf#search=%22overview%20of%20the%20michigan%20prevailing%20wage%20act%22); *Debarment Policy for Violations of Act 166*, available at [http://www.michigan.gov/documents/PW\\_Debarment\\_LTR\\_and\\_Policy\\_92918\\_7.pdf](http://www.michigan.gov/documents/PW_Debarment_LTR_and_Policy_92918_7.pdf); Georgia Harris, Program Manager, Michigan Department of Labor and Economic Growth: Wage and Hour Division (517-322-5272), telephone interview July, 2006.

state	method	Threshold	Penalty
Missouri	Mode	None	Violating contractors may be fined up to \$500, imprisoned for up to six months, or both. Contractors are debarred for one year following their first violation and for three years after repeat violations.

Missouri Revised Statutes §§ 290.210 to 290.340; Brenda Hentges, wage and hour supervisor, Missouri Department of Labor and Industrial Relations: Division of Labor Standards (573-526-7620), telephone interviews July and September, 2006; *Missouri Prevailing Wage Law* brochure available at <http://www.dolir.mo.gov/ls/brochures/13-AI.pdf#search=%22missouri%20prevailing%20wage%20law%22>.

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>penalty</b>
Montana	Mode, if it represents a majority of the data, else average. Heavy/highway construction uses Davis-Bacon rates.	\$25,000	Violating contractors are fined up to \$1,000. Fines of up to \$10,000 may be issued for violations due to gross negligence. Contractors who commit willful violations may be debarred for up to three years.

Sources: Montana Code §§18-2-401 to 18-2-432; Mike Hohn, Statistician, Department of Labor: Montana Research and Analysis Bureau (406-444-2430), telephone interview July, 2006.

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>penalty</b>
Nebraska	Mode, provided it is the wage rate paid by at least 50% of contractors in the same field	None, except \$40,000 for public school districts	Persons violating the chapter are guilty of a class IV misdemeanor.

Sources: Nebraska Revised Statutes §§73-101 to 73-106; US Department of Labor, Omaha Nebraska (402-221-4682)

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>penalty</b>
Nevada	Set by Labor Commissioner. Either a mode/average calculation or a collectively bargained rate	\$100,000	Investigated by the public body awarding the contract.  Contractors are fined \$20 – \$50, per worker per day, up to \$1,000 for a first time offense and up to \$5,000 for subsequent failures to comply.

Sources: Nevada Revised Statutes §§338.010 to 338.645; Nevada Administrative Code 338.005 to 338.410; Carrie Foley, Assistant to Labor Commissioner, Office of the Labor Commissioner (702-486-2795), telephone interview July, 2006.

<b>state</b>	<b>method</b>	<b>Threshold</b>	<b>penalty</b>
New Jersey	Based on collective bargaining agreements.	\$2,000	Enforced by the Division of Wage and Hour Compliance Public Contracts Section which conducts routine investigations of worksites.  Violating contractors may be fined not less than \$100 and not more than \$1,000 dollars, or imprisoned for 10 – 90 days, or both. Separate violations per day, per worker.  In lieu of or in addition to that penalty the Commissioner of Labor may assess an administrative penalty of \$2,500 to \$5,000.  Violating contractors also face three year debarment

Sources: N.J.S.A. §§34:11-56.25 to 34:11-56.47; New Jersey Prevailing Wage Act FAQ's available at <http://www.state.nj.us/labor/lssc/lspwfaq.html>; Ashleigh Chamberlain, Department of Labor: Division of Wage and Hour Compliance (609-292-2259), telephone interview July, 2006.

<b>state</b>	<b>method</b>	<b>Threshold</b>	<b>penalty</b>
New Mexico	Mode, if it represents 30%, else average	\$60,000	Violating contractors may lose the right to continue on the project and may also be debarred for three years. Each affected employee is entitled to wages owed plus \$100 in liquidated damages for each calendar day in which the employer was in violation.

Sources: New Mexico Statutes §§13-4-11 to 13-4-17; Annette Reynolds, New Mexico Department of Labor: Public Works Construction Projects (505-827-6843), telephone interview July, 2006.

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>penalty</b>
New York	Based on collective bargaining agreements	None	Enforced by the Commissioner of Labor.  Employees are entitled to wages plus interest of up to 16%.  Violating contractors may be fined up to \$500 and/or receive thirty days in jail for a first offense, and may receive a \$1,000 fine and contract forfeiture for a second offense. They may also be fined up to 25% of total wages and supplements due if they fail to timely provide to the contract officer evidence of prevailing wage compliance and also face debarment.

Sources: New York LAB §§220-220g; *Frequently Asked Questions Regarding Public Work –Article 8, Section 220, Labor Law* available at <http://www.labor.state.ny.us/workerprotection/publicwork/PDFs/Article8FAQS.pdf>; Mary McDonnell, Department of Labor: Bureau of Public Work (518-457-5589), telephone interview September, 2006.

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>penalty</b>
Ohio	Based on collective bargaining agreements	\$69,853 for new construction, \$20,955 for remodeling (biannual adjustment).	Enforced by the Director of Commerce.  Violating contractors may be fined up to 75% of the difference owed to workers and face debarment of up to three years.

Sources: Ohio Rev. Code §§4115.03 to 4115.16, 4115.99; *Ohio Legislature Members Only Newsletter*, vol. 126 issue 2, Feb. 25, 2005; Joanna Jackson, Ohio Department of Commerce: Division of Labor and Worker Safety (614-466-2901), telephone interviews July and September, 2006.

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>penalty</b>
Oregon	Mode, if it represents a majority of the data, else average.	\$50,000	Enforced by the Commissioner of the Bureau of Labor.  Violating contractors may be fined up to \$5,000 and face debarment for up to three years.

Oregon Revised Statutes §§279C.800 to 279C.870; Prevailing Wage Rate Coordinator (503-731-4709); Mike Kern, Administrative Specialist, Bureau of Labor and Industries: Wage and Hour Division (971-673-0839), telephone interview July, 2006

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>penalty</b>
Pennsylvania	Based on collective bargaining agreements.	\$25,000	Fines for violating contractors determined in court, liquidated damages in the amount of the underpayments in the event that such underpayment was intentional.  Contractors who are found to have committed intentional violations may be debarred for three years.

Pennsylvania Regulations for Prevailing Wage Act, available at <http://www.dli.state.pa.us/landi/CWP/view.asp?a=185&Q=58341>  
Pennsylvania Prevailing Wage Act, available at <http://www.dli.state.pa.us/landi/CWP/view.asp?a=185&Q=58229>; Erik Ramsey, Department of Labor and Industry (800-932-0665), telephone interview July, 2006

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>penalty</b>
Rhode Island	Adopts Federal Davis Bacon rates	\$1,000	Department makes routine site inspections.  For each violation contractors may be fined between \$50 and \$100 and/or imprisoned for 10 – 90 days. Employees may also receive treble damages, and if the amount of unpaid wages is sufficiently high, the violation may be classified as a misdemeanor.  Depending on the severity of the violation, contractors may also be debarred for between eighteen and thirty-six months and face additional civil penalties.  Private right of action for aggrieved individuals.

Rhode Island General Laws §§37-13-1 to 37-13-17; Karl Swanson, Prevailing Wage Investigator, Rhode Island Department of Labor and Training (401-462-8541), telephone interview July, 2006; RI Prevailing Wage Frequently Asked Questions <http://www.dlt.ri.gov/pw/faqs.htm>;

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>penalty</b>
Tennessee	Average of reported wages.	\$50,000	Money could potentially be withheld by the contracting agency and contractors could theoretically be considered in breach of contract.  Private right of action for aggrieved individuals.

Tennessee Code §§12-4-401 to 12-4-415; Kelly Jo Dyer, Department of Labor and Workforce Development: Labor Standards Division (615-741-2858), telephone interviews July and September, 2006

<b>state</b>	<b>method</b>	<b>threshold</b>	<b>penalty</b>
Texas	Wages are set by the awarding agency	None	

Texas Gov't Code §§2258.001 to 2258.058.

state	method	threshold	penalty
Washington	Mode, if it represents a majority of the data, else average.	None	Violating contractors may be fined up to \$500 and repeat violators may be debarred for one year

Washington Revised Code §§39.12.010 to 39.12.900; *The Washington State Prevailing Wage Law*, publication available at <http://www.lni.wa.gov/IPUB/700-032-000.pdf>; Mike Fuller, Department of Labor and Industries: Prevailing Wage Section (360-902-5337), telephone interview July, 2006.

state	method	threshold	penalty
West Virginia	Collective bargaining rates.	None	\$50 to \$250 fine for violating contractors  Employees can recover 2x wages due plus attorney fees.

West Virginia Code §§21-5A-1 to 21-5A-11; West Virginia Code of State Rules §§42-7-1 to 42-7-12; Barbara Gandy, Division of Labor: Wage and Hour (304-558-7890 ext. 145), telephone interview July, 2006.

state	method	threshold	penalty
Wisconsin	Mode, if it represents a majority, else an average of the top 51% of reported wages.	\$43,000 for one trade; \$209,000 for multiple trades. <sup>215</sup>	Enforced by the department of labor.  For each violation contractors may be fined up to \$200 and/or imprisoned for up to 6 months. Each day of violation is a separate offense.  Contractors may be debarred for three years.

Sources: Wisconsin Statute §103.49; *Annual Prevailing Wage Rate Survey* available at [http://www.dwd.state.wi.us/dwd/publications/erd/pdf/erd\\_15377\\_p.pdf](http://www.dwd.state.wi.us/dwd/publications/erd/pdf/erd_15377_p.pdf); Michael Dixon, Department of Workforce Development: Equal Rights Division (608-267-9331), telephone interview July, 2006.

state	method	threshold	penalty
Wyoming	Mode, if it represents at least 30%, else average	\$25,000	Director investigates upon complaint.  Violating contractors may be fined up to \$500 and/or imprisoned for up to six months.

Sources: Wyoming Statutes §§27-4-401 to 27-4-413; *Rules of Practice and Procedure for Computing and Determining Wyoming's Prevailing Wage Rates* available at <http://159.238.91.226/labor/proposed6.doc>; Nancy Godfrey, Department of Employment: Labor Standards (307-777-6070), telephone interview September, 2006.

## Conclusion

The above provides a summary of the ways in which the thirty-one states with applicable laws and the federal government determine and administer prevailing wage rates. In the following section, we will examine in more detail the process Minnesota uses to set prevailing wage rates.

<sup>215</sup> The threshold amounts are adjusted annually for inflation. Wis. Stat. § 66.0903(5).

## SECTION FIVE:

### DOES THE MINNESOTA DEPARTMENT OF LABOR AND INDUSTRY USE APPROPRIATE METHODS TO SET PREVAILING WAGE RATES?

Generally, the methods used to determine the prevailing rate are a function of historical context, state policy, and the data available. In Minnesota, the introductory policy statement reads:

It is in the public interest that public buildings and other public works be constructed and maintained by the best means and highest quality of labor reasonably available and that persons working on public works be compensated according to the real value of the services they perform.<sup>216</sup>

It is clear from the work of Theiblot<sup>217</sup> and the foregoing analysis that each of the 31 “Little Davis-Bacon Acts” and the federal Davis-Bacon Act has unique characteristics in the way they determine the “prevailing” rate for an “area.” In this section, we assess the specifics of the Minnesota approach and make some recommendations as to how the process might be improved. The key question is: “Does the Department of Labor and Industry use *appropriate* methods to set prevailing wage rates?”<sup>218</sup>

To address this question, we must examine both how the prevailing wage survey is conducted and how the data is used to determine “prevailing rate.” While definitions of “appropriate” may vary among interested parties, there are generally agreed upon standards for empirical analysis by which to critically evaluate a study. The questions researchers asked to assess the merits of a study are:

- Is the survey instrument and process used to determine the prevailing rate valid?

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<sup>216</sup> Minn. Stat. § 177.41.

<sup>217</sup> Theiblot, *supra* note 77.

<sup>218</sup> State of Minnesota, Office of the Legislative Auditor, *supra* note 5.

- Is the survey instrument and process used to determine the prevailing rate reliable?

Once we determine whether the process of data collection provides us with data that is valid and reliable, we can then examine whether the mode is an appropriate measure for determining the prevailing rate.

### **Validity and Reliability of Data**

Validity is the extent to which “a procedure measures what it is intended to measure.”<sup>219</sup> If a process lacks validity then we cannot trust it to measure what we want it to measure. In all survey work and statistical analysis there is a degree of human and process error. The key is to try to develop a process that increases the validity of the instrument being used. The goal of any survey should be to answer the question it is intended to answer. In the case of the Department of Labor and Industry’s prevailing wage survey, the question is basically, “what is the area standard?”

Reliability “is the degree to which measurements are consistent and do not contain error.”<sup>220</sup> In other words, it is the degree to which a survey result may be replicated. If a process is reliable, we should come to the same result using the same process. This standard for the appropriateness of a particular measurement goes more to consistency than whether or not a particular outcome measures what we would like it to measure.

Survey data is subject to a variety of potential errors. Some errors result from the sample selected. In the case of the Minnesota prevailing wage survey, this type of sampling error is minimized as the State attempts to survey all contractors and other interested parties who have worked on qualifying projects in the past 12 months.

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<sup>219</sup> Gary Heiman, Research Methods in Psychology, Boston: Houghton Mifflin Company, 2002, p. 72.

<sup>220</sup> Ibid.

Surveys can also suffer from non-sampling errors. These errors result from faulty responses, a lack of responses, or processing errors. Again, the key in any survey research is to try to create processes that are likely to reduce error.

If we examine the Department's rules for making prevailing wage determinations, it is clear that the State has created a process that can be easily replicated and that provides valid data on which to base the prevailing rate of an area.<sup>221</sup> The rules for determining the prevailing rate in Minnesota are currently very clear, thereby decreasing the likelihood of human and process error. Unlike some other states where the determination of the prevailing rate is decentralized or left to the discretion of a state commissioner,<sup>222</sup> the law in Minnesota specifies a process that is concrete and based on data. Thus, it is more likely that the "prevailing rate" is tied to wages actually paid. Such a concrete process increases both the reliability and validity of the data.

The rules are specific concerning which types of projects will be included in prevailing wage surveys, as well as the geographic scope of a given wage determination. In Highway and Heavy Construction, prevailing wage determinations are based on work performed within 10 defined "areas" of the state and cover projects where the estimated total cost of the project is \$25,000 or more.<sup>223</sup> Commercial construction rates are to be set at the county level and consider all projects where the total estimated cost is at least \$2,500.<sup>224</sup>

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<sup>221</sup> Minn. R. § 5200.1050.

<sup>222</sup> Cf. 820 ILCS 130 § 7 (permitting either the awarding agency in Illinois or the Director of Labor to set rates, though the administrative regulations do not specify how); Tex. Gov't Code § 2258.022 (authorizing the contracting agency to determine the prevailing rate).

<sup>223</sup> Minn. R. § 5200.1030.

<sup>224</sup> Minn. R. § 5200.1035.



In both cases, new estimates are based on work done in the previous 12 months and there must be at least two observations in order to set a rate.<sup>225</sup> If there is insufficient data because the two project criterion is not met, then there are specific guidelines to determine rates. In the case of Highway and Heavy Construction, the most recent rate will apply if there is insufficient data to issue a new wage determination.<sup>226</sup> In the case of Commercial Construction, the rate for the adjacent counties will be used if there is insufficient data.<sup>227</sup> If no rate for a specific class of work is then found, the rate will remain as previously certified.<sup>228</sup> From an analytical perspective, the specificity of the process is what is important because it means that each survey can be replicated. As stated above, this is crucial to ensure the reliability of the data.

The state takes other measures to ensure the reliability and validity of its data. First, in developing the pool to be sampled the state tries to ensure a sample of the whole—any public or private project completed in the previous 12 months that meets the dollar minimums—thus making sure that all interested parties have the opportunity to participate in the survey.<sup>229</sup> The Department’s regulations require that it maintain mailing lists of contractors, contractor associations, labor organizations and any other individual that has requested to be notified when a survey is to be taken.<sup>230</sup> Moreover, to ensure that new contractors or other interested parties have not been overlooked, the Department is mandated to contact county engineers, city engineers, city clerks, zoning officials and others that might know of projects that might have been undertaken in the last 12

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<sup>225</sup> Minn. R. § 5200.1030, Subp. 2a; Minn. R. § 5200.1035, Subp. 2.

<sup>226</sup> Minn. R. § 5200.1030, Subp. 2a.

<sup>227</sup> Minn. R. § 5200.1035, Subp. 2.

<sup>228</sup> Ibid.

<sup>229</sup> Minn. R. § 5200.1050, Subp. 2.

<sup>230</sup> Minn. R. § 5200.1050, Subp. 2b.

months.<sup>231</sup> Such measures help ensure the validity of the data since the goal of the survey is to determine the prevailing rate on all projects conducted in the previous 12 months.

What Minnesota does not do that could improve the reliability of the data is to mandate that contractors return the surveys. As discussed in the previous section, some states have made attempts to increase response rates. For example, in Wisconsin, if a contractor does not submit a survey, he or she is then barred from appealing the certified prevailing rate.<sup>232</sup> In Maine, a contractor may be fined for not returning the wage survey.<sup>233</sup> In Tennessee, the state has introduced an on-line survey process to make responding as easy as possible.<sup>234</sup> The state official we spoke with reported a significant increase in responses. Minnesota could consider one or more of these strategies to increase response rates or could encourage return of surveys through economic incentives such as a small tax break.

In order to ensure validity, the Department requires that individuals submit prevailing wage data on forms that are approved by the Department and requires that all forms be signed. By requiring that each form be signed verifying that the information is “true and correct,” the Department is taking steps to ensure the validity of the data. The form also contains a warning that if false data is willfully submitted, it may result in civil or criminal prosecution. Moreover, any organization, person, or company that purposefully submits false data will not be allowed to submit information for one to three years and all information they have submitted will be excluded from wage

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<sup>231</sup> Minn. R. § 5200.1050, Subp. 2c.

<sup>232</sup> DWD § 290.015.

<sup>233</sup> 26 M.R.S. § 1308.

<sup>234</sup> Interview with Kelly Jo Dyer, Tennessee Labor Standards Division, 615-532-1347 (Sept. 2006).

determinations.<sup>235</sup> A review of a random sampling of survey responses for accuracy would further ensure the validity of the data.

The Department also attempts to ensure the validity of prevailing wage data by permitting any individual, contractor organization, or labor organization 30 days to petition for the reconsideration of a certified rate.<sup>236</sup> An individual or organization petitioning under this rule has the opportunity to present any data relevant to the request for reconsideration.<sup>237</sup> The Department is required to present all data supporting its prevailing wage determination.<sup>238</sup> Thereafter, the Department must decide whether to modify or reaffirm its original determination.<sup>239</sup> This review procedure permits the introduction of additional data and allows for others to comment on the Department's process and further ensure its validity.

Such processes and procedures are important in any survey work because they reduce the potential for erroneous data due to false reporting. As Thieblot has noted, anytime self-reporting takes place, there is a chance that individuals, organizations, or companies may choose to give false information.<sup>240</sup> Due to the processes and controls put in place by the Minnesota regulations, the likelihood of that sort of fraudulent or misleading reporting is greatly diminished. Because the process for determining the prevailing rate is so clearly specified, rates cannot be set in the arbitrary way Thieblot fears.

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<sup>235</sup> Minn. R. § 5200.1050, Subp. 3a.

<sup>236</sup> Minn. R. § 5200.1090.

<sup>237</sup> Minn. R. § 5200.1090, Subp. 2.

<sup>238</sup> Minn. R. § 5200.1090, Subp. 2.

<sup>239</sup> Minn. R. § 5200.1090, Subp. 3.

<sup>240</sup> A.J. Thieblot, "Fraud Prevalent in Prevailing Wage Surveys," *Government Union Review* 10.1 (Winter, 1997): 1-29; A.J. Thieblot, "The Twenty-Percent Majority: Pro-Union Bias in Prevailing Rate Determinations," *Journal of Labor Research* 26.1 (Winter 2005): 99-134.

## How Minnesota defines “prevailing wage”

Other than the survey instrument itself, two other areas deserve attention in the critical assessment of Minnesota’s prevailing wage determination. The first is: How does Minnesota determine “prevailing rate?” The second is: How are particular classifications defined?

As noted in Section Four, states determine what is “prevailing” by a variety of criteria. Some, like New Jersey, New York and Ohio, use the collectively bargained rate.<sup>241</sup> The philosophy behind this approach is that the collectively bargained rate is set by an agreement between contractors and union representatives in the area and represents the most recent market conditions. Others, like Minnesota, Indiana, and Missouri, seek the mode.<sup>242</sup> The philosophy in these states is that the “prevailing rate” is the rate that is paid to the greatest number of workers. Other states, like Arkansas, Delaware and New Mexico, and the federal Davis-Bacon regulations, use the mode if it achieves some designated criteria like thirty or fifty percent of the workforce and, if not, then a mean or weighted average is used.<sup>243</sup> Maine was the only state surveyed that used a median.<sup>244</sup> Some states give broad discretion to an individual or agency to make prevailing rate determinations.<sup>245</sup>

In Minnesota, once data is collected the rate certified as prevailing is the modal rate or the rate paid to the greatest number of workers in a specific classification.<sup>247</sup> The

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<sup>241</sup> N.J. Stat. § 34:11-56.26; NY CLS Labor § 220(5); ORC Ann. § 4115.05.

<sup>242</sup> Minn. Stat. § 177.42, Subd. 6; Indiana Code § 5-16-7; Missouri Dep’t of Labor, “Missouri Prevailing Wage Law,” <http://www.dolir.mo.gov/ls/brocuhres/13-AI.pdf>.

<sup>243</sup> Arkansas Dep’t of Labor, Prevailing Wage Division: Rules and Regulations, Ch. 2, § 2.100; Delaware Code 29 §§ 6960(a); New Mexico Admin. Code § 11.1.2.11; 29 C.F.R. Sec. 1.2(a)(1).

<sup>244</sup> 26 M.R.S. § 1304.

<sup>245</sup> Tex. Gov’t Code § 2258.022; 820 ILCS 130 § 7.

<sup>247</sup> Minn. Stat. § 177.42, Subd. 6.

“prevailing rate” is intended to reflect “area standards” and includes contributions for all wages and fringe benefits.<sup>248</sup>

If a distribution is bimodal (two wage rates at which there is an equal number of workers), the higher rate is used.<sup>249</sup> In Minnesota, the certified rate is the collectively bargained rate for approximately fifty percent of the existing wage determinations.<sup>250</sup> If the wage rate determined is the collectively bargained rate for that area or county, then the most recent collectively bargained rate is used.<sup>251</sup> Moreover, if the collectively bargained rate changes during the 12 months after it is deemed to be the “prevailing” rate, then the new rate is to be certified as the prevailing rate.<sup>252</sup> Such a provision ensures that the current “prevailing” rate is consistent with developments in Minnesota’s labor market. There is no such provision when the certified rate is not the collectively bargained rate. The Department may consider a cost of living adjustment so that the prevailing rate does not lag behind inflation.

### **Measures of Central Tendency**

The goal of Minnesota’s prevailing wage rate determination is to identify a typical or predominant rate so as to assure a high quality of labor. In order to determine whether the mode is an “appropriate” method for determining the prevailing rate, it is relevant to consider the various measures of central tendency: mean, median, and mode.

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<sup>248</sup> Ibid.

<sup>249</sup> Minn. R. § 5200.1060, Subp. 2(c).

<sup>250</sup> Minnesota Department of Labor and Industry, Proposed Permanent Rules Governing Apprenticeship Wages: Statement of Need and Reasonableness, December 21, 2005, p. 15 (noting that “a bare majority” of the certified prevailing wage rates were collective bargaining rates).

<sup>251</sup> Minn. R. § 5200.1060, Subp. 3.

<sup>252</sup> Minn. R. § 5200.1060, Subp. 3-5.

The arithmetic **mean** (or the average, simple mean) is computed by summing all numbers in an array of numbers ( $x_i$ ) and then dividing by the number of observations ( $n$ ) in the array.

$$\text{Mean} = \bar{X} = \sum X_i / n, \text{ the sum is over all } i\text{'s.}$$

The mean uses all of the observations, and each observation affects the mean. The mean is sensitive to extreme values; i.e., extremely large or small data can cause the mean to be skewed toward the extreme data; however, it is still the most widely used measure of location.<sup>253</sup> In some cases, the data in the sample or population should not be weighted equally; rather, each value should be weighted according to its importance. In those states that use the mean as the measure of central tendency to calculate prevailing rate, the weighted mean is typically used.

The **median** is the middle value in an ordered array of observations. If there is an even number of observations in the array, the median is the average of the two middle numbers. If there is an odd number of data in the array, the median is the middle number. The median is often used to summarize the distribution of an outcome. Generally, the median provides a better measure of location than the mean when there are some extremely large or small observations; i.e., when the data are skewed to the right or to the left.<sup>254</sup> For this reason, median income is used as the measure of location for U.S. household income. The median is often used in cases in which we want to know the middle. Note that if the median is less than the mean, the data set is skewed higher. If the median is greater than the mean, the data set is skewed lower.

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<sup>253</sup> Dr. Hossein Arsham, Distinguished Research Professor of Statistics and Management Science at the University of Baltimore, "Revealing Facts from Figures," <http://ubmail.ubalt.edu/~harsham/Business-stat/opre504.htm>, accessed October 3, 2006.

<sup>254</sup> Ibid.

The **mode** is the most frequently occurring value in a set of observations.<sup>255</sup> Why use the mode? The classic example is the shirt/shoe manufacturer who wants to decide what sizes to introduce and so chooses to produce the most commonly occurring ones. The manufacturer is trying to determine what is a typical or predominant value. Similarly, the mode is widely used for prevailing wage because it determines a typical or predominant value.<sup>256</sup>

Almost all standard statistical analyses are based on the assumption that the population is homogeneous. Thus, determining a central tendency is particularly difficult when the data is heterogeneous. In other words, because not all carpenters' skills are the same, and they may vary widely, saying that the mean carpenter makes X amount does not tell us anything about what a journeyman carpenter makes.

If wages in the construction industry were normally distributed it would not matter if we used the mode, mean, or median. However, construction worker wages are typically skewed lower, with many low-skill workers making low wages. The median and mean are thus significantly pulled down by this "tail" of low-wage workers, and the median and mean fail to represent an appropriate measure of journey worker wages. In the construction industry, the median is nearly always less than the mean. For this reason, only Maine uses the median. If the goal of prevailing wage laws is to ensure a high quality of labor by requiring the rates that skilled journey workers make, using the median is not consistent with that goal.

Aside from simply using the collectively bargained rate, the mode and the mean are the most typically used methods for determining prevailing rate. Azari-Rad, et al., use

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<sup>255</sup> Ibid.

<sup>256</sup> When data has two modes it is bimodal. Data with more than two modes is multimodal.

the example of plumbers to explain why the mode tends to be superior to the mean in reflecting the journey worker rate given the nature of data available for determining the prevailing rate:

Take plumbers as an example. Unionized plumbers, having gone through a five year apprenticeship program, having become trained in a variety of skills are lumped together with other plumbers whose skills consist of on the job experience at fixing sinks. Combining low-wage handy-men with high wage, skilled plumbers creates a wage distribution where the most commonly found wage (the mode) is a good deal higher than the average wage which is being pulled down by the wages of residential plumbers. This is particularly true in states where plumbers do not have to be individually licensed. Thus the divergence between two statistically accepted measures of central tendency of a distribution- the mean and the mode – ends up mattering in prevailing wage determinations in construction.<sup>257</sup>

Given the stated intention of the Minnesota statute “that public works be constructed...by the highest quality of labor reasonably available,”<sup>258</sup> the mode is an appropriate measure of which rates are “prevailing.” Currently, the mode has been determined to be the collectively bargained rate for a journey worker in about half of the prevailing wage determinations in Minnesota.<sup>259</sup> In the other counties, the prevailing rate is the mode for that area. In either case, the prevailing rate reflects the market conditions for a particular occupation in that industry in that area of the state and thus is a valid measure of area standards.

Some groups have urged the use of median wage rates established by the Minnesota Department of Employment and Economic Development (“DEED”) to replace

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<sup>257</sup> Hamid Azari-Rad, Peter Philips and Mark J. Prus, “Introduction: Prevailing Wage Regulations and Public Policy in the Construction Industry,” in The Economics of Prevailing Wage Laws, eds. Hamid Azari-Rad, Peter Philips and Mark J. Prus (Ashgate: Burlington VT) 2005, p. 15.

<sup>258</sup> Minn. Stat. § 177.41.

<sup>259</sup> Minnesota Department of Labor and Industry, Proposed Permanent Rules Governing Apprentice Wages: Statement of Need and Reasonableness, December 21, 2005, p. 15 (noting that “a bare majority” of the certified prevailing wage rates were collective bargaining rates).



the current mode method.<sup>260</sup> Using the DEED median would be an inappropriate measure of area standards for “quality” labor as intended by Minnesota’s law. For the reasons explained above, a median is inapt as a measure of journey worker wages in the construction industry.

In research conducted earlier in the year, Jordan, et al., found that the DEED median rate for construction workers averaged approximately 40% less than the prevailing rate.<sup>261</sup> Of course, prevailing rates include benefits. If we assume that all employers provide benefits (based on empirical evidence this is not a good assumption), we can compare the base prevailing rate with the DEED rate --the difference remains on average approximately 20%.

The DEED rate is not a good indicator of the market for construction workers for a variety of reasons. First, the DEED rate is an occupational rate and does not control for industry or the type of construction as the current system does. Not everyone classified as a “carpenter” is in the construction industry. In states like Minnesota, where construction workers are often laid off for a significant portion of the winter, there needs to be what economists call a “compensating differential” to account for the seasonal nature of the work. In other words, the construction worker’s wage must be higher to compensate a construction worker both for having to work in poor weather and for working only intermittently. In Minnesota, the typical laborer in the state only works 1,668 hours or approximately 42 weeks per year. The typical carpenter works 1473 hours or about 37 weeks. A typical “normal” work year is 2,080 hours. A construction worker therefore must make his or her money when s/he is actually able to be on the job. Current

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<sup>260</sup> See, e.g., Minnesota Taxpayers Association, *supra* note 64.

<sup>261</sup> Lisa Jordan, et al., “Analysis of Proposed Change in Construction Trades Apprenticeship Wages,” February, 2006 (on file with author).

prevailing wage determinations account for this because they rely on data specific to the construction industry.

Secondly, the DEED rate is based on very broad occupational classifications. Accordingly, it includes data pertaining to workers lacking the skill specialization necessary to competently complete most public construction. Consider, for example, how the DEED rate is calculated for a carpenter. The DEED rate includes all those who might consider themselves a carpenter: those in factories, those working at schools, those who do other sorts of maintenance and, of course, construction. The problem is that these categories are not comparable. DEED wage data is quite heterogeneous, and is thus susceptible to outlier and skewing data. DEED has not chosen a method of determining wage standards that accounts for that heterogeneity. Indeed, the median wage rate is the least suitable for that purpose. In short, DEED's method is ill-suited for determining the prevailing wage in the construction industry.

### **Worker Classifications**

No assessment of the method of determining Minnesota's prevailing wage can be complete without considering how the relevant worker or trade "classifications" are defined. This is perhaps the least methodologically sound aspect of Minnesota's prevailing wage determinations. The Department's job classifications are somewhat susceptible to problems of content validity.<sup>262</sup> In other words, how can we be assured that the wages reported accurately reflect a particular set of skills? Minnesota Rule Section 5200.1100 identifies the job classification that must be used for reporting.<sup>263</sup> In the unionized context, the skills necessary for a carpenter or millwright are well understood

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<sup>262</sup> Heiman, *supra* note 219, at 78.

<sup>263</sup> Minn. R. § 5200.1100.

due to the nature of union apprenticeship programs. In other contexts, such definitions are not as clear.

The rules state: “Each class of labor shall be based upon the particular nature of the work performed with consideration given to those trades, occupations, skills, or work generally considered within the construction industry as constituting distinct classes of labor.”<sup>264</sup> The language continues, “In determining particular classes of labor, the department shall consider work classifications contained in collective bargaining agreements, apprenticeship agreements on file with the department, the ‘United States Department of Labor Dictionary of Occupational Titles,’ and customs and usage application to the construction industry.”<sup>265</sup> The Department is clearly trying to create a standard that incorporates norms of the construction industry. In fact, the rules explicitly exclude reporting of the wages of “apprentices, helpers, supervisors, or trainees.”<sup>266</sup> The rules are plainly intended to capture the prevailing wage rates for journey workers in a particular class.

The state leaves the “primary responsibility for classifying individual workers” to the contractors.<sup>267</sup> This may lead to problems with content validity due to the fact that contractors may have different definitions of the skills necessary to be deemed a member of a particular craft. For example, consider the classification of “carpenter.” In filling out a prevailing wage survey, union contractors would, by definition, only include those carpenters who are journey persons. In the non-union sector however, these designations (when not part of the licensed trade) become more arbitrary. Someone who has been

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<sup>264</sup> Minn. R. § 5200.1040.

<sup>265</sup> Minn. R. § 5200.1040(E).

<sup>266</sup> Minn. R. § 5200.1040(G).

<sup>267</sup> Minn. R. § 5200.1040(F).

working for 20 years as a carpenter and is skilled in all aspects of the craft could be listed, but so could a student who happens to work on construction sites during summer breaks doing framing.

The chance of this type of content validity problem is the reason that some states choose to use collectively bargained wages as the prevailing rates. The bargaining process controls for extraneous variables that states do not wish to include. Another solution to the problem is to use the mode or the most frequently paid wage. By using the mode, particularly in wage data when wages are not informally distributed, we can help control for the potential problem of content validity because those extraneous variables will not impact the prevailing rate. For example, if we have 20 observations and all but one reported carpenter wage is \$20 and the 20<sup>th</sup> reported hourly wage is \$8.50 per hour, the prevailing rate would be \$20.00 under the mode but only \$19.43 under the mean. Thus, the mode identifies the typical or predominant wage by controlling for extraneous variables.

As pointed out above, no measure of central tendency is perfect unless the collection of the data and the resulting distributions are also perfect. A measure is appropriate if it provides both reliable and valid results given the available data. Based on our review and comparisons with other states, the regulations that guide the Minnesota Department of Labor and Industry are appropriate both in terms of process and analysis.

**SECTION SIX:**  
**ESTIMATED IMPACTS IN MINNESOTA OF CHANGES  
IN PREVAILING WAGE**

In Section Three, we reviewed a number of studies considering the relationship between prevailing wage and total costs of construction. The most useful analyses of prevailing wage and its impact upon project cost use regression analysis to control for the factors other than prevailing wage that might impact total cost. The preponderance of the data suggests that prevailing wage has little or no impact on total costs of construction, although there is evidence of a short-term cost increase at the introduction of a prevailing wage law.

In this section, we attempt to create a partial estimate of the impact on the state if the prevailing wage statute is changed or repealed. This analysis is limited in scope and only considers impacts on the income of construction employees in the state and the resulting impact on state revenues.

Such an analysis may either overestimate or underestimate the costs of a change in prevailing wage because it does not account for potentially relevant factors. For example, a reduction in general construction wages in the state might have some impact on the ability of consumers to buy other products. Moreover, this analysis does not account for the costs to the state that a weakening of the law might have in terms of cost overruns, increased injury rates, the socialization of costs, and weakened apprenticeship training programs. Additionally, any analysis of prevailing wage is made more difficult

by a lack of data. For example, no state agency we contacted could tell us the value of public projects covered by prevailing wage.<sup>268</sup>

Nonetheless, previous research gives us guidance and even offers insights on Minnesota in particular.<sup>269</sup> We have discussed the studies related to Minnesota's construction industry and the strengths and weaknesses of each, but for ease let us summarize them here:

- Walter concluded: “The available evidence suggests that prevailing wage requirements do not imply significant construction cost increases, and that the proven benefits of such measures demand their adoption and full enforcement....” He did find a potential 1.8% savings if the prevailing wage law was repealed, though he suggested that it is likely an overestimate because it is not based on realistic assumptions. He also found that in order to conclude that there could be a 10% savings in total costs, one would have to make “highly unrealistic” assumptions.<sup>270</sup>
- The Minnesota Taxpayer Association found an estimated 1.33% to 1.96% increase in total construction costs if the state moved from the mode to the Davis-Bacon standard. They found a 7.4% to 10% reduction in total project costs if the state moved to the DEED median. They concluded that the state could save \$126 and \$171 million by switching to the DEED rate.<sup>271</sup>

As noted earlier both of these studies fail to control for a variety of factors that impact the total cost of construction and, as such, provide little valuable data. Only one study that explicitly considers Minnesota controls for a range of variables that could impact cost:

- Kelsay, et al., use Dodge data to compare states in the North Central States Region, which includes Minnesota – a region they believe has reasonably similar conditions. Using descriptive data, they find that “there is no statistically significant difference for mean cost of construction between

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<sup>268</sup> The Census of Construction does have a value for all projects paid for with state funds, but that does not necessarily tell us how much is covered by prevailing rate.

<sup>269</sup> For a more detailed analysis of previous studies on the impact of prevailing wage on total costs, see Section three.

<sup>270</sup> Walter, *supra* note 56, at 7-8.

<sup>271</sup> Minnesota Taxpayers Association, *supra* note 64.

prevailing and non-prevailing wage states....”<sup>272</sup> They also use regression analysis in order to isolate those variables that might lead to cost differentials. They conclude, “the presence of a prevailing wage law does not have a statistically significant impact on the total costs of construction projects in the twelve-state region.”<sup>273</sup>

While each of these provides an analysis of the impact of changing Minnesota’s prevailing wage regulations on total construction costs in the state, none provides a broader analysis of the potential impact such a change might have on construction workers and ultimately state budgets. Walter does provide a descriptive summary of the costs the state would likely incur, including increased injury rates, reduced benefits paid to workers, and reduced tax revenues, but no empirical analysis is offered.

Following the methodology used by Kelsay et al. we will conduct a similar analysis in order to address the questions:

- How might a change in Minnesota’s prevailing wage law impact construction employees in the state?
- How might a change in Minnesota’s prevailing wage law impact the state’s budget?

In considering the first question, it is clear based on previous research that if the prevailing wage statute is weakened or repealed, construction workers in Minnesota would experience a loss in total compensation. As noted earlier, Petersen and Godtland estimated that after states repealed their prevailing wage laws, total compensation to construction workers dropped by 20% while wages decreased by 18% and average benefits by 79%.<sup>274</sup> Philips estimated an 8% drop if a state moves from a strong prevailing wage law to a weak one (as the move from the mode to the DEED median

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<sup>272</sup> Kelsay, et al., supra note 64, at 33.

<sup>273</sup> Ibid p. 39.

<sup>274</sup> Petersen and Godtland, supra note 106, at 195.

would be).<sup>275</sup> Kessler and Katz found a 2-4% decline in construction worker wages following prevailing wage repeal over the long run.<sup>276</sup>

For this analysis we draw on research done by a variety of other authors:

- We will consider a range of estimates in evaluating the impact of a change in prevailing rates on construction worker wages.<sup>277</sup> Based on previous research construction worker wages would likely drop anywhere from 4% to 18%.<sup>278</sup>
- Any reduction in construction worker wages would have both direct and indirect effects on the state budget. We draw on data gathered and analyzed by the Bureau of Economic Analysis in order to calculate the indirect impacts.
- We use 2003 employment and wage data available from the Minnesota Department of Employment and Economic Development. Based on DEED estimates, in 2003 there were 131,854 workers earning a mean wage of \$873 per week or \$45,396 per year.<sup>279</sup>

Given these assumptions, we find the following impacts of weakening or repealing Minnesota's prevailing wage statute:

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<sup>275</sup> See Peter Philips, "Results of a Multivariate Regression Analysis of Construction Worker Incomes with a Focus on the Implementation of Prevailing Wage Policies," Working Paper, Economics Department, University of Utah, 1996. Philips has made similar estimates of the wage loss resulting from the repeal of prevailing wage laws. See Reich, *supra* note 101; Philips, et. al, *supra* note 12, at 16-17 (finding a 7.5% wage loss for all construction workers); conversation with Peter Philips, October 2006.

<sup>276</sup> Kessler and Katz, *supra* note 104, at 272-273.

<sup>277</sup> We consider here the estimates suggested by Katz and Kessler, Philips, and Petersen and Godtland. While the Peterson and Godtland study seems the most complete, we choose to consider three options in order to analyze a variety of potential scenarios.

<sup>278</sup> We use the higher of the two estimates because, as the authors note, the rate of unionization in the industry will impact the overall loss to workers. Since Minnesota has a relatively high unionization rate, it is likely Minnesota construction workers would lose more than workers in states with lower unionization rates. See <http://www.bls.gov/news.release/union2.nr0.htm> for current unionization information.

<sup>279</sup> [http://www.positivelyminnesota.com/lmi/tools/qcew/display.asp?geog=2701000000&AreaName=Minnesota&date=20050001&level=3&strCode=23&codeType=N&ownership=00&ownership=50&view\\_select=View+Selected+Data](http://www.positivelyminnesota.com/lmi/tools/qcew/display.asp?geog=2701000000&AreaName=Minnesota&date=20050001&level=3&strCode=23&codeType=N&ownership=00&ownership=50&view_select=View+Selected+Data). Mean wages range from a high of \$59,530 to a low of \$23,370 according to [www.bls.gov/oes/current/mean/oes\\_mn.htm#b47-0000](http://www.bls.gov/oes/current/mean/oes_mn.htm#b47-0000).



## Impact on the Wages of Minnesota Construction Workers

<i>Estimated Impact on the Wages and Employment of Minnesota's Construction Workers</i>			
(Based on 2003 data)			
	4% (Katz estimate)	8% (Philips estimate)	18% (Petersen estimate)
Old Annual Wage	\$45,396	\$45,396	\$45,396
Loss in Wage	\$1,816	\$3,632	\$8,171
New Annual Wage	\$43,580	\$41,764	\$37,225
Loss to Minnesota Workers	\$239,446,864	\$478,893,728	\$1,077,379,034
Potential Employment Growth <sup>280</sup>	1,055	2,189	4,747
Net loss to Minnesota Workers	\$193,469,964	\$387,481,670	\$900,671,959

Based on the range of estimates suggested in the research (4%, 8%, and 18%), if the prevailing wage statute is repealed or weakened, annual construction wages would fall, on average, between \$1,816 and \$8,171 per year. In other words, the average salary would fall to between \$37,225 and \$43,580 per year. This drop in salary represents a direct loss to construction employees in Minnesota of between \$239 million and \$1.1 billion dollars.

However, other employees in Minnesota may benefit, as the drop in wages might lead to an increase in overall employment. Simple demand theory of labor suggests that as a firm's wage payments fall, employment will increase. This increase in employment may also result from the decline in skill level we would expect to occur over time as wage rates fall. Evidence from other states that have repealed their prevailing wage laws has demonstrated a consequent slight increase in employment in the construction

<sup>280</sup> Based on a price elasticity of demand for labor of .20. See Kelsay, et al., supra note 64, at 79 for references on this assumption.

industry. Following the lead of the Kelsay study, we assume that the price elasticity of demand for labor is .20.<sup>281</sup>

Assuming that the growth in construction jobs does not occur at the expense of another sector (which is doubtful since the current Minnesota unemployment rate is only 3.8%<sup>282</sup>), and that no workers leave the construction industry as a result of a drop in wages, we can expect a slight growth in overall employment. Given the price elasticity of demand of .20, we could expect an additional 1,055 to 4,747 workers, resulting in additional new household income of between \$46 and \$176.7 million. Therefore, the net loss to construction households in Minnesota would be between \$193 and \$901 million dollars per year.

### **Direct Impact on State Tax Receipts**

If Minnesota's prevailing wage statute is weakened, we can expect a drop in the aggregate income of construction workers. Such a drop in income will doubtless have an impact on state income tax receipts, both directly and indirectly. Given the current income tax rate of 7.05%,<sup>283</sup> a construction worker in Minnesota would have paid an average of \$3,199 to the state in income taxes in 2003. This amounts to \$422 million in income taxes paid by construction workers. If prevailing wage is weakened actual taxes collected would drop to between \$2,624 and \$3,072 per household. This amounts to between \$358.5 and \$408 million (this number includes adjustment for the potential

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<sup>281</sup> See Kelsay, et al., *supra* note 64, at 79 for references on this assumption.

<sup>282</sup> See Minnesota Dep't of Employment and Economic Development, "Unemployment Statistics for the U.S. and MN, August 2006," available at <http://www.positivelyminnesota.com/lmi/tools/laus/display.asp?geog=0000,2701>.

<sup>283</sup> Minnesota Department of Revenue, "Individual Estimated Tax Payments for 2006," available at [http://www.taxes.state.mn.us/taxes/individ/instructions/m14\\_inst.pdf](http://www.taxes.state.mn.us/taxes/individ/instructions/m14_inst.pdf), Accessed August 31, 2001.

increase in employment). Thus, Minnesota would lose between \$13 and \$63 million in income tax revenue.

<b><i>Direct Impact on State Income Tax Receipts</i></b> (Based on 2003 data)			
	4% (Katz estimate)	8% (Philips estimate)	18% (Petersen estimate)
Average Tax Paid Before Change	\$3,199	\$3,199	\$3,199
Total Receipts	\$421,800,946	\$421,800,946	\$421,800,946
Average Tax Paid After Change	\$3,072	\$2,944	\$2,624
Total Receipts After Change	\$408,348,282	\$394,622,592	\$358,490,542
Loss to Income Tax Receipts	\$13,452,663	\$27,178,354	\$63,310,404

Income tax revenue would not be all that is lost to the state. Weakening Minnesota's prevailing wage law will reduce the amount of money construction workers have to spend. As a result, Minnesota will experience a loss of state sales tax revenues and a ripple effect of depressed statewide spending.

<b><i>Impact on State Sales Tax Revenues</i></b> (Based on 2003 data)			
	4% (Katz estimate)	8% (Philips estimate)	18% (Petersen estimate)
Average Sales Tax Before Change	\$1,348	\$1,348	\$1,348
Total Receipts	\$177,803,561	\$177,803,561	\$177,803,561
Average Sales Tax After Change	1,295	1,241	1,106
Total Receipts After Change	\$172,056,535	\$166,293,695	\$151,049,100
Loss to Sales Tax Receipts	\$5,747,026	\$11,509,866	\$26,754,461

To predict the amount of sales tax revenues lost in the event of a legislative change, we must first estimate the average amount a construction worker would spend on sales taxable items. According to the Bureau of Labor Statistics, those who make between \$37,225 and \$41,492 (the estimated wage rates) report a propensity to consume between 92% and 100% of their income.<sup>284</sup> This means the average construction worker in Minnesota will tend to spend all or nearly all of his or her earnings. As wage rates fall, construction workers will have less to spend. Consequently, the state will not collect as much in sales tax revenues.

Estimates suggest that in Minnesota about 45.7% of what each construction worker makes will be spent on items that are subject to state sales taxes.<sup>285</sup> Thus, approximately 46% of every dollar a construction worker in Minnesota earns will be spent on goods and services that are sales taxable. Using Minnesota's general sales and use tax rate of 6.5%, the sales tax revenues not collected would range from \$5.7 to \$27 million. Of course, this does not account for losses to additional sales taxes that are charged by counties or municipalities.

### **Indirect Impacts on State Tax Receipts**

As noted above, if construction workers have less money, they will spend less and thereby impact the state. When a construction worker spends an extra dollar, that dollar can then be spent by its recipient, and again by another recipient.

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<sup>284</sup> Bureau of Labor Statistics, "Consumer Expenditures in 2001," Report 966 <<http://www.bls.gov/cex/csxann01.pdf>, Accessed August 31, 2006.

<sup>285</sup> See generally Kelsay, et al., *supra* note 64.

Based on input-output analysis conducted by the Bureau of Economic Analysis,<sup>286</sup> in Minnesota the earnings multiplier for the construction industry is 1.9729. In other words, for every dollar lost or gained by a worker in the construction industry, incomes in all households in the state decrease or increase by 1.9729. Thus, we must also consider what happens to non-construction households if we are to assess total impacts on the state.

<i>Indirect Impacts on Minnesota Employees and the State Budget</i> (Based on 2003 Data)			
	4% (Katz estimate)	8% (Philips estimate)	18% (Petersen estimate)
Income Loss to Non-Construction Households	\$188,226,928	\$376,980,917	\$876,263,749
Income Tax Losses	\$13,269,998	\$26,441,821	\$61,776,594
Sales Tax Losses	\$5,591,281	\$11,197,949	\$26,029,415

Using the multiplier supplied by the Bureau of Economic Analysis, we can expect a decline in non-construction household income of between \$188 and \$876 million. State income tax receipts from non-construction households would then fall by between \$13 and \$26 million, and state sales tax receipts would decline by between \$5.6 and \$26 million.

### **Conclusion**

If one considers both the direct and indirect impact of weakening or repealing Minnesota's prevailing wage law, income in the state will likely be cut between \$382

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<sup>286</sup> See the Appendix to this section for a brief description of the input-output the BEA uses to calculate the RIMS II multiplier.

million and \$1.8 billion. As a result, the state might expect a reduction in income taxes of between \$27 and \$125 million and a reduction in sales tax income of at least \$11 million.

<i><b>Total Impact on Wages and State Tax Receipts</b></i>			
	4% (Katz estimate)	8% (Philips estimate)	18% (Petersen estimate)
Income Loss to Minnesota Households	\$381,696,892	\$764,462,586	\$1,776,935,708
Income Tax Loss	\$26,540,759	\$53,620,175	\$124,905,096
Sales Tax Loss	\$11,338,308	\$22,707,815	\$52,783,876
Estimated Total Revenue Loss	\$37,879,067	\$76,327,990	\$177,688,972

Several of the available studies compare these types of economic losses to the state to any potential savings due to repeal or weakening of prevailing wage laws. However, as discussed in the literature review, we can find no convincing evidence of significant savings in total cost when prevailing wage laws are repealed or weakened. Thus, based on the foregoing analysis, we conclude that a change in prevailing wage in Minnesota would likely lead to a decline in both construction employee income and state revenues.

## **GENERAL CONCLUSIONS**

The aim of this analysis has been to support the work of the Minnesota Legislative Auditor's Office. We have used the currently available research in order to respond to the questions raised by the auditor.

We have reviewed as much of the data as possible in the time available and have benefited from conversations with Peter Philips, Kevin Duncan, Mark Prus, Researchers at the Minnesota Taxpayers Association, John Yunker, and Steven Allen. We would like to thank each for their time and insights.

Research in the area of prevailing wage is difficult due to a lack of good data both on the dollar value of prevailing wage projects and on worker productivity. Moreover, much of the research that does exist does not focus on Minnesota. Therefore, it would be advisable to conduct further research on the impact of prevailing wage on total construction costs in Minnesota.

## SECTION SIX APPENDIX

Taken from the Bureau of Economic Analysis website:

<http://bea.gov/bea/regional/rims/brfdesc.cfm>; accessed September 21, 2006

### **Regional Multipliers from the Regional Input-Output Modeling System (RIMS II): A Brief Description**

#### **Overview**

Effective planning for public- and private-sector projects and programs at the State and local levels requires a systematic analysis of the economic impacts of these projects and programs on affected regions. In turn, systematic analysis of economic impacts must account for the interindustry relationships within regions because these relationships largely determine how regional economies are likely to respond to project and program changes. Thus, regional input-output (I-O) multipliers, which account for interindustry relationships within regions, are useful tools for conducting regional economic impact analysis.

In the 1970's, the Bureau of Economic Analysis (BEA) developed a method for estimating regional I-O multipliers known as RIMS (Regional Industrial Multiplier System), which was based on the work of Garnick and Drake.<sup>142</sup> In the 1980's, BEA completed an enhancement of RIMS, known as RIMS II (Regional Input-Output Modeling System), and published a handbook for RIMS II users.<sup>143</sup> In 1992, BEA published a second edition of the handbook in which the multipliers were based on more recent data and improved methodology. In 1997, BEA published a [third edition of the handbook](#) that provides more detail on the use of the multipliers and the data sources and methods for estimating them.

RIMS II is based on an accounting framework called an I-O table. For each industry, an I-O table shows the industrial distribution of inputs purchased and outputs sold. A typical I-O table in RIMS II is derived mainly from two data sources: BEA's national I-O table ([pdf](#)) ([html](#)), which shows the input and output structure of nearly 500 U.S. industries, and BEA's regional economic accounts, which are used to adjust the national I-O table to show a region's industrial structure and trading patterns.<sup>144</sup>

Using RIMS II for impact analysis has several advantages. RIMS II multipliers can be estimated for any region composed of one or more counties and for any industry, or group of industries, in the national I-O table. The accessibility of the main data sources for RIMS II keeps the cost of estimating regional multipliers relatively low. Empirical tests show that estimates based on relatively expensive surveys and RIMS II-based estimates are similar in magnitude.<sup>145</sup>

BEA's RIMS multipliers can be a cost-effective way for analysts to estimate the economic impacts of changes in a regional economy. However, it is important to keep in mind that, like all economic impact models, RIMS provides approximate order-of-magnitude estimates of impacts. RIMS multipliers are best suited for estimating the impacts of small changes on a regional economy. For some applications, users may want to supplement RIMS estimates with information they gather from the region undergoing the potential change. Examples of case studies where it is appropriate to use RIMS multipliers appear in the [RIMS II User Handbook](#).

To effectively use the multipliers for impact analysis, users must provide geographically and industrially detailed information on the initial changes in output, earnings, or employment that are associated with the project or program under study. The multipliers can then be used to estimate the total impact of the project or program on regional output, earnings, and employment.

RIMS II is widely used in both the public and private sector. In the public sector, for example, the Department of Defense uses RIMS II to estimate the regional impacts of military base closings. State transportation departments use RIMS II to estimate the regional impacts of airport construction and expansion. In the private-sector, analysts and consultants use RIMS II to estimate the regional impacts of a variety of projects, such as the development of shopping malls and sports stadiums.

#### **RIMS II Methodology**

RIMS II uses BEA's benchmark and annual I-O tables for the nation. Since a particular region may not contain all the industries found at the national level, some direct input requirements cannot be supplied by that region's industries. Input requirements that are not produced in a study region



are identified using BEA's regional economic accounts.

The RIMS II method for estimating regional I-O multipliers can be viewed as a three-step process. In the first step, the producer portion of the national I-O table is made region-specific by using six-digit NAICS location quotients (LQ's). The LQ's estimate the extent to which input requirements are supplied by firms within the region. RIMS II uses LQ's based on two types of data: BEA's personal income data (by place of residence) are used to calculate LQ's in the service industries; and BEA's wage-and-salary data (by place of work) are used to calculate LQ's in the nonservice industries.

In the second step, the household row and the household column from the national I-O table are made region-specific. The household row coefficients, which are derived from the value-added row of the national I-O table, are adjusted to reflect regional earnings leakages resulting from individuals working in the region but residing outside the region. The household column coefficients, which are based on the personal consumption expenditure column of the national I-O table, are adjusted to account for regional consumption leakages stemming from personal taxes and savings.

In the last step, the Leontief inversion approach is used to estimate multipliers. This inversion approach produces output, earnings, and employment multipliers, which can be used to trace the impacts of changes in final demand on directly and indirectly affected industries.

### **Accuracy of RIMS II**

Empirical tests indicate that RIMS II yields multipliers that are not substantially different in magnitude from those generated by regional I-O models based on relatively expensive surveys. For example, a comparison of 224 industry-specific multipliers from survey-based tables for Texas, Washington, and West Virginia indicates that the RIMS II average multipliers overestimate the average multipliers from the survey-based tables by approximately 5 percent. For the majority of individual industry-specific multipliers, the difference between RIMS II and survey-based multipliers is less than 10 percent. In addition, RIMS II and survey multipliers show statistically similar distributions of affected industries.

### **Advantages of RIMS II**

There are numerous advantages to using RIMS II. First, the accessibility of the main data sources makes it possible to estimate regional multipliers without conducting relatively expensive surveys. Second, the level of industrial detail used in RIMS II helps avoid aggregation errors, which often occur when industries are combined. Third, RIMS II multipliers can be compared across areas because they are based on a consistent set of estimating procedures nationwide. Fourth, RIMS II multipliers are updated to reflect the most recent local-area wage-and-salary and personal income data.

### **Applications of RIMS II**

RIMS II multipliers can be used in a wide variety of impact studies. For example, the U.S. Nuclear Regulatory Commission has used RIMS II multipliers in environmental impact statements required for licensing nuclear electricity-generating facilities. The U.S. Department of Housing and Urban Development has used RIMS II multipliers to estimate the impacts of various types of urban redevelopment expenditures. In addition, BEA has provided RIMS II multipliers to numerous individuals and groups outside the Federal Government. RIMS II multipliers have been used to estimate the regional economic and industrial impacts of the following: opening or closing military bases, hypothetical nuclear reactor accidents, tourist expenditures, new energy facilities, energy conservation, offshore drilling, opening or closing manufacturing plants, shopping malls, new sports stadiums, and new airport or port facilities.

1. See Daniel H. Garnick, "Differential Regional Multiplier Models," *Journal of Regional Science* 10 (February 1970): 35-47; and Ronald L. Drake, "A Short-Cut to Estimates of Regional Input-Output Multipliers," *International Regional Science Review* 1 (Fall 1976): 1-17.
2. See U.S. Department of Commerce, Bureau of Economic Analysis, *Regional Input-Output Modeling System (RIMS II): Estimation, Evaluation, and Application of a Disaggregated Regional Impact Model* (Washington, DC: U.S. Government Printing Office, 1981). Available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161; order no. PB-82-168-865; price \$26.

3. See U.S. Department of Commerce, Bureau of Economic Analysis, *The Detailed Input-Output Structure of the U.S. Economy, Volume II* (Washington, DC: U.S. Government Printing Office, November 1994); and U.S. Department of Commerce, Bureau of Economic Analysis, *State Personal Income, 1929-93* (Washington, DC: U.S. Government Printing Office, June 1995).
4. See U.S. Department of Commerce, *Regional Input-Output Modeling System (RIMS II)*, chapter 5. Also see Sharon M. Brucker, Steven E. Hastings, and William R. Latham III, "The Variation of Estimated Impacts from Five Regional Input-Output Models," *International Regional Science Review* 13 (1990): 119-39.

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